



Review

Exploring Organizational Sustainability: Themes, Functional Areas, and Best Practices

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Abstract: Most of the sustainability management models proposed in the literature are based on conceptual designs, which limits their potential to be applied in practice. In order to develop a holistic tool for organizational sustainability management, it is imperative to account for, and integrate, the sustainability best practices in the conceptual models. The primary objective of this work is to explore the organizational sustainability themes, functional areas, and the corresponding best practices of the most sustainable organizations. Based on the results, we aim to propose a framework which can support the theoretical models. The starting set of 100 most sustainable organizations is obtained through a well-defined sustainability ranking, Global 100. A systematic method is developed and applied to screen the organizational reports between 2012 and 2016. As a result, 61 reports of 20 organizations are selected for review. We used grounded mechanism to conduct the review. The results of the review indicate that the most sustainable organizations rely on the following nine themes to advance their sustainability performance: (i) resource optimization and minimization of waste and emissions; (ii) business and operational excellence; (iii) corporate citizenship and social development; (iv) research and innovation; (v) procurement, supply chain, and logistics; (vi) governance; (vii) sustainability management tools; (viii) employee relations; and (ix) health, wellness, safety, and security. In addition, there are around 38 functional areas which are of great significance to sustainability managers from an applied perspective and to researchers for constructing sustainability management models.

Keywords: organizational sustainability; sustainability management; corporate sustainability; sustainability best practices; corporate knights

1. Introduction

Organizational sustainability has been gaining its rightful recognition and importance as it offers competitive advantage and creates value for organizations, their stakeholders, and society [1]. However, sustainability has not been fully integrated at the strategic and operational level [2]. Some researchers believe that the main hurdle in operationalization of sustainability in organizations is the lack of maintainable value creation throughout the value chain, because parts of these activities are beyond the control of organizations, such as supply chain [3]. Others argue that it is the lack of practicable frameworks and models which holds back the organizational actors from (holistically) considering sustainability in business decisions [4]. The latter is particularly important because existing sustainability management models and frameworks are based on conceptual and theoretical designs [4,5]. The structure of these models lacks a fundamental practicable approach which limits their use in practice. In order to increase the potential application of existing organizational sustainability models, it is important to integrate the sustainability best-practices within the structure of these models [4]. The reason for this is fairly simple: organizational actors generally prefer 'practical

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rationale' over 'scholarly intellect' [6]. Besides applicability, the integration of theories and practices enables the model/framework developers to understand and address the practical limits of organizations in managing sustainability. Adams and Larrinaga-González [7] argued that in order to identify how accounting and management systems may address the organizational sustainability challenges, it is imperative to learn from the practical success of sustainable organizations. The authors called for a scholarly engagement with organizations to learn from their internal processes, at the strategic and micro level.

There are only a few studies in the literature which try to capture the sustainability best-practices of organizations. These studies, however, have limited implications because of the constraints in their research scope and design. Some of the studies capture only those practices which reflect on the role of leadership in enhancing the impact of strategic initiatives [8], whereas others try to examine the influence of sustainability practices on profitability [9]. A few others limit the scope of research either to the strategic initiatives [10,11] or to the small and medium enterprises [12]. In other instances, the selection of a sample is either restricted to a single sector [13] or to a single country [14,15].

While these studies provide useful insight to organizational sustainability, the process of sample selection, extraction of sustainability practices, the top-level focus of studies, and geographical screening can be improved in order to make the results more systematic, reproduceable, and comprehensive. Therefore, the primary goal of this work is to systematically review the practical sustainability constructs based on sustainability best practices in order to develop an applied framework which can be integrated with theoretical and conceptual models. However, the scope of this study will be limited to the development of a framework; the integration of frameworks is not part of this work. Also, the scope of this review does not limit the study sample to a single sector or country, or to the strategic initiatives only; however, to ensure do-ability, a research-criteria, discussed in the Materials and Methods section, is developed and applied. The review seeks to find potential answers to the following questions: "what are the constructs of organizational sustainability management that are based on the best practices of the most sustainable firms, which can be used to develop a practical framework for organizational sustainability?".

This article is divided into six sections. After the introduction, a brief literature review is provided in the second section. A systematic method for conducting the review is discussed in the third section. The results are offered in the fourth section. The fifth section presents a discussion around the findings, and the final section concludes the discussion and identifies opportunities for future research.

2. Literature Review

The idea of sustainable development was first coined by the Brundtland Commission, in its report—Our Common Future (1987), after which numerous multidisciplinary, multifaceted efforts have been made in order to conform with the planetary and social limits and to support a maintainable pattern of human life on earth. The range of such efforts lies in technological advancement in renewables and nanomaterials to social development through the United Nations guiding principles on business and human rights. An important, although new, member of the sustainability discipline is Sustainability Management.

Similar to the words *love, affection*, and *loyalty*, sustainability management is a generally known concept, as far as conversations and discussions are concerned, but a single, widely accepted and narrow definition of any of these words is not available [16]. United Nations Environment Programme [17] has defined sustainability management as processes or structures that an organization uses to meet its sustainability goals and objectives while transforming inputs into a product or service. Madu and Kuei [18] defined sustainability management through combining the definitions of 'sustainability' and 'management', i.e., enabling a condition for the continuity of economic development, environmental protection, and social equity. A more general definition of sustainability management has been offered by Starik and Kanashiro [16]: sustainability management is the formulation, implementation, and evaluation of both environmental and socio-economic sustainability-related decisions and actions.

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These decisions and actions may be reflected in a range of activities on various levels; from an individual's perspective, these may be the consumption patterns or buying habits or commuting choices, whereas, on a global level, these can be the collateral efforts made by different countries in order to contest climate change, poverty, or terrorism. Among this wide spectrum of sustainability stakeholders, a common, but crucial, role is played by the businesses, corporations, enterprises and other similar entities, which will be referred to as 'organizations' in the present work.

Traditionally, organizations focused on the maximization of shareholder value were considered successful. The trend has significantly changed in the last couple of decades; the organizations are expected to embed environmental and social objectives in the decision-making process in order to create value for other stakeholders, in addition to shareholders [19]. The absolutely essential role of organizations in shifting gear from accelerated growth to maintainable development is already established in the literature and among the practitioners [20]. In the modern world, organizations are referred to as 'polities' since these have a governance structure which functions in accordance with its rights and duties to address the needs of interest groups [21]. A consensus among the researchers is yet to be established on whether the organizations opt for sustainable management practices to improve their resource efficiency and thus, increase profitability [22], which has been extensively supported by empirical evidences [23,24], or if such activities are simply the result of increased social pressure from stakeholders, including governments, NGOs, employees, and others [21]. In both cases, the role of organizations for sustainable development is inevitable.

Similar to sustainability management, a generic definition of organizational sustainability does not exist, rather various researchers took on the charge to define organizational sustainability in their own ways. Neubaum and Zahra [25] referred to organizational sustainability as the ability of a firm to nurture and support growth over time by effectively meeting the expectations of diverse stakeholders. On a similar level, Funk [26] noted sustainable organizations as the ones whose characteristics and activities are intended to bring a desirable future state for its stakeholders. Marshall and Brown [27] defined sustainable organizations ideally as the ones which take a systems perspective to ensure that natural resources are not consumed faster than the rates of renewal, recycling, or regeneration of those resources. Hart and Milstein [28] described organizational sustainability as the contribution of organizations in the process of achieving human development in an inclusive, equitable, and secure manner by delivering simultaneously economic, social, and environmental benefits.

In the past, many researchers have emphasized taking account of the organizational sustainability practices in academic research [7,29]. Following suit, Rondinelli [30] analyzed the sustainability principles and practices of the 25 transnational corporations (TNCs) which shows that many TNCs are still at the elementary or engagement level, which is far from being innovative, integrative or transformative. Probably the lack of a scientific consensus with regards to the impact of organizational sustainability holds back the multinational corporations (MNCs) from practicing sustainability beyond philanthropy [14,31].

Eweje [15] explored the sustainability practices of 15 large firms in New Zealand through interviews with managers. The results indicate that organizations are actively involved in introducing new sustainability initiatives to address the three facets of sustainability, namely economics, environment, and society. Some examples of these initiatives include waste management, zero carbon footprint, environmental quality, extent of the share of renewable energy, education of employees, partnership with conservative groups, and community-based fundraising. While each sustainability initiative offers benefits, the synergy between different initiatives and integration of initiatives throughout the value chain remain a challenge [32]. Therefore, rather than applying too many tools, understanding the application of the tool to be used in the context of business and initiation of rationale programs can orchestrate sustainability in corporations.

Similar to Eweje, Williams [11] explored the sustainability best-practices of nine billion-dollar firms, which have been referred to by the author as Green Giants. Williams [11] identified six key factors, as shown in Table 1, which can be directly linked with the success of Green Giants and can

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correlate with the financial growth of these firms. Interestingly, while the author has emphasized the importance of responsible procurement and supply chain, the importance of branding and marketing has also been stressed for organizational sustainability.

Factors	Description	
The Iconoclastic Leaders	Competencies (4Cs): Conviction, Courage, Commitment, Contrarian	
Disruptive Innovation	Principles: Make it better, not just greener Embrace the counterintuitive Bet on yourself Engage the problem solvers Cultivate pervasive innovation Steps: Formalization Inspiration Generation Evaluation Realization	
A Higher Purpose	Thinking beyond profit, but the thinking eventually leads to profit too	
Built-In, Not Bolted-In	 Corporate strategy Organizational structure Governance structure Cost structure Incentive structure Reporting structure 	
Mainstream Appeal	Sustainability and branding and marketing	
A New Behavioral Contract	Ownership and visibility of operations in supply chainCollaboration	

Epstein [10] also investigated the crucial organizational sustainability benchmarks. The author identified four high-level elements which are common in the success of most sustainable organizations. These include: Leadership, Strategy, Structure, and Systems. However, as highlighted by Lozano [32] as well, the specific programs to be rolled out largely depend on the context and impact of the firm's activities, ranging from capital investments in new technologies or products to programs promoting ethical sourcing and diversity.

Small [9] conducted an empirical study to explore the sustainability practices which can promote profitability in the petroleum industry. The results show that there are six areas which can be linked with the sustainability and financial performance of petroleum firms at the same time, including environment, fuels, human resources, recycling, mitigation, and water.

Batista and Francisco [29] reviewed the sustainability best practices of the most sustainable firms in Brazil, listed in the Corporate Sustainability Index. The authors identified organizational sustainability categories and best practices in each of the three facets of sustainable development. Similarly, Kiesnere and Baumgartner [33] conducted a survey on smaller large-sized companies in Austria to seek the best practices with regards to the organizational change for sustainability. The authors proposed a model for the communication between the change-agents which can boost the personnel and cultural attributes of the firms.

Several other studies also explore the sustainability best practices in organizations [34,35], but as mentioned before, the process of sample selection, extraction of sustainability practices, the top-level focus of studies, and geographical screening are the primary shortcomings in the extant literature. There is strong need for a systematic study which can offer evidence-based content to support organizational sustainability. Admittedly, the work of Batista and Francisco [29] is closest to addressing these shortcomings, but limiting the results to a single country and dividing the sustainability practices into sustainability facets without highlighting the representative examples makes it unlikely to resolve the concerns. Furthermore, since most of the studies are restricted to the organizational sustainability at the top-level, little has been done to explore the micro-level sustainability initiatives and practices. This work aims to overcome these shortcomings by: (i) systematically selecting the

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sample; (ii) identifying means for the selection of the best practices; (iii) exploring the sustainability practices at the strategic and micro level; and (iv) avoiding the geographical limitations.

3. Materials and Methods

The method is divided into three steps, as shown in Figure 1, and will be discussed in the following sub-sections.

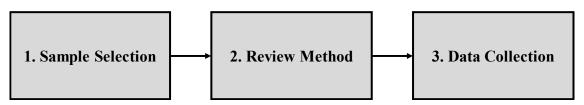


Figure 1. Research Method.

3.1. Sample Selection

In order to be transparent in the selection of organizations for the review, the starting pool of 100 organizations was obtained from the Global 100 by Corporate Knights [36]. Global 100 is primarily preferred over other indices due to its superiority in terms of reputation; the rankings are annually presented at the World Economic Forum and are also published in Forbes. Also, the breadth of industries represented and timeliness of ranking reports (January every year) are two parameters which favor Global 100. Moreover, several studies have used Global 100 for the selection of a sample in the past [37–39].

A primary-selection-criteria was developed and applied to the starting pool of 100 organizations. As per the criteria, only those organizations which were in the Global 100 (of 2017) for at least 3 consecutive years between 2013 to 2017 passed the primary screening (It is worth noting that the ranking in a particular year corresponds to the sustainability report in the previous year). This restriction alone eliminated 48 organizations from the starting pool. Furthermore, six categories were defined to select the organizations which are of interest to this study (Figure 2). It is important to highlight that the 'average ranking of bottom 5' and 'continuously declining ranking' were chosen as categories to examine if organizations in these categories have similar practices to the organizations in the 'average ranking of top 5' and 'continuously improving ranking categories'. Primary screening resulted in 35 organizations and a corresponding 110 organizational reports.

A secondary screening-criteria was also applied to ensure the robustness of research design in the multi-sectoral study (Figure 2); Hoepner et al. [40] suggested that the unconditional consideration of sectors may offset the context of study due to heterogeneity across industries, i.e., considering all types of sectors in a single study. Therefore, sector-specific restrictions were applied based on the findings of Vermorken et al. [41]; firms in energy, materials, utilities, industrial, consumer discretionary, and consumer staple sectors were included, whereas, the firms in financial, health care, telecommunication, information technology, and real estate were excluded (Figure 2) since the sectors in these two groups correspond well with each other.

Eighteen organizations were selected through the screening process while two other organizations were added to the list due to special consideration; Daimler and Centrica were added to the list since both organizations were among the 15 most consistent organizations between 2013 and 2017. Hence, 20 organizations were finalized and the total number of reports to be reviewed was 61 (more than 7000 pages of organizational reports), as following:

- Adidas: Sustainability Progress Report, 2015–16.
- **Bayerische Motoren Werke (BMW):** Sustainable Value Reports, 2012–16.
- Centrica: Annual Reports and Corporate Responsibility Reviews, 201–216.
- **Daimler:** Sustainability Reports, 2012–16.

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- **Enbridge:** Corporate Social Responsibility Reports, 2012–16.
- General Electric (GE): Citizenship Summary and Sustainability Highlights, 2012–16.
- **General Mills:** Global Responsibility Report, 2014–16.
- **Henkel:** Sustainability Report, 2015–16.
- Hennes & Mauritz (H&M): Conscious Actions Sustainability Report, 2014–15.
- Kesko: Annual Report and Corporate Responsibility Report, 2013–15.
- Marks & Spencer (M&S): Annual Report and Plan A Report, 2014–16.
- Natura: Annual Report, 2015–16.
- Outotec: Sustainability Report, 2015–16.
- **Pearson:** Sustainability Report, 2015–16.
- **Philips:** Annual Report, 2012–13.
- **POSCO:** Integrated Reports, 2014–16.
- **Reckitt Benckiser (RB):** Sustainability Report, 2014–16.
- **Schneider Electric (Schneider):** Annual Reports and Strategy & Sustainability Highlights, 2012–16.
- **Siemens:** Sustainability Information Report, 2015–16.
- **Vivendi:** Annual Report, 2014–16.

3.2. Review Method

Since it is a qualitative study, the method of reviewing the sustainability reports is based on grounded theory [42]. Each sustainability report was reviewed in depth, and the sustainability practices were collected and coded in Excel [43]. The collection of data, i.e., sustainability best practices, is described in Section 3.3. The use of grounded method is particularly useful in this study since we are dealing with a large amount of qualitative data, consisting of more than 7000 pages. In order to deal with the theoretical sensitivity of such large qualitative data, it is necessary to use a systematic method, such as grounded method, for reviewing the reports. Chun Tie et al. [44] described research based on grounded method as follows:

"Grounded theory research involves the meticulous application of specific methods and processes. Methods are 'systematic modes, procedures or tools used for collection and analysis of data'. While grounded theory studies can commence with a variety of sampling techniques, many commence with purposive sampling, followed by concurrent data generation and/or collection and data analysis, through various stages of coding, undertaken in conjunction with constant comparative analysis, theoretical sampling and memoing. Theoretical sampling is employed until theoretical saturation is reached. These methods and processes create an unfolding, iterative system of actions ... " [44] (p. 3)

In our case, the theoretical saturation was reached when all 61 reports were reviewed completely. Subsequently, the coded data was merged by associating its similar features into generic measure, i.e., themes and functional areas [45]. The themes and functional areas, which are described in detail in Section 4, are representative of the sustainability best practices. It is important to note that the title of themes and functional areas unfolded with the review process; the titles were not predefined, rather these evolved with the review and iterative coding process. In some instances, the themes were renamed and merged to group similar functional areas and sustainability best practices.

Use of grounded theory is common among researchers in other disciplines as well since it helps in effectively combining large data sets to extract useful information [46,47].

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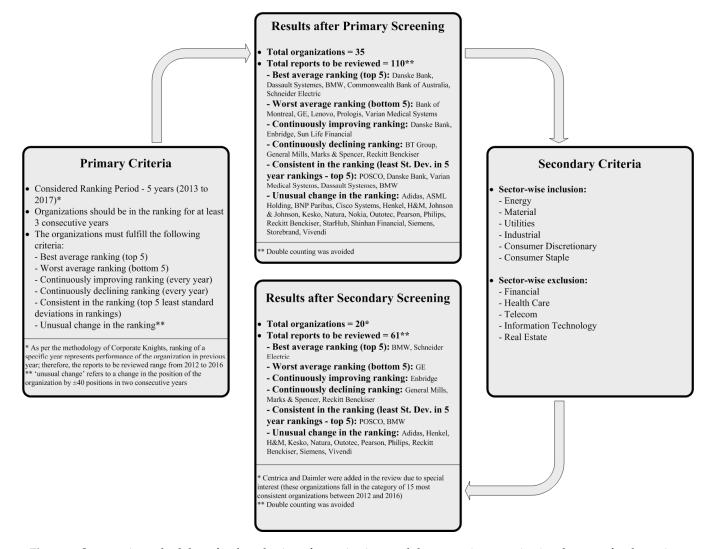


Figure 2. Systematic methodology for the selection of organizations and the respective organizational reports for the review.

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3.3. Data Collection

Cuentas et al. [48] stressed on ensuring neutrality in identifying organizational best practices based on the "best practices frameworks". The authors noted:

"Before sorting a specific practice into the category of recommended, good, better or best, we considered it advisable to have a neutral approach. So, we proposed to do this by using the essence of the process. The essence of the process is the attribute, or set of attributes, that make a process what it fundamentally is. With which it has necessity, and without which it loses its identity. This set of properties defines a process as unique and different from others but also allow association with others in the same class. Frameworks and taxonomies of processes can be used for this purpose." [48] (p. 863)

We maintained objectivity in the review process through the 'principles of benchmarking' for identifying the organizational sustainability best-practices [49], as shown in Figure 3. According to Schalock et al. [49], the sustainability practices/initiatives/programs can be benchmarked if these fall within the framework of 'principles of benchmarking'.

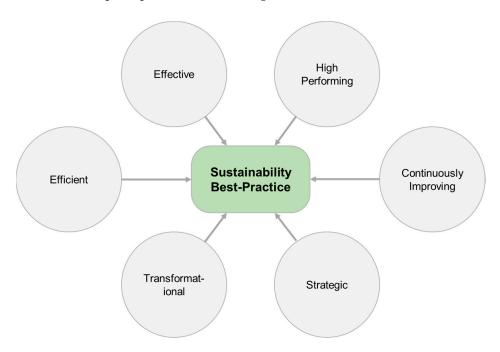


Figure 3. Qualitative principles for identifying the sustainability best-practices of organizations, adopted from Ref. [49].

The authors further argued that best practices are always clearly articulated and have supporting evidence of value creation. The 'principles of benchmarking' is superior to other frameworks used for identifying organizational best practices (such as European Foundation for Quality Management model, criteria for Baldrige Performance Excellence Program, and APQC's and PricewaterhouseCoopers' Process Classification Framework) for two main reasons: (i) the principles are derived from the organizational sustainability literature, and hence are more relevant to this study; and (ii) the principles, in contrast to other frameworks, are flexible and do not limit the focus of the reviewer to specific organizational functions.

Based on the findings of Schalock et al. [49], only those organizational practices are considered best practices which offer sufficient information pertaining to the sustainability goals and outcomes, and conform with the principles of benchmarking (Figure 3).

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4. Results

The results of the review indicate that there are nine main themes, which help the most sustainable organizations in outperforming the rest of the firms with regards to sustainability. Each theme corresponds to functional areas and best practices. The following sub-sections will discuss these sustainability themes, functional areas, and best practices in detail.

4.1. Resource Optimization and Minimization of Waste and Emissions

The functional areas of 'resource optimization and minimization of waste and emissions', as shown in Figure 4, reflect on the firms' performance in transforming the inputs to outputs by using minimum and efficient resources. This theme also signifies the importance of sustainability in the production and packaging operations, and for the end-of-life management of waste.

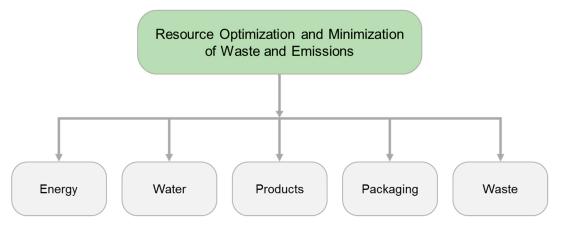


Figure 4. Functional areas of 'resource optimization and minimization of waste and emissions'.

The best practices and the representative examples of the functional areas of 'resource optimization and minimization of waste and emissions' are shown in Table 2. By performing well in these areas, the organizations, besides reducing their emissions and wastes, elevate their public image and reputation. Similarly, from the financial perspective, these activities raise the quotient of financial returns of the firms, whether it is the decrease in the fixed costs associated with energy and water, or the financial recovery from recycling and reusing activities.

Table 2. Best practices in functional areas of 'resource optimization and minimization of waste and emissions'.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Energy	Increasing the share of renewable energy	 H&M increased its share of renewable energy from 27% in 2014 to 78% in 2015. From a strategic point of view, Enbridge invested \$5 bn in renewable energy projects, between 2002 and 2015, in order to offer more green energy options to its customers. 	 H&M reduced its emissions by 56% in 2015, compared to 2014. Enbridge developed 2800 MW of green power capacity in 2015—enough to meet the electricity requirements of 1 million homes.
	Increasing energy efficiency	 BMW, for its operations in Germany, replaced the conventional lights with LEDs in 2016. Kesko's K-food stores remotely monitor and control the temperature of the freezers. General Mills' Covington plant in Georgia installed a heat recovery system that captures the hot steam from the exhaust network to be reused for heating. 	 The replacement of lights helped BMW in reducing its energy consumption by 6848 MWh (2800 t CO₂(e)). In 2014, K-food stores saved more than 4.1 GWh energy from the remote monitoring and control of temperature. The annual benefits of Covington plant's heat recovery system are: (i) \$150,000 savings in the cost of hot water of the plant; (ii) reduction in 5 million kWh of energy; and (iii 2% decrease in the GHG emissions.
	Optimizing energy-intensive operations	 BMW moved its IT centers to Iceland to take advantage of the colder climate and abundant resources of renewable energy. Schneider customized the power settings of 15,000 PCs under Green IT program in its Asia Pacific computation facilities. 	 BMW's IT centers are completely footprint neutral after moving to Iceland. Schneider's Green IT program reduced 20% power consumption and saved around 850 MW annually.
Water	Reusing the discharged water	 H&M's various warehouses and stores in Europe have rainwater harvesting facilities. RB's Bangplee site in Thailand reuses the discharged water in cooling towers and chillers. 	 In 2015, H&M reported 21.2 million liters of rainwater harvesting. The reuse of discharge water, and other similar initiatives, have helped RB's Bangplee site in reusing 89% of the water which would have been discharged.
-	Recycling of the waste water	 Since 2015, POSCO has been receiving 80,000 tons of treatable water daily from the Pohand district (where it operates), in order to recycle the discharged water at its facility. GE has developed several technologies over the years for facilitating the recycling and reuse of discharged water. 	 The intake of discharged water of the community at POSCO ensures that the water load on the community, caused by the operations of the firm, remains minimal. According to an estimate, GE's water technologies help in producing 6.7 million liters of potable water every day, globally.

Table 2. Cont.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Products	Re-designing products for environmental efficiency	 Daimler has changed the design of its vehicles to improve the aerodynamics. H&M started to replace its solvent-based glues with water-based glues in 2014. 	 The change in the design of Daimler's vehicles resulted in a lower drag coefficient and subsequently, low fuel consumption and CO₂ emission. With the use of water-based solvents, H&M now requires less precautions for its employees, and the VOC emissions per pair of shoes have also decreased.
	Considering product end-life in the design	Daimler and BMW have developed the state-of-the-art end-of-life vehicle recovery system.	BMW's vehicle on average—95% recyclable and 85% reusable; and Daimler's vehicles on average—85% recyclable and 95% recoverable.
	Avoiding plastic	 Adidas replaced the use of plastic bags at its stores with recyclable paper bags. 	The switch to recyclable bags eliminated the use of approximately 70 million plastic bags at Adidas annually.
Packaging	Replacing packaging materials	 General Mills has replaced the petroleum-based polyethylene liner of their cereal boxes with a bio-based polyethylene. 	• The replacement of liner material represents an emission reduction of 750 metric tons $CO_2(e)$ per year.
	Reducing product packaging	 Henkel works with its suppliers to reduce the metal can thickness of its hairsprays. In 2015, RB decreased the packaging material for its Scholl Velvet Smooth Express Pedi. 	 Henkel's effort to reduce metal can thickness eliminated 3500 metric tons of CO₂(e) emissions and saved 900,000 cubic meters of water annually. RB's reduction in the product packaging avoided 3500 ton CO₂ annually, equivalent to £5 million.
	Avoiding waste	 Adidas has banned the use of single-use plastic items (such as plates, spoons, cups, etc.) during its sustainable events. In 2016, Natura initiated the Smart-Refill program for its Ekos line fragrances to avoid single use of the fragrance bottles. 	 Banning the single-use plastic items at Adidas avoided around 40 tons of plastic per year. Smart-Refill program allows Natura to use 100% recycled materials or 100% green polyethylene in its Ekos line fragrances.
Waste	Recycling waste	M&S collaborates with The Somerset County Council in UK to collect its waste product packaging for recycling.	 In 2014, M&S collected 14,600 tons of packaging material which was recycled to be used for the food packaging of 1 different products.
	Donating waste	 H&M and M&S allow their customers to donate their used items at the selected stores. General Mills donates its scrap metals to Hauling for Hope, a community-focused scrap pickup service. 	 H&M collected 12,341 tons of donated garments in 2015. Sine 2008, M&S has collected 20 million donated items, worth £16 million, which was used to fund poverty eradication projects of United Nations. The income generated from the donated scrap metals of General Mills is used in financially helping other community members.

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4.2. Business and Operational Excellence

The functional areas of 'business and operational excellence', as shown in Figure 5, reflect on sustainability in modern business operations. While some of these functional areas are applicable to any business, regardless if it is sustainable or not, the organizational activities in these functions greatly impact the potential of economic development of the firm, which is usually neglected in the conventional sustainability management models.



Figure 5. Functional areas of 'Business and Operational Excellence'.

By performing well in these areas, most of the organizations achieve the primary objective of their existence—to make profit. However, the way of making profit makes these organizations different from other firms—more conscious and responsible in their actions and decisions. Moreover, doing well in these functions leads the organizations to less operational errors (through better monitoring), more business opportunities (through sublime reputation), and more satisfied customers (through improved offerings). The best practices and representative examples of 'business and operational excellence' are tabulated in Table 3.

Table 3. Best practices in functional areas of 'business and operational excellence'.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Restructuring Business Profile	Acquiring green business	In 2015, Enbridge acquired 24.9% shares in 400 MW Rampion offshore wind project and 100% shares in 103 MW Creek Wind Project in West Virginia.	 The acquisitions of wind farms helped Enbridge in developing the 2800 MW of green power capacity, which was the strategic move of the firm to offer more green energy options to its customers.
	Disposing the non-lucrative assets	In 2014, Vivendi repositioned its business portfolio by disposing its telecommunication business.	 The sale of telecommunication business helped the firm in erasing its debt of €11 billion. Besides paying the dept, it also brought the financial flexibility (of €4.6 billion as net cash) to acquire (fully or partially) the popular (and profiting) media and content businesses, such as Studio Bagel, Dailymotion, Ubisoft, Gameloft and others.
	Reorganizing the overhead departments	 In 2013, Philips transformed its overhead departments (human resources, finance, IT, etc.) for each business segment to the unified Centers of Excellence which are dedicated to organization-wide operations. 	The formation of Centers of Excellence and task-based operational handling reduced the gross cost of operations by €1 billion.
Enterprise Risk Management	Assessing risks and opportunities	 In 2015, M&S conducted an assessment to seek the most profitable and environmentally friendly form of retailing (digital, departmental, warehouse stores, and others) in order to restructure its operations. 	Since home delivery is more profitable and 30% more environmentally efficient than conventional retailing, M&S closed around 30 retail stores in the UK in 2016 and transformed 45 other stores to food-only outlets.
	Assessing the reputation of organization	Enbridge conducts a reputation study every year to monitor its perceived standing among the residential customers.	The reputation study allows Enbridge to benchmark and compare its performance with other electricity providers.
Digital Operational Connectivity	Using digital connectivity to optimize the operations of organization	 Henkel's Laundry & Home Care business has established a Digital Backbone System (Industry 4.0) that connects 1000 digital energy meters to a global server. Siemens has digitally connected more than 10,000 turbines in 30 countries to a global server in Denmark. 	 The monitoring and optimization of global energy consumption through Digital Backbone has helped Henkel in reducing the energy consumption by 22% per metric ton of products globally (avoiding 100,000 metric tons of CO₂ emission). The use of Big Data and Artificial Intelligence enables Siemens to resolve 85% of the turbine-related complaints from its global monitoring cell (without sending teams).
Stakeholder Engagement	Engaging with stakeholders to understand and address their concerns	 Enbridge's Public Involvement Program engages the firm with its potential stakeholders through various means in order to understand the stakeholders' needs and expectations, and to answer their questions before starting the new projects. 	The Public Involvement Program enables Enbridge to: (i) negotiate with the First Nations and private landowners; (ii) form multi-stakeholder advisory groups; and (iii) discuss the economic opportunities with the local contractors.

 Table 3. Cont.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
	Constantly engaging with the customers	Siemens' Structured Key Account Management Program and Executive Relationship Program enables the firm to keep in contact with its key customers to seek their feedback and consequently enhance the product value.	Siemens' Net Promoter Score (NPS), for measuring customer satisfaction, increased consistently between 2014 to 2016.
Customer Satisfaction	Creating value through customer satisfaction	In 2014, Centrica started using the 'Right First Time' score to measure the percentage of repeated customer enquiries for the same issue within a span of 4 weeks.	 'Right First Time' allows Centrica to assess the association between the reoccurring issues and the customer satisfaction level. By eradicating the repeating issues, Centrica saw a continuous increase in its NPS score between 2014 to 2016.
	Ensuring a strong online presence	In 2016, Natura expanded its online digital sales channel for beauty products in Brazil, namely Rede Natura.	Natura's sales representatives (or Natura consultants) achieved a productivity increase of 8% in direct selling, and the emissions associated with online retailing are also minimal in comparison to conventional retailing.
Business Diversity	Offering diverse range of products	M&S's business is divided into two segments: general merchandising (clothing and home products) and food products. However, the firms' continuously declining performance in general merchandising in UK was incessantly compensated by the food segment between 2014 to 2016.	• In 2015, M&S saw a 2.5% decrease in the sales of general merchandising in the UK, which was covered up with an increase of 3.4% in the sales of food segment. The trend continued in 2016 with a 2.2% decrease in merchandising and 3.6% increase in the food segment.
Stewardship	Bearing responsibility at design and production stage	 Daimler fulfills its product-responsibility by rolling out various initiatives, including intelligent lightweight construction, use of recycled and renewable materials, remanufacturing of components, and development of assistance systems to prevent accidents. 	All new car models of Daimler have low emissions and high safety standards.
	Bearing responsibility at sales level	M&S makes up to three price reductions for the short-life products (if necessary) globally.	The price reduction saves around 65% of potential food waste in M&S-operated stores.
	Bearing responsibility after sales	BMW recalled over 8 million vehicles in 2013 which were installed with defected airbags, supplied by Takata between 2000 to 2012.	Since the recall of vehicles and replacement of the Takata airbags, none of the BMW vehicles were reported to undergo the malfunction of airbags.

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4.3. Corporate Citizenship and Social Development

Although compliance with international laws and regulations earns firms the legal license to operate, it is the quest of social license which drives these firms to think beyond organizational boundaries. Corporate citizenship refers to the responsibilities and the voluntary actions of the organizations towards betterment of societies, where these organizations generally operate. The goal of the firms as responsible corporate citizens is to boost the development activities in the communities by helping and empowering the neighboring and disadvantaged population. The functional areas of 'corporate citizenship and social development' are shown in Figure 6.

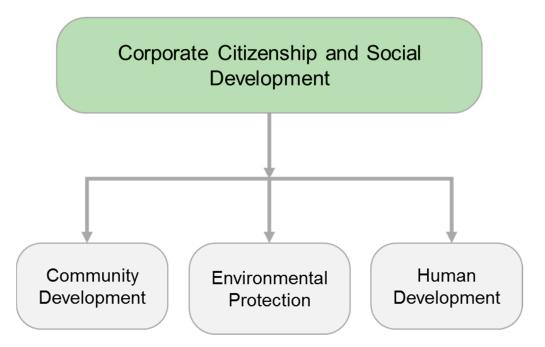


Figure 6. Functional areas of 'Corporate Citizenship and Social Development'.

Doing well as a responsible corporate citizen of the society has a number of advantages: besides the 'feel good factor', social activities significantly improve the marketing and public relations of organizations, along with an elevated brand image. From the receiving point of view, these activities primarily empower the people and protect the environment. At the same time, the positive image of organizations increases their chances to attract new talent, while retaining the existing staff. Concisely, these activities help the firm and the society to grow together in the globalized world. The best practices and the corresponding examples under 'corporate citizenship and social development' are provided in Table 4.

Table 4. Best practices in functional areas of 'corporate citizenship and social development'.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Community Development M	Offering solutions for communal problems	 In 2014, POSCO installed solar powered generators in the disadvantaged communities of Gwangyang, South Korea. In 2014, Schneider provided the micro-off grid solar powered facility, Villaya Villasol, to three villages in Senegal. Philips participated in the installation of more than 100 solar 'Light Centers' in rural areas of Africa and South America. 	 The solar generators help in supplying low-cost clean energy to the disadvantaged homes in Gwangyang. Villaya Villasol helps in providing uninterrupted electricity to schools and community and health centers. The Light Centers provide electricity for sports and other activities after dark.
	Making donations to help other community members	 During the Holiday season, H&M Foundation matches 5% of the amount of the sold gift cards to donate to the United Nations Children's Fund. General Mills donates its surplus food (overrun products and ingredients) to local charities. Enbridge runs a Safe Community program to fund the needs of law enforcement agencies, firefighters, and other emergency-related services. 	 In 2015, H&M Foundation donated an equivalent of €4.9 million to UN's Children's fund through its Holiday season charity program. In 2014, General Mills donated around 12,600 metric tons of food items. The donations from the Safe Community program are used for purchasing new safety equipment, obtaining professional training, or running the educational and awareness programs for the benefits of the community.
	Supporting the existence of small businesses in the community	 Pearson's partnership with Kiva allows its employees to alleviate poverty by offering online loans for small businesses. POSCO runs various assistance schemes for supporting local SMEs in South Korea 	 In 2015, Person's employees offered an equivalent of \$1.3 million in loans to 31,000 Kiva borrowers for establishing small businesses. POSCO provides financial support for POSCO-SME co-applicant patents and shares its patents with SMEs. POSCO covers most of the R&D expenses of the SMEs.
	Committing to be responsible	 In 2015, Natura became the first publicly traded company to be a B Corporation. (B Corporations are the companies who voluntarily put their businesses under a legal binding to consider the impact of their decisions on their workers, customers, suppliers, community, and the environment.) 	The commitment (and actions) from the leadership of Natura has helped in maintaining the firm as a 'carbon neutral company' since 2007.
from org	Ensuring low environmental impacts from organizational activities	GE uses 'The 3% Solution' (a science-based methodology developed by the World Wildlife Fund and CDP) for setting up its organizational objectives.	The 3% solution helps GE in following the emissions-reduction path that complies with the scientific goal of avoiding the 2°C rise in the world's temperature.
	Offsetting the unavoidable impacts	 Pearson does the following to offset its environmental impacts: (i) purchase and protect the rainforests in Colombia and Costa Rica; (ii) fund the biological conservation in North America; and (iii) support the Woodland creation—removal of CO₂ from the atmosphere through planting trees. 	The environmental projects help Pearson in saving or absorbing a metric ton of carbon for each metric ton of emission caused by the company's actions.

Table 4. Cont.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Human Development	Empowering the people to succeed	 Henkel runs a career development program for better integration of Syrian refugees in Germany. POSCO supports educational activities through its scholarship projects for students from high school to PhD. In 2013, BMW (in Korea) launched the "Young Engineer Dream" project to offer 1-year coaching to the disadvantaged students in the vocational schools. 	 The work shadowing, internship, and language programs help the Syrian refugees in finding work opportunities in Germany. Under its Asian Fellowship program, POSCO has offered 3219 fellowships between 2005 and 2014. The Young Engineer Dream project trained 131 students for better opportunities between 2013 and 2016.
	Developing a culture of sustainability among people	Schneider started an Energy Leaders' Education initiative to develop a better sustainability understanding among people.	 Energy Leaders' Education initiative helps in: (i) educating school children about energy conservation; (ii) organizing competition on energy management at homes; and (iii) inspiring Green innovators.

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4.4. Research and Innovation

Activities related to research and innovation allow the firms to align their operations, processes, and offerings with the ever-changing needs of the modern world. In fact, the research and innovation quotient of a firm determines its potential of being a responsible manufacturer, retailer, or service provider. Naturally, the engineering organizations, or the techno-firms, such as Schneider, GE, and Siemens, have an advantage in this regard since these firms strategically rely on the development of new products and services to ensure their success in the market. Nevertheless, non-engineering firms also improve their offerings by creating innovative opportunities. The functional areas of 'research and innovation' are shown in Figure 7.

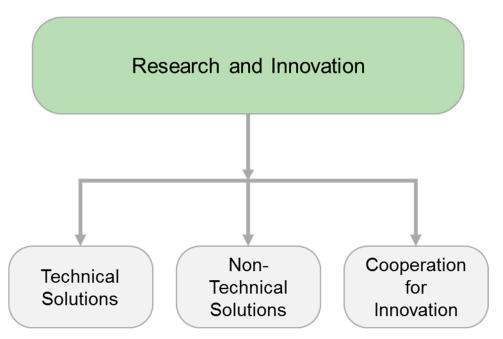


Figure 7. Functional areas of 'Research and Innovation'.

Doing well in these functions helps firms in transforming from conventional business to ones where sustainability becomes the business-as-usual. It is important to note that besides collaborating with each other, these firms also pull the small business and individuals with new ideas to the main stream. This is extremely important in the modern perspective where organizations are expected to think globally but act locally. Working with small businesses enables these organizations to address the domestic challenges in the local context. The best practices and the corresponding selected examples of 'research and innovation' are presented in Table 5.

Table 5. Best practices in functional areas of 'research and innovation'.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Technical Solutions	Offering innovative products	 Centrica offers a range of products under its brand names Hive and My Energy Live, in collaboration with Amazon's Alexa Voice Services, to enable customers to experience connected homes. BMW and Daimler have integrated the autonomous driving features in some of their commercial model cars. 	 Through Hive and My Energy Live, the customers can monitor (through smartphones) and control (by speaking) their household energy consumption in real time, which results in energy savings. The autonomous driving option (for driver assistance) significantly increases the safety features and efficiency and performance of the vehicles.
	Offering innovative services	 GE's Current, an energy management company, integrates GE's various business segments together to collect and analyze customers' energy data. BMW and Daimler offer innovative car-rental services, car2go and DriveNow, respectively. 	 Current's recommendations to GE's customers can reduce their energy consumption and related emissions by at least 10–20%. The rental services of BMW and Daimler allows the customers to rent a car through their mobile phone and from their nearest location. After the trip, which can be only one-way, the customers can leave the car in any of the designated parking areas.
Non-Technical Solutions	Offering non-technical solutions	 Kesko's K-maatalous conducts research activities in its Experimental Farm in Finland to innovate domestically relevant agricultural solutions. In 2012, H&M collaborated with its stakeholders to develop the Higg Index – an innovative tool for measuring the sustainability performance of apparels and footwear. 	 K-maatalous offers innovative methods for sustainability cultivation in the relatively colder conditions of Finland. Higg Index can be used for product labelling to allow customers to benchmark the sustainable apparel products.
	Encouraging employees for disruptive innovation	In 2016, Pearson launched Tomorrow's Markets Incubator to support its employees in the idea creation and testing for new products and business models. Henkel has adopted a sustainability evaluation framework to systematically anchor its innovation process towards more sustainable outcomes.	 The outcomes of the Tomorrow's Markets Incubator include various projects, ranging from workforce training for prisoners in the US to language learning for refugees in Germany. Any new project at Henkel must demonstrate an added value for the customers with less use of resources.
Cooperation for Innovation	Expanding partnerships beyond funding	 Since 2011, POSCO's Idea Marketplace program has been supporting venture companies from idea creation to business model planning, investment, and growth management. In 2016, Siemens launched an autonomous business unit, next47, to increase its partnership with new start-ups. 	 POSCO's Idea Marketplace program helps the firm in developing seed technologies at low cost, which are relevant to the businesses of POSCO family. next47 is jointly pursuing 'Electrically powered flight', which will change the face of the commercial flight operations, according to the firm.
	Awarding competitive ideas	 In 2015, M&S launched 'M&S Energy Community Fund' to support energy-related novel projects. In 2015, H&M launched the Global Change Award—a fashion industry competition on the responsible creation of fashion. 	 M&S selected 21 projects from 246 entries (through public voting) for seed funding of £40,000, £20,000, and £12,500, depending on the impact of the project. The winners of the Global Change Award received funding grant and a spot in a 1-year accelerator program.

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4.5. Procurement, Supply Chain and Logistics

Procurement and supply chain are considered as the weak links in organizational sustainability since the firms have limited control over suppliers' activities. Nevertheless, the suppliers' actions can directly affect the reputation of the firm, which is why most sustainable organizations under discussion make solid arrangements to ensure strict compliance of suppliers' actions with the organizational vision, policies and programs. On the other hand, logistics is one segment which is in control of the organization and is, in fact, a low-hanging fruit from the sustainability perspective. The functional areas of 'procurement, supply chain and logistics' are shown in Figure 8.

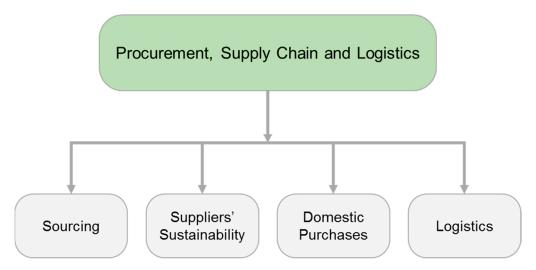


Figure 8. Functional areas of 'Procurement, Supply Chain and Logistics'.

Initially, the organizations must pull the suppliers and contractors up in order to embark on the sustainability journey together. But after two to three cycles of monitoring and improvements, these suppliers and contractors are expected to self-develop in line with their operations and challenges. The development of suppliers eventually means a low burden (environmental and financial) on the firm's operations and performance. Similarly, sustainability in the logistics segment means optimized channels of receiving and delivering goods and services, and more efficient ways of employees' transportation, all of which reduces the environmental emissions on one hand and reduces the financial burden on the organization on the other. The corresponding best practices and examples of 'procurement, supply chain and logistics' are tabulated in Table 6.

Table 6. Best practices in functional areas of 'procurement, supply chain and logistics'.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Sourcing	Participating in global initiatives for sustainable sourcing	 Schneider is a member of the Conflict-Free Smelter Initiative. Pearson is a member of the Book Chain Project. M&S is a member of the Better Cotton Initiative and Fairtrade. 	 As the name suggests, Conflict-Free Smelter Initiative ensures sourcing of smelter or refiner minerals from conflict-free sources globally (through 3rd party audits). Book Chain Project provides sourcing information from origin of fiber to the working conditions in factories where the publishing materials are produced. Better Cotton Initiative ensures responsible cotton farming. Fairtrade ensures better prices, decent working conditions, local sustainability, and fair terms of trade for farmers and workers in the developing world (from where materials are sourced).
	Banning the material sourcing from territories involved in conflicts and unethical practices	H&M has banned the use of cotton from Turkmenistan and Syria due to the poor labor conditions and ongoing political conflicts in the countries, respectively.	Banning material from Turkmenistan and Syria helps H&M in maintaining its commitment to responsible sourcing of materials.
Suppliers' Sustainability	Integrating sustainability in tendering process	 As part of the tender qualification, Vivendi's Canal+ Group requires its supplier to comply with the standards of United Nations Global Compact. In order to qualify for BMW's tenders, suppliers with +100 employees should be at least certified on ISO 14001, whereas suppliers with +500 employees should at least publish an annual sustainability report. 	Integrating minimum sustainability criteria into the tending process increases the competition among the suppliers to do well in terms of sustainability.
	Assigning sustainability goals and evaluating the performance of suppliers	 Adidas uses the e-KPI2.0 (environmental KPI) program for assigning sustainability goals and evaluating the suppliers' performance. BMW annually assigns scientific sustainability goals to its suppliers in compliance with the CDP project. 	 The online assessment of suppliers' performance helps Adidas in identifying and addressing the individual needs of the suppliers. In 2016, 69% of the BMW's suppliers, who participated in the CDP supply chain program, reported a reduction of 36 million tonnes in CO₂ emissions.
Domestic Purchases	Promoting domestic purchases to boost local business and employment	Vivendi and Kesko reports the extent of local purchases as part of their sustainability performance since local purchases help in boosting the domestic market and creating job opportunities.	 In 2013, Kekso's purchases in Finland accounted for €5378 million, which represents 68.9% of the total purchases. In 2016, Vivendi's local purchases represented 79% of the total purchases of the firm.

 Table 6. Cont.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
	Increasing the share of sea-freights over air-freights	 In 2015, Schneider implemented a manager's approval workflow in certain regions to challenge the manager's decision of using air-freights over sea-freights. 	 In 2016, the CO₂ emissions of long-distance transport decreased by 23.8% due to the company-wide preference of sea-freights.
	Reducing emissions from vehicles	The gas division of Enbridge converted 648 of 853 fleet vehicles to run on natural gas.	\bullet Enbridge saved 500 t CO ₂ (e) from converting the vehicles.
Logistics	Reducing emissions from employee transport	• Enbridge has 40 TelePresence videoconferencing meeting rooms as an alternative to business travel.	In 2015, Enbridge recorded 4898 TelePresence meetings which helped the firm in saving 14 t CO ₂ (e).
	Using reverse logistics to optimize routing	Daimler optimized the transportation of its reusable shipping containers by using the reverse logistics techniques to move the containers in the same shipment which moved the goods initially.	 In 2016, using reverse logistics eliminated 2200 t CO₂ emissions and also reduced the freight costs.
	Managing shipping volume to decrease the load on logistics	 In 2012, at the Regensburg plant, BMW started using a screw compactor to compress the recyclable packaging materials before shipping to the recycling facility, which increases the shipping volume of the packaging materials. 	The increase in the shipping volume saved BMW roughly 24,000 truck kilometers (emission + cost).

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4.6. Governance

The role of governance in organizational sustainability is crucial from the perspective that the commitment of leadership, strategic alignment of company's programs, and a clear direction for development are all linked to how well the governing bodies perform. Typically, organizations follow various guidelines to facilitate executives in governing activities, including but not limited to: OECD guidelines for multinational corporations, the universal declaration of human rights, UN declaration and guiding principles on business and human rights, ILO convention on the fundamental rights and principles at work, ICC business charter for sustainable development and principles against corruption and bribery, UN global compact initiative, and the code of conduct of the business social compliance initiative. These guidelines facilitate the firms in rolling-out initiatives and programs to deal with the governance-related sustainability issues, such as ethical misconduct, discrimination, harassment, human rights violation, corruption, fraud, bribery, embezzlement, conflict of interest, power abuse, prevention of competition, privacy breach, and whistle blowing. Providing an account on all of these will not be possible in this article. Therefore, we will discuss only some of the governing factors (Figure 9) which are generally considered important for sustainability.

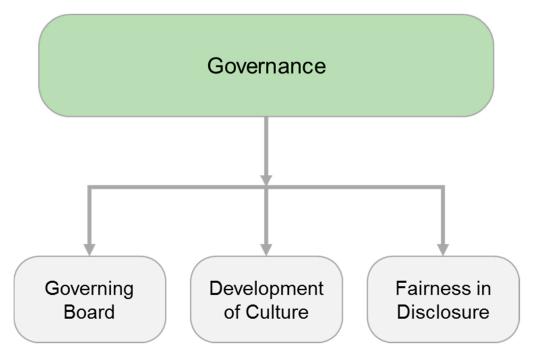


Figure 9. Functional areas of 'Governance'.

Good governance of sustainability-related issues helps the firms in creating a flourishing sustainability culture which eventually leads to a continuous evolution and development of organization—a shared trait among the most sustainable organizations. The best practices and corresponding examples of 'governance' are provided in Table 7.

Table 7. Best practices in functional areas of 'governance'.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Governing Board	Ensuring the distribution of power among the members of the governing board	• Schneider's Strategy and Innovation Department is a home to the Sustainable Development Division, and an executive director, partly responsible for the corporate sustainable development, reports directly to the supervisory board (board of directors). Meanwhile, the strategic sustainability committee ensures effective rollouts of sustainability strategies in all divisions. This committee reports to the executive sustainability committee which steers the overall direction of development. In addition, all members of the executive committee are assigned sustainability-related goals for performance-based incentives.	The distribution of power among various individuals and committees avoids the chances of misuse of power.
	Linking sustainability goals with the variable compensation of executives	 Vivendi associates the corporate social responsibility criteria with the variable compensation of the Chairman and members of the Management Board 	In 2017, the group Chairman and board members had to develop and obtain certification for CSR-related initiatives in order to qualify and receive the 5% variable compensation associated with CSR.
Development of Culture	Promoting diversity and inclusivity in the workforce	 Centrica runs various employee networks, including Women, Carers, Parents and Lesbian, Gay, Bi-Sexual & Transgender, Disability, and Wellbeing Employee network, in order to promote diversity and inclusivity. In 2014, Vivendi's Canal+ Group rolled out "Mission Handi+" to hire employees with disabilities. 	 In 2017, Business in the Community, a business–community outreach charity, recognized Centrica's efforts to embrace workforce diversity with a Bronze award. Nearly 20 persons with disability are hired annually under the "Mission Handi +", including the young graduates with disability.
	Encouraging employees to volunteer in the social development activities	Between 2005 and 2013, employees and retirees at GE completed 10 million volunteering hours on more than 37,000 projects in 60 countries.	 In 2013, GE was awarded The Jefferson Award for making significant contributions to the community. In 2012 and 2013, GE was ranked in the Civic 50.
	Facilitating the exchange of sustainability culture	 Daimler runs an International Assignment program to facilitate the exchange of sustainability culture across borders. Adidas' Talent Carousel Career Development Program allows its employees to work in cross-functional and cross-cultural roles in Adidas' international locations. 	The international appointments, or the cross-functional appointments, allow for a two-way flow of sustainability practices within the firms.
Fairness in Disclosure	Ensuring fair disclosure of information and data	 POSCO voluntarily shares the real-time air and water pollution data from two of its sites in Pohang with the local government through Tele Monitoring System. POSCO discusses Media highlights (positive and negative) pertaining to its operations in its sustainability report. 	Sharing the real-time emissions and discussing Media coverage depict the confidence that POSCO has for its control measures, and hence elevates the reputation of the firm.

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4.7. Sustainability Management Tools

While governance decisions provide broad guidelines at the strategic level, the operation managers require appropriate tools to execute the strategies and monitor and report the related activities. These tools can be the certifiable and non-certifiable systems or standards, or other systematic methods. Some of the sustainability management tools commonly used by the most sustainable firms are shown in Figure 10.

There are also some customized tools which organizations have developed, or outsourced, to address their specific needs. For example, H&M uses an Environmental Impact Measurement tool, developed by a Spanish consultancy firm, Jeanologia, to assess the environmental impacts of its products. The products with lowest impacts are green-labelled as 'Conscious Products'. Similarly, Schneider has developed its own tool to measure the firm's sustainability performance, namely the Planet & Society barometer. The Planet & Society barometer allows the French firm to measure the extent of achievement of its objectives by using composite indicators. Each objective is assigned a score out of 10, based on the level of achievement. A status-review is carried out every quarter of the year to adjust the firm's activities in order to achieve high scores for all objectives.

Henkel-Sustainability#Master[®]. This matrix-based tool allows Henkel to align its operation in such a way that the impacts of the firm's activities, throughout the value chain, are minimum. The tool has a 'focus areas' on the y-axis (performance, health and safety, social progress, materials and wastes, energy and climate, water and wastewater) and the steps in the value chain on x-axis (raw materials, production, logistics, retailing, service/use, disposal). The impact of each product is assessed on focus areas throughout the value chain. This helps the firm in identifying the hotspots and creating value. Similar to Henkel-Sustainability#Master[®], RB uses its Sustainable Innovation Calculator to measure its net revenue generated from the sustainable products. The lifecycle-based tool guides the firm in the development of low-impact products.

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Certified and Assured Tools

- Quality MS (ISO 9001)
- Environmental MS (ISO 14001)
- Safety MS (OHSAS 18001)
- Social Responsibility (ISO 26000, SA 8000)
- Energy MS (ISO 50001)
- Information Security MS (ISO 270001)
- Risk MS (ISO 31000)
- Food Safety (HACCP, GFSI)
- Green Building (LEED, BREEAM)
- Life Cycle Assessment (ISO 14040/44)
- Responsible Management of World's Forests (FSC, PEFC)
- Laboratory MS (ISO 17025)
- Bonsucro Production Standard
- EU Eco-Management and Audit Scheme (EMAS)
- Energy Star Certification
- AcountAbility Principles Standard (AA1000)
- Carbon Footprint of Products (ISO 14067)
- Water Footprint of Products (ISO 14046)
- Integrated MS (PAS 99)
- European Energy Certificate System (EECS)
- Standard for Assurance (ISAE 3000)
- Carbon Trust
- International Water Stewardship Standard
- The Industry Green (for Creative Industries)
- Certified B Corporations
- Sector Specific Standardized Guidelines (e.g., ISO/TS 16949:2009, ISO/TC 17, ISO/ TR 14062:2002, EN50581, ISO3834, ISO 12100, IEC 62061, IEC 61882, IEC 82079-1, IEC 62430 etc.)

Non-Certified Tools

- Policy MS
- Idea MS
- Enterprise Content MS
- Performance MS
- Data MS
- · Emergency and Security MS
- Risk MS
- Project MS
- Transport MS
- Freight MS
- Carbon MS
- Water MS
- GHG Target MSProduct Life Cycle MS
- Lost-Time Incident MS
- Lost-Time incident MS
- Enterprise Feedback MS
- Learning MS
- Compliance MS (ISO 19600)
- Six Sigma
- Lean Manufacturing
- Eco-design (ISO 14006)
- PAS 2060 (Carbon Neutral)
- Substance MS (EN50581)
- Global Salary MS

Disclosure

- Global Reporting Initiative (GRI)
- Carbon Disclosure Project (CDP)
- International Integrated Reporting Council (IIRC) Framework
- Corporate Accounting and Reporting Standard

Other Management Programs

- Stakeholder Management
- Enterprise Risk Management
- Operational Risk Management
- Project Management
- Crisis Management
- Supply Chain Management
- Supplier Relationship Management
- Customer Relationship Management
- Industrial Hygiene Management
- Stress Management
- Campaign Management (for brands)
- Integrated Performance Management

International Guidelines

- ILO Fundamental Conventions
- Universal Declaration of Human Rights
- European Convention on Human Rights
- UN International Convention on the Rights of the Child
- EU Charter of Fundamental Rights
- UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions
- OECD Guidelines for Multinational Enterprises
- UN Guiding Principles on Business and Human Rights
- The Ten Principles of the UN Global Compact
- Children's Rights and Business Principles by UNICEF, UN Global Compact, and Save the Children
- UN Sustainable Development Goals

Other Tools and Systems

- SAM-DJSI Evaluation Criteria
- WBCSD Global Water Tool
- Carbon Accounting and Emissions Verification System
- Life Cycle Inventory Analysis
- Fieldprint® Platform
- SMETA Sedex
- Efficient Logistics Load Optimization
- Prince's Accounting for Sustainability
- Building Information Modeling
- ICTI CARE
- Oiva-Evira
- Energy Saving Opportunity Scheme (ESOS)
- Life Cycle (GaBi, HSC Thermochemical)
- Net Promoter Score (Customer Satisfaction)
- Employee Pulse Survey
- Yammer
- SIL Allocation Assessment
- SafeExpert Risk Assessment
- Stage-Gate Process
- Eco Vadis Ratings & Scorecards
- Big Data Analytics
- Eco TransIT World
- Environmental Product Declaration
- ManagerReady® (management assessment)
- Trucost SDG Evaluation Tool
- London Benchmarking Group Framework
- Web Content Accessibility Guidelines
- Environmental Profit and Loss
- Gallup Q12 (Employee Engagement Survey)
- Schneider Performance System
- Centrica's Green Deal Program
- Enbridge's Leak Survey MS
- Siemens Global Engagement Survey

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4.8. Employee Relations

Sustainability in the workforce is as important for the organizations' sustainability as the sustainability of organizations for the world itself. Employees are at the heart of organizational operations since these are the behind-the-scene actors who run the real show. The success of other sustainability themes, such as innovation and research and customer satisfaction, is linked with the performance of employees. A good relationship between employees and the firm, and among the employees themselves, helps in developing a positive workplace culture and thus, ensures effective implementation of organizational policies and programs.

Since there are numerous employee-related initiatives which the firms roll-out, we will only discuss the important functional areas of 'employee relations' (Figure 11) which are generally applicable to all organizations.

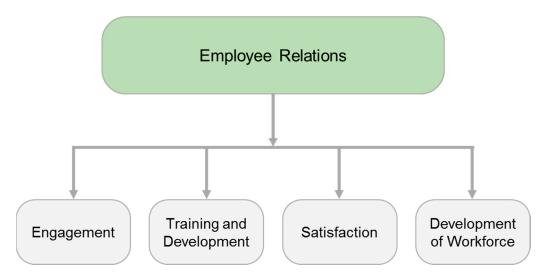


Figure 11. Functional areas of 'Employee Relations'.

For the most sustainable organizations, the 'development of organization' is interchangeable with the 'development of employees'; an organization which puts the engagement, development and satisfaction of employees ahead of other priorities ultimately performs well on all facets of sustainability, including the financial dimension. More specific best practices and corresponding examples of 'employee relations' are shown in Table 8.

Table 8. Best practices in functional areas of 'employee relations'.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Engagement	Engaging with the employees at work	 In 2012, Schneider rolled out the 'Cool Site' program to enhance employee engagement at the workplace. M&S has an internal social media platform, Yammer, to facilitate the two-way communication between the firm and the employees. 	Cool Sites program develops and transforms the office-space into an attractive, inspiring, distinctive, innovative, and energizing workplace which boosts creativity and collaboration among employees. Yammer allows M&S to get an instant feedback of employees on the policies and programs of the firm.
	Facilitating the engagement of employees with each other	 In 2015, General Mills started hosting weekly exchange-social-hours which provides a casual setting for the employees to interact with each other. 	 The weekly exchange-social-hours facilitates the employees from the site-locations and headquarters in strengthening the team bond.
Training and Development	Developing skills and expertise of employees and executives through trainings and workshops	 Enbridge's Individual Development Plan allows its employees to develop skills and expertise based on their own career choices and interests, in consultation with their assigned managers. 	 Because of the training Enbridge's employees received during 2016, 45% of the open positions were filled internally by developing the competence of existing employees in those areas.
Satisfaction	Ensuring that the employees are not overworked	 In 2015, Daimler launched the 'mail on holiday' program to increase the employee satisfaction level. Under this program, employees on holidays do not receive emails sent to them, instead, the correspondents are notified to contact someone else in the company, while the originally sent messages are permanently deleted. 	In 2016, Daimler was ranked among the top 33% companies in the world with respect to employee satisfaction (Employee Commitment Index)
	Providing job security	 In 2015, due to the cost savings and restructuring programs, Outotec had to release some of its employees. In 2015, Daimler renewed its commitment "Safeguarding the Future of Daimler" which protects all the Daimler employees in Germany from being laid off until the end of 2020. 	 Outotec saw a 19% decrease in the employee engagement index in 2015 and a further 14% decrease in 2016. The decline can also be linked with the sudden drop in the sustainability ranking of the firm: #3 in 2016 (reflecting on the performance of 2015) and #90 in 2017 (reflecting on the performance of 2016). Daimler recorded an all-time best employee satisfaction level in 2016.
	Offering competitive remuneration	 Since 2012, POSCO has started to consider two aspects in its salary system: the stability of employees' livelihood and the reward for good performance. Other aspects of appraisals include inflation, length of employment, and the overall performance of the firm. Furthermore, the same salary structure applies to the male and female employees. 	POSCO saw a continuous increase in the satisfaction level of employees between 2014 to 2016.
Development of Workforce	Providing pre-employment training to potential future employees	 In 2014, Centrica initiated a training program, Through Movement to Work, to help young unemployed people in securing jobs. In a 2-year period, Centrica offered this training to 700 unemployed youth, out of which 60% secured a job after the completion of the program. 	The 8-week pre-employment training of potential employees offered Centrica an opportunity to train its future employees in competencies which are, or will be, crucial to the firm.
	Maintaining a balance in the workforce	 In 2013, Kesko initiated a Youth Guarantee program to employ 1000 young people in the K-group companies by the end of 2014. At the end of 2014, around 1800 young people were employed at Kesko across Finland. 	 Besides having a social impact, the Youth Guarantee program helps Kesko in maintaining a balance between the young new hires and the retiring experienced employees. It also gives the young people an opportunity to benefit from the experience of retiring employees before they leave.

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4.9. Health, Wellness, Safety and Security

While most organizations tend to ignore health and safety during the strategic alignment of their business activities (overly emphasizing on the environmental side), the most sustainable firms do the exact opposite; the firms under discussion make use of the health, wellness, safety, and security measures to create value for their customers, shareholders and other stakeholders. Conventionally, this theme is limited to health and safety measures taken to protect people, property and the environment. The other two segments, wellness and security, are relatively more recent and are integrated with health and safety because of the common goals and objectives of these disciplines. The functional areas of 'health, wellness, safety and security' are shown in Figure 12.

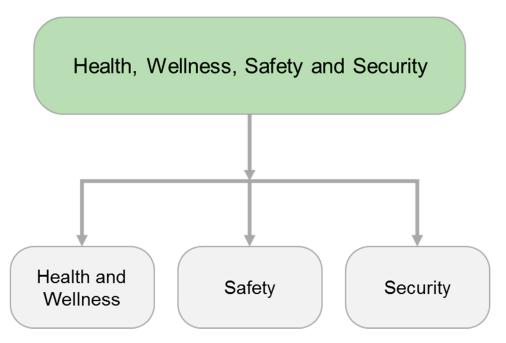


Figure 12. Functional areas of 'Health, Wellness, Safety and Security'.

The significance of this research theme for sustainability can be better explained by considering the opposite effect: how will an accident or the breach of data privacy affect the sustainability of an organization? While the breach of data privacy may result in a long legal battle leading to mammoth fines and penalties, and consequently to a poor image of the firm, hurting the customer-base, the occupational accidents may result in the loss of lives, and can cause further financial and environmental damage, through the destruction of property and equipment, in addition to the unwillingness of talented people to join the firm in the future. Consequently, the impacts of such an event may leave a permanent mark on the culture and reputation of the firm. The best practices and the corresponding examples related to 'health, wellness, safety and security' are provided in Table 9.

Table 9. Best practices in functional areas of 'health, wellness, safety, and security'.

Functional Areas	Best Practices	Representative Examples	Outcomes/Benefits
Health and Wellness	Promoting good health of employees	Vivendi rolls out various programs in its subsidiaries in different countries to promote good health of employees, for example: (i) UMG reimburses the cost of memberships of the fitness centers to its employees in South Korea; (ii) all UMG employees in Sweden and the senior employees in Portugal undergo medical and eye examination annually; (iii) all Digitick employees have monthly access to masseur/physiotherapist; (iv) MyBestPro carried out a medical survey to monitor the psychosocial risks of employees; and (v) Watchever hired ergonomics experts for the awareness of its employees regarding the correct posture at workstations.	• Vivendi saw a continuous decline in the employee absenteeism over the years. For example, the rate of absence due to illness was 4.61 days per employee in 2014 which later reduced to 4.35 and 4.20 in 2015 and 2016, respectively.
	Improving work-life balance of employees	In 2016, Adidas rolled out Employee Assistance program to help its Germany-based employees in maintaining a work-life balance.	 The Employee Assistance program admits employees to use various external services, i.e., professional support and advice related to child care, elderly care, legal issues, tax payment, and other household issues, which ultimately helps them in keeping a balance with daily life.
Safety	Eliminating the possibility of accidents	 POSCO's Smart Factory System, besides improving the quality and productivity of steel plants, integrates highly-tuned wearables with the process monitoring system to ensure the safety of workers working in the high-risk zones. The sensors, integrated with the personal protective equipment, help in detecting and alerting the worker and supervisors in case of potential accidents and emergencies. 	After the launch of POSCO's Smart Factory System in 2016, the accident rate and the number of serious injuries reduced from 0.06 and 4 in 2016 to 0.03 and 0 in 2017, respectively.
	Minimizing the impact of accidents	 In 2012, Daimler's Mercedes-Benz launched the 'vehicle emergency call system', eCall, which automatically notifies the information and location of the vehicle to the rescue services in case of a serious accident. 	The eCall system helps in providing faster help at the location of an accident. This is the same reason why European Union has made it mandatory for all vehicles to have 'vehicle emergency call system' since April 2018.
Security	Protecting the information of customers and employees	 Pearson centralized its information security activities in 2015. The firm rely on providing trainings to its employees for the protection of customers' and employees' personal data. All employees sign the Acceptable Use Policy as part of these trainings, a binding which protects the customers' data from being misused. In addition, Pearson complies with the requirements of ISO 27001 and 31000 for managing the information security risks. 	Besides being a moral obligation, Pearson's information security efforts help the firm in meeting the legal requirements of the European General Data Protection Regulation (GDPR).
	Protecting the intellectual property	 Daimler has a Global Brand Protection team which takes actions to fight against the sale of counterfeit car components around the world. 	The actions taken against the sale of counterfeit car parts helps Daimler in protecting its business on one hand, while ensuring the safety of its customers on the other.

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5. Discussion

Based on the findings of the systematic review of organizational reports, as tabulated in Tables 2–9, a content framework (CF) for organizational sustainability is proposed (Figure 13). With nine sustainability themes and 38 corresponding functional areas, CF holistically covers the elements of organizational sustainability. Nevertheless, the sustainability themes outlined in this work must not be considered in isolation since organizational operations are usually interlinked and therefore, it is important to admit a holistic approach for using CF in practice and research.

More importantly, CF only represents the content of organizational sustainability; it cannot be operationalized without integration with a compatible structural framework. In this regard, Nawaz and Koç [4] developed a structural framework for sustainability management based on an extensive review of sustainability management and assessment literature and the international standardized guidelines. The authors proposed a six-element cyclic framework, namely Sustainability Management Framework (SMF), which compliments CF. Hence, the integration of CF and SMF can enable the firms to manage the context-specific sustainability challenges in a holistic manner.

While the sustainability themes provide holistic coverage around the organizational operations, it is worth noting that a firm's standing on the quantitative sustainability ranking is not necessarily linked with the firm's performance in these themes, rather there are host of other external factors which can cause a shift in organization's ranking. For example, we observed during the review that a warm winter may reduce the demand of clothing and utilities business (e.g., M&S and Centrica), consequently affecting the financial performance of firms in these sectors. The under-par financial performance will be subsequently reflected in low R&D investment, low or no donations for charities, low or no variable compensation for employees, and hence, a low employee satisfaction level. Since all of these measures play a crucial role in determining the sustainability ranking of organizations, it may just be the warm weather which leads to a lower sustainability ranking of an organization in a particular year.

Similarly, the indicator-based assessments may fail to evaluate the sustainability management potential of firms [50]. It is primarily because the fluctuations in the indicators may raise or lower the position of an organization in quantitative rankings, but actual reasons behind the fluctuations remain undiscovered. For example, the total water intake and the total waste generated by Siemens in 2013 was 4% and 5% higher than the 2012 value, respectively. On a quantitative scale, such as Global 100, these two measures could have affected the ranking of Siemens, but in reality, these changes were a consequence of the acquisition of new Siemens facilities in China in the same year. Similarly, Siemens' health care business saw a 4% decrease in the net sales value of 2013, compared to the previous year. However, this decrease was primarily due to the 5% negative currency effect. If the currency effect is normalized, Siemens' comparable sales in 2013 would increase by 1% from that of the previous year. This is probably why many researchers advocate that the indicator-based performance assessment does not fully reflect how well a company addresses sustainability-related issues [51,52].

It was also observed that the shift in organizational ranking from 1 year to another may be a result of several secondary reasons: (i) the increase or decrease in the emissions due to the acquisition of new sites or closure of existing facilities, (ii) the change in the definition of quantitative measures (green products, global warming potential of refrigerants, corporate givings, age of senior employees, etc.), (iii) the one-off disposal of a large amount of waste due to its replacement with more efficient materials/methods/products, (iv) the political instability in countries where suppliers operate, (v) the change in emissions' regulations and environmental impact factors, (vi) the implementation of cost structure programs to revise the business profile and headcounts, (vii) the negative currency effect, and (viii) increase or decrease in the sales volume. Nevertheless, it is important to note that the organizations usually address these factors in corporate and enterprise risk assessment, which is a good sign, however, it raises questions on the implementation of the risk reduction measures.

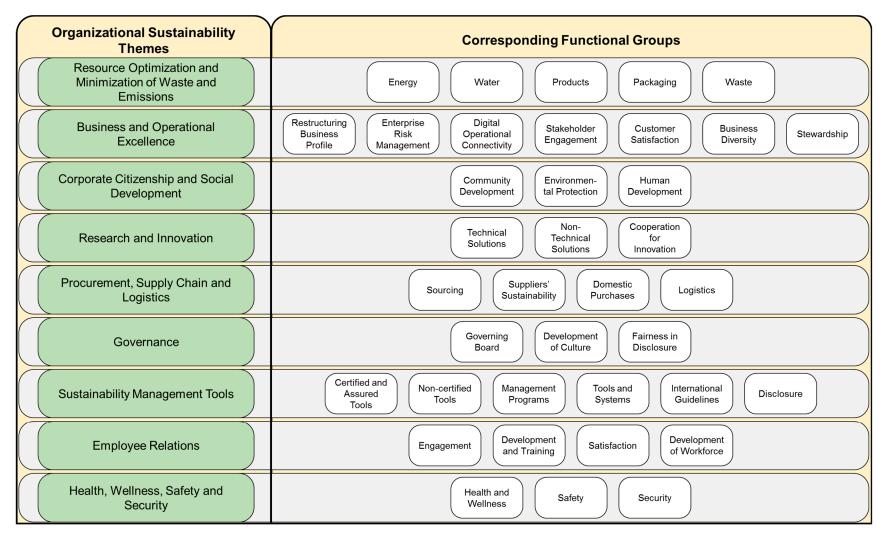


Figure 13. Content-framework for organizational sustainability.

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6. Conclusions

While sustainability is one of the most researched areas, the actual sustainability practices of organizations are usually overlooked in the management research. It is extremely important to bring a practical perspective to theoretical discussions in order to create a synergy between theory and practice. Such an approach will enhance the potential application of the theoretical models on one hand and will help in understanding the practical limits of the organizations on the other. The present work is an effort to systematically identify the organizational sustainability themes, functional areas, and best practices of most sustainable firms in the world.

The starting pool of 100 organizations was obtained from the 5-year rankings (2013–17) issued by Corporate Knights (Global 100). From the initial pool, we identified 20 most sustainable firms which are relevant to the context of this study and a corresponding 61 organizational reports through systematic screening. The review was carried out by using grounded mechanism. The results highlight nine main themes and 38 functional areas to maintain an exceptional sustainability performance in an organizational context (Tables 2–9). Based on the findings, we have proposed a content framework (Figure 13), which offers a comprehensive account on the organizational sustainability management.

The present work is unique from previous studies in four ways. First, it adopts a systematic methodology for conducting the review which offers comprehensive and reproduceable results. Second, this research accounts for the organizational sustainability practices over a period of 5 years, which was mostly limited to a single year in similar previous works. Third, this study does not limit the selection of organizations to a single geographical location. Finally, this work is not limited to the review of strategic initiatives only, rather micro-level practices are also discussed in order to contemplate the entire spectrum of organizational sustainability management.

Like any other study, this work also has some assumptions and limitations. First of all, since the initial pool of organizations was obtained from the Corporate Knights Global 100, all assumptions and limitations of Global 100 are applicable to this work. Also, the screening criteria, and especially the sector-wise exclusion, may have eliminated some organizations, and subsequently the organizational reports, which could have benefitted this study.

In future, researchers may seek empirical validation of the proposed content framework through expert survey. Moreover, it will be interesting to examine if the sustainability themes of the organizations which were not considered due to sector-wise exclusion are similar to the sustainability themes proposed in the content framework. If the two are different, there will be a need to integrate the themes in order to develop a holistic and generic tool for organizational sustainability management.

The authors would like to assert that this study does not intend to cross-compare the performance of organizations. This work only identifies the sustainability themes and practices which could potentially affect the organizational sustainability; the authors do not imply that these practices are a certain cause for the good standing of the firms, which would require a more rigorous causality analysis and hence, can be considered as a potential future opportunity. Moreover, the sustainability practices noted in this article with reference to one organization may not be limited to that organization only; other organizations may also be undertaking the same, or similar, activities but these have not been referred to due to space limitations. Furthermore, the review of sustainability practices has been limited to the organizational reports; the unreported activities are not reflected in this work. In addition, activities performed to exclusively comply with the national and international laws and regulations are mostly not included in this study. Finally, since the study encompasses a review of more than 7000 pages, the chances of human error cannot be completely overturned. However, the authors have done their best to ensure objectivity in each phase of the review (selection of organizations, identification of reports to be reviewed, and collection of sustainability practices) through systemization.

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