

Journal of Scientific Research & Reports

26(8): 11-33, 2020; Article no.JSRR.60850

ISSN: 2320-0227

Sustainability as an Important Tool in Organisational Management: A Review of Literature

E. A. G. Sumanasiri^{1*}

¹Department of Commerce, Faculty of Management Studies and Commerce, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.

Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

Article Information

DOI: 10.9734/JSRR/2020/v26i830293

Fditor(s)

(1) Dr. José Alberto Duarte Moller, Universidad de LaSalle Bajio, Mexico.

Reviewers:

(1) Amjad M. R. Khalili, Palestine Technical University Kadoorie (PTUK), Palestine. (2) Alessandra Cassol, Contestado University, Brazil.

Complete Peer review History: http://www.sdiarticle4.com/review-history/60850

Review Article

Received 08 July 2020 Accepted 12 September 2020 Published 25 September 2020

ABSTRACT

This study aims to review the existing literature on organisational sustainability to understand diverse concepts related to organisational sustainability and its evolution. To achieve these objectives, the researcher has reviewed more than one hundred and fifty peer reviewed journal articles related to organisational sustainability that were published between 1987 and 2020. Findings of the literature review confirmed that there were diverse definitions of organisational sustainability and that organisational sustainability is in the process of evolution. Further, this review of literature confirmed the importance of stakeholder engagement in sustainability related decision making at the organisational level. The long term perspective has become a key concern when implementing sustainability in organisations; it has, however, become one of the biggest sources of worry for organisational leadership in this millennium as well. National cultural values and organisational culture are also identified in the literature as influencing leadership decisions related to organisational sustainability. Hence, this literature review confirmed that there are no best solutions or strategies in achieving organisational sustainability, though managers should adopt holistic perspectives and develop innovative solutions to deal with sustainability issues unique to their own organisations. Therefore, it can be concluded that organisational leadership implemented according to a holistic perspective would facilitate excellent results in establishing organisational sustainability. Future research should be directed towards understanding organisational sustainability in a context specific manner rather than using a generalised approach.

Keywords: Organisational sustainability; corporate sustainability; multinational enterprises; stakeholder.

1. INTRODUCTION

The aim of this article is to examine the evolutionary process of organisational sustainability (OS) and how it has shaped the understanding of the concept in the literature. This would enable an understanding of how the concept of OS has been dealt with during each decade and permit an examination of its evolution in the near future. To achieve these objectives, this literature review focuses on the most relevant academic publications that have facilitated the evolution of OS. This review begins with examining the historical roots of OS and describes the early work relating to OS that has contributed to the most current understanding of the subject.

Considering the relatively long history of Corporate Sustainability (CS), this review has only focused on the publications that have contributed significantly towards the development of CS and OS. In this regard, the paper will not explore the alternative concepts related to OS that emerged in the recent past. The paper does not review the entire literature available on the subject but highlights, instead, the key factors that have shaped the evolution of OS. To this end, the author summarizes the key stages of OS that would enable readers to understand its historical evolution through highlighting the most important academic work as well as the most significant events that have helped shape it as a concept.

The main contributions of this paper are the compilation of historical knowledge on OS and the description of the evolution of OS. This review also contributes to the literature through exploring the changes in social expectations from a corporation throughout the period. The review also contributes to the general literature on organisational sustainability through reviewing diverse corporate groups (for example, small and medium enterprises, multinational enterprises and public organisations).

1.1 The Aim of This Study

This study, therefore, reviews the extant literature to understand the evolution of OS.

1. What are the different definitions surrounding organisational sustainability?

- What are the most significant frameworks developed to explain organisational sustainability?
- 3. What are the most popularly used measurements to evaluate organisational sustainability?
- 4. What are the developments in the application of organisational sustainability in different sectors (namely; small and medium enterprises, multinational enterprises, not for profit organisations and the public sector)?

2. RESEARCH METHODOLOGY

Published knowledge related to OS is vast and its history goes back to as early as the 1930s. Today, in the 21st century, the concept continues to evolve. The extensive body of literature pertaining to OS required the researcher to limit the scope of literature review to areas that are directly related to the evolution of OS and the historical aspects relating to this concept. The initial exploratory search of articles was done using key concepts such as CS, OS, sustainability, corporate social responsibility and history of sustainability. These kev terms sometimes considered to be interchangeable and sometimes not in the studies that were reviewed [1;2]. Since the main objective of this study is to explore the concept of OS, it was decided to include sustainability, history of CS, corporate social responsibility (CSR) and OS in the literature search. These terms were then keved into the online databases. The kev terms were searched in the titles, abstracts and the bodies of the articles examined. Preference was given to articles selected from indexed journals having a high impact factor. Publication dates were limited to the period extending from January 1987 to July 2020. The year 1987 was selected for the commencement of the search as it was the time when the Brundtland report was information released. Some was also extracted through searching online magazines, reports websites and of government organisations. During the search, some articles that were identified as not directly related to the evolution of the concept were still retained in the review process as they had contributed to the development of the OS concept in different dimensions.

3. ROLE OF LEADERSHIP IN CREATING ORGANISATIONAL SUSTAINABILITY

Leadership has been identified as the most studied and least understood concept in social science [3], pointing to the need for continuous study of changing human behaviours and the need to adapt to changes in the environment. Over the years, there has been a shift in leader-member leadership theories from relationship theories to a holistic, sustainable perspective. It is commonly accepted that to ensure a firm's long-term competitiveness in today's market, organisational leaders need to transform their organisations so that they can best adapt to environmental challenges. The importance of adaptation to ensure a firm's longterm competitiveness had been pointed out by early management scholars such as Ansoff [4], who suggested that leaders should transform their organisations to match 'new customer attitudes and new dimensions of social control' and emphasized the importance of 'organisations regularly questioning their role in society' (p.36).

This organisational transformation towards sustainability requires leaders to collaborate with diverse stakeholders and incorporate stakeholder feedback and interests into their business [4;5;6;7;8;9]. Numerous decision making scholars continued to challenge the applicability of traditional leadership models to answer diverse guestions that contemporary managers often have to face. For example, certain scholars [10] have adopted a much broader perspective towards leadership, where leadership has been perceived as a function of engaging with diverse participants in the social system. Most leadership scholars [10;11;12;13] have confirmed that contemporary leadership is more diverse, robust, multifaceted and multi focused than ever before. This has sparked a paradigm shift in the leadership literature, at least in a theoretical sense, where research emphasis has shifted from exploring leader-member relations to a much broader perspective of integrating the whole organisational environment in leadership decision-making [12;14].

As a result of this paradigm shift, leadership literature has expanded into other well-established management research streams such as CSR [15;16;17;18;19;20;21;22;23]; complexity leadership theory [24;25]; corporate governance [26;27]; environmental management [28;29]; and positive leadership [30]. The above mentioned studies were based on some new leadership

dimensions that recognise ethical and responsible leadership towards societal needs, and leadership that goes beyond the internal organisational environment and embraces a much broader perspective. This new leadership paradigm will help leaders to answer such pressing business problems as how to sustain the competitiveness of their businesses in a complex business environment [10;31].

Although much has been done to provide ideal leadership solutions to today's more complex business challenges, there is still a 'leadership vacuum' in the literature [31], as stakeholders in general have voiced dissatisfaction with the selfish behaviours of many contemporary leaders and have bought into the belief that 'leadership has failed' [32]. To address this gap, leadership scholars have started to explore effective leadership skills, attitudes and behaviours that can help to achieve the satisfaction of stakeholders, in other words, to explore OS [6;33]. To achieve OS in a chaotic and complex environment, leadership with diverse skills is necessary [10;34]. Some of the relevant skills include interacting with other stakeholders, predicting outcomes through complexity, thinking through complex problems, engaging groups through dynamic, adaptive organisational change, and possessing the necessary emotional intelligence to adaptively engage in problem-solving through dealing with personal emotions [7;10]; possessing adaptability and flexibility towards change [35;36]; being sensitive to environmental changes, and developing stakeholder relationships [6;13,37;38;39].

3.1 Concept of Sustainability

It is worthwhile thoroughly understanding the concept of sustainability before elaborating on the concept of OS. It has commonly been acknowledged that the concept of sustainability is very difficult to define and extant literature suggests that scholars are still engaged in clarifying and providing a focus to this concept [40;41;42;43].

The extant literature reveals that most research on sustainability has aimed to answer the following questions:

- What constitutes sustainability, sustainable development and organisational sustainability?
- How should sustainability be achieved?
- How should sustainability practices be implemented in different contexts?

- What are the most important areas of a business organisation that should focus on achieving sustainability?
- Who is responsible for sustainability initiation in the organisational context?
- What are the expected outcomes of sustainability initiatives in the organisational context?

The subsection below explores sustainability literature relating to the above questions and specifically explores the concept of sustainable development, models that support sustainable development and how sustainable development is measured.

3.2 Defining Sustainable Development

The first gathering of the UN on the protection of the human environment (Conference on the Human Environment) was held in Stockholm, Sweden in 1972 [44]. This conference established guidelines that covered a range of environmental issues including natural resource management, pollution prevention, and the relationship between the environment and development. Just over a decade later in 1983. the UN's World Commission on Environment and Development (WCED) further acknowledged the limitations of the earth's natural resources and the ever-increasing pollution of the global environment, which impacts on the long-term economic and social development of the world [45]. On 20th March 1987, the UN commissioned another WCED conference to discuss issues pertaining to sustainability, which was popularly known as the 'Brundtland Commission'. The WCED was chaired by the then Prime Minister of Norway, Gro Harlem Brundtland, who defined sustainability as; 'meeting the needs of the present without compromising the ability of future generations to meet their own needs', [45,43].

This definition indicates that sustainable development requires the efforts of all participants in society (e.g. individuals, voluntary organisations, businesses, institutes and governments) to invest more than what we consume, and pass on more than what we take from what belongs to future generations [46;47]. surrounding The confusion sustainability definitions has now been largely resolved, as most scholars are now more concerned about how to realise sustainability results than on finding a suitable definition of 'sustainability' [42;43;48]. As a result, scholars and practitioners are now interested in branching out into other relevant areas, such as what constitutes sustainability and how to implement sustainability in different contexts.

Two years after the 1987 WCED, preparations began in Rio de Janeiro, Brazil, in 1989 for the UN Conference Environment on Development (UNCED), also termed the 'Earth Summit' [49]. At this summit, economists and statisticians calculated and highlighted the main weaknesses in the primary development concepts of gross national product (GNP) and gross domestic product (GDP), which only record national assets but continue to underpin the productivity of most developed economies [50]. As pointed out by Henderson [50] the 1989 Earth Summit raised public awareness of the growing social environmental costs resulting from merely increasing the GNPs and GDPs of countries (see Fig. 1 below).

To devise solutions to growing social and environmental costs while maximising economic development, the Earth Summit developed significant global agreements such as The Rio Declaration and Agenda 21. These agreements were focused on providing guidance on how to national-level sustainable development targets with organisational and individual level development [51]. Twenty years after the Earth Summit, the UN held another sustainable development conference named 'Rio+20' in June 2012 in Rio de Janeiro, Brazil, where its main objectives were securing a renewed political commitment to sustainable development, assessing the progress to date, identifying the remaining gaps in implementation of sustainable development practices, and addressing new and emerging challenges [52]. To achieve these objectives, two main themes were established at Rio+20; 1) the Green Economy relating to poverty eradication and sustainable development; and 2) improved international coordination for sustainable development [52].

The introduction of 17 Sustainable Development Goals (SDGs) in 2015 recognised that eradicating poverty can result in economic growth through ensuring environmental protection, and that social harmony helps nations to establish sustainable development [53].

3.2.1 Early models for measuring sustainable development

The UN call to identify ways to measure sustainability attracted the attention of many

scholars from the outset. For example, researchers [46;47] suggested that sustainability requires the balancing of three segments: 1) the country's rate of population growth; 2) rate of change in the stock of capital (including the natural environment); and 3) investment in technology and innovation. Countries with high population growths, environmental pollution and poverty that are often unable to achieve higher levels of sustainability could use

innovation as a solution to break the cycle [54]. Another sustainability model developed by Henderson [55] suggests that humans need to have access to three basic resources while achieving global sustainability:1) information; 2) matter; and 3) energy (see Fig. 2). Among these three modes of resources, Henderson [55] posited 'information' as the important dimension most in achieving sustainability.

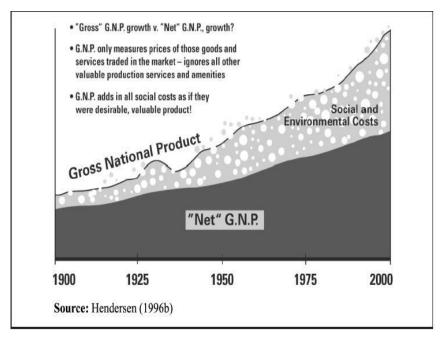


Fig. 1. Gross national product problem Adapted from Henderson [50]

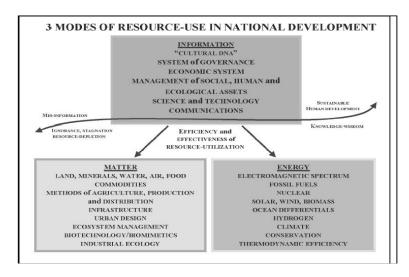


Fig. 2. Three modes of resources used in national development

Adapted from Henderson [55]

3.2.2 Measuring sustainability

Despite many studies having identified the main sustainable dimensions of development. measuring sustainable development has often proven to be a challenge [56;57]. Despite such difficulties, several successful methodologies for calculating sustainability have been produced, including indicators by Talberth et al., [58], and the Minnesota Planning Environmental Quality Board [59] sustainable wellbeing indicator [60]. Among these, sustainability assessment at the organisational level consists of two approaches. namely 1. Criteria-based approaches and 2. Model-based approaches, where model based approaches are recommended as most suitable [61]. Another aspect of measuring sustainability at the corporate level is based on the performance-measurement driven model and the maturing-measurement driven model [62]. Due to weaknesses in the prevailing measures of OS. recent scholars [63] have even developed composite indexes to measure OS.

Some of the most popular sustainability measurement models are explained below.

Genuine Progress Indicator: The Genuine Progress Indicator (GPI) [58] was developed based on the concept of sustainable income which was introduced by Hicks [64] with the aim of replacing GDP as a measure of economic growth. The GPI incorporates environmental and social factors that have hitherto been disregarded in traditional GDP measures. It consists of 25 variables related to economic, environmental and social factors.

Minnesota Progress Indicator: The Minnesota Progress Indicator [59] comprises 42 variables, based on the main objective of measuring the goals that establish a healthy economy.

Triple bottom line for sustainability: The concept of the TBL was first introduced in 2005 at the United Nations General Assembly [65]. It was later termed the 'triple bottom line' and presented as an accounting framework first introduced by Elkington [66] to measure the performance of corporate America. framework has since moved beyond traditional financial performance measures such as profit. return on investments and shareholder value to much broader perspectives that include the environmental impacts social and of performance. The triple bottom line is now regularly used as a common ground for the

development of sustainability standards, certificates and principles relating to various industries [67;68]. In addition, the TBL framework is now commonly used by most social businesses [69], for-profit and non-profit organisations, as well as in the government sector at federal, state and local levels to achieve sustainability goals [70].

Deborah [71] identified economic challenges including fair allocation of resources, and transfer of technology challenges including technology spill over. Social challenges consist of issues such as human rights violations, employee rights, and improved health and safety regulations. Environmental challenges include climate change, managing waste, recycling and exploring ways to generate energy from waste piles such as solid, electronic and hazardous wastes. Deborah [71] described many of these environmental challenges as 'wicked problems', and climate change as the 'super wicked problem' that most leaders have to find solutions to. Complex challenges such as the above emphasise to most managers that improving productivity of human capital is not a sufficient condition for achieving sustainability [36;72;73]. It has therefore been pointed out that there need to be alternative ways to maximise financial performance while minimising the negative impacts on a firm's socio environmental dimensions [74].

Despite its heavy usage, a major drawback in Elkington's [66] TBL model is the lack of measurements for each of the three main pillars of development, the environment, society and the economy. This limitation has weakened the practicality of using the TBL to measure performance related to sustainability [57], although a lack of universally accepted standards to measure TBL performance has been identified by some as an advantage. For instance, Slaper and Hall [57] argue that 'this can be viewed as a strength because it allows a user to adapt the general framework to meet the needs of different entities (business or non-profit), different projects investment policies (infrastructure educational programmes), or different geographic boundaries (a city, region or country)'

Natural step for sustainability: Brundtland's [75] efforts towards defining sustainability motivated Robert [76] to develop the framework of the natural step. This framework set out the conditions that are required to ensure the

sustainability of human activities on earth, and introduced four main conditions that a society must focus on as part of its contribution to sustainable development. This framework also recommended prohibiting the extraction of materials from the earth, stopping the production of all human-made substances, and stopping any activity that disturbs the natural environment. Because the economic and industrial systems have failed to stop environmentally damaging practices, the framework suggests a method termed 'back-casting from principles' to advance societies towards sustainability. Based on this. sustainability needs the integration of 'systems thinking' with 'back-casting from sustainability principles' to apply various tools and practices in the planning and re-designing of management areas such as organisational strategies and processes, and new product innovation.

Impact assessment for sustainability: Impact assessment was identified by the Commission of the European Communities [77] as a concept that 'identifies the likely positive and negative impacts of proposed policy actions, enabling informed political judgements to be made about the proposals and identifying trade-offs in achieving competing objectives' (p.2). At an international level, the European Union has quidelines based developed on assessment [77] and upgraded them via several rounds of improvements such as those adopted at the Secretariat General EU [78].

Dow Jones Sustainability Indices for sustainability: The Dow Jones Sustainability Indices (DJSI) are commonly used to measure the financial performance of corporate sustainability methods [79]. The main objective of the DJSI is to track the financial performance of leading sustainability-focused companies. S & P Dow Jones Indices [79] recommend that every organisation should immediately shift towards sustainability strategies to stay competitive in the future.

2030 The launch of the Sustainable Development Goals (SDGs) made the issue of inconsistency in measuring sustainability at the macro and micro levels worsen, making the need to bring in more practical measures for sustainability urgent [80]. Adopting a nexus approach has been recommended by scholars to address this gap [81]. At present, there are some popular measurements to assess sustainable development (SDGs) performance at the national namely, Sustainable Development Solutions Network- SDSN [82;83], the OECDs Distance measure [84] and progress measures based on Eurostat's report [85].

3.3 Role of Organisational Sustainability to Ensure National Level Sustainability

While sustainability first evolved as introduced macroeconomic objective Brundtland [75], the concept shifted to an organisational approach based on identifying the organisation as another living organism in an interconnected ecological community that requires responsible decision-making in every aspect [86]. In addition to this shift in organisational relevance, global sustainability issues such as food and water, security, climate change, environmental cost of war and terrorism, natural disasters, and urbanisation are also pushing organisations to act more sustainably before [45;87;88;89;90]. Hence, an approach reoriented towards ensuring the TBL together with stakeholder needs help these organisations to achieve better sustainability at the national level [91]. Therefore, it can be identified that CS is the capacity of the corporation to create and maintain economic, social and environmental value for itself (i.e. to the TBL) and for all its stakeholders in both the short term and the long term [92].

Complex challenges and sustainability issues like these have pushed organisations to adopt more sustainability aspects in their businesses, shifting from the business-as-usual model which can no longer ensure the firm's competitiveness and longevity in complex contemporary environments [40]. In 2010, the Chairman of the Sustainable Development Commission, Will Day, highlighted the importance of micro level engagement in sustainability to ensure national level sustainable development goals. He has affirmed that sustainability works well when organisational leadership accepts that they need to make changes that contribute to sustainability. In line with this, many recent scholars [43;74;93;94] have recognised that changing the attitudes. values and behaviours of individuals and organisations is essential to organisational level sustainability. This aspect was further illustrated by Roome and Bergin [95] who revealed how organisational leadership influenced positive transformational change at the Ontario Hydro, which moved beyond traditional environmental protection practices to a broader. more sustainable developmental

perspective that has provided more benefits to society.

3.3.1 Traditional theoretical perspectives surrounding sustainability

The concept of sustainability encourages strong interrelationships between members of social networks, whereas modernity aims to maximise self-objectives for economic benefits [96]. The concept of modernity mandates a fragmented view of the world, focusing on the self at the expense of the community. In contrast, the concept of sustainability requires appreciation, harmony and a holistic understanding of the universe. Early economists such as Friedman [97] believed that organisations were bound by government rules and regulations, and that the sole purpose of businesses was to maximise economic benefits - a perception that has minimal validity today [7;10]. This may have been largely due to early economic and political philosophers such as Karl Marx and John Maynard Keynes who also failed to explain the negative socio-environmental impacts of profit maximisation [98;99].

Even earlier on, 17th century theorists such as James Hutton and Adam Smith were able to fill unanswered gaps by identifying the link between the organisation's role in the maximisation of economic output and the protection of the environment. In particular, Smith, in The Theory of Moral Sentiment [100] emphasised that one's inner-self judgement associated with honesty, compassion and trust makes an individual fit enough to benefit society and create social harmony. For example, if all organisations had been perceived as living organisms in the social system, some infamous corporations such as Enron (USA), Aldephia (USA), Healthsouth (USA), Parmalat (Italy), Worldcom (USA) and Tyco (USA) may have been withdrawn from the markets before their failure, as it was clear that these firms placed minimal priority on corporate governance and **CSR** [21;101;102;103;104].

3.3.2 Influence of national culture or organisational sustainability

In contrast, more sustainable firms such as Jerry's Home Made Ice Creams, Proctor and Gamble (P & G), 3M, The Body Shop, and Volvo Car Company have been able to survive turbulent times after transforming their strategies to prioritise the state of ecology and sustainability

[105]. Recollections of corporate successes and failures have caused many organisations to realise the potential negativities that can result from prioritising modernist (capitalistic) values within a firm; many of these organisations have shifted their strategic focus towards an ecological perspective and natural capitalism, offering better competitive advantages and business longevity [98;99;106;107;108].

The new environmental paradigm (NEP) introduced by Dunlap and Van Liere [109] and Dunlap and others [110] is a concept similar to natural capitalism and the ecological perspective. NEP points out that human intervention in the natural system can have negative impacts, as opposed to the dominant social paradigm (DSP) in which the world is perceived as having unlimited resources and where humans are considered to be superior to other species based on their engagement in the development of the world. According to these concepts, an individual that affirms NEP values is considered more sustainable than one who prioritises DSP values.

The question arises here as to whether modernist capitalistic and values lead organisations towards unsustainable practices. or whether sustainability values confirm social and environmental sustainability practices in a complex social environment. Delving further into the literature, and perusing the work of academics [86;111], it was seen that preserving national cultural values whilst promoting corporate social responsibility facilitates the successful implementation of OS [112]. For example, Hargett and Williams [86] identified that Norwegian cultural values validated protecting the environment and taking care of people as natural activities have helped the Wilhelmsen Group to successfully establish OS.

Avery [113] has stated that 'the form of capitalism practised in a particular region influences how easy or difficult it is to adopt sustainable principles' (p. 13). For example, Avery and Bergsteiner [114] found American and British CEOs tend to favour capitalistic values such as shareholder wealth maximisation, whereas continental European CEOs traditionally prefer engaging with a range of stakeholders. These scholars concluded that geography does not determine an enterprise's leadership philosophy; it is, instead, based on the level of acceptance of capitalistic values in an organisation.

3.4 Definitions Surrounding the Concept of Corporate Sustainability and Organisational Sustainability

Chang et al., [1] confirmed that CS is an extension of CSR. However, some scholars have stated that OS and CS are similar concepts, albeit OS being the more recent term [115].

CS has been identified as a multifaceted concept that has evolved progressively since the 1980s. When the literature was reviewed, it became apparent that the concept has many definitions, often lacks clarity, relates to varying practices, and still has space for further development [40;116]. According to this model, the initial stages of CS often meet with a certain degree of opposition towards its implementation. In this model, Dunphy et al., [117] highlighted the fact that sustainable goals, organisational actions, interventions and types of effective leadership vary across the different phases of CS.

The following are some popular definitions of CS.

- "The firm is a profit generating entity in a state of constant evolution. This entity is a system comprised of resources and networks of relationships with stakeholders. The firm's employees are responsible to represent the firm, manage resources. and empower stakeholders so that the firm complies with laws, maintains its 'license-to-operate', increases its competitive advantage, and better contributes to foster the evolution of more sustainable societies by holistically addressing the economic, environmental, social, and time dimensions." [118]
- The ability of firms to respond to their short-term financial needs without compromising their (or others') ability to meet future needs. Thus, time is central to the notion of sustainability." [119]
- Meeting the needs of a firm's direct and indirect stakeholders, such as shareholders, employees, clients, pressure groups, and communities without compromising its ability to meet the needs of the future." [120]
- Corporate activities that proactively seek to contribute to sustainability equilibria, including the economic, environmental, and social dimensions of today, as well as their inter-relations within and throughout the time dimension while addressing the company's systems (including Operations

- and production, Management and strategy, Organisational systems, Procurement and marketing, and Assessment and communication) and its stakeholders [121]
- A company's activities voluntary by definition - demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders [122]
- "A fully sustainable organization incorporates sustainability into its corporate strategy and communicates its sustainability mission both within and external to the organization" [123]
- "A company's delivery of long term value in financial, social, environmental and ethical terms." [124]
- "Corporate sustainability refers to a systematic business approach and strategy that takes into consideration the long-term social and environmental impact of all economically motivated behaviors of a firm in the interest of consumers, employees, owners or shareholders." [125]
- A study conducted by McKinsey [126], using 1,946 executives from a diverse range of industries and regions, found that most corporate leaders still lack clarity about the concept of sustainability. In this study, 55% of respondents believed that sustainability is related to the environment, another 48% identified sustainability as a governance issue concerned such as challenges adherence regulations, ethical practices and meeting acceptable industrial standards, while a further 41% of executives perceived sustainability as a social issue.
- "A business approach that creates long-term shareholder value by embracing opportunities and managing risks deriving from economic, environmental and social development ... is crucial in driving interest and investments in sustainability to the mutual benefit of companies and investors. As this benefit circle strengthens, it will have a positive effect on the societies and economies of both the developed and developing world." [127]

Literature on CS suggests that the evolution of CS has emerged from corporate governance [128;129], and then spread into many areas such as ecological economics [130;131;132]; ethical and responsible corporate behaviour [17;18;19;133;134]; investments in CSR to enhance an organisation's profit performance

[22;135]; emergence of sustainability leadership during the implementation of resource-saving initiatives [7]; investments in human resource development to enhance OS [29;136]; challenges of eco-leadership [28]; and social responsibility and stakeholder views in relation to organisational decision-making [20].

In sum, the literature indicates that sustainability, at one extreme, is based on corporate activities that flow from a firm's funds and resources in a more charitable way to ensure the betterment of society and the protection of the natural environment [137], while the other extreme relates to sustainability values embedded as core values and principles that in every aspect safeguard the TBL [106]. Similarly, Dunphy et al., [117] identified CS as a process (i.e. a journey) rather than as one particular, static status, as shown in Fig. 3 below.

The increasing scholarly interest and growing public demand for sustainable organisations has created complex business challenges with relation to transforming traditional organisations into sustainable organisations [86;138;139;140]. Dunphy et al., [40]; and Sari [61] identified both internal and external forces as causing organisations to shift towards sustainability. External pressures include governments. communities, consumers, market expectations, other corporations, industry associations, and NGOs. Internal pressures can stem from corporate leaders and other change agents such as employees. shareholders investment companies that see the benefits and push for OS [112]. For example, marketing, human resources and production functions are some of the internal operations that often prefer to incorporate sustainability into their business functions [40].

In relation to determining whether an organisation is sustainable, Avery [113] proposed four factors that should be considered:

- 'An enterprise is not sustainable if it produces negative outcomes for the parties it contracts with; for example, if it has dissatisfied employees, owners and customers.
- An enterprise that produces positive outcomes for voluntary stakeholders (e.g. satisfied employees, owners and customers) but negative outcomes for noncontracting parties (e.g. depleting nonrenewable resources, or a farmer who

uses more water than his legal entitlement) is only sustainable

- a. If no-one holds the enterprise accountable for the negative outcomes
- Until all the negative outcomes of similar firms eventually combine to undermine the entire industry – an example is the fisheries industry where fish are harvested faster than they can breed.
- 3) An enterprise or business model that produces positive outcomes for contracting parties (e.g. satisfied employees, owners and customers) but negative outcomes for large groups of non-contracting parties (e.g. pollution, poverty and social alienation) is not sustainable and should not be sustained.
- 4) An enterprise or business model that produces positive outcomes for both contracting and non-contracting parties alike is sustainable' (p. 61).

Dunphy et al., [40] defined the creation of sustainability in organisations as an incremental change process that requires diverse strategies and leadership skills unique to each phase, as shown in Fig 4 below.

Many scholars and practitioners now perceive sustainability as a main organisational strategy that can deliver a competitive advantage to firms [10;74;81;98;99;107;114;141;142;143; 144]. Meanwhile, the increasing complexities in the business world and the uncertainties facing CS has become a key concern to the survival of companies under turbulence, and the solution lies in creating OS as a competitive advantage [145]. Based on these perceptions, it has been suggested that reorientating and redesigning the firm's strategies by identifying demands for less environmentally and socially damaging activities will ensure the most effective form of OS [17;144].

3.5 Sustainability as an Investment Opportunity

Researchers [139;146] opined that sustainability has often been considered by leaders as an investment opportunity that yields the promised results. For example, researchers [146;147;148;149;150] have highlighted how organisations could attract stakeholders through CSR investments to build loyalty and to achieve

better financial performance. However, researchers [137; 151;152;153;154;155;156;157] have found contradictory results under different contexts for the relationship between a firm's sustainability investments and its financial results. Some other non-financial benefits of sustainability initiatives include new skilled

labour, additional marketing opportunities via greener competition, brand repositioning, a stronger brand image, and the attainment and ecological of social labels [126]. Some studies even confirmed the ability of CS to improve organisational performance [158].

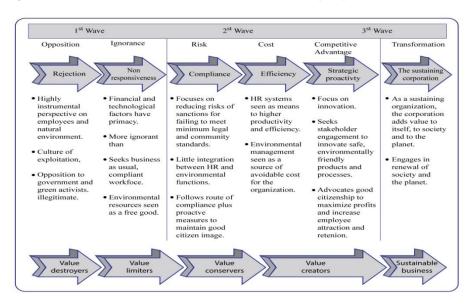


Fig. 3. Waves of sustainability Adapted from Dunphy et al., [117]

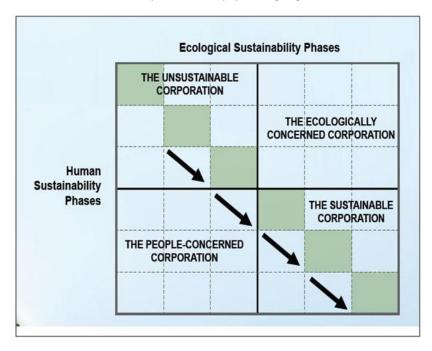


Fig. 4. The sustainability change matrix: Incremental paths

Adapted from Dunphy et al., [40, p. 227]

3.6 Sustainability Initiatives

As a result of the growing prevalence of some organisations sustainability. have implemented ad hoc strategies that are unsuitable for and mismatch their contexts. These strategies have been defined by Porter and Kramer [159] as those that are 'disconnected from the firm's strategy, that neither make any meaningful social impact nor strengthen the firm's long-term competitiveness' (p.4). Scholars have often contended that most managers prefer adapting familiar and generic sustainability business models rather than implementing new and customised sustainability strategies [114], suggesting the failure of strategic level management to successfully implement CS in many organisations [160]. However, most of these traditional frameworks cannot guarantee positive sustainability results, as they are often mismatched with the organisational context [161]. Organisational leaders need, instead, to implement sustainability strategies that are appropriate to their own organisational context [40;160].

The world media have consistently reported on the unsustainable practices of well-established organisations that have often used traditional models to implement sustainability. validates the research perspective that these traditional sustainability models are unable to solve an individual organisation's contemporary problems in a complex environment. In line with this, various scholars [63;74;139;162] have suggested that such issues can be avoided by developing framework that а guides organisational leaders to implement customised sustainability strategies.

Similarly, scholars [71;138] have also highlighted the pressing need to develop business models that address unsolved complex problems related to OS. Khavul and Bruton [163] suggested that these new sustainability models should innovation incorporate and the natural environment as essential indicators to measure concepts related to sustainability. Regardless of the current progress, the journey still continues towards a OS model since the evolution of the concept in the 1980s [106;113;139;149;164].

3.7 Organisational Sustainability in Practice

Resistance to changes that have to be made to achieve sustainability is often considered a threat

company's competitive [40;165;166]. Sustainability can be defined as a social movement that raises public awareness of sustainability, as well as a response of organisational change through adopting sustainable business practices [40]. This has caused some leaders to shift from traditional and employee-oriented production-oriented leadership styles to a third-dimension changeoriented leadership style [167;168;169].

As noted previously, OS has attracted a great deal of attention across a range of sectors, namely, small and medium enterprises (SMEs), MNCs, NGOs and government authorities. The sub-sections below focus on the range of relevant issues and applicability of the sustainability concept across each of these sectors.

3.7.1 Organisational sustainability in familyowned businesses and small to medium enterprises

Strong stakeholder relationships enable many family-oriented businesses to perform financially better than other larger organisations, even during economic downturns [170;171;172; 173;174;175;176]. Family-owned businesses rarely lay off staff [175;176;177;178;179], and are often more concerned about social responsibility [180;181;182], business reputation and innovation [183;184;185], which strengthen their position in the market compared with other larger businesses.

Unlike public-listed companies, SMEs are not legally bound to disclose their sustainability initiatives, a course of action that has prompted Slaper and Hall [57] to propose the following guidelines to measure the TBL scorecards of these companies.

- 1) Economic (amount of taxes paid)
- Social (average hours of training for employees, from welfare to career retention and charitable contributions)
- Environmental and safety (safety accident rate, lost/restricted workday rate, sales dollars per kilowatt hours, greenhouse gas emissions, and amount of waste to landfill).

3.7.2 Organisational sustainability in multinational corporations

For more than 15 years, sustainability has been a buzzword among top managers of many MNCs [157]. Sustainable development goals have also

recently become a key concern of many MNCs. Therefore, these MNCs are often considered the driving force behind the uptake of sustainable business practices [186]. For example, researchers [86;106;114;149] have explored diverse issues that arose during the implementation of sustainability in MNCs.

Numerous MNCs have received a public backlash in relation to well-known unsustainable events such as the Ok Tedi natural disaster in Papua New Guinea, the BP oil spill off the Mexican Gulf, sweatshop factories operated by Nike and Levi Strauss, and accusations of rate fixing in pursuit of better financial outcomes by As public awareness of HSBC [187]. sustainability increases, many MNCs have moved towards better sustainability practices [188]. As such, there are many examples of MNCs embracing sustainability, for example, Starbucks. Shell, Cascade Engineering, Motorola, General Electric, Unilever, Proctor and Gamble, 3 M, Adidas, and Patagonia, whose sustainability initiatives have attracted the attention of many scholars [40;57;106;113;149].

Research on sustainability initiatives in MNCs is diverse [188]. At one extreme, some of these organisations prioritise convevina social responsibility by improving their voluntary commitment to disclosure requirements such as the Global Reporting Initiative [189]; and at the other extreme, others adopt sustainability as a legal or institutional requirement expected from organisations such as the World Business Council for Sustainable Development [88]. Virgin Group [190] and Interface [40] are examples of MNCs that have voluntarily prioritised sustainability by incorporating such values into every aspect of their business activities. Other MNCs such as Unilever have been able to improve their shareholder value by prioritising customer satisfaction and acting as responsible corporate citizens [126]. Irrespective of the lack of a universal measurement tool to calculate the sustainability impacts of MNCs, most senior managers have started to adopt the concept of the TBL into the sustainability strategies of their MNCs.

3.7.3 Organisational sustainability in nonprofit organisations

Many for-profit organisations now choose to partner with non-profit organisations to improve their sustainability initiatives using the TBL principle to measure the sustainability of their projects [57;191;192;193;194]. Top management commitment, resources and need-based, demand-driven programs are a few factors influencing not for profit organisations to implement sustainability into their organisations [192]. In line with this, it has been identified that most for-profit organisations prefer sponsoring not-for-profit organisations that prioritise economic prosperity, social wellbeing and environmental protection as their key goals [195]. Some non-profit organisations such as the Ford Foundation [196] and RSF Social Finance [197] TBL concepts used sustainability. For example, RSF Social Finance [197] has used food and agriculture (economic), ecological stewardship (environmental), and education and the arts (social) as its OS initiatives.

3.7.4 Organisational sustainability in government organisations

Most state, regional and local government institutes use the TBL sustainability framework as a performance assessment tool in their policy decision-making [57;198]. For example. Minnesota Planning Environmental Quality Board [59] has implemented the TBL or similar sustainability frameworks impact (e.g. assessments) to assess which policies or projects to implement and which to reject. Most public sector organisations use sustainability performance measures in the areas of cost efficiency and quality. Public sector organisations rarely use measures in the areas of learning and growth to satisfy legislative requirements and manage programs. It was also found that these organisations use environmental and social responsibility measures the least [198;199]. However, over the years, there has been a satisfactory improvement in reporting sustainability initiatives public in sector accounting, but the inconsistency of reporting varies to a large extent, suggesting that further improvements are necessary in this field of study [200;201].

3.8 Challenges Faced by Organisational Sustainability Initiatives

Sustainability initiatives at the organisational level often require radical transformations within an organisation [117;202;203;204;205], and these changes can produce complex challenges for organisational leaders [10;206] and employees [207]. For example, Wilhelmsen, an international maritime company in Norway [86],

encountered a range of challenges when it decided to practise sustainability, including an inability to control globally-expanded processes across the organisation, investments in CSR, the need to communicate sustainability values with different parties, lack of common understanding about sustainability leadership, identifying the most suitable ways to measure the impact of sustainability, aligning day-to-day decisions with both company values and local norms, dealing with single-focus stakeholders, establishing consistent CSR accountability processes, and integrating a traditional organisational culture with new innovative organisational changes.

Lack of knowledge about sustainability, lack of sustainability led approaches business issues, cultural mismatches, a lack of demand for sustainable products consumers and lack of incentives are hindering the implementation of sustainability at the organisational level [208]. In a global business context, cultural mismatches between a parent company and its international operations can also be a barrier to implementing company-wide sustainability [86].

3.8.1 Steps taken to address challenges to corporate sustainability initiatives

Despite many theories, strategies and performance measures to promote OS, there yet remain critical gaps in understanding how to identify sustainable pathways, how to assess sustainable alternatives and how to implement sustainability transitions [209]. Collaboration of stakeholders in making sustainable business decisions helps to achieve a shared vision of sustainability within the organisation [209]. Hargett and Williams [86] suggested that cultural clashes or mismatches could be avoided by developing a common communication platform, developing best practices for diverse national cultures, implementing a systematic approach to integrating the TBL into the company's internal and external practices, enhancing employees' knowledge of CSR, increasing diversity in the organisation, especially at the headquarters level, and developing a sponsoring strategy that highlights the main projects the company will support and fund, including the reasons behind these sponsoring choices. Moreover, developing systems thinking, nexus thinking [210] and incorporating industry 4.0 [211] are a few suggestions that have been advanced to mitigate these challenges to the achievement of OS. Stakeholder collaboration would facilitate the

journey towards OS through considering organisational dynamics such as ensuring that organisational capabilities match with the external context [209].

4. CONCLUSIONS

The main objectives of this study were to explore the literature pertaining to CS, to review this body of literature in order to explicate the concept of OS and to identify the challenges that emerge in the transition of organisations towards sustainability. In order to achieve these objectives, a review of the literature was performed focusing on both OS and CS. The review also suggests some future avenues for research.

This review of literature identified diverse definitions of sustainability and OS. The results were elaborated using diverse frameworks related to OS. This review points out that the manner in which organisations are implementing sustainability is diverse. The choices made by management and the extent of its understanding of and willingness to broaden the concept will influence the way the organisation engages with its external and internal stakeholders, and its strategic management decision making, creativeness innovation. Clear and communication with diverse stakeholders would also make the journey towards OS an easier one.

Organisational transformation towards sustainability has become a hot topic in the organisational literature in many disciplines such as systems thinking, and holistic views and shared visions are now considered to be essential to implementing sustainability in corporations. These emerging areas identified in this review as future research avenues. In examining the implementation of OS, the diverse groups involved in OS, the varied organisational settings and the many challenges faced when transitioning to sustainability were identified .The dominance of various groups of stakeholders has also been identified as a key issue that sometimes impedes smooth organisational transition towards sustainability. This highlights the importance of stakeholder engagement in this process of change. Since, stakeholder demands are in a constant state of flux and their involvements in business decision making are also increasing, organisational leaders now have to consider more innovative and improved processes to address OS issues.

Many organisations are now struggling to balance long term sustainability with the economic. complexity social environmental challenges. It was found that family businesses, and small and medium enterprises are more focused on actually practicing sustainability than some other larger businesses. Multinational corporations are the organisations that are in the forefront of implementing sustainability and they transform the knowledge necessary for this implementation through their international business investment activities. Therefore, it is crucial to examine the diverse strategies used by each type of organisation to implement sustainability in turbulent business environments. However, it is noteworthy that there is no unique way to implement OS, and organisational leadership has to develop innovative solutions that best suit its unique organisational context and requirements. Management attempts to create a shared vision and to develop an integrated perspective could be further examined by future researchers. Similarly, the manner in which national cultural values either support or hinder implementation of OS is another avenue for future empirical research.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

- Chang RD, Zuo J, Zhao ZY, Zillante G, Gan XL, Soebarto V. Evolving theories of sustainability and firms: History, future directions and implications for renewable energy research. Renewable and Sustainable Energy Reviews. 2017;72:48-
- Montiel I. Corporate social responsibility and corporate sustainability: Separate

- pasts, common futures. Organization & Environment. 2008;3:245-69.
- Bennis W, Nanus B. Leaders: Strategies for taking charge. HarperCollins: New York; 1997.
- 4. Ansoff HI. The changing shape of the strategic problem. Journal of General Management. 1977;4(4):42-58.
- Freeman RE. Strategic management: A stakeholder approach. Pitman: Boston, MA: 1984.
- Ghassim B, Foss L. How do leaders embrace stakeholder engagement for sustainability-oriented innovation? New Leadership in Strategy and Communication. 2020;63-80.
- 7. Harley C, Metcalf L, Irwin J. An exploratory study in community perspectives of sustainability leadership in the Murray Darling Basin. Journal of Business Ethics. 2014;124(3):413-33.
- Jang YJ. The role of stakeholder engagement in environmental sustainability: A moderation analysis of chain affiliation. Journal of Hospitality & Tourism Research; 2020.
- 9. Mintzberg H. Mintzberg on management: Inside our strange world of organizations. Free Press: New York:1989.
- Metclaf L, Benn S. Leadership for sustainability: An evolution of leadership ability. Journal of Business Ethics. 2013; 112:369-84.
- Gardner WL, Lowe KB, Moss TW, Mahoney KT, Cogliser CC. Scholarly leadership of the study of leadership: A review of The Leadership Quarterly's second decade, 2000–2009. The Leadership Quarterly. 2010;21(6):922-58.
- Western S. Leadership: A critical text. SAGE Publications: Los Angeles & London; 2008.
- Yukl GA. Leadership in organizations. Prentice-Hall: Upper Saddle River, NJ. 2010;7.
- Jang YJ, Zheng T, Bosselman R. Top managers' environmental values, leadership, and stakeholder engagement in promoting environmental sustainability in the restaurant industry. International Journal of Hospitality Management. 2017; 63:101-11.
- Agudelo MAL, Jóhannsdóttir L, Davídsdóttir B. A literature review of the history and evolution of corporate social responsibility. International Journal of

- Corporate Social Responsibility. 2019; 4(1).
- Blowfield M. Corporate responsibility: A critical introduction. Oxford University Press: Oxford; 2008.
- D'Amato A, Roome N. Toward an integrated model of leadership for corporate responsibility and sustainable development: A process model of corporate responsibility beyond management innovation. Corporate Governance. 2009;9(4):421-34.
- D'Amato A, Henderson S, Florence S. Corporate social responsibility and sustainable business. Center for Creative Leadership: Greensboro, NC; 2009.
- Du S, Swaen V, Lindgreen A, Sen S. The roles of leadership styles in corporate social responsibility. Journal of Business Ethics. 2012;114:155-69.
- Lenssen G, Perrini F, Tencati A, Lacy P. Corporate responsibility, strategic management and the stakeholder view of the firm. Corporate Governance. 2007; 7(4):344–54.
- 21. Mitchell LE. Corporate irresponsibility: America's newest export. Yale University Press: New Haven; 2001.
- Samy M, Odemilin G, Bamption R. Corporate social responsibility: A strategy for sustainable business success. An analysis of 20 selected British companies. Corporate Governance. 2010;10(2):203– 17.
- 23. Van de Loo F. Responsible leadership at ABN AMRO real. In: Maak T, Pless NM. editors. Responsible leadership. Routledge: Abingdon,Oxford; 2006.
- 24. Lichtenstien BB, Uhl-Bien M, Marion R, Seers A, Orton JD. Complexity leadership theory: An interactive perspective on leading in complex adaptive systems. Emergence:Complexity and Organisation. 2006;8(4):2-12.
- 25. Rosenhead J, Franco LA, Grint K, Friedland B. Complexity theory and leadership practice: A review, a critique, and some recommendations. The Leadership Quarterly. 2019;30(5).
- Doh JP, Stumph S. Handbook on responsible leadership and governance in global business. Oxford University Press: New York; 2005.
- 27. Puaschunder JM. Intergenerational governance and leadership in the corporate world: Emerging research and opportunities. IGI Global; 2019.

- 28. Hanson D, Middleton S. The challenges of eco-leadership. Greener Management Journal of Applied Corporate Finance. 2000;29:95–107.
- Jackson SE, Deniz SO, Dilchert S, Kraiger K. Managing human resources for environmental sustainability. John Wiley & Sons: Hoboken; 2012.
- Cameron KS. Positive leadership: Strategies for extraordinary performance. Berrett-Koehler San Francisco: California; 2008.
- Vasilescu M. Leadership styles and theories in an effective management activity. Annals-Economy Series. 2019;4: 47-52.
- 32. Wheatley M. Finding our way: Leadership for an uncertain time. Berrett-Koehler: San Francisco, CA; 2007.
- Sumanasiri A. Leadership dimensions influencing sustainability leadership in Sri Lanka: Mediating effect of managers' ethical behavior and organizational change. Journal of Management & Sustainability. 2020;10:113-37.
 Available:https://doi.org/10.5539/jms.v10n1 p113
- Ladkin D. Rethinking leadership: A new look at old questions. Edward Elgar Publishing; 2020.
- 35. Senge PM. The fifth discipline: The art and practice of the learning organisation. Currency Doubleday: New York; 1990.
- Senge PM. The dance of change: The challenges of sustaining momentum in learning organisations. Nicholas Brearley:London; 1999.
- 37. Joshi A, Pandey N, Han GH. Bracketing team boundary spanning: An examination of task-based, team-level, and contextual antecedents. Journal of Organizational Behavior. 2009;30:731-59.
- Marrone JA. Team boundary spanning: A multilevel review of past research and proposals for the future. Journal of Management Development. 2010;36:911-40.
- Yukl GA. Tridimensional leadership theory: A road map for flexible, adaptive leaders. Blackwell: Oxford;2004.
- Dunphy D, Griffiths A, Benn S.
 Organisational change for corporate
 sustainability: A guide for leaders and
 change agents of the future. 1st ed.
 Routledge:London; 2003.
- 41. Laszlo C. Sustainable value: How the world's companies are doing well by doing

- good. Stanford University Press:Stanford, CA; 2008.
- Mullins RG. Sustainability: From fringe to mainstream. Annals of the New York Academy of Sciences. 2006;969(1).
- Rogers KS. Leading sustainability.
 Advances in Global Leadership. 2011;6: 137–53.
- 44. United Nations environment programme.

 Declaration of the united nations conference on the human environment; 1972.
 - Accessed 2 November 2019. Available:http://www.unep.org/Documents. Multilingual/Default.asp?documentid=97&a rticleid=1503
- 45. United Nations General Assembly. Report of the world commission on environment and development: Our common Transmitted the future: to general assembly. United Nations General Assembly; 1987.
- 46. Arrow K, Dasgupta P, Goulder L, Daily G, Ehrlich GH, Levin S, Maler KG, Schneider S, Starrett D, Walker B. Are we consuming too much?. Journal of Economic Perspectives. 2004;18:147–72.
- Dasgupta P. The place of nature in economic development. North Holland: Amsterdam; 2010.
- 48. Avery GC, Bergsteiner H. Sustainable leadership practices for enhancing business resilience and performance. Strategy & Leadership. 2011;39(3):5-15.
- United Nations. United Nations Conference on Environmental and Development (Earth Summit) UNCED; 1992.
 Accessed 3 November 2019.
 Available:http://www.un.org/en/events/past events/UNCED 1992.shtml
- 50. Henderson H. Creating alternative futures: The end of economics. Kumarian Press: West Hartford, CT; 1996.
- Ministry of Environment. Country report of Sri Lanka-UN conference on sustainable development: Sri Lanka's middle path to sustainable development through 'Mahinda Chintana – vision for the future. Ministry of Environment: Battaramulla-Sri Lanka; 2012.
- United Nations. What is Rio+20; 2012.
 Accessed 28 March 2019.
 Avilable:http://www.un.org/en/sustainablefuture/about
- Miola A, Schiltz F. Measuring sustainable development goals performance: How to monitor policy action in the 2030 Agenda

- implementation? Ecological Economics. 2019;164.
- 54. Barkemeyer R. Corporate perceptions of sustainability challenges in developed and developing countries: Constituting a CSR divide? Social Responsibility Journal. 2011;7(2):257-81.
- 55. Henderson H. Twenty-first century strategies for sustainability. Foresight. 2006;8(1):21-38.
- 56. Holden E, Linnerud K, Banister D. Sustainable development: Our common future revisited. Global Environmental Change. 2014;26:130-39.
- 57. Slaper TF, Hall TJ. The triple bottom line: What is it and how does it work?. Indiana University Kelley School of Business, Indiana Business Research Center: USA; 2011.
- Talberth J, Cobb C, Slattery N. The genuine progress indicator 2006: A tool for sustainable development. Redefining Progress—the nature of economics. 2007; 31.
- Minnesota planning environmental quality board. Smart signals: An assessment of progress indicators. Minnesota Planning; 2000.
- Costanza R, Daly L, Fioramonti L, Giovannini E, Kubiszewski I, Mortensen LF, Pickett KE, Ragnarsdottir KV, De Vogli R, Wilkinson R. Modelling and measuring sustainable wellbeing in connection with the UN Sustainable Development Goals. Ecological Economics. 2016;130: 350-55.
- 61. Sari Y, Hidayatno A, Suzianti A, Hartono M, Susanto H. A corporate sustainability maturity model for readiness assessment: A three-step development strategy. International Journal of Productivity and Performance Management; 2020.
- Benmoussa R, Abdelkabir C, Abd A, Hassou M. Capability/maturity based model for logistics processes assessment: Application to distribution processes. International Journal of Productivity and Performance Management. 2015;64(1):28-51
- Nikolaou IE, Tsalis TA, Evangelinos KI. A framework to measure corporate sustainability performance: A strong sustainability-based view of firm. Sustainable Production and Consumption. 2019:18:1-8.
- 64. Hicks J. Value and capital. Clarendon: London; 1946.

- United Nations. General assembly: 2005 world summit outcomes. United Nations, USA; 2005.
- 66. Elkington J. Towards the sustainable corporation: Win-win-win business strategies for sustainable development. California Management Review. 1994; 36(2):90.
- 67. Buckley G, Salazar-Xirinachs J, Henriques M. The promotion of sustainable enterprises. ILO: Geneva, Switzerland; 2009.
- United cities and local governments. Culture: Fourth pillar of sustainable development. Committee on Culture. Executive Bureau Barcelona (España); 2010.
- Dhakal HR. How social enterprises called benefit organisations fulfil the triple bottom line. Social Business. 2020;10(1): 47-63.
- Groom J. Factors preventing US adoption of triple-bottom-line sustainability frameworks and performance indicators in museum strategic planning; 2019.
- 71. Deborah RG. Why environmental leadership?. In: Deborah RG. editor. Environmental leadership: A reference handbook. SAGE Publications: Thousand Oaks, California: 2012.
- 72. Friedman TL. The world is flat: A brief history of the twenty-first century. Penguin: Camberwell, Victoria; 2006.
- 73. Hawken P, Lovins A, Lovins HL. Natural capitalism: Creating the next industrial revolution. Earthscan:London; 1999.
- 74. Shrivastava P. Ecocentric leadership in the 21st century. The Leadership Quarterly. 1994;(5)3:223-26.
- 75. Brundtland C. The report of the Brundtland commission our common future. Oxford University Press:London; 1987.
- 76. Robert KH. Det naturaliga steget: Programmet orn va*r natur fo*r landlets alla hem och skolor.Karolinska Institutet: Sweden; 1989.
- 77. Commission of the European Communities. Communication from the commission on impact assessment. European Union; 2002.
- Secretariat General EU. Memo: The main changes in the 2009 impact assessment guidelines compared to 2005 guidelines. European Commission: Brussels; 2009.
- S & P Dow Jones Indices. Dow Jones sustainability world index. 2015. Accessed 4 May 2013.

- Available:http://eu.spindices.com/indices/e quity/dow-jones-sustainability-world-index
- 80. Allen C, Metternicht G, Wiedmann T. Prioritising SDG targets: Assessing baselines, gaps and interlinkages. Sustainability Science. 2019;14(2):421-38.
- 81. Liu J, Hull V, Godfray HCJ, Tilman D, Gleick P, Hoff H, Pahl-Wostl C, Xu Z, Chung MG, Sun J, Li S. Nexus approaches to global sustainable development. Nature Sustainability. 2018;1(9):466-76.
- Lafortune G, Fuller G, Moreno J, Schmidt-Traub G, Kroll C. SDG index and dashboards detailed methodological paper; 2018.
- Sachs J, Schmidt-Traub G, Kroll C, Durand-Delacre D, Teksoz K. SDG index and dashboards report 2017. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network (SDSN); 2017.
- 84. OECD S, Paris M. Measuring distance to the SDG targets. An assessment of where OECD countries stand: 2017.
- 85. European Commission. Sustainable development in the European Union Monitoring report on progress towards the SDGs in an EU context. EU-Bookshop; 2019.
- 86. Hargett TR, Williams MF. Wilh. Wilhelmsen shipping company: Moving from CSR tradition to CSR leadership. Corporate Governance. 2009; 9(1):73-82.
- United Nations environmental protection agency. Promoting education, public awareness and training; 2012.
 Accessed 6 January 2019.
 Available:http://www.unep.org/documents. multilingual/Default.asp?DocumentID=52& ArticleID=4415&1=en
- World business council for sustainable development. Vision 2050 The new agenda for business; 2010. Accessed 7 January 2019. Available:http://www.wbcsd.org/web/projec ts/BZrole/Vision2050-FullReport Final.pdf
- 89. World Economic Forum. Global agenda council on measuring sustainability 2012-2014; 2014.
 - Accessed 13 April 2014. Available:http://www.weforum.org/reports/g lobal-agenda-council-measuringsustainability-2012-2014.
- World wild life fund for nature. Living planet report; 2008.
 Accessed 10 June 2019.

- Available:http://www.wwf.org.nz/media_ce ntre/publications/?4521/Living-Planet-Report-presentation-2008
- 91. Laszlo C, Zhexembayeva N. Embedded sustainability: The next big competitive advantage. Greenleaf: Sheffield; 2011.
- 92. Edgeman R, Williams JA. Enterprise selfassessment analytics for sustainability, resilience and robustness. The TQM Journal. 2014;26(4):368-81.
- Dunphy D, Benn S. Leadership for sustainable futures. Organizational change, leadership and ethics: Leading organizations towards sustainability. 2013; 195-215.
- 94. Shrivastava P. The role of corporations in achieving ecological sustainaility. The Academy of Management Review. 1995;20(4):936.
- Roome NJ, Bergin R. Sustainable development in an industrial enterprise: The case of Ontario Hydro. Business Process Management. 2006;12(6):696–721.
- 96. Salem AAH. Leading to heal: A view of sustainability leadership. In: Gallagher DR, Editor. Environmental leadership a reference handbook. SAGE Publications: Thousand Oaks, California; 2012.
- 97. Friedman M. The social responsibility of business is to increase its profit. New York Times Magazine. 1970;13:122-26.
- 98. Elkington J. Cannibals with forks the triple bottom line of 21st century business. Capstone Publishing:Oxford; 1997.
- 99. Parkin S. The positive deviant sustainability leadership in a perverse world. Earthscan: London; 2010.
- Smith A. Theory of moral sentiments. Kincaid A, Bell J, Strand, Edinburgh, Millar A. 1761;2.
- 101. Albert M. Capitalism vs capitalism: How America's obsession with individual achievement and short-term profit has led It to the brink of collapse. Four walls eight windows: New York; 1993.
- 102. Mitchell LE. Corporate irresponsibility: America's newest export. Yale University Press: New Haven; 2001.
- Padgett BL. After dot-com, after worldcom, after enron, after capitalism. Business Ethics Quarterly. 2005;15(2):329–40.
- 104. Perucci R. America at risk: The crisis of hope, trust, and caring. Rowman & Littlefield Publishers:Lanham, MD; 2009.
- 105. Shrivastava P. Greening business: Towards sustainable corporations.

- Thompson Executive Press: Cincinnati, OH; 1994.
- 106. Avery GC, Bergsteiner H. Sustainable leadership: Honeybee and locust approaches. Routledge:New York; 2011.
- 107. Rodrigues M, Franco M. The corporate sustainability strategy in organisations: A systematic review and future directions. Sustainability. 2019;11(22):6214.
- 108. Van Marrewijk M. Concepts and definitions of CSR and corporate sustainability: Between agency and communion. Journal of Business Ethics. 2003;44(2–3):95–105.
- Dunlap RE, Van Liere KD. The new environmental paradigm. Journal of Environmental Education. 1978;9:10–9.
- Dunlap RE, Van Liere KD, Mertig A, Jones RE. Measuring endorsement of the new ecological paradigm: A revised NEP scale. Journal of Social Issues. 2000;56:425–42.
- 111. Raimo N, Zito M, Caragnano A. Does national culture affect integrated reporting quality? A focus on GLOBE dimensions. In: 9th International Symposium on Natural Resources Management. Zaječar, Serbia -Belgrade: Megatrend University; 2019.
- 112. Ashrafi M, Magnan GM, Adams M, Walker TR. Understanding the conceptual evolutionary path and theoretical underpinnings of corporate social responsibility and corporate sustainability. Sustainability. 2020;12(3):760.
- Avery GC. Leadership for sustainable future. Edward Elgar: Cheltenham, UK; 2005.
- 114. Avery GC, Bergsteiner H. Honeybees and locusts: The business case for sustainable leadership. 1st ed, Allen & Unwin:NSW, Australia; 2010.
- 115. Batista AADS, Francisco ACD. Organizational sustainability practices: A study of the firms listed by the corporate sustainability index. Sustainability. 2018; 10(1):226.
- 116. Turker D. How corporate social responsibility influences organizational commitment. Journal of Business Ethics. 2009;89(2):189-204.
- 117. Dunphy D, Griffiths A, Benn S. Organisational change for corporate sustainability: A guide for leaders and change agents of the future. 2nd ed. Routledge: London; 2007.
- Lozano R, Carpenter A, Huisingh D. A review of 'theories of the firm' and their contributions to Corporate Sustainability. Journal of Cleaner Production. 2015;106:

- 430–42. Available:http://dx.doi.org/10.1016/j.jclepro. 2014.05.007
- 119. Bansal P, DesJardine MR. Business sustainability: It is about time. Strategic Organization. 2014;12(1):70–8. Available:http://journals.sagepub.com/doi/1 0.1177/1476127013520265
- Dyllick T, Hockerts K. Beyond the business case for corporate sustainability. Business Strategy and the Environment. 2002;11(2): 130–41.
- 121. Lozano R. Towards better embedding sustainability into companies' systems: An analysis of voluntary corporate initiatives. Journal of Cleaner Production. 2012;25: 14–26. Available:http://dx.doi.org/10.1016/j.jclepro. 2011.11.060
- 122. Van Marrewijk M. Concepts and definitions of CSR and corporate sustainability: Between agency and communion. Journal of Business Ethics. 2003;44(2-3):95-105.
- 123. Amini M, Bienstock CC. Corporate sustainability: An integrative definition and framework to evaluate corporate practice and guide academic research. Journal of Cleaner Production. 2014;76:12–9. Available:http://dx.doi.org/10.1016/j.jclepro. 2014.02.016
- 124. UNGC United Nations Global Compact. Global Corporate Sustainability Report. New York; 2013.
- 125. Bergman MM, Bergman Z, Berger L. An empirical exploration, typology, and definition of corporate sustainability. Sustainability. 2017;9(5):1–13.
- 126. McKinsey. How companies manage sustainability. McKinsey Global Survey Results, sustainability McKinsey Global Survey Results 2558; 2010. Accessed 5 November 2019. Available:https://www.mckinseyquarterly.c om/How companies manage
- 127. Dow Jones Sustainability Indices. Corporate sustainability; 2014.
 Accessed 7 December 2019.
 Available:http://www.sustainability-indices.com/sustainability-assessment/corporate-sustainability.jsp>.
- 128. Brandt W. North-South: A programme for survival. Report of the independent commission on international development issues: Under the chairmanship of Willy Brandt. Pan Books:London; 1980.
- 129. Costanza R, Wainger L. Ecological economics: The science and management

- of sustainability. Colombia University Press: New York; 1991.
- Daly HE, Farley J. Ecological economics: Principles and applications. Island press; 2011.
- Hawken P. The ecology of commerce: A declaration of sustainability. Harper Business: New York; 1993.
- 132. Parker WN, Daly HE. Steady-state economics: The economics of biophysical equilibrium and moral growth. San Francisco; 1978.
- 133. Ferdig MA. Sustainability leadership: Cocreating a sustainable future. Journal of Change Management. 2007;7(1):25-35.
- 134. Watson CE. Managing with integrity: Social responsibilities of business as seen by America's CEOs. Business Horizons. 1991;34(4):99.
- 135. Ashrafi M, Acciaro M, Walker TR, Magnan GM, Adams M. Corporate sustainability in Canadian and US maritime ports. Journal of Cleaner Production. 2019;2(220):386-97.
- Macke J, Genari D. Systematic literature review on sustainable human resource management. Journal of Cleaner Production. 2019;20(208):806-15.
- 137. Navarro P. Why do corporations give to charity? Journal of Business & Economics Research. 1988;61:66–75.
- 138. Berns M, Townend A, Khayat Z, Balagopal B, Reeves M, Hopkins MS, Kruschwitz N. The business of sustainability: What it means to managers now. MIT Sloan Management Review. 2009;51(1):20-6.
- 139. Galpin T, Whittington JL. Sustainability leadership: from strategy to results. Journal of Business Strategy. 2012;33(4): 40-8.
- 140. Garcia S, Cintra Y, Rita de Cássia SR, Lima FG. Corporate sustainability management: A proposed multi-criteria model to support balanced decisionmaking. Journal of Cleaner Production. 2016;136:181-96.
- 141. Boiral O, Cayer M, Baron CM. The action logics of environmental leadership: A developmental perspective. Journal of Business Ethics. 2008;85:479–99.
- 142. Fullan M. Leadership and sustainability. Plain Talk. 2003;8:1–3.
- 143. loannou I, Serafeim G. Corporate sustainability: A strategy? Harvard Business School Accounting & Management Unit Working Paper. 2019; 19-65.

- 144. Teixeira GF, Junior OC. How to make strategic planning for corporate sustainability? Journal of Cleaner Production. 2019;230(14):21-31.
- 145. Liu H, Kim SJ, Wang H, Kim KH. Corporate sustainability management under market uncertainty. Asia Pacific Journal of Marketing and Logistics; 2019.
- 146. Al-Gamrh B, Ismail KN, Ahsan T, Alquhaif A. Investment opportunities, corporate governance quality, and firm performance in the UAE. Journal of Accounting in Emerging Economies; 2020.
- 147. Aras G, Aybars A, Kutlu O. Managing corporate performance: Investigating the relationship between corporate social responsibility and financial performance in emerging markets. International Journal of Productivity and Performance Management. 2010;59(3):229-54.
- 148. Michelon G, Boesso G, Kumar K. Examinin g the link between strategic corporate social responsibility and company performance: An analysis of the best corporate citizens. Corporate Social Responsibility and Environmental Management. 2013;20(2):81-94.
- 149. Post J, Preston L, Sachs S. Managing the extended enterprise: The new stakeholder view. California Management Review. 2002;45:6–28.
- 150. Wasara TM, Ganda F. The relationship between corporate sustainability disclosure and firm financial performance in Johannesburg Stock Exchange (JSE) listed mining companies. Sustainability. 2019;11(16):4496.
- 151. Ameer R, Othman R. Sustainability practices and corporate financial performance: A study based on the top global corporations. Journal of Business Ethics. 2012;108(1);61-79.
- 152. Cavaco S, Crifo P. CSR and financial performance: Complementarity between environmental, social and business behaviours. Applied Economics. 2014; 46(27):3323-3338.
- 153. Choi JS, Kwak YM, Choe C. Corporate social responsibility and corporate financial performance: Evidence from Korea. Australian Journal of Management. 2010; 35(3):291-311.
- 154. Hart S. A natural resource-based view of the firm. Academy of Management Review. 1995;20:986–1014.
- 155. Hillman AJ, Keim GD. Shareholder value, stakeholder management and social

- issues: Whats the bottom line?. Strategic Management Journal. 2001;22:125–39.
- 156. McWilliams A, Siegel D. Corporate social responsibility and financial performance: Correlation or misspecification?. Strategic Management Journal. 2000;21:603–09.
- 157. Orlitzky M, Schmidt FL, Rynes SL. Corporate social and financial performance: A meta-analysis. Organization Studies. 2003;24(3):403–41.
- De Oliveira OJ, Serra JR, Salgado MH. Does ISO 14001 work in Brazil? Journal of Cleaner Production. 2010;18(18):1797-806.
- 159. Porter ME, Kramer MR. Strategy and society: The link between competitive advantage and corporate social responsibility. Harvard Business Review. 2006;84(12):78–92.
- 160. Epstein MJ, Buhovac AR. Making sustainability work: Best practices in managing and measuring corporate social, environmental, and economic impacts. Greenleaf: Sheffield: 2008.
- 161. Shad MK, Lai FW, Fatt CL, Klemeš JJ, Bokhari A. Integrating sustainability reporting into enterprise risk management and its relationship with business performance: A conceptual framework. Journal of Cleaner production. 2019;208: 415-25.
- 162. Clark WC. Sustainability science: A room of its own. Proceedings of National Academy of Sciences of the United States of America (PNAS). 2007;104:1737–738.
- 163. Khavul S, Bruton GD. Harnessing innovation for Change: Sustainability and poverty in developing countries. Journal of Management Studies. 2013; 50(2):285-306.
- 164. Adams WM. The future of sustainability: Re-thinking environment and development in the twenty-first century. IUCN The World Conservation Union; 2006.
- 165. Harich J. Change resistance as the crux of the environmental sustainability problem. System Dynamics Review. 2010;26(1):35-72.
- 166. Lozano R. Are companies planning their organisational changes for corporate sustainability? An analysis of three case studies on resistance to change and their strategies to overcome it. Corporate Social Responsibility and Environmental Management. 2013;20(5):275-95.
- 167. Ekvall G, Arvonen J. Change-centered leadership: An extension of the two-

- dimensional model. Scandinavian Journal of Management. 1991;7(1):17-26.
- 168. Goleman D, Lueneburger C. The change leadership sustainability demands. MIT Sloan Management Review. 2010; 51(4):49.
- 169. Klettner A, Clarke T, Boersma M. The governance of corporate sustainability: Empirical insights into the development, leadership and implementation of responsible business strategy. Journal of Business Ethics. 2014;122(1):145-65.
- 170. Anderson RC, Reeb DM. Founding-family ownership and firm performance: Evdence from the S & P 500. Journal of Finance. 2003;58(3):1301-327.
- 171. Brenes ER, Madrigal K, Requena B. Corporate governance and family business performance. Journal of Business Research. 2011;64(3):280-85.
- 172. Lee J. The effect of family ownership and management on firms. SAM Advanced Management Journal. 2004;69(4):46-53.
- 173. Le Breton-Miller I, Miller D. Family firms and practices of sustainability: A contingency view. Journal of Family Business Strategy. 2016;7(1):26-33.
- 174. McConaughy DL, Matthews CH, Fialko AS. Founding family controlled firms: Performance, risk, and value. Journal of Small Business Management. 2001;39(1): 31-49
- 175. Miller D, Le Breton-Miller I. Challenge versus advantage in family business. Strategic Organization. 2003;1(1):127-34.
- 176. Neubauer F, Lank AG. The family business: Its governance for sustainability. Springer; 2016.
- 177. Gudmundson D, Tower CB, Hartman EA. Innovation in small businesses: Culture and ownership structure do matter. Journal of Developmental Entreprenureship. 2003; 8(1):1-18.
- 178. Sanchez-Bueno MJ, Muñoz-Bullón F, Galan JI. Socially responsible downsizing: Comparing family and non-family firms. Business Ethics: A European Review. 2020;29(1):35-55.
- 179. Zheng J. How do family firms cope with economic crisis?: Case studies about Chinese family firms; 2010.
- Lv P, Li Y, Mitra D. CSR and performance of family businesses: A systematic review. Australasian Accounting, Business and Finance Journal. 2020;14(3):75-85.
- 181. Madden L, McMillan A, Harris O. Drivers of selectivity in family firms: Understanding

- the impact of age and ownership on CSR. Journal of Family Business Strategy. 2020;100335.
- 182. Zeng T. Corporate social responsibility (CSR) in Canadian family firms. Social Responsibility Journal; 2020.
- 183. Adams FAI, True SL, Winsor RD. Corporate America's search for the 'right' direction: Outlook and opportunities for family firms. Family Business Review. 2002;15(4):269-76.
- 184. Heffes EM, Sinnett WM. Private companies: In pursuit of sustainable growth. Financial Executive. 2006;36-42.
- 185. Ouvrard S, Jasimuddin SM, Spiga A. Does sustainability push to reshape business models? Evidence from the European wine industry. Sustainability. 2020; 12(6):2561.
- 186. Guerrera F. A need to reconnect. Financial Times. 2009;13(9).
- 187. Castello I, Lozano J. From risk management to citizenship corporate social responsibility: Analysis of strategic drivers of change. Corporate Governance. 2009;9(4): 373-85.
- 188. Burritt RL, Christ KL, Rammal HG, Schaltegger S. Multinational enterprise strategies for addressing sustainability: The need for consolidation. Journal of Business Ethics. 2020;164(2):389-410.
- 189. Global reporting initiative. GRI: Empowering sustainable decisions; 2013. Available:https://www.globalreporting.org/Pages/default.aspx Accessed 23 January 2018.
- Branson R. Losing my virginity: The autobiography. Virgin Publishing: London, UK; 1998.
- 191. Choudhury MA, Omura T, Forster J. Competition for donations and the sustainability of not-for-profit organisations. Humanomics; 2014.
- 192. Okorley EL, Nkrumah EE. Organisational factors influencing sustainability of local non-governmental organisations. International Journal of Social Economics; 2012.
- 193. Jones K, Webber R. Looking for sustainability in not-for-profit program delivery: An experiment in providing post-bushfire recovery programs. Australian Journal of Public Administration. 2012;71(4):412-22.
- 194. Iwu CG, Kapondoro L, Twum-Darko M, Tengeh R. Determinants of sustainability and organisational effectiveness in non-

- profit organisations. Sustainability. 2015; 7(7):9560-73.
- 195. Nancy F. Triple bottom line approach growing in nonprofit sector. Causeplanet:Colarado, USA; 2007.
- 196. Stark N, Markley D. Rural Entrepreneurship Development II: Measuring Impact on the Triple Bottom Line, Wealth Creation in Rural America; 2011. Available:www.yellowwood.org/wealthcreat ion.aspx Accessed 7 August 2012.
- 197. RSF social finance. Focus Areas; 2015. Accessed 4 January 2014. Available:http://rsfsocialfinance.org/values/ focus
- 198. Farneti F, Guthrie J. Sustainability reporting by Australian public sector organisations: Why they report. Accounting forum. 2009;33(2):89-98.
- 199. Adams CA, Muir S, Hoque Z. Measurement of sustainability performance in the public sector. Sustainability Accounting, Management and Policy Journal; 2014.
- 200. Grossi G, Papenfuß U, Tremblay MS, Greiling D, Traxler AA, Stötzer S. Sustainability reporting in the Austrian, German and Swiss public sector. International Journal of Public Sector Management; 2015.
- Lewis T. Debate: public sector sustainability reporting—Implications for accountants. 2008;329-31.
- 202. Edwards M. Organizational transformation for sustainability: An integral metatheory. Routledge; 2010.
- 203. Narayanan V, Boyce G. Exploring the transformative potential of management control systems in organisational change towards sustainability. Accounting, Auditing & Accountability Journal; 2019.
- 204. Roome N, Louche C. Journeying toward business models for sustainability: A conceptual model found inside the black

- box of organisational transformation. Organization & Environment. 2016;29(1): 11-35.
- Senge PM. The neccesary revolution: How individuals and organisations are working together to create a sustainable world. Doubleday: New York; 2008.
- 206. AlGhanem N, Braganza A, Eldabi T. Plural leadership during organisational transformation initiatives (Vertical & Horizontal). KnE Social Sciences. 2019;90-108
- 207. Süßbauer E, Maas-Deipenbrock RM, Friedrich S, Kreß-Ludwig M, Langen N, Muster V. Employee roles in sustainability transformation processes: A move away from expertise and towards experience-driven sustainability management. GAIA-Ecological Perspectives for Science and Society. 2019; 28(1):210-7.
- 208. Hur E, Cassidy T. Perceptions and attitudes towards sustainable fashion design: challenges and opportunities for implementing sustainability in fashion. International Journal of Fashion Design, Technology and Education. 2019;12(2): 208-17.
- 209. Tourais P, Videira N. Innovative approaches to organisational sustainability: state-of-the-art and conceptual framework. Social Responsibility and Sustainability; 2019.
- 210. Dahlmann F, Bullock G. Nexus thinking in business: Analysing corporate responses to interconnected global sustainability challenges. Environmental Science & Policy. 2020;107:90-8.
- 211. Yadav G, Luthra S, Jakhar SK, Mangla SK, Rai DP. A framework to overcome sustainable supply chain challenges through solution measures of industry 4.0 and circular economy: An automotive case. Journal of Cleaner Production. 2020;254: 120112.

© 2020 Sumanasiri; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/60850