

UNDERSTANDING SUSTAINABILITY TRANSFORMATION AT CORPORATIONS: TERMS AND CATEGORIZATION

Diana SMITE ^{*}, Deniss SCEULOVŠ 

*Faculty of Engineering Economics and Management, Riga Technical University,
6 Kalnciema Street, Riga, Latvia*

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Abstract. Sustainable business management transformation is associated with one of the biggest potentials for economic benefit and an increasing number of companies are joining the transitioning pathway. There is a research gap in both the definitions of sustainability transformation and the framework on how businesses manage skills, processes, and organizational activities to facilitate it. The focus of this research is to understand the scope of sustainability transformation in corporations, namely, how the concept of sustainability transformation has been defined and researched in the context of corporations due to their scale, impact, and exposure. Corporations are expected to lead toward true ecosystem value creation and as such, are of special interest and weight within the private sector. The research concludes that interpretations of sustainability transformation range from incremental to systemic changes, underlining the complexity of evaluating and implementing sustainability in a corporate environment.

Keywords: sustainability, transformation, circular economy, corporations.

JEL Classification: M10, M20.

1. Introduction

The sustainability transformation as a concept is relatively new; it builds on long-standing research in different fields focused on social and environmental change and is driven by the need to address such significant problems as food insecurity, climate change, biodiversity loss, and poverty. Sustainability-related topics are being researched across different categories, from environmental to political sciences, and one of the most significant potentials is associated with sustainable business management transformation.

Corporations are expected to lead towards actual ecosystem value creation and are of particular interest and weight within the private sector. The understanding of “business as usual” is no longer possible due to the constant disruption faced by the companies, as confirmed by several recent global studies across major corporations. Today’s corporate sector is prepared to advance past theoretical discussions and begin integrating processes, value chains, and systems focused on stakeholders and sustainability into their businesses.

The findings from the 12th United Nations Global Compact-Accenture CEO Study highlight the changing

environment and the increasing importance of sustainability in the business environment. The same study concludes that sustainability is a key factor in differentiating competitive advantage. Furthermore, the study has concluded that integrating sustainability into the company’s core strategies can enhance its ability to adapt to disruptions and seize new opportunities (United Nations Global Compact, 2023). According to McKinsey (Krishnan et al., 2022), sustainable solutions hold market opportunities worth up to several trillion USD a year by 2030, and to take advantage of opportunities, an increasing number of companies are joining the transitioning pathway.

Besides the economic benefits, sustainable transformation and achieving sustainability goals require a collaborative effort across all societal tiers. Also, there is intense societal and peer pressure across the private sector to be socially and environmentally responsible, making the companies engage in sustainable transformation.

In the meantime, McKinsey researchers claim that the overall net-zero transition of the global economy has been slower than planned due to its unprecedented complexity (Krishnan et al., 2022). While corporations are integral to this shift, multiple factors are causing their reluctance to implement company-wide sustainable transformation. For

* Corresponding author. E-mail: diana.smite_2@rtu.lv

some companies, transforming may lead to reduced competitiveness, and some traditional industries might become less relevant, impacting jobs and communities. Also, under the current economic and geopolitical situation, businesses struggle to progress with sustainability transformation due to other challenges such as inflation and alternative energy sourcing.

Despite the broad scope of research and numerous definitions of sustainability transformation, limited empirical evidence exists, and there is a need for a clear framework for businesses to transition to sustainable management practices effectively. To be more specific, there is still a research gap on how business enterprises manage skills, processes, and organizational activities to facilitate this change. In the meantime, there is societal and regulatory pressure on companies to undertake sustainability transformation, which is a significant shift from the conventional business philosophy that has dominated to date.

This study aims to understand the scope of sustainability transformation at corporations, namely, how the concept of sustainability transformation has been defined and researched in the context of corporations due to their scale, impact, and exposure. The study consists of several sections. First, it describes the methodology applied and highlights the aim and objectives. Next, the authors present an overview of the definitions of the concept of sustainability transformation at corporations, resulting from the literature overview. Furthermore, the authors present their categorization of the concepts of sustainability transformation at corporations. Finally, the study presents conclusions, covering also limitations and implications for further research.

2. Methodology

The current study has been performed using a combination of a literature overview and a scoping review according to the systematic literature review methodology. The study investigates broadly the existing research evidence as the authors were interested in identifying certain concepts in papers or studies and mapping and reporting these concepts.

As the concept of sustainability transformation in corporations is relatively new, scoping review served as a suitable method to clarify key concepts and definitions in the literature and identify key characteristics or factors related to an idea, including those about methodological research (Munn et al., 2022).

The research period is from November 2023 to January 2024, using Scopus and Web of Science databases. These key bibliometric databases are essential for academic research, chosen for their extensive coverage of literature.

The study was conducted by establishing a search protocol (Table 1). For the initial search a combination of the words “sustainab* transformation” and “corporations” were used. The name combinations had to appear in the abstract, the title, and the keywords, and the language was limited to English only. The search was not

limited to any periods, types of sources, and categories due to the nature of the scoping study. To complement the selected literature, 15 handpicked sources were added using the snowballing technique, and there was no restriction to the appearance of the search terms.

Table 1. Search protocol (source: author created)

Databases	Scopus (2024) and Web of Science (2024)
Search terms	TITLE sustainab* transformation AND corporations
Excluded categories	None
Types of sources	All
Time	Unlimited
Language	English
Presence of search terms	Title, abstract, keywords

The following objectives were laid out in the research:

- Research aim: review various definitions and concepts of sustainability transformation applied in corporations.
- Research question:
 - How has the concept of sustainability transformation in corporations been defined by relevant terminology?
 - How can the concept of sustainability transformation be categorized?

The research object is corporations. The research subject is the sustainability transformation of corporations.

The search protocol resulted in 318 records from Scopus and 247 records from Web of Science, with an increasing trend over the years due to a growing topicality of the concept.

After removing the duplicates, 434 records remained for further screening. Next, the articles were screened by the field of the research, namely, whether the record belonged to business, management, and economics categories. Consequently, 269 records were removed. The abstract screened the remaining 165 records, and 107 records were excluded as non-relevant to the scope of the research. The remaining 58 records were further screened to ensure they contained full text. As a result, 27 records were excluded, resulting in the remaining 31. Additionally, 15 handpicked records using the snowballing technique were added, resulting in a total sample of 46 thoroughly researched records.

3. Results

3.1. Definitions of the concept of sustainability transformation at corporations

Under the concept of *sustainability transformation* (ST) at corporations, various terms are covered, ranging from industry-wide ecosystems to sustainable business models and governance. Despite this, the author has yet to come

across a single definition of sustainability transformation at corporations. Instead, several relevant concept definitions and descriptions imply sustainability transformations from different angles, yet using other terms.

The private sector and corporations are significant components of the societal network, and the transformation required to achieve the SDGs necessitates a united approach from all levels of society (Grainger-Brown & Malekpour, 2019). Companies must conform to societal and regulatory pressures while preserving their resilience and financial stability. A strategic, evidence-based, and holistic approach to sustainability transformation for modern businesses is highly needed to make them successful.

While there is an acknowledgment that the interest in the topic has been significantly increasing over the last few years, the discussion and understanding of positive sustainability contributions remains an emerging topic (Dijkstra-Silva et al., 2022). Furthermore, (Ghobakhloo et al., 2021) note that the literature partially falls short in empirically demonstrating the environmental and social sustainability implications, while (Grainger-Brown & Malekpour, 2019) question the practical application of the existing multitude of tools and frameworks developed to support organizations in their transformative journeys. Parida and Wincent (2019) also confirm scarce research and empirical studies on the sustainability orientation of companies, the company innovation and entrepreneurship activities. Moore et al. (2021) have concluded that many research papers lack precise theoretical or methodological approaches or concrete transformation outcomes aside from generic descriptions.

According to (Pereira et al., 2022), there needs to be more evidence on how enterprises pursue strategic goals and the management motivations to engage with sustainable business models, namely, what is the role of the management in driving sustainability transformation. Also, there is a lack of a framework for transition management with explicit processes and interdependencies, namely, how organizations and individuals can prepare to engage in transition processes inside and outside the organization (Ystrom et al., 2021). Hug et al. (2022) acknowledge the limited information on the characteristics and agency of transformative enterprises while (Saini et al., 2023) stress the requirement for a comprehensive framework that demonstrates the effect of green supply chain management on financial, social, and environmental performance.

Similarly, (Contini & Peruzzini, 2022) note a significant research gap in sustainable strategy implementation processes while (Lahti et al., 2018) mention the lack of accepted theoretical perspectives to outline and analyze empirical evidence. There is a need for having clear goals and metrics to track progress toward sustainability targets, ensuring credibility and performance measurement.

At the same time, there is an acknowledgment that the emergence of sustainability transformational trends forces business leaders to rethink and reorganize business

operations to prioritize sustainability (Parida & Wincent, 2019). Hence, sustainability transformation is a very important yet, relatively new concept that needs to be categorized and structured.

One of the first terms used to refer to sustainability transformation at corporations is *corporate sustainability* (CS). While (Fiksel, 2002) defines CS as a corporation's commitment to addressing the needs of both customers and other stakeholders, (Bansal & Song, 2017) stress the requirement of significant organizational efforts to achieve sustainable development by performing coordinated activities to create value in the economic, social, and environmental dimensions. To turn CS into a feasible network, corporations must determine strategies and assign resources to achieve goals (Martinez-Lozada & Espinosa, 2022). Fiksel (2002) also uses the term *industrial ecology* as a broad, holistic framework for guiding the transformation of business systems from a linear to a closed-loop model.

Sustainable development is a transformative concept to be achieved at the interception of the three dimensions of the triple bottom line and covers four categories: consideration of future generations, enhancing human development, encouraging new mindsets, behaviors, and lifestyles, and promoting socio-political engagement (Tabares et al., 2021). The integration of these four categories within the sustainable development framework highlights the interconnectedness of ecological health, social equity, and economic viability and, ultimately, stresses the necessity of a holistic approach.

A positive *sustainability contribution* has the goal of bringing about a sustainability transformation, considers the environmental, economic, and social context through stakeholder participation, and is characterized by the implementation of effective sustainability measures (Dijkstra-Silva et al., 2022); thus, being another holistic and stakeholder-driven approach. Similarly, *eco-efficiency* is the means for companies to improve their environmental performance and save money by reducing resource use (Kaplan, 2023), ultimately being a metric of how the company will be measured both by the business itself and its customers.

Another relevant term used in the context of ST is the *paradigm of sustainability* as a framework for managing organizational growth without impairing the ability of other entities (Muja et al., 2014). This concept emphasizes the importance of social equity and advocates for inclusive policies and practices for all stakeholders. *Transition management* is a similar concept fostering sustainability transitions from a system perspective, where collaborative processes involving multiple players are considered essential to reach the goal of sustainability (Ystrom et al., 2021). The system perspective approach acknowledges that the challenges of sustainability are complex, interconnected, and span across multiple scales and actors.

Several concepts are related to the transformation of the corporate business models. The (re-) emergence

of economic and business models, which depart from profit-maximization and adopt a broad set of guiding values, require different skills for managing enterprises (Foucrier & Wiek, 2019). *Circular business model* is designed to create and capture value while helping achieve an ideal state of resource usage (Lahti et al., 2018) whereas *sustainable business model* incorporates pro-active multi-stakeholder management, the creation of monetary and non-monetary value, and has got a long-term perspective (Geissdoerfer, 2019). Sustainable business models are not just an ethical choice but a strategic imperative for modern corporations emphasizing responsibility, and a long-term approach to business success. In this relation, *sustainability entrepreneurship* fosters business activities that do not exceed critical thresholds while supporting recovery and regeneration in environmental and social systems (Foucrier & Wiek, 2019). The development of circular and regenerative business models creating public value that partially converts into such outcomes as enhanced customer loyalty, brand equity, and employee commitment (George & Schillebeeckx, 2022) can also become a strong competitive differentiator and economic value multiplier.

Putting sustainability at the core of strategic management requires a companywide approach. Embedding sustainability at an organization's core involves integrating sustainable practices and principles into every aspect of its operations, decision-making processes, and culture on an ongoing basis. *Eco-innovation strategy* integrates strategic decisions of an organization, based on continuous improvement and strategic green transformation through the implementation of a set of eco-innovations (Šumakarīs et al., 2023). Another sustainability-centric approach is *sustainable visioning* introduced as the 'glue' that holds together organizational commitments that are centered on social, economic, and environmental principles (Madsen & Ulhøi, 2021). Sustainability-centric companies are businesses that embed environmental, social, and governance (ESG) criteria into the core of a company's operations and strategy involving a comprehensive and multifaceted approach.

Of the few sustainable business frameworks coming out of the literature review, *The lean enterprise architecture framework* (LEAF) is an economic model that envisions a sustainable type of future and extends the business goals from achieving the highest profits to also caring about the well-being of the society at large (Liao & Wang, 2021).

The next set of terminology relates to business enterprises being at the forefront of integrating sustainable practices into their operations, decision-making processes, and business models. *Benefit corporations* (BC), also known as B Corps, represent a distinctive class of corporations committed to balancing profit and purpose – BC is a for-profit entity that has voluntarily and formally committed to creating social and environmental benefits in addition to its profit motive (Galli et al., 2021). BC can also be referred to as a social organization “hybrid”

that aims to integrate the financial goals typical of for-profit entities with the social and environmental missions associated with NGOs. Another term related to companies joining the transition pathway is *transformative enterprises* with a social and/or ecological driving mission oriented along the values of stability and autonomy (Hug et al., 2022). These values are implemented by minimizing their ecological footprint, introducing participatory governance structures and social obligations, and offering sustainable products and services. Similarly, *purpose-driven firms* promote transformation within their own industries, support cooperation in the public interest and modelling public/private partnerships, and support the strengthening of global democracy (Henderson, 2021), thus, acting as catalysts in the system-wide transformation. It is becoming more explicit that sustainability when led at the senior management level, positions the business as a forward-thinking and responsible player, able to lead the rest.

3.2. Categorization of the concepts of sustainability transformation at corporations

As the sustainability transformation-related concept terminology resulted in such a diverse output of definitions and descriptions, the authors classified the various concepts according to their characteristics (Table 2). The classification was made according to the scope of transformation, where the broad scope implies system-wide transformation (i.e., the transformation that goes outside the corporation) and the narrow scope implies functional-type transformation inside the corporation. The classification of sustainability transformation concepts into broad and narrow scopes provides a useful framework for understanding the range and depth of changes organizations might undertake in their transformation. This framework helps to differentiate between systemic changes that extend beyond the boundaries of the corporation and influence entire industries, supply chains, and communities, i.e., ecosystems, and more focused, internal changes that optimize specific operational aspects or angles within a corporation.

Table 2. Categorization of the terms related to the concepts (source: author created)

Scope	Type	Terms	Authors
Broad	Eco-system transformation	<ol style="list-style-type: none"> 1. Industry-wide transformation 2. Industry 4.0 and sustainability 3. Industry 5.0 and sustainability 4. Value co-creation 5. Keystone actors 6. Sustainability through regulations and policies 7. Industrial ecology 	Hileman et al., 2020; Ghobakhloo et al., 2021; Pereira & dos Santos, 2023; Parida & Wincent, J., 2019; Peng et al., 2023; Fiksel, 2002; Moore et al., 2021

End of Table 2

Scope	Type	Terms	Authors
Medium	Business model transformation	<ol style="list-style-type: none"> Benefit corporations Purpose-driven companies Sustainable business model Internal corporate venturing LEAF lean enterprise architecture framework Circular business model Sustainability through digitalization 	Foucrier & Wiek, 2019; Galli et al., 2021; Geissdoerfer, 2020; Henderson, 2021; Liao & Wang, 2021; Reuter & Krauspe, 2023; Lahti et al., 2018; Perillo & Gauthier, 2022
Medium	Vision and governance	<ol style="list-style-type: none"> Sustainability visioning Sustainability governance Sustainability visionaries and boundary spanners Transition management Time to transition strategy 	Hug et al., 2022; Madsen & Ulhøi, 2021; Larrinaga, 2021; Yström et al., 2021; Perillo & Gauthier, 2022
Narrow	Metrics and accounting	<ol style="list-style-type: none"> Eco efficiency Sustainability Key Performance Indicators Sustainability measures 	Kaplan, 2023; Dijkstra-Silva et al., 2022; Theeraworawit et al., 2022; Contini & Peruzzini, 2022

The broader scope of sustainability transformation terminology relates to system-wide transformation, be it industry-specific or involving larger ecosystems. Broad-scope transformations are systemic and seek to create positive impacts on a larger scale. There is evidence of the vital link between the external institutional environment and corporate green innovation (Peng et al., 2023), and policy/governance factors have been identified as the most common driver and barrier to transformation (Moore et al., 2021). Increasingly, companies admit the need for sustainability and proactive steps from policymakers to contribute to Sustainable Development Goals (SDGs). For this reason, policies and strategies must be integrated into the objective of sustainability (Gigauri & Vasilev, 2023), simultaneously acknowledging the complexity of system-wide solutions. According to (Parida & Wincent, 2019), network-level transformations are needed to maximize and jointly exploit sustainability benefits and to ensure value co-creation. The concept of industrial ecology provides a functional systems perspective to support sustainable development while assuring shareholder value creation (Fiksel, 2002). To conclude, sustainability transformation imposes significant changes in the normative and societal frameworks.

From another perspective, Industry 4.0 transformation can address the pressing issues of sustainable development goals when managed strategically at the corporate level and planned appropriately at the socio-political scale (Ghobakhloo et al., 2021). A growing body of literature has supported the assertion that Industry 4.0 contributes to more sustainable operations.

The role of keystone actors of specific industries is to facilitate collective action to address complex, systemic sustainability challenges that cannot be resolved by any single actor alone (Hileman et al., 2020) and therefore a collaboration between the actors is required. Deliberate societal transformation requires non-governmental organizations, business actors, and citizens' active participation in reconfiguring societal systems (Moore et al., 2021).

The business model change or enhancement has been classified as medium-scope sustainability transformation. Although it typically concerns a sole corporation, it involves a relatively deep transformation and results in a company-wide effort. Corporations may also need to engage a broader supply chain, such as their partners or suppliers, to develop and implement circular business models. This means that the change from a linear business model to a circular business model may sometimes also require substantial investments by third-party service providers (Lahti et al., 2018).

Other concepts related to the corporation's business model change or enhancement involve the term *benefit corporations* – social organization 'hybrids' that try to combine profit orientation with the capacity to produce a social benefit (Galli et al., 2021) and *purpose-driven firms* (Henderson, 2021) that sacrifice short term profit for the sake of achieving their purpose.

The *LEAF lean enterprise architecture framework* stands out as an economic model guiding the architecture principles to develop the target architectures of business, IT, and technology (Liao & Wang, 2021) within a specific company; thus, it can be classified as a company-wide, yet limited to the company's internal environment.

The role of digital transformation is to enable sustainability transformation and is increasingly recognized as pivotal within both the corporate and societal landscapes, and (Perillo & Gauthier, 2022) have defined digitalization as an antecedent for business models for sustainability

Other medium-scope sustainability transformation concepts cover the company's vision and governance. *Sustainable visioning* is a managerial framework that directs profound organizational transformations (Madsen & Ulhøi, 2021). *The Time to Transition strategy* is about the companies embedding sustainability principles into their business strategies and setting long-term sustainability targets whilst indicating the timeframe for reaching them (Kannegiesser et al., 2015). *Sustainability governance* covers the assessment of the state of socio-ecological systems and the set of rules, norms, and normativity production systems (Larrinaga, 2021). Sustainability goals need to be embedded throughout the company's

strategy process. Without it, sustainability actions taken by organizations may remain as trivial efforts or isolated ‘projects’ without enabling the organization to deliver consistent and ongoing SDG impact (Grainger-Brown & Malekpour, 2019). A good example is adopting a governance model suited to the company’s context, focusing on strategic aspects, and ensuring sustainability integration into all aspects of corporate strategy.

The narrow scope of sustainability transformation concepts covers either improving existing models and functions or transforming selected functions to result in higher efficiencies. The *eco-efficiency* approach does not require companies to abandon some of their current practices and systems but to adapt these to achieve higher economic and environmental performance levels through continuous improvement (Kaplan, 2023). The businesses employ different means of sustainability measurement and reporting to assess the achieved efficiencies. Several studies confirm the need for a new set of metrics to determine the success of the sustainability transformation. Changing the purpose of the company, its business models, strategies, and practices associated with managing supply chains in a circular economy may require a shift in the use of performance metrics (Theeraworawit et al., 2022), effective sustainability measures (Dijkstra-Silva et al., 2022) and reliable systems to measure and quantify sustainability (Contini & Peruzzini, 2022). Without material, auditable, replicable measures of the firm’s environmental and social impact, it will be impossible to hold purpose-driven firms accountable (Henderson, 2021). At the micro-level, relevant metrics are reflected in ecological, social, and governance (ESG) goals; however, the lack of a single, universally accepted framework can lead to inconsistencies in reporting practices and difficulties in comparing data across companies.

4. Conclusions

Sustainability transformation is a hot topic being researched across different industries and fields, including business management in the corporate environment. The topicality is strengthened by the societal and regulatory pressure on companies to undertake sustainability transformation, a significant shift from the conventional business philosophy that has dominated to date.

Sustainability transformation represents a significant challenge and an opportunity for the business sector and corporations to reshape and adapt to a new era of corporate responsibility. Developing new competencies and adopting a strategic and holistic approach to sustainability transformation are critical steps toward achieving this objective. The corporations would benefit from a thorough guide or framework encompassing all internal and broader ecosystem elements and supported by relevant metrics.

Despite the broad scope of research and numerous definitions of sustainability transformation, there needs to be a unified definition and comprehension of the

concept. Interpretations of sustainability transformation range from incremental to systemic changes, underlining the complexity of evaluating and implementing sustainability in a corporate environment. Furthermore, there is limited empirical evidence and a lack of a clear framework for businesses to transition to sustainable management practices effectively. To be more specific, there is still a research gap on how enterprises manage skills, processes, and organizational activities to facilitate this change. This gap suggests a need for more evidence-based research that can provide actionable insights for businesses aiming to integrate sustainability into their core operations.

5. Limitations and implications for future research

By focusing solely on the term “sustainability transformation,” the study aimed to explore this concept fundamentally. The outcome suggests that, on the one hand, other search terms could be added, such as “sustainability transition,” “sustainability-oriented transformation,” or “sustainability evolution,” and, on the other hand, a broader reference to the corporate environment, such “business management,” “corporate sustainability” could be applied.

Future studies could compare the empirical use of different concepts, including transitions. This could result in a better understanding of the field, comparing how other concepts are applied and evaluated in the context of sustainability. Also, future research on sustainability transformation requires a well-defined methodology that can thoroughly assess the impacts and dynamics of transformative processes.

The conclusion that interpretations of sustainability transformation range from incremental to systemic-wide changes underlines the complexity of evaluating and implementing sustainability in a corporate environment; therefore, a structured framework or methodological approach to sustainable business transformation in a corporate environment would be highly needed.

Disclosure statement

Authors declare that they do not have any competing financial, professional, or personal interests from other parties.

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