THE TRIPPLE BOTTOM LINE
ATTEMPTING TO REGULATE CORPORATE PERFORMANCE AND ENSURE SUSTAINABLE DEVELOPMENT

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ABSTRACT
Efforts to regulate .any unsustainable activities of businesses did not take shape until the advent of Elkington's Tripple Bottom Line (TBL) 25 years ago, although there have been earlier attempts to induce businesses to move away from the single bottom line of profit, which has historically been their objective and guiding principle, and consider two further bottom lines, People and Planet, to ensure sustainability on all of these three fronts equitably. Some 10 years later, the Rio World Summit of 1992 concluded that sustainability in all its aspects should be at the forefront of all human activities. Thus was born the Rio Declaration and Agenda 21. It took another 10 years for organizing a second World Summit, in 2002 in South Africa, to revisit the Rio 92 recommendations, and perfect them. At almost the same time, The Earth Charter, with its guidelines, was made official in 2000, but somehow relinquished to the background. With the advent of the TBL guidelines, several other guidelines and mechanisms were formulated, including Sustainability Indicators (SI), Key Performance Indicators (KPI), of which the Global Reporting Guidelines (GRI) became the most popular; and so did several others from other organizations. And rather leave it to the non-business sectors to dictate to them, businesses have also made the effort to regulate themselves with the establishment of the International Integrated Reporting Framework (IRRC). And now Responsible Investment (RI) and Environmental, Social, and Governance (ESG) appear to be dealing the death blow to previous independent frameworks. But the bottom line of all these efforts remains that they are all voluntary, in other words, soft laws that cannot be enforced. And almost 40 years of struggling in regulating unsustainable activities from both private and the public sectors, and after 25 years of the adoption of Elkington's TBL, the post-mortem of achievements presently reveals that People and Planet have not fared well, whereas Profit has been getting healthier, returning the movers and shakers of business sustainability back to the discussion forum, analysing whether all efforts, have so far failed to induce businesses to have a solid commitment to being responsible and sustainable.

Keywords: Sustainability-Corporations-Responsibility-Governance-Accountability-Performance-Tripple Bottom Line- CSR Reporting-Environment-Society.

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Introduction

At the time when businesses were being analysed and questioned about their responsibilities, Milton Friedman (1970), an eminent economist of his time, was one of the most outspoken opponents of the emergent concept of Corporate Social Responsibility (CSR), and in his publication of 1970, argued that: 'The social responsibility of business is to increase its profits.' And Friedman further argued that:

1. Application of CSR would impose an unjustified and fundamentally undemocratic taxation on business shareholders,
2. Its implementation costs would outweigh any potential tangible benefits, and, consequently it would constitute a misallocation and misappropriation of valuable company resources (Friedman, 1970; 2002).

That was at the time when the three pillars of corporate governance were: transparency, accountability and security, in other words, purely profit-centred. All three were considered critical in successfully running a company and forming solid professional relationships among stakeholders, including board directors, managers, employees and most importantly shareholders. The philosophy of Friedman, that businesses should only be doing business to make a profit, remained the main objective of those who believed that "there is one and only one social responsibility of businesses: to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game," with the rules of the game not clearly elaborated upon, but concentrating in engaging in open and free competition without deception or fraud. Obviously these "rules of the game" were solely devised by businesses to suit their own objectives.

But these mindsets were soon to change when Gray (1990; 1992) and Lehman, (1995) argued that there also exist moral and ethical obligations for businesses to incorporate environmental and social guarantees within their activities, and to provide additional environmental and social information in publishing their accounting reports. Based on these suggestions, Donaldson (2001) questioned the validity of the entrenchment of businesses into their own set of rules, ethics and beliefs, and further supported the suggestion of additional considerations that should include society at large and the environment, and Gray (1992) endorsed the concept of accountability as being: "the right to receive information and the duty to supply it." It is common knowledge that market capitalism centres on self interest and the desire for profit, and necessarily leads to a lack of concern for the environment and the community at large. Gray (1992) pointed out that since it has been recognised that the environment was in crisis, urgent solutions were needed, otherwise natural resources on which businesses and the whole of humanity depend will be quickly exhausted, the natural environment polluted to levels too harmful to be reversed, with the ensuing negative effects on people. The same arguments were stressed upon earlier in the UN's report "Our Common

Future," (1987), and embedded in the Earth Charter (2000). Similarly, Miller and Ahren (1988) had argued that businesses should not run solely for the interests of the stockholders (profit), but should also have a social responsibility that requires them to consider the interests of all parties (stakeholders) affected by their actions.

Hence the birth of the concept of Corporate Responsibility (CR), to be extended into Corporate Social Responsibility (CSR), and further into Corporate Social Environmental Responsibility (CSER), together with an array of other tools and instruments, of which the Triple Bottom Line (TBL), and the Global Reporting Initiative (GRI) have proved to be adequate to supply guidelines for CSR, and allow monitoring and verifications.

Consequently, corporations around the world have found themselves forced into struggling with a new role, which is "to meet the needs of the present generation without compromising the ability of the next generations to meet their own needs." Business organizations are beginning to be more alert, and to take a new responsibility for the ways their operations impact societies and the natural environment. And as elaborated upon by Grundey (2008) and Hale (2008), they are also being asked to apply sustainability principles, be transparent, and be accountable to the ways in which they conduct their business. There has, however, always been a feeling or risk that CSR may be nothing more than an opportunity for publicity, as discussed by Barnett (2007). L'Etang (1994) further argued that since businesses wish to look good and be seen to be doing good through various environmentally or socially appealing initiatives, they may be engaged in activities without actually making systemic changes that will have long-term positive effects. Carrying out superficial CSR efforts that merely cover up undisclosed agendas contrary to the ethics of CSR and sustainability, and acting simply for the sake of public relations would be dubbed as greenwashing, and such practices have been thoroughly discussed by Laufer, (2003); Vos, (2009); Gallicano, (2011); and Stoll, (2015), and have eventually tainted the reputation of those practicing such unethical strategies and practices.

To ensure that businesses actually put in place CSR policies that are in conformity with prescribed requirements, there must be mechanisms that will ensure both sustainability and transparency, and one of these is the Triple Bottom Line (TBL), which has today been widely accepted and adopted, together with the Global Reporting Guidelines (GRI), and the benefits of both have been critically reviewed by Adams et al. (2004), and Siew (2015). It has become the time now to assess whether all strategies put in place to regulate corporations and ensure development that is sustainable, have actually achieved the set objectives and produced positive results. To understand the essence of corporate responsibility and the many implications, and the strategies for sustainable development, it is necessary to understand the background to the principles and mechanisms involved, and elaborate on the strategies of TBL and GRI Guidelines.

CORPORATE RESPONSIBILITY, SUSTAINABLE DEVELOPMENT, AND CORPORATE PERFORMANCE

Over the last 4 decades, corporations have generated much attention in the global sustainability debate, and the discussion of Cannon (1994) gives us an insight into the need for development of the CSR concept, and that was further elaborated upon by Elkington (2004), and Mark-Herbert et al. (2010). Earlier discussions and suggestions mainly concentrated on the responsibility of business and their many negative impacts on the environment and on societies. The debate has continued unabated since, as elaborated in the recent works of Lozano (2008) and Krechovská and Procházková (2014), and the review of Wong (2017). Lonzano (2008) further proposed the consideration and adoption of both an

integrational perspective (economic, environmental and social), together with an inter-generational perspective, that is including the time dimension into corporate responsibilities. And since 1987, discussions about corporate responsibility have had as anchor the declaration of the WCED: "a need for satisfying the needs of today's societies without compromising the needs of tomorrow's societies" (WCED, 1987), inferring a time dimension as important.

Corporate social responsibility (CSR), which has also been called "Corporate Conscience," "Corporate Citizenship," "Social Performance," or "Sustainable Responsibility," is basically a form of corporate self-regulation integrated into a business model. CSR policy functions as a built-in, self-regulating mechanism whereby business monitors and ensures its active compliance with the spirit of the law, ethical standards, and international norms. To achieve that, several elements in terms of concepts, mechanisms, and sometimes checks have had to be included to ascertain the objectives of CSR become clear and measurable for accountability, and these are further discussed.

The Concept of CSR and CSER

Corporate Responsibility, a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis, has been recently variously discussed by Chen. (2011), Gonzalez-Perez (2013), Tai and Chuang (2014) and reviewed and discussed by Aguinis and Ante (2012), Abernathy et al, (2017) and Al Halbusi and Tehseen (2017). The general consensus is that corporate responsibility is about enterprises deciding to go beyond minimum legal requirements and obligations and address societal and environmental needs as well. Both environmental and societal needs are evolving with new issues arising, and new demands being made on businesses, and it is expected that the obligations of businesses will have to evolve accordingly.

Corporate Social Responsibility (CSR) has a longer history than what is generally believed. The concept of CSR, which dates back centuries, is rooted deeply in the notion of "social contract" which, according to (Steiner, 1972), is "a set of generally accepted relationships, obligations and duties between the major institutions and people." Donaldson (2001) and Byerly (2013) have discoursed on and presented an outline of old and new social contracts applicable to businesses. These authors argued that in addition to the old contract between business and society emphasising the delivery of goods and services, jobs and income, dividends and interests, business today also has social obligations towards several emerging modern times issues, necessiting a new social contract.

As it is believed today, modern CSR has been developed over the last decades from a narrow, irrelevant, often relegated and self-contradictory issue to a complex, multifaceted and universally recognised notion influencing managerial decision-making, and these facets, complexities and issues have been discussed by McWilliams et al.(2006), Cochran, (2007), Lee, (2008), and recently reviewed by Abernathy et al (2017).

Discussions about a CSR concept, perhaps not quite as it is today, started in the mid-1950s, with the initial recognition that corporations should have bigger goals to accomplish than just profit. Social progress was considered be one of these goals, and philanthropy should be more in support of social causes related to culture, education, health, or other forms of social commitments. The earlier concept initially operated along only 2 pillars, Economic and Social. According to Spencer and Butler (1987), Bowen (1953) is believed to have coined the modern notion of CSR, and in those days he argued in favour of CSR by highlighting that business has a responsibility to "pursue those policies, to make those decisions, or to follow

those lines of action which are desirable in terms of the objectives and values of our society". Obviously these objectives and values were those of the society of those times, much different from present day situations and needs. There was still an earlier view by Barnard (1938), who argued that apart from responsibilities to shareholders, businesses ought to be also socially responsible, the environmental aspects not having caught attention in those days.

In general, three main CSR positions, in the following order of priority, have been discussed:

1. Corporate philanthropy (Porter and Kramer, 2003; Smith, 2003);
2. A more broadly based approach to stakeholder responsibilities from a social perspective (Avi-Yonah, 2005; Hopkins, 2002; Reinhardt, 2005); and
3. Integration of environmental concerns (Carroll, 1999; WBCSD, 2002).

Since then, many CSR definitions have appeared, from which the key points addressed include: stakeholder engagement and participation (Holme and Watts, 2000); product impact, health and safety, and dealing with corruption, (Montero et al. 2009); human rights and freedom of association (UNGC, 2011; Lozano, 2012; Connolly and Kaisershot, 2015); communication, reporting, disclosure, and transparency (Kolk, 2008; Young and Marais, 2012); and environmental protection and management of resources (Elkington, 2002; Maignan and Ferrell, 2004).

There is also a strong view that Milton Friedman (1970) inadvertently laid the foundation of modern CSR by outlining the nature and scope of social responsibility of businesses in his momentous article titled, "Social responsibility of Business is to increase its profit", which triggered enormous controversies with regards to the definition and dimensions of CSR. Friedman took a conservative position by arguing that business is a single-dimensional entity devoted to only profit making within the legal framework. Friedman (2002) continued his line of argument in spite of bitter criticism of this approach, even after 32 years of publication of his controversial paper, affirming that:

> *There is a very real social responsibility, and that is to make as much money as they (businesses) can subject to staying within the law and within the appropriate ethical standard because that will best serve consumers*

However, in spite of Friedman's preaching, the concept of CSR has gone through various stages of development and improvement since, and the original dimensions were reorganized in the early 1980s to consider 4 pillars: Economic, Legal, Ethical and Philanthropic. The general feeling, especially among environmental activists and the public, was that CSR included activities and practices purely aimed at public relations. The consensus was that companies must be held accountable for any acts of omission that also affect the natural environment, or biodiversity at large. Consequently there was a need to include the natural environment within the pillars of responsibility, and hence the concept of CSER.

During the past decades, CSR has been defined in a multitude of ways, and according to Dahlsrud (2008), there have been some 37 definitions floating around. These definitions range from performing standard ethical practices, to enhancing the welfare of society. Some even propose that the concept of CSR had become void of meaning (Cheers, 2011; Ahen and Amoah, 2018). Others claim that the varying definitions of CSR are congruent, with each of the definitions relating to the effects of a business on its stakeholders. One of the most complete and frequently cited definitions comes from Carroll (1979):

> *The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time.*

And hence Carroll's famous sustainability pyramid (Fig. 1): However, even though it was popular, Carroll's economic foundation pyramid definition was found too broad and lacking too. Over the course of time, Carroll presented a revised version of his frame-work. Over the course of time, Carroll presented a revised version of his frame-work. In 2003 (together with Schwartz), he abandoned the pyramid metaphor, because he believed that the disadvantages of a potential misunderstanding due to the notion of hierarchy and the difficulty of addressing the overlapping issues of the four domains outweighed the sophistication of an easy-to-understand metaphor.

Figure 1: Carroll's CSR pyramid. The Four Responsibilities (Carroll, 1979).

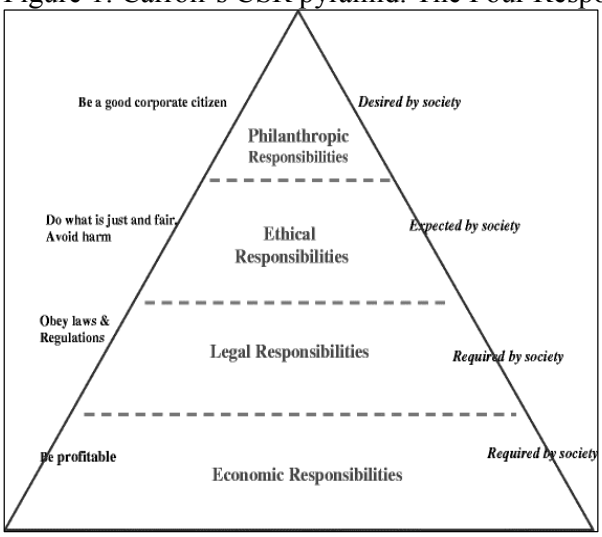

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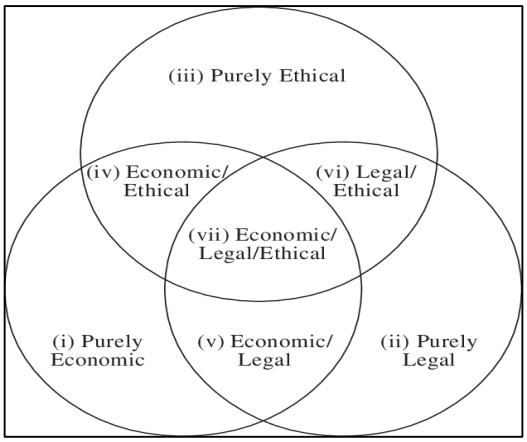
Figure 2: The Three-Domain Model of Corporate Social Responsibility (Schwartz and Carroll, 2003)



Much later, Baden (2016) proposed a reconstruction of Carroll's pyramid (Fig. 3), arguing that Carroll's pyramid of CSR tends to perpetuate a business-centric notion of CSR, implying that economic responsibilities take precedence over legal and ethical responsibilities. Baden argues that current conceptions of the relative importance of business responsibilities differ greatly from Carroll's rankings, requiring a revised CSR pyramid to reflect on responsibilities ranking as follows: Ethical, Legal, Economic and Philanthropic (Figure 3).

An important criticism of the economic foundation of the Carroll pyramid concerns the identification and ordering of the four dimensions, which are inadequately justified theoretically. Meynhardt and Gomez (2016) proposed an alternative approach that builds on the public value concept, arguing that a four-dimensional pyramid (Fig.4) does have heuristic values for managers, and that the advantage of this alternative pyramid's logic is that it may be contingently adapted to different cultural contexts.

Figure 3: Proposed amended pyramid of CSR (Baden, 2016)

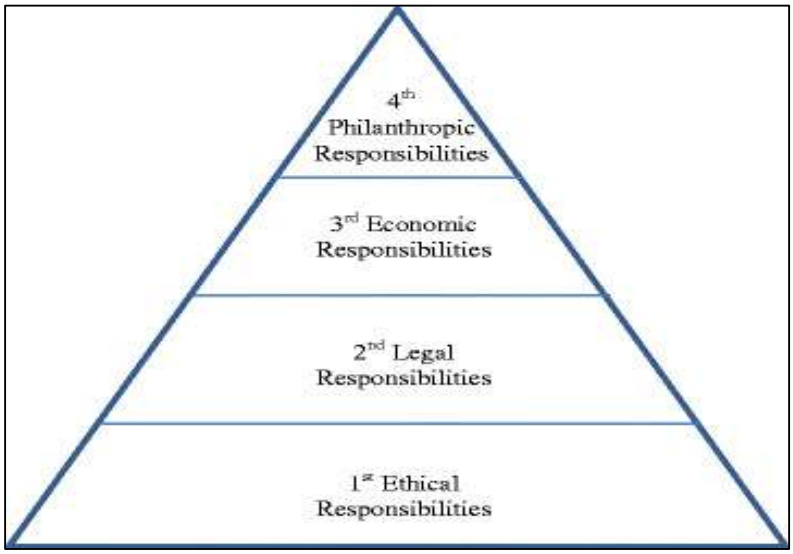
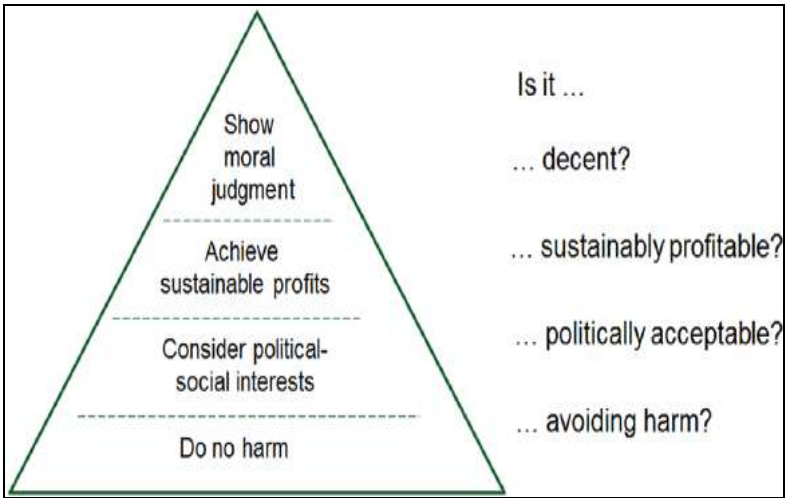


Figure 4: Proposed alternative pyramid of corporate social responsibilities (Meynhardt and Gomez, 2016).



Definitions of CSR are not lacking, and perhaps too many may have caused some confusion as to what aspects business responsibilities should be addressed. In a literature review and analysis of CSR definitions, Dahlsrud (2008) concludes that the most widely accepted definition of the term CSR is:

> *A concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis*

And the Commission of the European Communities in 2006 elaborated on it further:

> *Corporate Responsibility is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. It is about enterprises deciding to go beyond minimum legal requirements and obligations stemming from collective agreements in order to address societal needs.*

After being attacked and rejected by business leaders for decades, the notion of CSR has suddenly become a central facet of present day corporations:

> *Corporate social responsibility (CSR) has been transformed from an irrelevant and often frowned-upon idea to one of the most orthodox and widely accepted concepts in the business world during the last twenty years or* so (Lee, 2008)

Recent times have witnessed various shifts in perceptions of companies' responsibilities. From the 1970s onwards, the environmental dimension has been very much in focus, with a shift toward social and the internal (working) environment conditions during the 1980s and early 1990s, gaining prominence by the mid-to-late 1990s. The focus on CSR and self-regulation alone tended to downplay impacts on the external environmental. However, in recent times, the external environment has been put at the forefront as aspects like sustainability and sustainable development gained both importance and recognition. The necessity to acknowledge the importance of all three dimensions has necessitated that the term CSER (Corporate Social and Environmental Responsibility) be favoured over the restrictive term CSR (Corporate Social Responsibility).

Blowfield and Frynas (2005) further defined CSER as an overall analytical and descriptive umbrella for a variety of theories and practices all of which recognize the following:

- That companies have a responsibility for their impact on society and the natural environment, sometimes beyond legal compliance and the liability of individuals;
- That companies have a responsibility for the behaviour of others with whom they do business (e.g. within supply chains);
- That companies need to manage their relationship with wider society, whether for reasons of commercial viability, or to add value to society.

The importance and the concern for CSER expressed by communities, lobby groups, government, and even sectors of the business community, have attracted accounting and management researchers to investigate this field. The issue of CSER has been widely discussed in the economics, management and accounting literature (Jaggi and Zhao, 1996). By definition CSER is aligned with the concept of CSR because environmental responsibility is implied. As the concept of CSER evolves and is gaining in popularity, it has also been associated with various other terminologies such as: accountability, communication and transparency, corporate social reporting and sustainability disclosure It is only over the past decades that the environmental aspect of corporate responsibility of business organizations has seen extensive discussions and debate, mainly through stakeholder's increased demands on organizations to be more not only socially responsible, but also environmentally conscious in their operations and behaviours. As argued by Porter and Kramer (2011) social and environmental responsibility of organizations should become an inevitable priority for business leaders worldwide, and Vogel (2005) maintained that neglecting environmental issues may be costly and accumulative in the long run, and stressed on the impact that it may have on the legitimacy of the organization's continuing activities. Holtbrügge and Dögl (2012) expressed that there has been a significant change in global climate and environmental conditions, and argued that these changes have resulted in a growing public awareness of corporate impacts and corporate environmental responsibilities.

CSER has become an important topic for the business world, governments and non-governmental organizations (NGOs). Literature on the broader concept of corporate social responsibilities (CSR) shows that the concept has gained momentum and become an emerging global trend (Sahlin-Andersson, 2006), and a management trend (Engwall et al., 2010). As such, Porter and Kramer (2011) argued that, in recent years, governments,

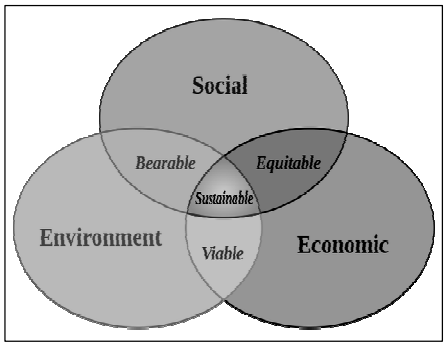
activists, and the media are very proficient at holding organizations accountable for the social and environmental consequences of their business activities, rallying under the earlier reflections and warning of Dunphy et al. (2003):

> *Never before in the history of the world has the viability of much of life on this planet been under threat from humanity*.

The Concept of Sustainability and Sustainable Development

The concept of sustainability is rather broad, and requires that, for the stocks of ecological and social capital to be maintained at safe levels, direct and indirect extraction should not be in excess of the levels of normal natural regeneration. In other words, the balance of intentional extraction minus intentional regeneration cannot be sustained when levels of extraction or utilisation exceed the rate of natural regeneration. Little cause for concern about global resource depletion existed in the past, when populations were low, people were geographically separated into more or less isolated societies, demand and consumption were low, and when total human impacts on the ecosystem were small. Whenever one society fell into social depravity and destroyed its local resource base, it would decline and die out. A successful and sustainable society is one that builds and maintains its economic, ecological and social capital, as idealised in the commonly accepted model of Adams (2006), and depicted in Figure 5.

Fig: 5. Idealised Path to Sustainable Development. (Adams, 2006)



The discussions on sustainability, both rich and elaborate, has occupied the minds of academics, economists, financiers, and businesses over the years. Dixon and Fallon (1989) and Kidd (1992) have elaborated on the concept as it was in the earlier days, and when the recommendations and suggestions were acceptable. However, times have changed, probably a bit too fast, and has called for more reflections on both sustainability, and the possible adequacies of the triple bottom line model that may have outlived its times.

Whereas post war businesses concentrated on the traditional supply-demand exigencies of society, some three decades ago businesses became more technology oriented and developed strategies and policies that centered mostly on creating demands and markets. Such a change in business strategies have necessitated the rethinking of archaic sustainability concepts, and reflections on a new approach are found in the recently excellent reviews from Kuhlman, and Farrington (2010) and Giovannoni and Fabietti (2013), taking us into present day interpretations and concepts of sustainability. Discussions about past shortcomings and inadequacies have led to further opinions and recommendations.

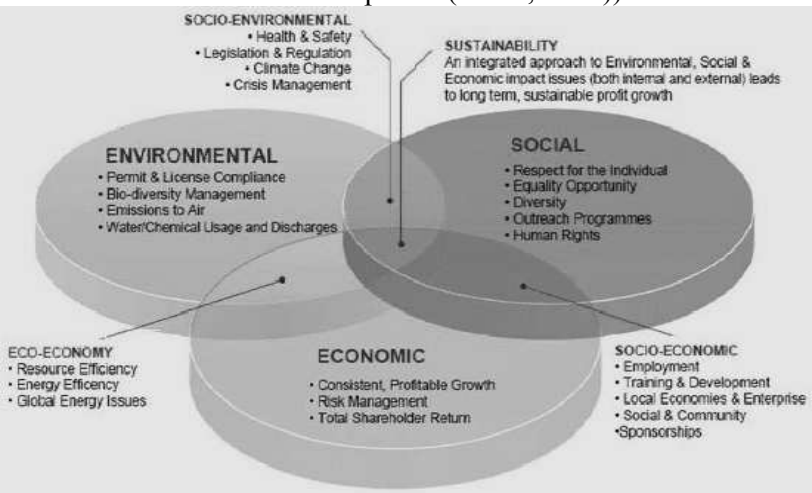
Earlier, Adams (2006) expressed his concern about previously accepted sustainability models, pointing out discrepancies, and declaring that:

> *Despite the achievements of the last three decades, the present concepts of sustainability and sustainable development are clearly inadequate to drive the transitions necessary to adapt human relations with the rest of the biosphere for the future. Something new is needed.*

Adams (2006) further observed that global businesses have been rapidly becoming less sustainable and not much has been achieved in terms of sustainability, asking himself whether there is a global trend away from sustainability. Have the concepts of sustainability and sustainable development offered a coherent basis for change?

Much later, Mann (2011) expressed a necessity to further define sustainability as it should be expressed in any of its forms, and suggested a set of key elements for guidance (Fig. 6). But still, the main theme of sustainable development remains an ongoing process of reconciling economic growth with environmental well-being. In this sense, the corporate industry has sought a balance between what is feasible in economic terms and what is ecologically sustainable or socially and ethically desirable in order to gain sustainable competitive advantage, a theme that has been discussed and reviewed by Cartwright and Craig (2006).

Fig. 6: Key elements of Sustainable Development (Mann, 2011))



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The economic and financial aspects of sustainability therefore may encompass, according to Lantos, (2001), the following five conditions:

1. Satisfying customers with goods and services of real value,
2. Reducing the cost of doing business and attracting new business through rigorous business integrity policies,
3. Increasing productivity through a motivated workforce,
4. Earning a fair return on the funds entrusted to the corporation by its investors, and
5. Offering opportunity for inclusion in socially responsible investment indices.

Sustainable Development (SD) is, as a consequence, a wider concept covering such dimensions as ecological, economic, and social balance, and perhaps cultural and technological dimension too, with no full agreement on means to achieve or pursue it. While Brundtland (1987) simply sees sustainability as caring for the present without harming the future, Elkington (2002) proposed the triple bottom line to extend sustainability into multi-stakeholder initiatives.

Within the context of sustainability, inadequacy, and probably ineffectiveness too of earlier conceptions of Corporate Social Responsibility (CSR) were too simple, since they concentrated specifically on commitment of organisations towards their direct and indirect stakeholders, about how they manage resources to achieve better results for the organisation

as well as for involved people. While SD aimed at balancing and negotiating various objectives and eventually finding a compromise, CSR was mainly concerned with philanthropy, social giving, and a principle of competitiveness, to follow the dictum "Doing Good is Good Business". However, the history of CSR goes back a long way, while SD is relatively recent.

With increasing awareness on environmental and social issues and the magnitude of costs associated, Corporations, especially large ones, became a key focus of attention in the earlier years of the sustainable development debate, and has generating diverse views and opinions as expressed by Cannon (1994), Hart (1997) and Elkington (2002, 2004). Corporations have further been perceived to be responsible for many negative impacts on both the environment and societies (Dunphy et al., 2003). In response to diverse and rather unsupportive views, corporate leaders and employees begun to recognise the relations and inter-dependences of the economic, environmental and social dimensions, as expressed by Elkington (2002), for satisfying the needs of today's societies without compromising the needs of tomorrow's societies, as proposed by the WCED (1987). It therefore became imperative for companies to integrate environmental and social efforts into their business strategy.

There are therefore four aspects of sustainability which need to be recognised and analysed, namely:

1. Societal influence, as a measure of the impact that society makes upon the corporation in terms of the social contract and stakeholder influence,
2. Environmental impact, as the effect of the actions of corporations and their products upon its geophysical environment,
3. Organisational culture, as the relationship between corporations and their internal stakeholders, particularly employees, and all aspects of that relationship, and
4. Finance, defined in terms of an adequate return for the level of risks undertaken.

Progress in both realisation and implementation were however rather timid and hesitant, but Hart (1997) detected a growing awareness among business organizations to consider conservation and optimum utilization of natural resources as a means of gaining competitive advantage. To this end, and according to Clarkson et al., (2011) environmental management literature has accumulated, and the consensus suggests that businesses can gain sustainable competitive advantages by reducing the adverse impacts of their operations on the natural environment, and on natural capital. Environmental responsibility is now accepted as a norm for sustainable organizations. Hansen and Mowen (2007) observed that "successful treatment of environmental concerns is becoming a significant competitive issue" and "meeting sound business objectives and resolving environmental concerns are not mutually exclusive"

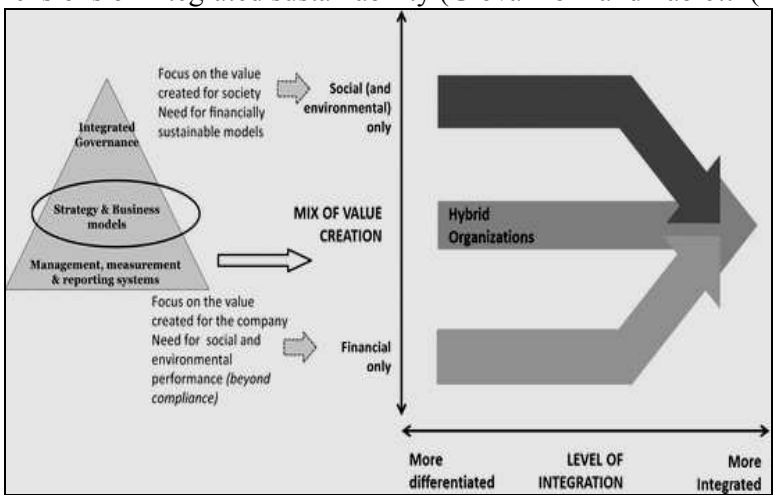
It is also interesting, to note that from the 1970s until the late 1990s, such corporate initiatives evolved from purely 'end-of-pipe' solutions, which have been recognised to be both costly and inefficient (Porter and van der Linde, 1995; Sarkis and Cordeiro, 2001). Businesses stand to gain by changing to whole-system approaches, by changing products, processes and systems, so that waste is minimised, and resources used more efficiently and effectively, in almost closed loops, and the implications have been discussed by McIntosh et al. (1998). In spite of this evolution, it has been found that initiatives have been limited in capturing the full spectrum of sustainability and its implications of and for corporations (Oskarsson and von Malmborg, 2005), or helping sustainability to be fully transferred to the reality of business processes (Baumgartner and Zielowski, 2007).

In an earlier discourse, Kidd (1992) emphasized that the concept of sustainability is not new; it has a rather long history and it has evolved over time. This evolution has been affected by different "intellectual and political streams of thought that have moulded concepts of sustainability". And Gray (2010) rightfully observed that, as discussed in recent studies on the very nature of sustainability, "any foreseeable sustainable state will be the result of interactions between organizations, individuals, societies and states."

From this point of view, an integrated approach towards sustainability would require realising the potentials of its key (financial, social and environmental) dimensions simultaneously, as well as managing the tensions, trade-offs and synergies between these dimensions. In other words, sustainability is not a "stand alone" principle or concept, but one that involves a number of actors, and a number of policies, strategies, and tools that should all complement each other. In the attempt to move beyond the sustainability rhetoric and to pursue an actual search for sustainable development, Busco et al. (2005), Hopwood (2009), and Gray (2010) recommended that a clear definition of this concept and of its key dimensions be formulated, together with the adoption of an integrated approach towards the notion of sustainability, hence the concept of Integrated Reporting (IR).

Dumay et al. (2016) have produced a structured literature review of integrated reporting, while de Villiers et al. (2017) have produced an analysis of the background and measurement issues and approaches associated with IR. Giovannoni and Fabietti (2013) have attempted at conceptualising the dimensions of IR to achieve such an integrated approach, and they produce a diagrammatical illustration of the concept (Fig. 7).

Fig. 7: Key dimensions of integrated sustainability (Giovannoni and Fabietti (2013)



The IIRC (2013) listed 5 main characteristics required of integrated reports (IR):

1. Connectivity of information.
2. Materiality.
3. Conciseness.
4. Reliability and completeness.
5. Consistency and comparability.

Further, IR is anchored around 6 capitals illustrated in Figure 8 and defined as:

1. Financial capital,
2. Manufacturing capital,
3. Human capital,

4. Social and relationship capital,
5. Intellectual capital, and,
6. Natural capital.

Figure 8: The 6 Capitals of Integrated Reporting (IIRC, 2013)

Natural capital is described and visually depicted (Fig. 8) as "providing the environment in which the other capitals sit"

Natural Capital, Ecosystem Services, and the Other Capitals

The emergence, in recent decades, of the concept of natural capital and payment for ecosystem services reflects an acceptance that environmental systems play a fundamental role in determining a country's economic output and social well-being - providing resources and services, and absorbing emissions and wastes. Sustainability therefore implies that society must use no more of a resource than can be regenerated. This can be defined in terms of the carrying capacity of the ecosystem, as suggested and explained by Hawken (1993; .1999), and further described and depicted with input-output models of resource consumption.

Valuing natural capital has been recognised as being fundamental to measuring sustainability, and has been discussed in details from both the ecological and economics points of view by Fenech et al. (2003) and Helm (2015). The United Nations Environment Programme, The World Bank, and other agencies have all called for inclusion of the value of natural capital in sustainability metrics. According to this way of thinking, a nation's wealth is grounded in four core stocks of capital:

1. Manufactured capital,
2. Human capital,
3. Social capital, and
4. Natural capital (minerals and ecosystem services).

Through further analyses and development, Brereton and Pattenden (2007) proposed a widely accepted 5 capital model:

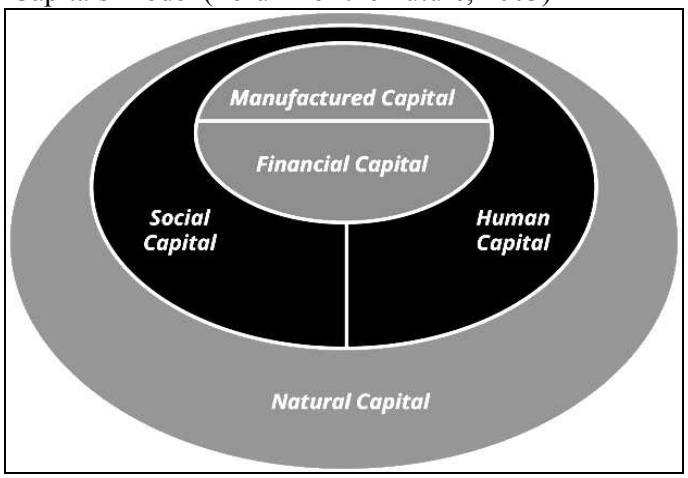
1. Natural Capital is any stock or flow of energy and material that produces goods and services, and includes:
    - Resources - renewable and non-renewable materials
    - Sinks - that absorb, neutralise or recycle wastes
    - Processes - such as climate regulation

Natural capital is the basis not only of production but of life itself.

2. Human Capital consists of people's health, knowledge, skills and motivation. All these things are needed for productive work. Enhancing human capital through education and training is central to a flourishing economy.
3. Social Capital concerns the institutions that help maintain and develop human capital in partnership with others; e.g. families, communities, businesses, trade unions, schools, and voluntary organisations.
4. Manufactured Capital comprises material goods or fixed assets which contribute to the production process rather than being the output itself – e.g. tools, machines and buildings.
5. Financial Capital plays an important role in the economy, enabling the other types of Capital to be owned and traded. But unlike the other types, it has no real value itself but is representative of natural, human, social or manufactured capital; e.g. shares, bonds or banknotes.

The Five Capitals Model (Figure 9) provides a basis for understanding sustainability in terms of the economic concept of wealth creation or 'capital'. The basic concept of capital, which according to the elaborations of Porritt (2005), is a stock capable of generating a flow of benefits, and has been extended to include other forms of capital that are essential to human well-being.

Figure 9: The Five Capitals Model (Forum for the Future, 2003)



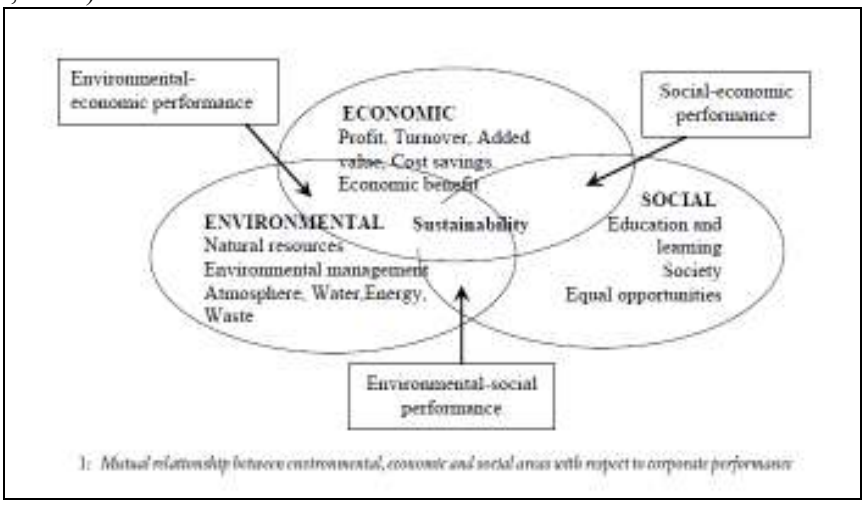
It has also been proposed by Visser (2010) that the ultimate purpose of business should be to serve society, through the provision of safe, high quality products and services that enhance our wellbeing, without eroding our ecological and community life-support systems.

The Concept Corporate Performance

Corporate performance, as discussed by Hubbard, (2009); Kocmanová and Dočekalová (2011); Albertini (2013), and Peng et al. (2018) to name a few, concentrates on the measurement of the negative social and environmental impact caused by business activities. The subject has received increasing attention from the public, requiring that, apart for considering financial gains, businesses should consider reducing their externalities, or even eliminating their negative impact on the environment and society, thus contributing to sustainable development, and has been recently reviewed by Agudelo et al. (2019). Businesses should not only be primarily interested in what indicators could be used to measure economic performance, but to also measure environmental and social performance, and the details and implications been discussed by Dutta et al. (2011).

Kocmanová and Dočekalová (2011) are of the opinion that for businesses to adopt the concept of sustainable development they must contribute towards economic prosperity while perceiving the mutual relationship of environmental, economic and social performance, and came up with the following model for economic, environmental and social performance, producing a model that attempts at reconciling the three dimensions (Figure 10).

Figure 10: Economic, environmental and social performance model (Kocmanová and Dočekalová, 2011)



1: Mutual relationship between environmental, economic and social areas with respect to corporate performance

In a previous discussion, Norman and MacDonald (2003) stressed that, for a corporation's ultimate success or health, the triple bottom line dictates that not just the traditional financial bottom line should be evaluated , but also its social/ethical and environmental performance Whenever businesses are held accountable for their social and environmental impact through management decisions, and through external reporting and auditing of results in these areas, they will of necessity more fully incorporate them into their decision-making processes

Hubbard (2009) expressed the same concerns as Norman and MacDonald (2003) that advocated for the use of the TBL measures, and would like to see a more centralized system to translate data. The major concern with social impact is the costs incurred by organizations that engage into social concerns outside the scope of its organizational mission. In order for an organization to implement a successful multiple bottom line measurement system. Hubbard, (2009) and Slaper and Hall, (2011) suggested three factors that ought to be considered from a management's perspective:

1. Strength of commitment a shareholder has on solving social issues,
2. Strength of the social paradigm adopted by management, and
3. The strength of sustainability in the culture of the organization.

Further arguments are that social and environmental issues cannot be quantified in the same respect as financial information that makes up the net profit/loss of a company. These issues are qualitative by nature and it would be impossible to find standard indicators to represent them quantitatively on audited performance reports. They may instead provide shelter for firms to hide behind with no real commitment to social and environmental change (Norman and MacDonald 2003). However, Pava (2007) argues that TBL is used metaphorically to challenge conventional thinking that corporate performance can be assessed or summarized by any single indicator, such as net income; and that it serves as a reminder that "corporate performance is multi-dimensional".

Tullberg (2012) commends the ambition of the model of Kocmanová and Dočekalová, (2011), but feels that ecological footprint calculations and other reporting indexes become positive indicators only when problems associated with aggregate measurements being presently used are resolved. Based of these arguments and discussions, Tanguay et al. (2009) proposed a further illustration of a sustainable development model that also aims at entrapping corporate responsibility and transparency (Fig. 11).

Figure 11. The Standard Dimensions of Sustainable Development. (Tanguay, 2009), and referencing concepts proposed in WCED, 1987.

Considering these factors (Magee et al. 2013) agreed that both qualitative and quantitative techniques are appropriate in determining a strategy for approaching and formulating a plan that measures all three sustainable dimensions. These variables should be direct and observable and display goal-attainment and goal strategy. They advocated for the index indicator composite to reflect measured outcomes. This is mainly due to the nature of the social capital and internal capabilities that can be harmoniously weaved into the strategic goals and proved by the organization. The Indexing methodology closely aligns with what investors and shareholders alike often request.

And according to Albertini (2013) the objective of corporate performance should basically aim at achieving the following:

1. Decrease and control the consumption of natural resources and energy.
2. Reduce or eliminate the production of waste and pollutants during and after the production process.
3. Develop new environmentally friendly products that minimize their ecological footprint.

Recent pressures on businesses to publish sustainability performance information with a view of establishing sustainability performance indexes and to enable evaluation have resulted in the necessity to adopt appropriate metrics and establish appropriate sets of performance indicators. Measuring corporate sustainability performance is necessary to guide sustainability improvements, although many indicators exist that capture the different dimensions of sustainability, a composite indicator that integrates across all indicators is important as it helps to summarize multi-dimensional issues and provide synthesized information.

Quantifying sustainability - Sustainability Indicators **(SIs)**

By definition an indicator should provide information on the state or condition of something or an entity. Indicators of sustainability are different from traditional indicators of economic, social, and environmental progress, or traditional performance indicators (KPIs). To measure sustainability, it would necessitate an integrated view of the world, requiring multidimensional indicators that would link society, economy, environment, to yield an indication or index of sustainability, which in turn could be translated into an indicator or index of sustainable economic and social welfare. Gasparatos et al. (2008) recommended the consideration of the following:

1. Integrate economic, environmental, social issues so as to consider their interdependencies.

2. Consider the consequences of present actions well into the future.
3. Acknowledge the existence of uncertainties concerning the result of our present actions and act with a precautionary bias.
4. Engage the public.
5. Include both intragenerational and intergenerational equity considerations.

As early as 1993, the OECD attempted to define an indicator as "a parameter or a value derived from several parameters, and which provides information about a phenomenon." The indicator has significance that extends beyond the properties directly associated with the parameter values. Indicators possess an unreal meaning and are developed for a specific purpose. In defining sustainability indicators, Astleithner et al (2004) and Mori and Christodoulou (2012) are of the opinion that it should be restricted to policy-relevant instruments, and should have built-in mechanisms that are measurable over time and space, so that they become important in holding governments and communities accountable to their sustainability targets and goals. There have been several discussions and suggestions regarding sustainability assessment and indications, and have been variously reviewed over the years by Böhringer and Jochem (2007); Mayer (2008); Mori and Christodoulou (2012), and Büyüközkan and Karabulut (2018).

Not only are Indicators useful, they are also both important and necessary in sustainability planning and projections, especially when associated with forecasted sustainability thresholds or targets. Thresholds are defined as determined points where the state of things may change dramatically. Targets are determined by policy makers, project coordinators, or even through public consultation. They establish levels that must be met in the future if sustainability goals are to be reached or met. A number of issues associated with the selection, use and reporting of sustainability indicators have been recognised and discussed by Mayer (2008). The approach to selecting indicators can be either top-down or bottom-up. The top-down approach relies on policy makers to define the goals and accompanying indicators, most of time without public consultation. The data collected and put together most of the time requires technical expertise to analyse and interpret. The bottom-up approach is purely community-based involving consultation with stakeholders to select and agree upon appropriate indicators. Degrees of complexity are what differentiate the two approaches. Both approaches have been analysed and discussed by Fraser et al., (2006) and Schlör and Hake (2015)

There have obviously been criticisms of the mechanics of SIs, and the reviews and discussions of Bell and Morse (2012) and Maxwell and Wu (2017) give us an insight of the probable shortcomings of SIs, viewed under specific lenses. The main criticism has been attempting to compartmentalise complex and diverse processes in some limited few simple measures. Scientists, using the reductionist approach, would tackle a complex system by breaking it down into its components and studying how they work in isolation and then together. Such a method of dealing with a problem has been overtly criticised by Capra and Luisi (2012) on the basis that some systems, and that include social and natural systems, are too complex to be broken down into simpler isolated units.

There has also been extensive discussion as to the validity and credibility of indicators (Bockstaller and Girardin, 2003). Spangenberg (2002) proposed that to be valid, indicators should be:

- General, i.e. not dependent on a specific situation, culture or society,
- Indicative, i.e. truly representative of the phenomenon they are intended to characterize,

- Sensitive, i.e. they have to react early and sensibly to changes in what they are monitoring, in order to permit monitoring of trends or the successes of policies, and,
- Robust, i.e. directionally safe with no significant changes in case of minor changes in the methodology or improvements in the data base.

While indicators for assessing and tracking environmental and ecological conditions have been used for more than half a century, the development of indicators for gauging sustainable development has a relatively short history, and has been analysed and assessed by Niemi and McDonald (2004). Its major development started after the United Nations Conference on Environment and Development (Earth Summit, 1992), held in Rio de Janeiro of Brazil in 1992, which proposed the fundamental principles and the programme of action for achieving sustainable development. In particular, the Rio Summit called for the development of sustainability indicators with its Agenda 21, an action plan endorsed by more than 170 national governments. The World Summit on Sustainable Development (Earth Summit, 2002) convened by the United Nations in Johannesburg, South Africa, in 2002 strongly reaffirmed the UN's commitment to the Rio principles and the full implementation of Agenda 21. Consequently, a number of international organizations, governmental agencies, NGOs, local communities and corporations, and academic scholars have devoted significant efforts to the design and implementation of indicators that gauge the state and trajectory of environmental conditions and socio-economic development

In response to the call for indicators of sustainable development in Agenda 21, the UN Commission on Sustainable Development (CSD 1992) launched a programme of work on indicators that has produced three versions of an indicator set and accompanying methodologies for use at the national level to measure sustainable development. The first set produced in 1996 included 134 indicators arranged by the chapters of Agenda 21. The number was reduced to 58 core indicators arranged thematically in 2001; and in 2006-2007, to 50 core indicators within a larger set of 96 indicators of sustainable development (UN 2007). The development of SIs has continued to be an ongoing exercise with several organisations still submitting proposals. To this day, several hundreds of indicators and indices of sustainability have been developed, and tried and tested at global, national, and local situations. One such example is the Compendium of Sustainable Development Indicator Initiatives, created in 1995 by the International Institute for Sustainable Development (IISD), and listing 894 indicator initiatives up to August 2010, but the exercise was discontinued in 2018.

CORPORATE ACCOUNTABILITY

Corporate accountability can be defined as the ability of those affected by a corporation to hold corporations to account for their operations. This concept demands fundamental changes to the legal framework in which companies operate. These include placing environmental and social duties on directors to complement existing duties on financial matters, and legal rights for local communities to seek redress or compensation when they have suffered as a result of directors failing to uphold those duties (Friends of the Earth, 2005). Gray et al (1996) and Kolk (2008) have presented an exhaustive discussion on the mechanisms of corporate accountability and reporting. Non-financial reporting, such as sustainability and CSR reporting, is a fairly recent trend which has expanded over the last twenty years. Many companies now produce an annual sustainability report and there is a wide array of ratings and standards around, and Segger (2003) and Mohamed (2013) have extensively discussed issues related to accountability in the context of sustainability.

Publicly traded companies face increasing pressure to prepare Corporate Social Responsibility (CSR) documents to inform stakeholders about their voluntary activities undertaken to operate in an economically, socially, and environmentally sustainable manner (e.g., human rights, community engagement, employment equity, and environmental impact). According to KPMG (2017), the percentage of firms that voluntarily issue CSR reports has increased considerably, from 65% in 2015 to 78% in 2017, compared to only 35% in 1999.

Huang and Watson (2015) reported that while existing governing accounting standards regulate only a fraction of the accounting for socially relevant corporate activities disclosed in annual reports, reporting of CSR performance through other channels remains largely voluntary and unregulated. They concluded that the lack of regulation has resulted in diverse reporting practices with respect to length, performance indicators, and readability of voluntary and stand-alone CSR reports. Huang and Watson (2015) further commented that verification of these reports by accounting firms is neither comprehensive nor stringent compared with their verification of corporate annual reports. Given the scepticism about the content, complexity and reliability of these reports, several international initiatives, such as the Global Reporting Initiative (GRI) and the Integrated Reporting (IR/IIRC), and others, have come up to harmonize voluntary CSR reporting

Viewed through the lens of social and environmental responsibility, CSR has to be measurable and reportable in order to become an integrative part of overall corporate performance measurement, the details of which have been reviewed and discussed by Striteska, and Spickova (2012). Brown et al. (2006), recognise that John Elkington's Tripple Bopttom Line (TBL), otherwise the concept of **People-Planet-Profit**, has emerged as a popular conceptualization and reporting vehicle for articulating corporate social, environmental and economic performance, having received significant attention in connection with its efficacy and sufficiency as a means for reporting the extent to which an organization meets its societal responsibilities, in agreement with the later observations of Jackson et al. (2011), and Hourneaux (2018). By preparing and disclosing the TBL reports, a company conveys an image of concern and sensitivity to the three dimensions of corporate responsibility: economic, environmental and social. At the organisational level, scale of operations, visibility, product and capital market characteristics explain a significant portion of the variation in both social as well as environmental performance, while at the same time political institutions and legal institutions, such as laws that promote business competition and labour market institutions, are the most important determinants of social and environmental performance, as observed and discussed by Ioannou and Serafeim (2010; 2012). In any business environment that expects social responsibility of companies and respect for the principles of sustainable development, companies have to find a way to achieve synergy between social, environmental and financial issues, and in that process sustainability accounting has inevitable importance.

To this day, major providers of sustainability reporting guidance include:

- The GRI (GRI's Sustainability Reporting Standards)
- The Organisation for Economic Co-operation and Development (OECD Guidelines for Multinational Enterprises)
- The United Nations Global Compact (the Communication on Progress)
- The International Organization for Standardization (ISO 26000, International Standard for social responsibility)
- The International Integrated Reporting Council (IIRC)
- The Carbon Disclosure Project (CDP)

A subsequent development has been the concept of Environmental Social and Governance (ESG) a term commonly employed in Corporate Social Responsibility (CSR) governance, and ESG reporting, and has been discussed by Sparks and Christopher (2004), Tricker (2012) and Buniamin and Ahmad (2015), and reviewed by Henricksson et al. (2018). ESG information is becoming of concern because of the possible long-term impact given to the investment community, and also to other stakeholders at large.

ESG reporting is referred to by a number of different names including, but not restricted to Corporate Social Disclosure (CSD), Corporate Environmental Reporting (CER), Triple Bottom Line (TBL) reporting, Corporate Social Responsibility Disclosure (CSRD) and Corporate Sustainability (CS) reporting. But the final objective is in establishing Corporate Accountability, and have been discussed by Carroll and Shabana (2010); Tricker (2012). And Chelawat and Trivedi (2016).

CORPORATE SUSTAINABILITY METRICS - GUIDELINES FOR DESIGN AND IMPLEMENTATION

The metrics used for the measurement of sustainability (involving the sustainability of environmental, social and economic domains, both individually and in various combinations) are still evolving: they include indicators, benchmarks, audits, indexes and accounting, as well as assessment, appraisal and other reporting. It has been suggested by Delmas and Blass (2010) that some tools may only choose to focus on past or current measured performance while others may emphasis on the potential to improve future performance based on current management practices. Van Looy and Shafagatova ((2016) and Bengo et al (2016) have reviewed and discussed the various facets and mechanisms of business metrics, and the main attributes of effective metrics could be summarised as:

1. Specific,
2. Measurable, and
3. Achievable.

Although several guidelines already exist and could be adopted, the following recommendations have been compiled for guidance:

General Requirements:

- Must express the non-financial performance of an organization (e.g., triple bottom line performance), including:
  - Environmental.
  - Social.
  - Economic (not the same as financial performance).
- Should be expressed at the level of an organization, or some subset thereof.
- Should support the need to know whether an organization's operations are sustainable in absolute terms, not just relative 'more or less' terms.

Technical Specifications:

- Solution should make quantitative analysis and scoring possible.
- Solution should be context-based (metrics should express performance relative to actual social, environmental, and economic conditions in the world).
- Solution should refer to organizational activities or operations as the thing(s) being measured.
- Solution should be grounded in human well-being (i.e., an organization's operations are sustainable or not depending on their impacts on human well-being).

- Solution should measure performance against standards of performance derived from the human well-being criterion (above).
- Solution should not necessarily require prior specification or existence of such standards of performance, as:
    - Social standards of human well-being.
    - Environmental standards of some kind.
    - Economic standards.
- Solution should support customized standards of performance for individual organizations.

The Solution

- Sustainability Quotients:
    - Denominators express standards of performance.
    - Numerators express actual performance.
- Scoring convention
    - If denominators express not-to-exceed levels of impact, quotient scores of >1.0 are unsustainable.
    - If denominators express not-to-fall-below levels of impact, quotient scores of <1.0 are unsustainable.
- General formulation:
    - Sustainability Performance = Actual Impacts/Normative Impacts.

Impacts on What?

- Vital (non-financial) capitals in the world that people rely on for well-being, which include:
    - Natural Capital.
    - Human Capital.
    - Social Capital.
    - Constructed (built) Capital.

Organizational impacts that have the effect of creating or preserving vital capitals in the world at levels required to ensure human well-being are sustainable; impacts that have the opposite effect are unsustainable.

The challenge many companies face is to condense large amounts of environmental, economic and social information into a limited number of key indicators. Sustainability performance indicators (SPIs) or sustainable development indicators (SDIs) are used to measure a company's performance and to monitor and report on future progress. SPIs can be grouped in three areas covering either the economic, environmental or social aspects of sustainability. Sustainability metrics must express performance relative to standards of performance, i.e., they must include sustainability in context, and to achieve that there is a need to establish a set of Key Performance Indicators (KPIs), and the concept has been reviewed and discussed by Lavy et al. (2010).

THE NECESSITY FOR KEY PERFORMANCE INDICATORS (KPI)

Guidelines and Principles

A prerequisite for a successful measurement of corporate economic, environmental and social performance is the development of Key Performance Indicators (KPIs). In order to adequately capture the link between economic, environmental and social performance, and progress in implementing corporate sustainability strategies, it is necessary to develop and use appropriate financial, as well as non-financial KPIs. Companies can use KPIs developed

by international organizations, peers and leading companies, or they can develop their in-house KPIs, or they can adopt those of the TBL and the TBL principles.

A KPI is a set of quantifiable measures that a company or industry uses to gauge or compare performance in terms of meeting their strategic and operational goals. KPIs vary between companies and industries, depending on their priorities or performance criteria, and are also referred to as "Key Success Indicators (KSI)". The discussions of Lakiza and Deschamps (2018) will help in understanding the intricacies of performance indicators and performance measurement.

The IIRC's Capitals Background Paper (IIRC, 2013) notes:

> *"...quantitative indicators, such as KPIs and in some cases monetised metrics, can be very important in explaining an organization's usage of and effects of various capitals. This is particularly true where KPIs are themselves "integrated" in that they display the relationships between two or more capitals....".*

In addition to general reporting principles, there are also some common KPI-specific principles that have to be considered, these being:

Principle 1 – Quantitative

KPIs should be measurable, and should therefore be quantitative in nature. This also means that they can be acted upon; for example, targets can be set to reduce a particular emission if it is expressed in a quantitative term. In this way the effectiveness of environmental policies and management systems can be substantiated. Measurement of environmental impacts often requires some form of conversion methodology or estimation, such as the estimation of carbon dioxide emissions resulting from the use of fossil fuels. There are many standards that can be used to perform this type of calculation, and it is important to report on the protocols used to determine these impacts.

Principle 2 – Relevance

In addition to the quantitative information, a KPI should be accompanied by a general narrative, explaining its purpose and impacts. As part of this narrative, all relevant information and comparators should be taken into account for that KPI. Each KPI should describe the process undergone, the calculation methods and any relevant assumptions. Progress should also be discussed, including against targets, whether improvements or setbacks have occurred and how these are being tackled. Any information relating environmental performance (i.e. the environmental KPI) to financial performance should be also discussed. This can include environmental fines and expenditures.

Principle 3 – Comparability

As far as possible, all companies should be able to report data in a comparable format, so users of reports can assess the performance of a single company over time and relative to its competitors. It is important that companies avoid using bespoke KPIs to hide poor environmental performance; the narrative part of a report provides the opportunity for a company to discuss any tensions which exist between providing comparable data and reporting company-specific KPIs.

KPIs should be expressed in absolute terms that cover the entire business for each period of reporting (most commonly annually), and also related to a normalizing factor. Two commonly used normalizing factors are turnover and production output; but there are others which may be relevant for companies in a particular sector; for example, companies with offices may normalize to floor space.

This allows stakeholders to know how much environmental impact companies have relative to a given amount of goods and/or services produced. Normalized data can be particularly helpful in demonstrating environmental improvements in a growing business.

Environmental information should be published at the same time as Annual Reports and Accounts, and relate to the same accounting period. Reporting should be consistent with other types of company reporting as far as possible, and the following have to be considered:

- Emissions to Air.
- Emissions to Water.
- Emissions to Land.
- Resource Use.
- Waste production.

Every business should also consider reporting on how it influences the environmental performance of its supply chain and products, including the following additional sections about:

- Supply chains.
- Products.

The Reporting Process

The following steps have to be considered for guidance when going through the reporting process:

Step 1: Determine relevant KPIs

There are a number of different ways to do this and the most appropriate way will depend on the internal resources and expertise available, and whether the organization is experienced at reporting.

For organizations that expect to report on a diverse and wide range of KPIs, it may be useful to refer to other standards that exist for environmental reporting, such as the Global Reporting Initiative (GRI), in addition to the KPI Guidelines. This may be especially useful for those organizations that already report and wish to make their environmental reporting more extensive and appeal to a wider set of stakeholders.

Step 2: Identify audience and decide on reporting medium

It is important to ensure that when reporting environmental performance, the KPIs selected meet the expectations of the key audiences or stakeholders. Audiences can include shareholders, employees, government, suppliers, customers, academics/consultancies, the local community and NGOs.

Step 3: Review data requirements and sources

The next step is to gather the data as appropriate. Companies that are already reporting may have the appropriate systems in place; new reporters will need to consider the most appropriate way of gathering the information, including:

1. Environmental/Social Management Systems (EMS/SMP)
   Environmental Management Systems (such as ISO14001, EMAS and BS8555) are believed to be a robust and effective way of managing the data-gathering process to an appropriate standard.

2. Other data sources:
   In some cases it will be possible to collect information using standard business systems such as transactional systems, such as fuel and electricity bills, to calculate environmental KPIs.

Step 4: Collect further data as necessary

Once the data requirements and systems have been assessed, it may be necessary to collect more information than is currently available. This may involve implementing or expanding the data collection systems currently in place.

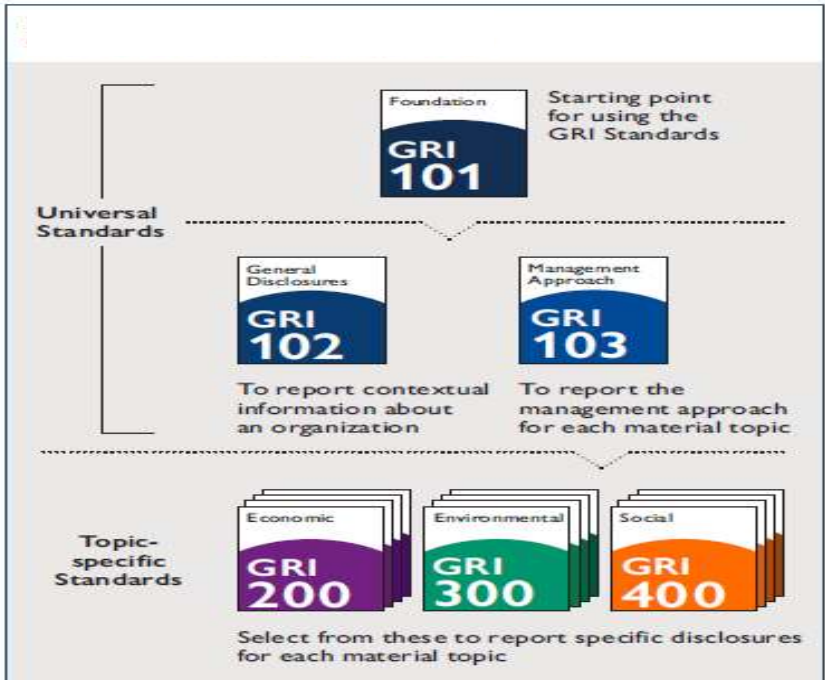
Step 5: Report on relevant KPIs

Once the appropriate information has been gathered, the relevant KPIs can be reported. This process can be repeated for every reporting period. Most companies that report on environmental KPIs do so annually.

The Global Reporting Initiative (GRI)

The Global Reporting Initiative (GRI), formed by the United States-based Coalition for Environmentally Responsible Economies (CERES) and the Tellus Institute with the support of the United Nations Environment Programme (UNEP) in 1997, released an "exposure draft" version of the Sustainability Reporting Guidelines in 1999, with a first full version in 2000 (GSSB/GRI 2000). The second version was released at the World Summit for Sustainable Development in Johannesburg in 2002. In 2013, the GRI released its Guidelines, G4, and the most recent of GRI's reporting frameworks, developed by the Global Sustainability Standards Board (GSSB), was launched in October 2016. In contrast to the earlier reporting frameworks, the GRI Standards have a modular structure, making them easier to update and adapt (Figure 12).

Figure 12: Organisation of the GRI Modules



Reporting Principles

1. Principles for defining report content:
    1. Stakeholder Inclusiveness:
        Identify its stakeholders, and explain how it has responded to their reasonable expectations and interests.
    2. Sustainability Context
        Present the reporting organization's performance in the wider context of sustainability.
    3. Materiality
        Must reflect the reporting organization's significant economic, environmental, and social impacts; or substantively influence the assessments and decisions of stakeholders.
    4. Completeness
        Include coverage of material topics and their Boundaries, sufficient to reflect significant economic, environmental, and social impacts, and to enable stakeholders to assess the reporting organization's performance in the reporting period.

2. Principles for defining report quality:
    1. Accuracy
        Information shall be sufficiently accurate and detailed for stakeholders to assess the reporting organization's performance.
    2. Balance
        Information shall reflect positive and negative aspects of the reporting organization's performance to enable a reasoned assessment of overall performance.
    3. Clarity
        Make information available in a manner that is understandable and accessible to stakeholders using that information.
    4. Comparability
        Select, compile, and report information consistently. The reported information shall be presented in a manner that enables stakeholders to analyze changes in the organization's performance over time, and that could support analysis relative to other organizations.
    5. Reliability
        Gather, record, compile, analyze, and report information and processes used in the preparation of the report in a way that they can be subject to examination, and that establishes the quality and materiality of the information.
    6. Timeliness
        Report on a regular schedule so that information is available in time for stakeholders to make informed decisions.

The GRI structure consists mainly of two sections:

1. The Universal Standards consisting of 56 general disclosures. These disclosures provide an overview of an organization's size, geographic location, and activities. This contextual information is important to help stakeholders understand the nature of the organization and its economic, environmental and social impacts.
2. The topic specific Standards consisting of 33 management and topic specific disclosures, as compiled in Table 1.

.Table 1. GRI. Management and topic specific disclosures

1. Economic Performance	2. Market Presence
3. Indirect Economic Impacts	4. Procurement Practices
5. Anti-corruption	6. Anti-competitive Behaviour
7. Materials	8. Energy
9. Water and Effluents	10. Biodiversity
11. Emissions	12. Effluents and Waste
13. Environmental Compliance	14. Supplier Environmental Assessment
15. Employment	16. Labour/Management Relations
17. Occupational Health and Safety	18. Training and Education
19. Diversity and Equal Opportunity	20. Non-discrimination
21. Freedom of Association and Collective Bargaining	22. Child Labour
23. Forced or Compulsory Labour	24. Security Practices
25. Rights of Indigenous Peoples	26. Human Rights Assessment
27. Local Communities	28. Supplier Social Assessment
29. Public Policy	30. Customer Health and Safety
31. Marketing and Labelling	32. Customer Privacy
33. Socioeconomic Compliance	

THE TRIPLE BOTTOM LINE, SUSTAINABILITY AND CSR REPORTING

The Triple Bottom Line – TBL or 3 BL

The Triple Bottom Line ("**TBL**", "**3BL**", or "**People, Planet, Profit**") captures an expanded spectrum of values and criteria for measuring organizational (and societal) success: Economic, Environmental and Socia**l**. With the ratification of the UN ICLEI TBL Standard for urban and community accounting in early 2007, this became the dominant approach to public sector full cost accounting. Similar UN standards apply to Natural Capital and Human Capital measurement to assist in measurements required by TBL, e.g. the ecoBudget Standard for reporting Ecological Footprint. TBL has been extensively discussed over the years, and the reviews of Alhaddi (2015), Ozgur and Hemke (2017), Agudelo et al. (2019) give an insight into what has been the consensus about TBL over the past decade.

The idea first emerged when John Elkington introduced the term in his book: *Cannibals with Forks: The Triple Bottom Line of 21st Century Business* (1998). It reintroduced the need to look beyond financial accounting and encourage corporations to also account for their environmental and social impact. The term, 'Triple-Bottom-Line', describes one of the new theories of sustainable development proposed by John Elkington (1998) and his team at Sustainability Ltd in London. This theory suggests that true sustainable development in business must consider not just the financial 'bottom line' of prosperity and profit, but also other 'bottom lines' such as environmental quality and social equity. Companies, therefore, when they submit their annual reports, should be looking not just at the 'financial bottom line' of profit but also at the 'Triple-Bottom-Line' of prosperity, environmental quality and social quality. The triple bottom line represents a level of interdisciplinary thinking that is vital to tackle the complex and varied environmental problems that exist today. The Triple-Bottom-Line was developed with the aid of industrialists to meet their needs and also to enable the concepts to be easily translated into the financial contexts of business.

History of the Concept

The triple bottom line was originally inspired by Urbanist Patrick Geddes (1854-1932 – See Patrick Geddes: the father of modern town planning by Robert Boucheron, May, 2015), who

developed similar concepts as early as the beginning of the 20th century. Later, the concept was adopted by environmental and business theorist John Elkington (Cannibals with Forks, 1998), who is widely credited with coining the term "Triple Bottom Line." Elkington's intention was to develop an approach to Social Responsibility practical for corporations, and his definition was:

> *The triple bottom line focuses corporations not just on the economic value they add, but also on the environmental and social value they add – and destroy. At its narrowest, the term 'triple bottom line' is used as a framework for measuring and reporting corporate performance*

Cannibals with Forks arguably led the way for the corporate sustainability revolution that followed. Until then, those companies that felt they had a societal responsibility saw this predominantly in terms of community philanthropy and the avoidance of negative environmental impacts. It lacked a clear framework that could encompass the whole business.

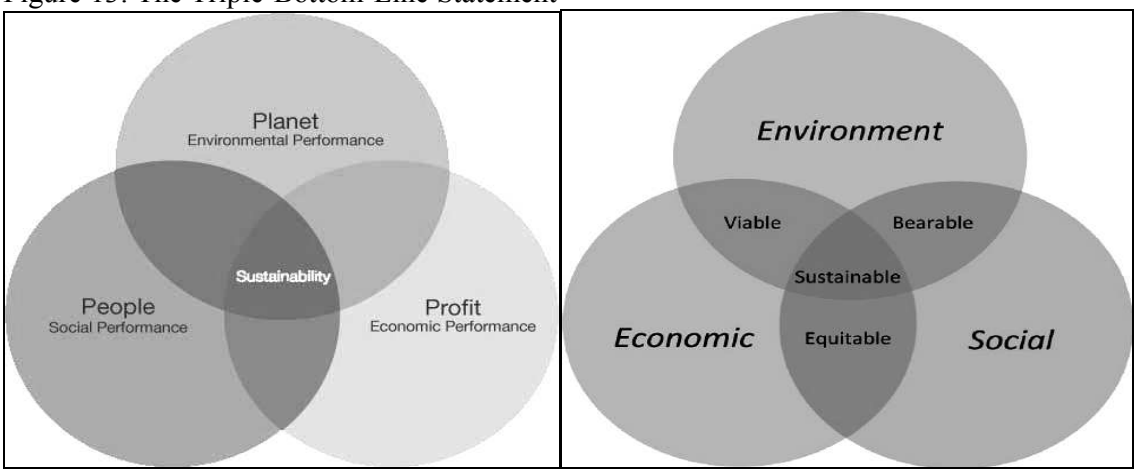
Further, Cannibals with Forks provided this framework by introducing the concept of the 'Triple Bottom Line'. This was an explicit acknowledgement that business responsibility extends beyond the single bottom line of profit, to include social, environmental and economic considerations. Translating sustainability into a language that was easily understood by corporate leaders was a masterstroke. It brought sustainability to life and made it relevant to business audiences, allowing them to interpret sustainability in a language they could use and apply within their organisations.

However, Cannibals was not just about the triple bottom line. Elkington foresaw the future in his description of the following seven dimensions of business operations whose paradigms needed to change if to achieve a sustainable future:

1. ***Markets***
   Sustainability will be a competitive driver.
2. ***Values***
   There will be a shift away from hard commercial values towards softer, less tangible values.
3. ***Transparency***
   Companies will need to be far more transparent to build trust.
4. ***Life-Cycles***
   It. is not about point of sale, it will have to be about the entire product lifecycle.
5. ***Partnerships***
   Companies will partner with stakeholders in ways unforeseen to date.
6. ***Time***
   Companies will need to embrace long-term thinking in their strategies.
7. ***Corporate Governance***
   Boards will have to become clearer about the role of businesses in society and how broader considerations are included in governance processes.

Since the proposal of TBL, there has been growing evidence of leading companies' willingness and efforts to change their paradigms, with others keen to follow. In the private sector, a commitment to Corporate Social Responsibility implies a commitment to some form of TBL Reporting. This is distinct from the more limited changes required to deal only with ecological issues. In practical terms, triple bottom line accounting means expanding the traditional reporting framework to take into account environmental and social performance in addition to financial performance. The concept is depicted in Figure 13, superimposition the concept of People, Planet and Profit over that of Economic, Environment and Social.

Figure 13: The Triple-Bottom-Line Statement



Linking the Triple Bottom Line to Business Sustainability

Business sustainability should ensure the connections between Nature, Economics, and Social Equity. The challenge is to balance the needs of each part of these sustainability parameters so that available resources are used in a way to meet the needs of the present, without depriving the future of such needs. One of the challenges of understanding business sustainability is in how people and communities define the word. There are a variety of definitions, including conserving resources for present and future generations, or integrating the "Triple Bottom Line" of Environmental, Economic and Social equity into business and development activities. The discussions and views of Giovannoni and Fabietti (2013) and Hammer and Pivo (2016) further stress on the necessary inclusion of the three tiers of sustainability into sustainable development and business activities, in a way that all three are in a balanced harmony.

Business sustainability should be an integrated system with a different meaning for each sector. A business in the private sector can define the term based on its level of corporate social responsibility and goodwill to benefit a community, without of course reducing financial benefits for itself or for its shareholders. Schaltegger and Lüdeke-Freund (2012) succinctly observed that "a business case for sustainability intends and realizes economic success through (and not just with) an intelligent design of voluntary environmental and social management." A non-profit organisation may concentrate on the interactions between people and nature. There has been a growing call for humanity to reconnect with nature, and Ives et al. (2018) recognise material, experiential, cognitive, emotional, and philosophical parameters and considerations should all form the fabric of that reconnection. Individuals may look at sustainability from the lens of quality of life concerns and continued security, and the discussion of Pol et al. (2017) unravels the factors associated with quality of life as related to sustainability, the many facets of quality of life (QoL) being now debated in terms of both economic growth and sustainability.

Changing societal expectations are placing new challenges before business leaders, and are shifting the nature of the business and societal relationships. The potential for far greater stakeholder activism, along with a rise in competition from global scale production and trade, have created a significantly more challenging management environment than in the past. The availability and flow rate of information have increased exponentially over the past decade. This has vitalized a new generation of civil society groups, who, along with other business stakeholders (consumers, communities, employees, and governments), are reshaping the set

of demands facing contemporary business leaders. Businesses are therefore placing increased emphasis on their ongoing sustainability, which implies a simultaneous focus on economic, social, and environmental performances, that is adopting the Triple Bottom Line concept.

The Triple Bottom Line is emerging as a popular conceptualization and reporting vehicle for articulating corporate social, environmental, and economic performance and is receiving significant attention in connection with its efficacy and sufficiency as a means for reporting the extent to which an organization meets its societal and environmental responsibilities. By preparing and disseminating triple bottom line statements, an organization conveys an image of concern and sensitivity to the three dimensions of societal responsibility: Economic, Environmental and Social, and the reviews and discussions of Alhaddi (2015) and Mehta (2016) reveal the present day strategies and positioning of businesses in facing new challenges.

Triple Bottom Line Sustainability, reviewed and discussed further by (Alhaddi 2015), is today regarded as a concept specifically for social responsibility in the running and management of businesses. It has become a popular concept for understanding social responsibility among corporations eager and interested in incorporating nonmonetary values into their business models. It has evolved as a method of "true cost accounting," which considers the impact of production decisions in terms of ecological and social values, as well as economic values. A company that practices triple bottom line accounting may or may not be more socially responsible than one that does not. Those who create environmental and social value alongside economic value are often considered to have a sustainable triple bottom line.

What Corporations have to Consider to be Sustainable

Economic Value

Economic value is one component of the triple bottom line, and has been discussed by Hammer and Pivo (2016), and the authors observe that "research regarding how economic development practitioners understand and prioritize TBL or sustainable development is sparse". Admittedly, one component of the triple bottom line is that of the traditional bottom line: net profit or loss. An enterprise that creates environmental and social benefits but loses money is typically not considered sustainable because, at some point, it will fold up. The triple bottom line, therefore, is not intended as a system to exclude profit from operations. It exists to balance the profit incentive with the costs of production decisions that are often externalised: social and environmental costs. Proponents of triple bottom line sustainability suggest that operations that create value in economic terms but only create costs in social and environmental terms are similarly unsustainable, as they will eventually run out of the natural and human resources necessary to continue their business.

Ecological Value

Callicott and Mumford (1997) suggested an ecological definition of sustainability that is in better accord with biological conservation: "meeting human needs without compromising the health of ecosystems." And Hellstrand et al. (2009) defines sustainable development "as social and economic development within ecological sustainability limits." Both definitions tend to impose limits on ecological exploitation and this is where the TBL steps in, since environmental costs and benefit of production are a component of the triple bottom line. An operation that creates economic wealth but depletes the resources of the natural environment is not considered to have a sustainable triple bottom line because, eventually, it will lack the natural resources to continue operating. Additionally, those operations that do not factor environmental costs of production decisions into their prices can send the wrong supply

signals to customers. If a business externalises a significant amount of its costs onto either its local or its global environment, customers will believe the cost of consuming products is lower than reality, and demand will increase unsustainably. Triple bottom line sustainability seeks to address both of these problems by developing a producer-consciousness of its long-term environmental costs.

Social Value

Dinda (2016) made a profound analysis on the interrelationships between social and human capital, and economic growth. The three are obviously at the base of sustainability and sustainable development. The costs of decisions on workers and society are a component of the triple bottom line. All production decisions rely heavily on the resources of social and human capital, or the skills, education, and motivation of the people they employ and impact. An enterprise that creates negative social value, that impoverishes or confines the people with whom it relates, is obviously not considered to be sustainable because it will eventually lack the skills and demand to continue operating.

Businesses that engage in exploitative trade, labour rights violations or the employment of children might create economic value, but doing so will incur long-term social costs. These costs might include the inability of children to receive education and develop skills, or of workers to purchase products and provide a consumer base for the enterprise. As with environmental sustainability, failing to factor social externals into a production decision results in an artificial price deflation, and causes unsustainable increases in demand. Further, it leads to decreases in the quality of life of those affected by the enterprise.

Objectives of TBL

Potts (2004) outlines some of the primary goals of TBL as:

- Transparency and Accountability.
- Planning, management and policy.
- Stakeholder engagement.
- Quantification.
- Justified and informed decision-making and risk management.
- Environment and social concerns as an embedded in mainstream thinking.

The following points are recommended as initial steps to TBL reporting:

- Outline of the vision and strategy for sustainable development.
- Internal policy objectives and goals.
- Public policy objectives and goals.
- Qualitative and quantitative information
- Policies, measures and progress.

Reasons Why are Businesses Should be Interested in TBL

There are a number of drivers for the reporting of non-financial performance. Examples are:

- ***Licence to operate***
  Many organisations require public and community support and acceptance to allow them to operate, especially where there are direct and substantial impacts as a result of operations.
- ***Reputation***
  Company reputations have been tarnished as a result of poor treatment of local communities, employees, the environment, or a lack of regard for corporate governance.

- ***Regulatory Pressure***
  Increasingly many jurisdictions are requiring companies to publicly report on non-financial performance, especially in the area of environmental impact.
- ***Supply Chain Pressure***
  Many large corporations and governments now include TBL requirements in goods and service supply contracts and agreements, to ensure that suppliers meet prescribed environmental and social standards.
- ***Finance Sector***
  There are two main finance sector drivers. First, the finance sector's increased focus on incorporating non-financial performance information into risk assessments for the provision of credit, insurance and investment. Second, the Socially Responsible Investment market that is demanding more information to enable the selection of investments based on socially responsible criteria.
- ***Corporate Governance***
  Currently many corporate governance initiatives are focused at a board level. TBL helps ensure that sound corporate governance and ethics systems are embedded throughout all levels of an organisation.
- ***Enhancing External Communication***
  TBL practices can enhance communication with key stakeholders such as the community, suppliers and customers. This allows an organisation to have a more proactive approach to addressing future needs and concerns.
- ***Benchmarking Performance***
  TBL reporting provides a mechanism for benchmarking performance both within and across businesses. This may lead to a competitive advantage with customers and suppliers as well as enhanced access to capital.
- ***Risk Management***
  Improved management of non-financial risks through enhanced management systems and monitoring of performance may also lead to more robust resource allocation decisions as risks become better understood.
- ***To be in line with the Global Reporting Initiative's (GRI-GSSB 2019 recommendations***
  The GRI is an organisation involving a variety of global government and non-government stakeholders who have come together to standardise TBL reporting. The result has been the final development of voluntary reporting guidelines (GRI-GSSB 2019).

Triple Bottom Line Strategies

While statements of broad policy on sustainable development are important, a subsidiary policy statement with a series of specific objectives to illustrate the desirable scope and level of specificity may become necessary. In order to recognize the critical link between a healthy environment/society and sustained economic growth, the following guidelines are recommended.

1. Integrate environmental considerations into business planning and decision-making processes, including product research and development, new manufacturing methods and acquisitions/divestitures;
2. Identify, assess and manage environmental risks associated with operations and products throughout their life cycle, to reduce or eliminate the likelihood of adverse consequences;
3. Comply with all applicable legal and regulatory requirements and, or adopt more stringent standards for the protection of employees and the community;

4. Establish a formal Environmental Protection Programme, and set specific, measurable goals;
5. Establish assurance programmes, including regular audits, to assess the success of the Environmental Protection Programme in meeting regulatory requirements, programme goals and good practices;
6. To the extent technology will allow, eliminate or reduce harmful discharges, hazardous materials and waste;
7. Make reduction, reuse and recycling the guiding principles and means by which to achieve goals;
8. Work as advocates with suppliers, customers and business partners to jointly achieve the highest possible environmental standards;
9. Build relationships with other environmental stakeholders - including governments, the scientific community, educational institutions, public interest groups and the general public;
10. Provide regular communications to, and training for, employees to heighten awareness of, and pride in, environmental issues; and
11. Prepare and make public an annual report summarizing environmental activities.

TBL Reporting

TBL reporting is an integrated approach to public reporting of environmental, social and economic outcomes against established benchmarks. It springs from a consensus that the vitality of organisations and communities depends on positive environmental, social and financial outcomes. The non-financial reporting process or TBL reporting process tend to be conducted and developed by a sustainability team within an organization, rather than just by an individual.

Successful TBL reporting can also clarify organisational structures, identify problems with existing data collection and analysis practices, and improve the development of practical, achievable social and environmental goals. It may also improve an organisation's ability to identify the needs of stakeholders. Sridar (2012) has discussed corporate conceptions of TBL reporting, and analysed the framework for reporting.

Over the years a growing number of private sector organisations, government agencies and government business enterprises throughout the world have adopted TBL reporting as an integral element of their business strategies.

Benefits of TBL Reporting

Some specific business advantages include:

- Enhancement of reputation and brand/services, increased credibility.
- Increased trust levels from consumers.
- Securing a social license to operate.
- Attraction and retention of high caliber employees and increased employee satisfaction.
- Improved access to investors and potential to be viewed as a superior investment choice.
- Reduced risk profile.
- Identification of potential costs savings and potential to reduce cost of supplies through detailed analysis.
- Increased scope for innovation.
- Aligning stakeholder needs with management focus.
- Creation of a sound basis for stakeholder dialogue.

How to Report the Triple Bottom Line

The most challenging argument for green activist is one of quality; that is, people argue that sustainable products are inferior to their non-sustainable counterparts. Critics of sustainability also like to argue that sustainable products cost more. The triple bottom line is a measure of the effect of sustainability on a company's bottom line. While there is no set calculation for determining the 3BL, it is being used as a way to show a commitment to sustainability and social responsibility. The work of Potts (2004) elaborates on reporting guidelines as:

- **Review the terminology**. The triple bottom line is a form of reporting that measures business impact on social and environmental issues. It provides businesses with another number to be held accountable to, other than just profit.
- **Determine a calculation**. There is no standard way to calculate TBL. Each company must come up with its own scoring system. The basic approach is to analyse the effect of sustainability on the environment, human capital and profitability. Next, produce a detailed action plan with metrics used to determine the effect of the deployment. Finally, list the expected outcomes or improvements associated with the plan.
- **Measure human capital**. That is, measure the way in which employees are treated and impact of goods or services offered on community of consumers. Considerations should be given to levels of wages, donations, and volunteerism as objective metrics.
- **Measure impact on the planet**. This attempts to look at the ecological impact of the business and its products on the planet, from raw materials and product processes, to shipping and administration. Emissions, carbon credits, and other established environmental control metrics can be used as a metric.
- **Re-engineer profitability to include a cost for people and planet**. Create a point system to acknowledge things like reduced packaging or banning certain ingredients from products.
- **Ask suppliers to report regularly using a triple bottom line format.** This not only reinforces the concept, but also makes the job of the company's reporting easier.

TBL Verification

While Mitchell et al. (2008) discusses the process of verification itself, Jackson et al. (2011) are of the opinion that verification should encourage businesses "to look at the big picture and see their impact on the world around them." That takes verification into a new dimension. However, verification of TBL data provides assurance that it meets acceptable standards of completeness, accuracy, precision and reliability. Verification requires an auditing process that examines the systems and processes used for data collection, reconciles data with source documentation and tests it for accuracy. Underlying assumptions and data definitions are also tested. Credibility is enhanced by the use of external auditors.

Why verify TBL reports?

Verification provides clear external and internal benefits.
These include:

1. Enhanced public credibility for the report.
2. Acknowledgement that an organisation is willing to be open about its social, environmental and economic outcomes.
3. Identification of weaknesses in current policies, procedures and data recording practices.
4. Findings that can inform future improvements in both systems and outcomes.

TRIPLE BOTTOM LINE ACCOUNTING

Elkington (1998) already elaborated on TBL accounting, but there have been several discourses and analyses of TBL accounting over the years, with suggestions for improvements by David (2005), Wang and Lin, (2007), and Carrick (2012) who also observed that environmental performance measurements may be inaccurate, and aggregation of multiple types of metrics may have to be resorted to. Uncertainty and difficulty in finding appropriate metrics represent some of the shortcomings of CSR accounting standard-setting, and has been analysed and discussed by Sridar and Jones (2013). Since the Brundtland Commission's Report, economic, environmental and social concerns are no longer separable under the TBL framework, which has consolidated the need for information based on these three dimensions. TBL has been under scrutiny from different directions since its official launch in the late 70s, and recently Miska et al. (2018) has suggested bringing yet another parameter, that of cultural dimensions into TBL and TBL accounting.

TBL reporting is predominantly voluntary and unregulated. There are some guidelines or indicators that are of high quality, for instance the Global Reporting Initiative **(GRI)**, which incorporates the concept of sustainability and TBL framework. However, none of those models available are mandatory. On the other hand, mandatory standards for recognition and disclosing of social and environmental information put emphasis on costs and liabilities arising from transactions and events that affect, or will likely affect the financial position and results of an enterprise, and are reported in the financial statements.

The diversity of indicators and lack of regulation generate confusion, lack of comparability and discredit from the stakeholders. An official model and a standardized regulation for TBL reporting are thus needed. Albu et al. (2013) are in agreement that a diversity of CSR reporting practices, the plurality of reporting frameworks, convergence, and several other factors lead to a reduced level of comparability. In his analysis of the literature, Thejo (2017) also concluded that the plurality of reporting standards lead to reduced comparability. The accounting profession is highly qualified to produce them and the financial accounting standard-setters to develop Corporate Social Responsibility disclosure standards. The main benefit from this option would be to attend to a wider number of stakeholders not considered in the current conceptual framework for financial reporting, providing information for their decisions, which is the ultimate objective of accounting.

The non-profit organization Centre for Sustainable Innovation (CSI) has recently implemented the first method of calculating these effects, which is called the True Sustainability Index, or TSI. TSI measures the effects on society, the environment and the economy. A company can therefore identify ways to reduce any negative effects it may be causing.

TRIPLE BOTTOM LINE ACCOUNTING BENEFITS

The triple bottom line (TBL) accounting method expands the criteria for measuring organizational success beyond profits and losses, and the benefits have been summarised by Jackson et al. (2011) and Gray et al. (2016). This accounting method assesses and analyses the financial, social and environmental effects of an organization's operations in terms of:

- ***Significance***
  This method of accounting is popular in nonprofit and government sectors where social and environmental responsibilities are generally viewed as more important than the financial bottom line.

- ***Function***
  The primary reason for TBL reporting is to provide investors with the information they want in order to make decisions. Therefore, organizations that use TBL accounting have an easier time receiving funding.
- ***Features***
  The social aspect of this accounting method stresses the importance of the fair treatment of employees through fair wages and a safe work environment. An organization using TBL accounting is required to participate in sustainable environmental activities such as reducing harmful waste and conserving energy.
- ***Benefits***
  Companies that implement TBL accounting can increase business because they appear more socially and environmentally responsible than their competitors. The correct use of TBL accounting reduces the likelihood that the company will end up with bad publicity because of unfair wages, the use of child labour, unsafe work conditions or its adverse environmental impact.
- ***Considerations***
  Some organizations have begun using the idea of quadruple bottom line (**4BL or QBL**) reporting, which adds in the cultural/spiritual aspects of doing business.

The Quadruple Bottom Line (QBL), a further innovation that has been described as "adding purpose to the mix" has been discussed by Pizzirani et al. (2018), who insists that cultural aspects of development should be included in sustainability assessments, alongside economic, social and environmental aspects. In other words, businesses should consider their economic, environmental, social, and cultural sustainability, and the concept is gaining support.

CONCLUSIONS

25 years after *Cannibals with Forks*, and efforts to change the concept of profit first that businesses concentrated on, adding two other bottom lines appear to have generated more discussions than complete acceptance. In spite of all proposals, plans, strategies, recommendations and expectations regarding sustainability, corporate responsibility and the TBL, criticisms, disagreements, suggestions, and disappointments have resulted in a necessity for further corrections, insertions and deletions. Yew (2000), was amongst the first to suggest that government pressures, regulatory standards, and stakeholder pressures (coercive) could be reasons of why and how TBL came to be accepted into corporate reporting. Their view was that corporations believe that following a TBL format would make them similar or compliant with formats that most other corporations use (mimetic and normative). Hence they can be in competition with their peers and major multinationals in other industries doing TBL. Both Friedman (1970) and Yew (2000) appear to have set the ball rolling for the critics.

They further suggested that more attention should concentrate not only on 'how to measure' but also 'how reliable are the values once obtained'. And perhaps what exactly to measure should also be considered. The conclusion of Adams (2002) and Kolk (2003), based on past research, was that the amount of reporting done on social aspects of corporate responsibility has been significantly lower than reporting done on environmental issues. Social impacts cannot always be precisely defined, or quantitatively valued. They are known to impact on individuals and communities differently. Norman and MacDonald (2003) recognised yet another limitation in the TBL approach, and discussed the lack of an ability to aggregate the results across the three pillars of TBL. They argued that although TBL promised an aggregation system that would provide for a social profit and loss indicative, whereby the social metric can be quantified into a single number using various formulae, for any type of business. Moneva et al. (2006) remarked that different levels of parameters and indicators

were allowing corporations to handpick those that are important to them leading to the issue of selective reporting. And Hubbard (2009) found that both social and environmental performance could be unique to specific corporations/industry, and as such would be difficult to quantify.

The second limitation found in the TBL approach is the inability to aggregate the results across the three principles and pillars of TBL, Economic, Social and Environmental. This is a limitation because TBL promised in its aggregation claim to provide a social profit and loss number, whereby the claim states that the social metric can be quantified into a single number using various formulae, for any firm. Still on the subject of aggregation and quantification, Robbins (2006) had earlier established that TBL offers no means of prioritizing among the requirements of different stakeholder groups in the first instance, and subsequently provides no method or formula in its framework that can aggregate across the TBL principles. Consequently, there is no quantitative or qualitative summary that is aggregated or provided across the three legs of TBL.

Another question raised by Etzion and Ferraro (2009), though not specifically related to TBL, but relevant for analysis and verification, is the issue of certification. Corporations that may lack in their environmental/social reporting can highlight the fact that they are certified by certain industry or other known standards showing their desire to be compliant with requirements, which subsequently gets them ranked. The danger is that corporations wishing to put on a facade of compliance and showcase themselves as embracing the sustainability movement can use any one of the current reporting systems to mask themselves from the external pressure to be more sustainable.

Pava (2007) attempted to offer a general and practical response to hesitations, contradictions, disagreements and contestations with the following reflection:

> *One of the major limitations of the business ethics movement, to date, has been the inability to measure and track social and environmental performance in a meaningful, consistent, and comparable way. But blaming the advocates of triple bottom line reporting for this failure is to blame the only group that has noticed this problem and is trying to remedy it. Rather than criticizing triple bottom line reports for their failure to provide a magical number that aggregates ethical performance, academics should understand the real import of TBL reporting and try to improve it.*

According to Shnayder et al. (2015), the main criticism of TBL regards its subjectivity and its inability to systematically quantify and aggregate the people and planet paradigms. Sridhar and Jones (2013) recognise three major shortcomings of TBL:

1. TBL's measurement,
2. TBL as a non-systemic approach, and,
3. TBL as a compliance/ranking mechanism.

And what is interesting, and worrying, is 25 years down the line, John Elkington (2018), the father of TBL eventually expresses concern about the adequacies of TBL:

> *But success or failure on sustainability goals cannot be measured only in terms of profit and loss. It must also be measured in terms of the wellbeing of billions of people and the health of our planet, and the sustainability sector's record in moving the needle on those goals has been decidedly mixed. While there have been successes, our climate, water resources, oceans, forests, soils and biodiversity are all increasingly threatened. It is time to either step up — or to get out of the way.*

The question is should TBL be allowed to go through a running-in process, or have both the business and social arenas of the world undergone drastic changes in too short a time recently to make the concept of TBL archaic, if not redundant? Rather than seeing an improvement on the people, planet, front, the world is now being confronted with uncontrolled deforestation, unregulated pollution of soils, water bodies, and the atmosphere, all for profit, and to the point of endangering life on earth through extinction of the species that make up the fabric and stability of natural systems, and the phenomenon of global warming and climate change, the meaning and consequences of which are yet to be grasped.

REFERENCES

Abernathy, J. Stefanial, C., Wilkins, A. and Olson J. (2017). Literature review and research opportunities on credibility of corporate social responsibility reporting, American Journal of Business, 32(1): 24-41,

Adams, C.A. (2002). Factors influencing corporate social and ethical reporting: moving on from extant theories. Accounting, Auditing and Accountability Journal, 15: 223-250.

Adams, C., Frost, G., and Webber, W. (2004). Triple bottom line: A review of the literature. In: A. Henriques & J. Richardson (Eds.). The triple bottom-line: Does it all add up? (pp. 17-25). London: Earthscan.

Adams, W.M. (2006). The Future of Sustainability: Re-thinking Environment and Development in the Twenty First Century. Report of the IUCN Renowned Thinkers Meeting, 29-31 January 2006.

Agudelo, M.A.L., Jóhannsdóttir, L. and Davídsdóttir, B. (2019). A literature review of the history and evolution of corporate social responsibility. International Journal of Corporate Social Responsibility, 4:1-11

Aguinis, H. and Ante, G. (2012). What We Know and Don't Know About Corporate Social Responsibility: A Review and Research Agenda. Journal of Management, 38(4): 932-968.

Ahen, F. and Amoah, J.A. (2018). Review: Institutional Voids and the Philanthropization of CSR Practices: Insights from Developing Economies. Sustainability, 10(7): 2400.

Al Halbusi, H. and Tehseen, S. (2017). Corporate Social Responsibility (CSR): A Literature Review. Malaysian Journal of Business and Economics (MJBE), 4(2): 30-48.

Albertini, E. (2013). Does environmental management improve financial performance? A meta-analytical review. Organ. Environ., 26: 1-457.

Albu, N., Albu, C.N., Dumitru, M. and Dumitru, V.F. (2013). Plurality or convergence in sustainability reporting standards? The AMFITEATRU Economic journal, Academy of Economic Studies - Bucharest, Romania, 15(7): 729-742.

Alhaddi, A.H. (2015). Triple Bottom Line and Sustainability: A Literature Review. College of Management, Lawrence Technological University, MI, USA.

Astleithner, F., Hamedinger, A., Holman, N. and Rydin, Y. (2004). Institutions and indicators – The discourse about indicators in the context of sustainability. Journal of Housing and the Built Environment, 19(1): 7-24.

Avi-Yonah, R. S. (2005). The cyclical transformations of the corporate form: A historical perspective on corporate social responsibility. Delaware Journal of Corporate Law, 30: 767-818.

Baden, D. (2016). A reconstruction of Carroll's pyramid of corporate social responsibility for the 21st century. International Journal of Corporate Social Responsibility, 1: 8-23.

Barnard, C.I. (1938). The Functions of the Executive. Cambridge: Harvard University Press. pp. 3-290

Barnett, M.L. (2007). Stakeholder Influence Capacity and the Variability of Financial Returns to Corporate Social Responsibility. The Academy of Management Review, 32(3): 794-816.

Baumgartner, R. and Zielowski, C. (2007). Analyzing zero emission strategies regarding impact on organizational culture and contribution to sustainable development. Journal of Cleaner Production, 15: 1321-1327.

Bell, S. and Morse, S. (2012). Measuring the Immeasurable? 2nd Edition, Routledge, London, pp. 256

Bengo, I., Arena, M., Azzone, G. and Calderini, M. (2016). Indicators and metrics for social business: a review of current approaches. Journal of Social Entrepreneurship, 7(1): 1-24.

Brereton, D and Pattenden, C.(2007). Measuring what matters: Monitoring the contribution of a new mining project to community sustainability. SDIMI 2007, The University of Queensland, Centre for Social Responsibility in Mining.

Blowfield, M. and Frynas, J.G. (2005). Setting New Agendas: Critical Perspectives on Corporate Social Responsibility in the Developing World. International Affairs, 81, 499-513.

Bockstaller, C. and Girardin, P. (2003). How to validate environmental indicators. Agricultural Systems, 76: 639-653.

Böhringer C. and Jochem P.E.P. (2007). Measuring the immeasurable: a survey of Sustainability indices. Ecol. Econ., 63: 1-8.

Boucheron, R. (2015). Patrick Geddes: the father of modern town planning. The Bangalore Review

Bowen H.R. (1953). Social responsibilities of the businessman. Harper and Row, New York, NY.

Brown, D., Dillard, J. and Marshall, R.S. (2008). Triple bottom line: A business metaphor for a social construct. In: Understanding the social dimension of sustainability.
https://pdxscholar.library.pdx.edu/busadmin_fac?utm_source=pdxscholar.library.pdx.edu%2Fbusadmin_fac%2F44&utm_medium=PDF&utm_campaign=PDFCoverPages
Brundtland, G. (1987). Our common future: The world commission on environment and development. Oxford University Press. Oxford, England.
Buniani, S. and Ahmad, N.N.N. (2015). An integrative perspective of environmental, social and governance (ESG) reporting: A conceptual paper. International Conference on Accounting Studies (ICAS - 2015). Aug 17-20, Thistle Johor Bahru Hotel, Johor, MALAYSIA.
Busco C, Frigo M, Giovannoni E, Riccaboni A, Scapens R.W (2005). Beyond compliance: why integrated governance matters today, Strategic Finance, 87(2): 35-43.
Büyüközkan G. and Karabulut Y. (2018). Sustainability performance evaluation: Literature review and future directions. J. Environ Manage., 217: 253-267.
Byerly, R.T. (2013). Business in Society: The Social Contract Revisited. Journal of Organisational Transformation & Social Change, 10(1): 4-20.
Callicott, J and Mumford, K. (1997). Ecological Sustainability as a Conservation Concept. Conservation Biology, 11(1): 32-40.
Cannon, T. (1994). Corporate Responsibility. A Textbook on Business Ethics, Governance, Environment: Roles and Responsibilities. Pitman publishing, London.
Capra, F. and Luisi, P.L.(2012). The systems view of life: A unifying vision. Cambridge University Press, New York.
Carrick, A.J. (2012). Sustainability Accounting and the Triple Bottom Line. Mount Accounting, InfoSys Inc.
Carroll, A.B. (1979). A three-dimensional conceptual model of corporate performance. Academy of Management Review, 4(4): 497-505.
Carroll, A.B. (1999). Corporate social responsibility: Evolution of a definitional construct. Bus. Soc 38: 268-95.
Carroll, A.B., and Shabana, K.M. (2010). The business case for corporate social responsibility: a review of concepts, research and practice, International Journal of Management Reviews, 12(1): 85-105.
Cartwright W. and Craig J.L (2006). Sustainability: aligning corporate governance, strategy and operations with the planet. Bus. Process. Manag. J., 12(6): 741-750.
CERES - The Coalition for Environmentally Responsible Economies: Principles.
https://www.ceres.org/
Cheers, Z. (2011). The Corporate Social Responsibility Debate. A Senior Thesis submitted in partial fulfilment of the requirements for graduation in the Honours Program, Liberty University, USA.
Chelawat, H. and Trivedi, I.V. (2016). The business value of ESG performance: The Indian context. Asian J. Bus. Ethics 5: 195-210.
Chen, C.H. (2011). The Major Components of Corporate Social Responsibility. Journal of Global Responsibility, 2, 85-99.
Clarkson, P.M., Overell, M.B. and Chapple, L. (2011). Environmental Reporting and its Relation to Corporate Environmental Performance. Abacus, 47(1): 27-60.
Cochran, P.L. (2007). The evolution of corporate social responsibility. Business Horizons, 50(6): 449-454.
Commission of the European Communities. (2006, March 22). Implementing the partnership for growth and jobs: Making Europe a pole of excellence on corporate social responsibility. http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0136:FIN:en
Connolly, N and Kaisershot, M. (2015). Corporate power and human rights, The International Journal of Human Rights, 19(6): 663-672.
CSD (1992). The United Nations Commission on Sustainable Development (CSD) was established by the UN General Assembly with the adoption of Resolution A/RES/47/191 in December 1992 to ensure effective follow-up of the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit.
CSI - Center for Sustainable Innovation.
https://www.feem.it/en/research/programs/climate-and-sustainable-innovation/

Dahlsrud, A. (2008). An analysis of 37 definitions. Corporate Social Responsibility and Environmental Management, 15(1): 1-13.
David .C. (2005). Adapting your Accounting Practices to Triple Bottom Line Reporting. Certified Management Accountants Magazine. February 2005.
Delmas, M and Blass V.D. (2010). Measuring corporate environmental performance: the trade-offs of sustainability ratings. Special Issue: Trade-Offs in Corporate Sustainability, 245-260.
de Villiers, C., Venter, E.R. and Pei-Chi, K.H. ((2017). Integrated reporting: background, measurement issues, approaches and an agenda for future research. Accounting and Finance, 57(4): 937-959.
Dinda, S. (2016). Interrelationships between Social and human Capital, and Economic Growth. In: "Social capital and economic growth," Chapter in Sherman Folland and Eric Nauenberg Edited book: Elgar Companion to Social Capital and Health, chapter 18, pages 276-300. Edward Elgar Publishing.
Dixon J.A. and Fallon L.A. (1989). The concept of sustainability: origins, extensions and usefulness for policy. Soc. Natur. Resour., 2: 73-84.
Donaldson, T, (2001). Constructing a social contract for business. In: Alan R. Malachowski (Ed.), Business Ethics: Critical Perspectives on Business and Management. Routledge. pp. 1-209.
Dresner, S. (2002). The principles of sustainability. Earthscan, London.
Dumay, J., Bernardi, C., Guthrie, J. and Demartini, P. (2016). Integrated reporting: A structured literature review. Accounting Forum, 40(3): 166-185.
Dutta, S., Dutta, U.K and Das, S. (2011). Triple Bottom Line Reporting: An Innovative Accounting Initiative. International Journal on Business, Strategy and Management, 1(1): 1-13.
Dunphy, D.C., Griffiths, A., and Benn, S. (2003). Organizational change for corporate sustainability: A guide for leaders and change agents of the future. London: Routledge.
Elkington, J. (1998). Cannibals with Forks: The Triple Bottom Line of 21st Century Business. New Society Publishers, Gabriola Island, Stony Creek.
Elkington, J. (2002). Corporate strategy in the chrysalis economy. Corporate Environmental Strategy, 9 (1): 5-12.
Elkington, J. (2004). Enter the triple bottom line. In A. Henriques and J. Richardson (Eds.) The Triple Bottom Line, Does It All Add Up? Assessing the Sustainability of Business and CSR, London: Earthscan Publications Ltd., 1-16.
Elkington, J. (2018). 25 years Ago I Coined the Phrase "Tripple Bottom Line." Here is Why it's Time to Rethink It. Harvard Business Review.
https://www.scribd.com/document/383395311/25-Years-Ago-I-Coined-the-Phrase-Triple-Bottom-Line-Here-s-Why-It-s-Time-to-Rethink-It
Engwall, M. (2003). No Project Is an Island: Linking Projects to History and Context. Research Policy, 32: 789-808.
Henriksson, R. Livnat, J., Pfeifer. P., Stumpp, M. and Zeng, G. (2018). ESG Literature Review https://www.qma.com/assets/pdf/QMA_Integrating_ESG_in_Portfolio_Construction.pdf
Etzion, D., and Ferraro, F. (2009). The Role of Analogy in the Institutionalization of Sustainability Reporting. Organization Science, 21: 1092-1107.
Fenech, A.L, Foster, J., Hamilton, K., and Hansell, R. (2003). Natural capital in ecology and economics: an overview. Environ. Monit. Assess., 86(1-2): 3-17.
Forum for the Future, & BT. (2003). Just Values: Beyond the Business Case for Sustainable Development. London: Forum for the Future. forumforthefuture.org
Fraser, E.D, Dougill, A.J, Mabee, W.E, Reed, M, and McAlpine, P. (2006). Bottom up and top down: analysis of participatory processes for sustainability indicator identification as a pathway to community empowerment and sustainable environmental management. J Environ Manage.,78(2): 114-27.
Friedman, M. (1970). The Social Responsibility of Business is to Increase its Profits, New York Times Magazine, 13 September 1970, reprinted in Donaldson T and Werhane P (1983), Ethical Issues in Business: A Philosophical Approach, 2nd Edition, Englewood Cliffs, NJ: Prentice Hall.
Friedman, M. (2002). The social responsibility of business is to increase its profits. In L. P. Hartman (Ed.), Perspectives in business ethics (2nd ed.) (pp. 260-264). New York: The McGraw-Hill Companies. (Original work published 1970).

Friends of the Earth (2005). Briefing: Corporate Accountability.
[http://www.foe.co.uk/resource/briefings/corporate_accountability1.pdf]
Gallicano, T.D. (2011). A Critical Analysis of Greenwashing Claims. Public Relations Journal, 5(3): 1-21.
Gasparatos A, El-Haram M, Horner M. (2008). A critical review of reductionist approaches for assessing the progress towards sustainability. Environ Impact Assess Rev 28: 286-311.
Geddes, Sir Patrick (1854–1932) and the Emergence of Ecological Planning, Ecological Design
https://www.nationalgalleries.org/art-and-artists/2505/sir-patrick-geddes-1854-1932-sociologist-and-town-planner.
Giovannoni E. and Fabietti G. (2013). What Is Sustainability? A Review of the Concept and Its Applications. In: Busco C., Frigo M., Riccaboni A., Quattrone P. (Eds) Integrated Reporting. Springer, pp 21-40.
Global Reporting Initiative (GRI) http://www.globalreporting.org/ also GRI Performance Indicators http://www.globalreporting.org/GRIPortal/GRIG3online/PerformanceIndicators
Gonzalez-Perez, M.A. (2013). Corporate Social Responsibility and International Business: A Conceptual Overview. In: Gonzalez-Perez, M.A. and Leonard, L. (Eds). International Business, Sustainability and Corporate Social Responsibility (Advances in Sustainability and Environmental Justice), Emerald Group Publishing Limited, 1-35.
Gray, R.H. (1990). The Greening of Accounting: The Profession After Pearce, The Chartered Association of Certified Accountants, Certified Research Report, 17.
Gray, R.H. (1992). Accounting and Environmentalism: An Exploration of the Challenge of Gently Accounting for Accountability, Transparency and Sustainability. Accounting, Organizations and Society, 17: 399-425.
Gray, R. (2010). Is accounting for sustainability actually accounting for sustainability, and how would we know? An exploration of narratives of organisations and the planet. Accounting, Organizations and Society, 35: 47-62.
Gray, R., O'Dochartaigh, A., and Rannou, C. (2016). Organisational effectiveness and social and environmental accounting: Through the past darkly. Pioneers of Critical Accounting. London: Palgrave Macmillan, pp.53-71.
GRI (1999). Sustainability Reporting Guidelines. Exposure Draft for Public Comment and Pilot Testing. http://cwm.unitar.org/publications/publications/cbl/prtr/pdf/cat5/sustain.pdf
GRI 2000. Sustainability Reporting Guidelines: on economic, environmental and social performance, Global Reporting Initiative, Boston, MA.
GRI/GSSB. (2000). The Global Sustainability Standards Board/The Global reporting Initiative
https://www.globalreporting.org/standards/gssb-and-standard-setting/
Grundey, D. (2008). Editorial Applying sustainability principles in the economy, Technological and Economic Development of Economy, 14(2): 101-106.
Hale, T.N. (2008). Transparency, Accountability, and Global Governance. Global Governance, 14(1): 73-94.
Hammer, J. and Pivo, G. (2016). The Triple Bottom Line and Sustainable Economic Development Theory and Practice. Economic Development Quarterly, 31(1): 25-36.
Hansen, D.R., Mowen, M.M., and Guan, L. (2007). Cost Management. Accounting & Control. 6th Edition. Mason, MI: South-Western Cengage Learning.
Hart, S.L. (1997). Beyond Greening: Strategies for a Sustainable World. Harvard Business Review, 1997: 6-77.
Hawken, P. (1993). The Ecology of Commerce: A Declaration of Sustainability. New York: Harper Collins, (250 pp.)
Hawken P, Lovins A, Lovins LH (1999). Natural capitalism: creating the next industrial revolution. Little Brown, Boston, MA.
Hellstrand, S., Skånberg, K. and Drake, L. (2009). The relevance of ecological and economic policies for sustainable development. Environ Dev Sustain., 11(4): 853-870.
Helm, D. (2015). Natural Capital - Valuing Our Planet. Yale University Press; 277 pp.
Holmes L, Watts R. (2000). Corporate Social Responsibility: Making Good Business Sense. World Business Council for Sustainable Development, Conches-Geneva, Switzerland.
Holtbrügge, D. and Dögl, C. (2012). How international is corporate environmental responsibility? A literature review. Journal of International Management, 18(2): 180-195.

Hopwood A.G. (2009). Accounting and the environment. Account Org Soc., 34(3-4): 433-439.
Hopkins, M.J.D. (2002). Sustainability in the Internal Operations of Companies. Corporate Environmental Strategy, 9(4): 398-408.
Hourneaux, F., Gabriel, M.L.S. and Vazquez, D.A.G. (2018). "Triple bottom line and sustainable performance measurement in industrial companies", Revista de Gestão, 25(4): 413-429.
Huang, X.B. and Watson, L. (2015). Corporate social responsibility research in accounting**.** J. Account., Lit., 34: 1-16.
Hubbard, G. (2009). Measuring Organizational Performance: Beyond the Triple Bottom Line. Business Strategy and the Environment, 18: 177-191.
International Integrated Reporting Council (IIRC) <IR>.
integratedreporting.org/the-iirc-2/structure-of-the-iirc/ir-framework-panel/
IIRC. (2013). International IR Framework. Available at: http://integratedreporting. org/wp-content/uploads/2015/03/13-12-08-THE-INTERNATIONAL-IR-FRAMEWORK-2-1.pdf.
Ioannou, I. and Serafeim, G. (2010). The Impact of Corporate Social Responsibility on Investment Recommendations. Harvard Business School Accounting and Management Unit Working Paper No. 1507874, Boston, 11-17.
Ioannou, I. and Serafeim, G. (2012). What Drives Corporate Social Performance? The Role of Nation-level Institutions. Journal of International Business Studies, 43(9): 834-864.
ISSD (1995). The Compendium—Sustainable Indicator Initiative.
https://www.iisd.org/library/compendium-sustainable-development-indicator-initiatives
https://www.ifeh.org/indicators/compendium/
Ives, C.D., Abson, D.J., von Wehrden, H., Dorninger, C. Klaniecki, K. and Fisher, J. (2018). Reconnecting with nature for sustainability. Sustain.Sci., 3: 1389-1397.
Jackson, A., Boswell, K. and. Davis, D. (2011). Sustainability and Triple Bottom Line Reporting-What is it all about? International Journal of Business, Humanities and Technology, 1(3): 55-59.
Jaggi, B. and Zhao, R. (1996). Environmental performance and reporting: Perceptions of managers and accounting professionals in Hong Kong. The International Journal of Accounting, 31(3): 333-346.
Kidd, C.V (1992). The evolution of sustainability. J. Agr. Environ. Ethic, 5(1): 1-26.
Kocmanová, A. and M. Dočekalová, M. (2011). Corporate sustainability: environmental, social, economic and corporate performance. acta univ. agric. et silvic. mendel. brun., 7: 203-208.
Kolk, A. (2003). Trends in sustainability reporting by the Fortune Global 250. Business Strategy and the Environment, 12: 279-291.
Kolk, A. (2008). Sustainability, accountability and corporate governance: exploring multinationals' reporting practices. Business Strategy and the Environment, 18(1): 1-15.
KPMG (2017). The KPMG Survey of Corporate Responsibility Reporting 2017.
Krechovská, M. and Procházková, T. (2014). Sustainability and its Integration into Corporate Governance Focusing on Corporate Performance Management and Reporting. Procedia Engineering, 69: 1144-1151.
Kuhlman, T, and Farrington, J (2010). What is Sustainability? Sustainability, 2(11): 3436-3448.
Lakiza, V. and Deschamps, L. (2018). How to Develop Innovation KPIs in an Execution-Oriented Company. Technology Innovation Management Review, 8(7): 14-30.
Lantos, G. (2001). The boundaries of strategic corporate social responsibility. Journal of Consumer Marketing, 18(7): 595-630.
Lavy, S, Garcia, J.A, Scinto, P. and Dixit, M.K. (2014). Key performance indicators for facility performance assessment: simulation of core indicators, Construction Management and Economics, 12: 1183-1204.
Laufer, W.S. (2003). A review of the theories of corporate social responsibility: Its evolutionary path and the road ahead. International Journal of Management Reviews, 10(1): 53-73.
Lee, M.P. (2008). A review of the theories of corporate social responsibility: Its evolutionary path and the road ahead. International Journal of Management Reviews, 10(1): 53-73.
Lehman, G. (1995). A Legitimate Concern for Environmental Accounting. Critical Perspectives on Accounting, 6: 393-413.
L'Etang, J. (1994). Public Relations and Corporate Social Responsibility: Some Issues Arising. Journal of Business Ethics, 13(2): 111-123.
Lozano, R. (2008). Envisioning sustainability three-dimensionally. Journal of Cleaner Production, 16: 1838-1846.

Lozano, R. (2012). Towards better embedding sustainability into companies' systems: an analysis of voluntary corporate initiatives. Journal of Cleaner Production, 25: 14-26.
Magee, L, Scerri, A., James, P., Thom, J.A., Padgham, L. and Hickmott, S.(2013). Reframing social sustainability reporting: towards an engaged approach. Environ. Dev. Sustainability, 15: 225-243.
Maignan, I., and Ferrell, O.C. (2004). Corporate social responsibility and marketing: An integrative framework. Journal of the Academy of Marketing Science, 32(1): 3-19.
Man, S. (2011). Sustainable Lens: A Visual Guide. Create Space Independent Publishing Platform. 206 pp.
Mark-Herbert, C , Rotter, J and Pakseresht. A. (2010). A triple bottom line to ensure Corporate Responsibility. In: Timeless Cityland – an Interdisciplinary Approach to finding the Sustainable Human Habitat., Publisher: Baltic University Press and Department of Urban and Rural Development, SLU University (Uppsala). (Eds.) Berg P.G., pp.1-7.
Maxwell, C.W and Wu, J. (2017). The problems of weak sustainability and associated indicators. International Journal of Sustainable Development and World Ecology, 24(1): 44-51.
Mayer A.L. (2008). Strengths and weaknesses of common sustainability indices for multidimensional systems. Environ. Int., 34: 277-91.
McIntosh, M., Leipziger, D. and Jones, K. (1998). Corporate citizenship. Successful strategies for responsible companies: Financial Times. Pitman Publishing.
McWilliams, A., Siegel, D.S. and Wright, P.M. (2006). Corporate Social Responsibility: Strategic Implications. Journal of Management Studies, 43(1): 1-18.
Mehta, S. (2016). Literature Review of Corporate Social Responsibility-A Ladder of Comprehensive Intensification. IBMRD's Journal of Management & Research, 40-48.
Meynhardt, T., and Gomez, P. (2016). Building Blocks for Alternative Four-Dimensional Pyramids of Corporate Social Responsibilities. Business and society, 58(2): 404-438.
Miller F.D. and Ahrens, J. (1988). The Social Responsibility of Corporations in Commerce and Morality. Totowa, NJ: Rowman and Littlefield.
Miska, C., Szöcs, I. and Schiffinger, M. (2018). Culture's effects on corporate sustainability practices: A multi-domain and multi-level view. Journal of World Business, 53(2): 263-279.
Mitchell, M., Curtis, A. and Davidson, P. (2008). Evaluating the process of triple bottom line reporting: Increasing the potential for change. Local Environment, 13: 67-80.
Mohamed, M. (2013). Corporate accountability in the context of sustainability – a conceptual framework. EuroMed Journal of Business, 8(3): 243-254.
Moneva, J., Archel, P. and Correa, C. (2006). GRI and the camouflaging of corporate unsustainability. Accounting Forum, 30: 121-137.
Mori K. and Christodoulou A. (2012). Review of sustainability indices and indicators: Towards a new City Sustainability Index (CSI), Environ Impact Asses Rev., 32(1): 94-106.
Niemi, G. J., and McDonald, M. E. (2004). Application of ecological indicators. Annual Review of Ecology Evolution and Systematics, 35: 89-111.
Norman, W. and Macdonald, C. (2003). Getting to the Bottom of "Triple Bottom Line". Business Ethics Quarterly, Volume 14 (2): 243-262.
OECD (1993). Environmental Indicators. Development, Measurement and Use. A Reference Paper. http://www.oecd.org/env
Oskarsson, K. and von Malmborg, F. (2005). Integrated management systems as a corporate response to sustainable development. Corporate Social Responsibility and Environmental Management. 12(3): 121-128.
Ozgur, I and Hemke, M.T. (2017). The Triple Bottom Line: A Critical Review from a Transdiciplinary Perspective. Business Strategy and the Environment, 26(8): 1235-1251.
Pava, M. (2007). A Response to "Getting to the Bottom of 'Triple Bottom Line.'' Business Ethics Quarterly, 17(1): 105-110.
Peng, B., Tu, Y., Elahi, E. and Wei, G. (2018). Extended Producer Responsibility and corporate performance: Effects of environmental regulation and environmental strategy. J. Environ. Manage., 218: 181-189.
Pizzirani, S., McLaren, S.J., Forster, M.E., Whaiora Porou, T.T and Warmenhoven, T.A. (2018). The distinctive recognition of culture within LCSA: realising the quadruple bottom line. The International Journal of Life Cycle Assessment, 23(3): 663-682.

Pol E., Castrechini A., Carrus G. (2017). Quality of Life and Sustainability: The End of Quality at Any Price. In: Fleury-Bahi G., Pol E., Navarro O. (Eds) Handbook of Environmental Psychology and Quality of Life Research. Springer, Cham. Pp 11-39.
Porritt, J., (2005). Capitalism as if the World Matters, Earthscan, Sterling VA. USA.
Porter, M.E. and van der Linde, C. (1995). Toward a New Conception of the Environment-Competitiveness Relationship. The Journal of Economic Perspectives, 9(4): 97-118
Porter, E.M and Kramer, R.M. (2003). The Competitive Advantage of Corporate Philanthropy. Harvard Business Review, 80: 56-68.
Porter, M.E and. Kramer, M.R (2011). "Creating Shared Value," Harvard Business Review, 89(1): 2-17.
Potts, T. (2004). Triple Bottom Line Reporting: A Tool for Measuring, Communicating, and Facilitating Change in Local Communities, in Sustainability and Social Science- Round Table Proceedings, In: Cheney, H., Katz, E., Solomon, F., (eds.), Institute for Sustainable Futures and CSIRO Minerals, Australia.
Reinhardt, F. (2005). Environmental Protection and the Social Responsibility of Firms: Perspectives from the Business Literature. In: Environmental Protection and the Social Responsibility of Firms. Bruce Hay, Robert Stavins, and Richard Vietor (Eds.) Resources for the Future: Washington, D.C.
Robins, F. (2006). The Challenge of TBL: A Responsibility to Whom? Business and Society Review, 111: 1-14.
Sahlin-Andersson, K. (2006). Corporate social responsibility: a trend and a movement, but of what and for what?, Corporate Governance: The international Journal of Business in Society, 6(5): 595-608.
Sarkis, J and Cordeiro, J.J. (2001). An empirical evaluation of environmental efficiencies and firm performance: Pollution prevention versus end-of-pipe practice. European Journal of Operational Research, 35(1): 102-113.
Schaltegger, S. and Freund, F.L. (2012). The Business Case for Sustainability Concept. International Journal of Innovation and Sustainable Development, 6(2): 95-119.
Schwartz, M. and Carroll, A. (2003). Corporate Social Responsibility: A Three-Domain Approach. Business Ethics Quarterly, 13: 503-530.
Schlör, H.A and Hake, J. (2015). Sustainability assessment circle. The 7th International Conference on Applied Energy. Energy Procedia, 75: 2641-2648.
Segger, M.C. (2003). Sustainability and Corporate Accountability Regimes: Implementing the Johannesburg Summit Agenda. RECIEL, 12(3): 295-309.
Shnayder L, van Rijnsoever FJ, Hekkert MP. (2015). Putting your money where your mouth is: why sustainability reporting based on the triple bottom line can be misleading. PLoS One. 10(3): e0119036.
Siew, R.Y.J. (2015). A review of corporate sustainability reporting tools (SRTs). Journal of Environmental Management, 164: 180-195.·
Slaper, T.F., and Hall, T.J. (2011). The triple bottom line: What is it and how does it work? Indiana Business Review, 86(1): 4-8.
Smith, N. C. (2003). CSR: Whether or How?, California Management Review, 45(4): 52-76.
Spangenberg, J. (2002). Environmental space and the prism of sustainability: Frameworks for indicators measuring sustainable development. Ecological Indicators, 2: 295-309
Sparkes R, Christopher J. (2004). The maturing of socially responsible investment: a review of the developing link with corporate social responsibility. Journal of Business Ethics. 52: 45-57.
Spencer, B.A., and. Butler (Jr), J.K. (1987). Measuring the Relative Importance of Social Responsibility Components: A Decision Modelling Approach. Journal of Business Ethics, 6: 573-577.
Sridhar, K. (2012). Corporate conceptions of triple bottom line reporting: an empirical analysis into the signs and symbols driving this fashionable framework, Social Responsibility Journal, 8(3): 312-326
Sridar, K. and Jones, G. (2013). The three fundamental criticisms of the Triple Bottom Line approach: An empirical study to link sustainability reports in companies based in the Asia-Pacific region and TBL shortcomings. Asian Journal of Business Ethics, 2(1): 91-111.
Steiner, I.V. (1972). Group Processes and Productivity. Academic Press, 1972, 204 pp.
Stoll, M.L. (2015). Greenwashing and Green Marketing Virtues. In: Handbook of Virtue Ethics in Business and Management, pp.1-10.

Striteska, M., and Spickova, M. (2012). Review and comparison of performance measurement systems. Journal of Organizational Management Studies, Vol. 2012, Article ID 114900, 13 pages,1-14.
Tai, F. and Chuang, S. (2014). Corporate Social Responsibility. iBusiness, 6, 117-130.
Tanguay, A.G, Rajaonson, J., Lefebvre, J.F. and Lanoie, P. (2009). Measuring the Sustainability of Cities: An Analysis of the Use of Local Indicators. Ecological Indicators, 10(2): 407-418.
Tellus Institute. https://www.tellus.org/
Thejo, J. (2017). Need for Harmonisation of Sustainability Reporting Standards. Journal of Finance and Economics, 5(6): 253-258.
Tricker, B. (2012). Corporate Governance, Principles, Policies and Practices. Oxford University Press.
Tullberg, J, (2012). Triple bottom line – a vaulting ambition? Business Ethics: A European Review 21(3): 310-20.
The UN Global Compact (**UNGC** - 2011). The ten general principles for companies' CSR activities. http://www.ohchr.org/Documents/Publications/GuidingPrinciplesBusinessHR_EN.pdf
United Nations Environment Programme-**UNEP** (1997).
https://www.unenvironment.org/nairobiconvention/united-nations-environment-programme-unep
United Nations, (2007). Indicators of Sustainable Development: Guidelines and Methodologies, 3rd Edition, United Nations, New York. http://www.un.org/esa/sustdev/natlinfo/indicators/guidelines.pdf
United Nations (1992). **Agenda 21**. United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3 to 14 June 1992
United Nations. (1987). World Commission on Environment and Development (**WCED**) (1987). **Our Common Future**: The Brundtland Report, Document A/42/427.
United Nations (1992). Conference on Environment and Development (UNCED), by name **Earth Summit**, Conference held at Rio de Janeiro, Brazil (June 3-14, 1992), to reconcile worldwide economic development with protection of the environment.
United Nations (2002). World Summit on Sustainable Development (**WSSD**) held in Johannesburg, South Africa from 26 August to 4 September 2002. (**Earth Summit 2002**).
Visser, W. (2010). CSR 2.0: From the Age of Greed to the Age of Responsibility. In Reframing Corporate Social Responsibility: Lessons from the Global Financial Crisis, Sun, W. et al. (eds.), Bingley: Emerald.
Vogel, D. (2005). The Market for Virtue? The Business case for Corporate Social Responsibility. California Management Review, 47(4): 19-45
Vos, J. (2009). Actions speak louder than words: Greenwashing in corporate America.
Ethics & Public Policy, 23(1): 673-697.
Van Looy A, Shafagatova A. (2016). Business process performance measurement: a structured literature review of indicators, measures and metrics, 5(1): 1797, eCollection 2016.
Wang, L., and Lin, L. (2007). A Methodology Framework for the Triple Bottom Line Accounting and Management of Industry Enterprises. International Journal of Production Research, 45(5): 1063-1088.
Wong K.T.K. (2017). A Literature Review on Environmental, Social and Governance Reporting and It's Impact on Financial Performance. Austin J. Bus. Adm. Manage., 1(4): 1016-1020.
World Business Council for Sustainable Development (**WBCSD**) (2001). The Business Case for Sustainable Development: Making a Difference Toward the Johannesburg Summit 2002 and Beyond. Switzerland: WBCSD.
World Commission on Environment and Development (Brundtland Commission) (1987). **Our Common Future**, New York: Oxford University Press.
Yew, L. (2000). From third world to first. The Singapore story: 1965-2000. New York: Harper-Collins.
Young, S and Marais, M. (2012). A Multi-level Perspective of CSR Reporting: The Implications of National Institutions and Industry Risk Characteristics. Corporate Governance, 20(5): 432-450.