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CHAPTER 8

SWEDISH MULTINATIONALS AND SUSTAINABLE INNOVATIONS FOR TRANSFORMATION: THE DOUGHNUT MODEL*

Saad Ghauri

ABSTRACT

This qualitative study explores how multinational enterprises (MNEs) approach sustainable innovation through the lens of innovation theory and doughnut economics. The study proposes a conceptual framework to evaluate the practices of businesses and the findings illustrate how sustainable innovation occurs within two MNEs. Based on interviews with professionals of two Swedish MNEs, responsible for sustainability, the study examines how sustainable innovations lead to the redesign of core business pillars and transforms the operating market for the MNE. Overall, this study makes a theoretical contribution by formulating an application of Raworth's (2017) doughnut model to business strategy. It also provides practical insight into the dynamics

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of sustainable innovation, which aims to inform and inspire further progress in sustainable development by businesses and academia.

Keywords: Sustainability; innovation; sustainable innovation; doughnut economics; multinational enterprises; regenerative business

INTRODUCTION

In 1987, the Brundtland Commission Report defined sustainable development as one ‘that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (United Nations, 1987, p. 37). Humanity today consumes the equivalent of 1.7 planets to provide the resources necessary to produce goods and absorb waste (Global Footprint Network, 2020). We are already experiencing threats to human lives and natural habitats from the climate crisis, primarily due to excess carbon emissions and the mismanagement of natural resources. The causes and consequences are often interlinked but the impacts far reaching. Sustainable development, therefore, requires governments, businesses and citizens to act and make systematic changes to reduce carbon emissions. This requires a mindset shift, as organizations and individuals need to consider the impact across the interests of all stakeholders.

Topple et al. (2017) recognize the importance of the private sector in solving these challenges, MNEs in particular, are considered powerful actors that can play a role in addressing sustainability (Ghauri et al., 2021; Wood et al., 2021). Caiado (2018) highlights the lack of clarity for MNEs to understand mechanisms, measurements and tangibility in achieving sustainability. Although research on specific sustainability topics, such as corporate social responsibility, environmental impact and ethics is present, there is little research to support business strategy for overall sustainability. Christ and Burritt (2019) argue that the field of sustainability requires further engagement from businesses and academics to generate knowledge in this area.

The recent conception of doughnut economics by Raworth (2017) has been adopted by some policymakers to create a safe space for humanity by developing sustainable strategies that seek to meet societal needs, within planetary boundaries (O’Neill et al., 2018). The model stresses that decision-making to improve the needs of society needs to consider ecological limitations to ensure a sustainable future for humanity. The role of businesses is considered instrumental within doughnut economics and the model has been expanded to propose a redesign of core business pillars, defined as purpose, governance, networks, ownership and finance (DEAL, 2020). In support, Roggema and Dobbela (2012) emphasize that transformative innovation is needed to lead to systematic change. While the principles of doughnut economics emphasize the importance of business for sustainable development, little research has been conducted to develop theories that combine doughnut economics with business sustainability and innovation. This study seeks to offer a theoretical contribution by

developing an application of doughnut economics through business strategy, supported by an adaptation of established innovation theory.

There is pressure on MNEs to deliver a positive impact across wider stakeholders (Webb et al., 2010). This has led to businesses developing sustainable strategies and innovations with little precedence or guidance. Attempts towards sustainability are often faced by criticism of being incremental, low impact or even superfluous and disingenuous. A lack of guidance, transparency, insufficient global coordination, fear of failure and financial pressures often hamper ambition and progress.

Although several studies are now available on sustainability and sustainable innovations, most of these studies are of a conceptual or exploratory nature and lack solid theoretical underpinning. Through the theoretical lenses of sustainable development, doughnut economics and innovation – the aim of this research is to develop an understanding of how Swedish multinationals develop sustainable innovations and whether those innovations can lead to transformation. This study will contribute to the research gap of MNE-led sustainability efforts, as well as practical insights that can be adopted by sustainability practitioners who seek to make a positive impact through MNE-led sustainable development. The research focusses on the following research questions:

- Whether multinational companies are working to develop transformative sustainable innovations or not?
- How are the companies developing such innovations?
- What are the dynamic challenges these companies face while pursuing sustainable innovation?

THEORETICAL BACKGROUND

Innovation for Sustainable Development

This study seeks to understand the process of developing sustainable innovation within MNEs. Multiple definitions or interpretations of innovation exist across academic literature. Schumpeter (1934) defined it as the creation of new combinations, characterized by its application, whether as an invention or process. Bozeman and Link (1983) also discuss innovation as the application of something new. This is developed further by Link and Siegel (2007) in their interpretation that the application of new technology represents innovation. While the definition of innovation is often nuanced and debated, in the context of this study, it can be simplified to represent the development and application of something new, which is closer to Schumpeter (1934).

This research considers the importance of innovation, not only to tackle the grand challenges facing our society but also for the viability of businesses in the new reality. Porter (1990) discusses how ‘a company should seek out pressure and challenge’ to achieve competitive advantage (p. 585). While Cheam (2015)

goes on to discuss that innovation is the only form of sustainable competitive advantage available to organizations.

It is important to consider what sustainable innovation seeks to achieve, [Chaminade et al. \(2018\)](#) discuss the concepts of different levels of sustainability and their relevance to innovation and transformation. Firstly, weak sustainability addresses actions that seek to innovate while maintaining economic growth and the use of technology to compensate for any losses to natural capital. This approach seeks to address immediate societal needs, while reducing the negative impacts on the planet ([Chaminade et al., 2018](#)). Yet, by tackling just the immediate needs, this approach can often fail to acknowledge the detrimental impact of excessive production, consumption and growth. In contrast, strong sustainability looks to address radical change, advocating for transformation that challenges existing systems through experimentation, directionality, demand articulation and learning. Such transformation often requires the total redesign of business models ([Raworth, 2017](#)), and [Chaminade et al. \(2018\)](#) argue that such action is required to progress sustainable development in a way that supports our ambition to live within the safe space for humanity ([O'Neill et al. 2018](#); [Chaminade, 2021](#)).

Several studies have attempted to explain change and the terminology of transformation. [Grin et al. \(2010\)](#) frame transformation as a form of transition pathways, representing a diversion within an existing system. While [Roggema and Dobbelsteen \(2012\)](#) differentiate between incremental change, where small changes occur slowly over time. Transitions could also be considered operating within specific subsystems, whereas transformations occur across multiple socio-technical systems ([Hölscher et al., 2018](#); [Kriegler et al., 2018](#)). This research will seek to determine how businesses are approaching sustainable innovation and whether such innovation is transformational in its aims. [Geels' \(2002\)](#) multi-level perspective acts as a relevant framework for consideration in this context. The multi-level approach is represented by three central layers to a system: the 'regime' as the existing socio-technical environment, the 'landscape' as external pressures and 'niches' as spaces for experimentation which interact with the existing regime.

The socio-technical regime represents the status quo of a system and encompasses a variety of different properties, from infrastructure and techno-scientific knowledge to culture and sectoral policy. Landscape developments signify external factors that influence and impact change within the regime; however, the regime and/or actors within the regime can also engage externally to inform and instigate landscape developments that then go on to be applied to the regime, suggesting a two-way flow of influence and impact. Combining the literature discussed above, transformation with the multi-level perspective can illustrate how sustainable innovation occurs. The combination of transitional and incremental changes can lead to system transformation over time, while transformational change rises from innovation occurring within niches that are able to successfully disrupt the existing regime ([Geels, 2002](#)).

This study explores the sustainable innovations driven by MNEs operating within their established regime. MNEs can be considered incumbents within

existing socio-technical systems and resistant to any disruption of their established regimes. Yet, due to landscape pressures, MNEs are beginning to innovate within their niches in anticipation of regime disruptions. These landscape pressures can range from regulation, changing competitive landscapes and shifting societal values (Geels, 2002). Today, MNEs are significant influencers in the attempts for innovation to address economic, social and environmental challenges (Van Zanten & Van Tulder, 2021).

Doughnut Economics

Rockström et al. (2009) outline nine interdependent planetary boundaries of the system processes on Earth and the respective environmental boundaries to sustain humanity, climate change, ocean acidification, ozone depletion, biogeo-chemical flows, freshwater use, land-system change, biodiversity loss, chemical pollution and atmospheric aerosol concentration. The first seven of the nine boundaries are currently quantifiable and provide scientific guidance on the health of the planet. For example, some key planetary boundary processes have already exceeded their boundaries: climate, ocean acidification and the ozone layers (Steffen et al., 2015). The overshoots and the overconsumption of resources continue to accumulate and, as a result, place our planet under significant pressure (Carpenter & Bennett, 2011; Rockström et al., 2009). Several social boundaries represent the societal needs and the inner ring of the doughnut. This provides an indication of resource deficiencies that impact human well-being, for example, education, energy and equality (Raworth, 2012).

Mapping these social and planetary boundaries together seeks to develop an understanding of how humanity can thrive sustainably and inclusively. This combination has led to the development of ‘the doughnut’ as a model to identify and navigate towards a safe space for humanity and the planet (O’Neill et al., 2018) (Fig. 1). The doughnut model has often been adopted by policy-makers as a framework to develop sustainable economies that seek to meet the needs of citizens.

However, while businesses are key to the ambitions of maintaining a safe space for humanity, little academic work has been done to apply the principles of the doughnut to the business practices. Raworth (2017) outlines how businesses can operate in an economy within the doughnut by transforming towards regenerative business models. Firstly, the behaviours and responses of businesses can be mapped across five categories: doing nothing, doing what pays now, doing the fair share, doing mission zero and doing the doughnut, which Raworth (2017) refers to as the ‘Corporate To Do List’. Each category within the list acts as a step on a business’s journey towards a regenerative business model (Table 1).

This journey from extractive to regenerative business models is key to businesses ‘doing the doughnut’. Yet, Raworth (2017) emphasizes the urgency and importance of businesses to transform, rather than manoeuvre step by step through the list. To support such transformation, the Doughnut Economics Action Lab (DEAL) proposes businesses focus on the redesign of the key pillars

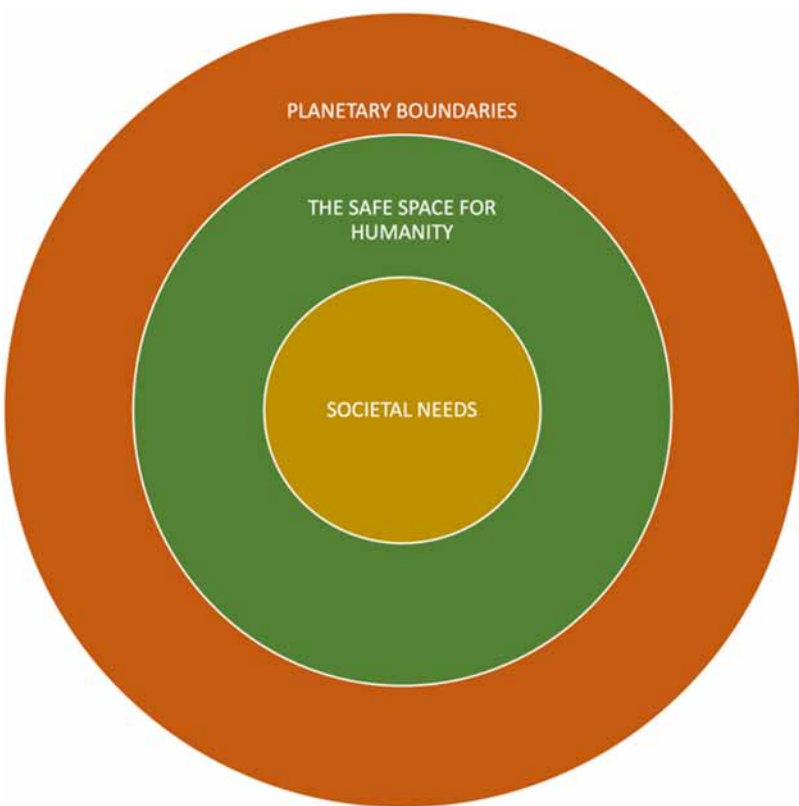


Fig. 1. The Doughnut. *Source:* Adapted from [Raworth \(2012\)](#).

Table 1. The Corporate To Do List.

Do nothing	Business-as-usual, profit maximization, shareholder value prioritization
Do what pays now	Adopting sustainability measures that generate return on investment
Do our fair share	Acknowledging the need for change, assuming a subjective level of responsibility within existing business model
Do mission zero	Do no harm, aiming for net-zero impact, do less bad
Do the doughnut	Regenerative business design, make a positive impact on nature and society

Source: Based on [Raworth \(2017\)](#). This is an interpretation of theory, not an adaptation of a figure.

of business: Purpose, Networks, Governance, Ownership and Finance ([DEAL, 2020](#)). [Table 2](#) details the thinking behind each pillar and questions how businesses can redesign them ([DEAL, 2020](#)). To date, research has failed to examine whether businesses are approaching sustainable transformation according to the

processes outlined by [Raworth \(2017\)](#) and [DEAL \(2020\)](#) and how businesses are mapped against the journey from extractive to regenerative.

CONCEPTUAL FRAMEWORK

The study argues that sustainable innovation delivered by MNEs can support transformational change ([Geels, 2002](#); [Roggema and Dobbelsteen, 2012](#)). However, to do so, businesses need to map their journey towards regenerative business, through the lens of [Raworth’s \(2017\)](#) Corporate To Do List. This would facilitate the progress towards ‘doing the doughnut’ by undertaking sustainable innovation that transforms the key business pillars through redesign, as detailed in [Table 2](#).

Through the combination of [Geels’ \(2002\)](#) multi-level perspective, [Raworth’s \(2017\)](#) generative business models and [DEAL’s \(2020\)](#) redesign of business pillars, the research examines whether the innovations developed by MNEs contribute to the redesign of business pillars, how they do so and whether as a result they can expect to drive a transformation of an existing regime.

The conceptual framework seeks to visualize the role and impact of sustainable innovations on the MNE and its’ surrounding market. Moving from the left of the conceptual framework to the right (see [Fig. 2](#)), it considers that any MNE-led sustainable innovation seeks to redesign one or multiple business pillars. The resulting redesign of pillars is expected to result in the transformation of one or many properties of the market and as such, those transformations result in sustainable systematic change. The application of the conceptual framework is further discussed in the methodology below.

Table 2. DEAL and Doughnut Economics Pillars of Business.

Purpose	The reason for a organizations’ existence and what it seeks to achieve <i>Redesign:</i> Does the purpose serve the needs of just the business, or does it address value beyond itself?
Networks	The map of stakeholders and connections to a business. The networks surrounding the business should align to the purpose and values to offer a supportive culture <i>Redesign:</i> Do the networks align to the purpose and values?
Governance	The incorporation of purpose across the decision-making process and the persons involved <i>Redesign:</i> Who is involved in decisions making? How are decisions made? How is progress measured? Is purpose safeguarded?
Ownership	The ownership of land, data, knowledge and assets of the business <i>Redesign:</i> Does ownership dictate the purpose? Who owns the successes and failures?
Finance	The financing of the business and the resulting modus operandi that results <i>Redesign:</i> What does the financing demand? Does finance serve the purpose, or vice versa? How is finance measured?

Source: Based on [DEAL \(2020\)](#).

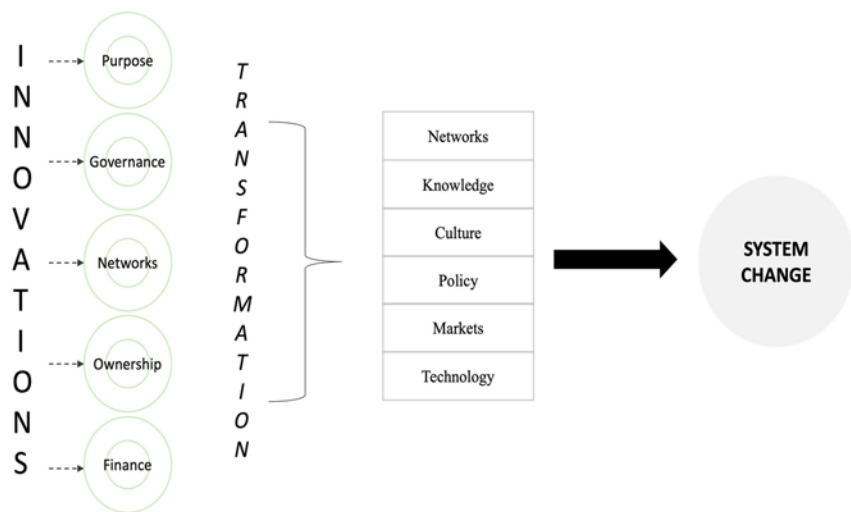


Fig. 2. Conceptual Framework: Business Pillars and Transformation.
Source: Based on [DEAL \(2020\)](#), [Geels \(2002\)](#) and [Raworth \(2017\)](#).

METHODOLOGY

Based on [Bryman and Bell's \(2003\)](#) guidance on occurrences that are evolving and indefinite, in that the dynamics being researched are constantly subject to change and subjective to a variety of contexts, the design is interpretivist and phenomenological. The resulting research subjectivity will be intertwined within the design and execution of the research, as well as in the interpretation of the findings, and allows the conclusions to evolve from the process rather than be restricted to a hypothesis. As research on the topic is relatively underdeveloped, the aim is to develop an accurate and insightful understanding of the real-life dynamics ([Eisenhardt and Graebner, 2007](#); [Doh, 2015](#)).

The use of a case study approach supports exploratory research that seeks to answer the how and why questions ([Ghauri et al., 2020](#); [Yin, 2009](#)). Semi-structured interviews with sustainability professionals from Swedish MNEs are used for data collection. The pre-designed lead questions, emerging from the research questions and the conceptual framework with an open scope to enable respondents to expand and for follow-up questions to evolve, are used. The prepared questions focussed on asking the respondents how sustainable innovation occurred and brought in findings from the secondary research to add further context to the discussion. The flow of the interview was allowed to develop as the conversation went on. As suggested by [Ghauri \(2004\)](#), every step of the process and the interactions have been documented and recorded to provide transparency.

To address the logistical feasibility of the study, companies with a notable Swedish presence have been considered. The networks and connections of Lund

University were used to locate Swedish MNEs that were willing to participate. These potential companies and individuals were contacted via the LinkedIn messaging service and/or e-mail. The study’s feasibility was not the only criterion in creating the list of companies to research; the relevance to sustainability has also been considered. In the overall rankings of United Nations’ Sustainable Development Goals (SDGs) performance, which measures a nation’s progress towards the SDGs, Sweden ranks second out of the 193 nations of the United Nations (Sachs et al., 2021). At a corporate level, several different sources have been examined to identify potential companies to study. For example, The Sustainable Brand Index is a European-wide brand survey, which provides a country-level ranking of consumers’ sustainability perception and in the most recent ranking by Swedish consumers, IKEA ranked top (SB Insight, 2022). Through the process of exploring and contacting companies from the above-mentioned rankings and other databases, interviewees were secured with IKEA and Tetra Pak.

The relevance of individuals is established through keyword searches within job roles including, but not limited to, ‘sustainable’, ‘sustainability’ and ‘innovation’. The intention of the study is to interview sustainability professionals working for two MNEs located in Sweden to provide in-depth insights. A relevant and knowledgeable individual from each company was interviewed (see Table 3). A single individual from each company was deemed sufficient due to their seniority, degree of oversight and relevance to the research questions. Both interviewees were manager level or higher, with a responsibility focussed on sustainability within both companies. Each interview was conducted virtually, via video-call, took 60–90 min and was audio recorded and transcribed. The transcriptions were then sent to the interviewees for their endorsement. The data gathered were supported by secondary sources, such as annual reports, sustainability reports and media publications.

Tetra Pak was founded in Lund, Sweden, and, since 1981, has been headquartered in Lausanne, Switzerland. In 1991, Tetra Pak acquired Alfa Laval, and in 1993, the business was reorganized, with Tetra Laval acting as a group holding company, within which Tetra Pak operates. Around 35,000 employees work across the Tetra Laval group, of whom around 25,000 work at Tetra Pak. Tetra Pak retains a notable presence in Sweden, with around 500 employees and €1.85 billion of reported revenue (Dun & Bradstreet, 2022).

IKEA was founded in 1943 and is currently headquartered in the Netherlands and Liechtenstein but was historically developed and established in Sweden, which is still represented in their company culture today (IKEA Culture and

Table 3. Overview of Respondents.

Company	Role	Role Description	Remit
IKEA	Head of Sustainability Innovation	Leads the team responsible for developing and piloting sustainable innovations	Global
Tetra Pak	Sustainability Transformation Manager	Responsible for communicating the value of sustainable innovations to customers and customer-facing teams	Europe

Values, 2022). IKEA is represented by 225,000 co-workers, of which 14,000 are employed in Sweden (IKEA, 2017). Revenue figures separated by region were unavailable.

Data Analysis

Miles and Huberman (1994) suggest three elements for analysis; using data reduction to generate categories, themes and patterns, organizing and then compressing that information through data display, which then finally enables deductions and conclusions (Boyd et al., 1985). Findings from the interviews and secondary sources are analysed and structured through the lens of the conceptual framework and, in particular, the pillars of business (Raworth, 2017).

In the analysis of the findings, first the characteristics of the MNEs being studied are mapped against the Corporate To Do List presented in Table 1 to establish the foundation of where an MNE is anchored today and how sustainable innovation can support transformation. The findings are then examined through the conceptual framework, where sustainable innovations developed by MNE's are mapped against the business pillars to determine whether and how those innovations aim to or result in a redesign of the pillars. Fundamental to the research is the understanding of whether sustainable innovations and the resulting redesign of business pillars lead to transformation of the status quo or whether it can be expected to in the future. The status quo and any resulting transformation to it can be evaluated by attempting to identify whether market properties, such as culture, policy or technology, have altered. In essence, the research identifies whether innovations flow from the left towards the right of Fig. 2 by incorporating an analysis of innovation against the business pillars of MNEs and how innovations impact the properties within the status quo because of the business pillar redesign.

FINDINGS

Mapping the Corporate To Do List

At IKEA, a variety of ambitions and goals define their recognition of the climate crisis and their own role within that. These are anchored by their sustainability ambitions for 2030, which focus on three key aims (IKEA Sustainability, 2022).

- To inspire and enable 1 billion+ people to live a better everyday life within the boundaries of the planet.
- To become circular, climate positive and regenerate resources while achieving business growth.
- To create positive social impact across the IKEA value chain.

In IKEA's People and Planet Positive (2020) strategy report the path to achieving their sustainability ambitions are further elaborated, with three key areas of focus outlined. Climate change, unsustainable consumption and inequality are

identified as interlinked topics that support their sustainability ambitions. All these topics offer a frame of context for IKEA to focus their attentions and redesign their business to be 'People and Planet Positive'. Importantly, IKEA also recognizes its role as a leader and inspiration for change. Emphasizing their scale, reach and impact as tools for positive change ([IKEA Sustainability, 2022](#)):

No method is more effective than a good example. Ingvar Kamprad, IKEA Founder ([IKEA Sustainability, 2022](#), website)

Within the topic of climate change, IKEA has been measuring the climate footprint across their value chain and working towards reducing it against their 2016 baseline. The methodology used follows the Greenhouse Gas Protocols, a measurement and accounting standard for emissions ([Greenhouse Gas Protocol, 2022](#)), and includes scope 1, 2 and 3 emissions. Scopes 1 and 2 refer to the emissions generated through the internal operations of the business, while scope 3 requires a business to measure and assume responsibility of impact throughout its supply chain, from the suppliers of raw materials, through to a products' end of life when it is in the hands of a consumer and beyond. These measurements form the foundation for IKEA's 2030 sustainability ambitions within climate change, through commitments to transform into a circular business, support regeneration and biodiversity and be climate positive by halving net greenhouse gas emissions from the IKEA value chain by 2030 (Inter IKEA, 2022).

To address unsustainable consumption, IKEA focusses on offering 'healthy and sustainable living' solutions ([IKEA People and Planet Positive, 2020](#), p. 12) to inspire people with affordable and attractive options across energy, food, water and air. Already, IKEA has publicized the introduction of products that aim to address waste, renewable energy and water and energy efficiency, as well as the introduction of a set of design principles that comprise, but are not limited to, quality, low price and sustainability. This progress is measured by IKEA against their 2030 ambitions to redefine and inspire sustainable consumption by offering products and solutions that aim to enable society to live healthier, safer and more sustainably.

IKEA claims that the company aims to tackle inequality through a strategy of fairness and equality throughout its value chain. It states that it is working closely with suppliers to ensure compliance to the IKEA IWAY code of conduct, which aims to ensure human rights and good working conditions. Across IKEA's sustainability strategy, the need for change and responsibility of the business is acknowledged. The strategy is developed upon a variety of both internal and external frameworks, including the Greenhouse Gas Protocols, the United Nations' SDGs, the Paris Agreement and science-based targets.

Within [Raworth's \(2017\)](#) Corporate To Do List, these actions and commitments could be considered to sit within a business's approach to 'Do Their Fair Share', whereby the need for change is acknowledged and a level of responsibility is undertaken within the existing modes of business. Based on these findings, it is possible to map IKEA's practices as approaching 'Doing Mission Zero' within Raworth's Corporate To Do List, with clear indication of IKEA reducing harm, lowering impact and striving for net zero. In certain areas, IKEA is delivering on

commitments and making progress beyond this stage and closer towards 'Doing the Doughnut'. For example, the development of circular product assessments to ensure the entire IKEA product range adheres to circular design principles by 2030, all IKEA-owned factories using 100% renewable energy and 70% of material usage in products now being renewable or recycled ([IKEA Sustainability Report FY21, 2022](#)). And while the 2030 commitments and goals at IKEA focus on halving net emissions, the most recent sustainability report commits to reaching net zero by 2050 ([IKEA Sustainability Report FY21, 2022](#)).

Tetra Pak's mission and sustainability strategy is anchored in its purpose to make food safe and available, while protecting food, people and planet ([Tetra Pak Sustainability Report, 2021](#)). This is underpinned by 'Our Strategy 2030', which seeks to guide the business as a leader of sustainability transformation through low-carbon circular solutions and sustainability throughout their value chain.

While Tetra Pak packaging is recognized for its reduced impact in comparison to alternative solutions, due to its use of renewable and recyclable materials ([Tetra Laval Annual Report, 2021](#)), a key area of focus is to eliminate the use of virgin plastic and enable a circular flow of materials. For example, while most of the 184 billion packs sold per year are made from Forest Stewardship Council (FSC)-certified carton, these solutions are often lined and capped with plastic or aluminium to ensure product safety. To address this, the Carbon Trust-certified carbon neutral Tetra Rex line of packaging has been developed with plant-based polymers and FSC-certified carton, which eliminates the use of fossil fuel-based plastic and now accounts for over 1 billion of the packages sold annually ([Tetra Pak Sustainability Report, 2021](#)). This, alongside other innovations across the value chain, aims to support Tetra Pak's journey towards net zero greenhouse gas emissions within its own operations by 2030 and then throughout its value chain by 2050 ([Tetra Laval Annual Report, 2021](#)). These commitments were developed and approved by the Science-Based Targets initiative (SBTi) in 2017, to ensure alignment with a 1.5°C world across scopes 1, 2 and 3 ([Tetra Pak Sustainability Report, 2021](#)). External partnerships and certifications further support Tetra Pak's sustainability ambitions, such as Bonsucro, for traceable plant-based polymers, and the Consumer Goods Forum Plastic Waste Coalition for Action.

Dairy processing across Tetra Pak's value chain accounts for 10 times the emissions of Tetra Pak's own operations, emphasizing the importance of wider areas of innovation to focus on, which can support improvements to water, energy and emissions efficiency. Within its scope 3 impact, Tetra Pak is focussed on collaborating with recycling partners globally to develop infrastructure that enables the circular economy. Today, Tetra Pak records a global recycling rate of 27% of their carton solutions, with ambitions to drive improvements in this area through local and regional partnerships ([Tetra Pak Sustainability Report, 2021](#)).

Through the partnerships, collaborations and certifications mentioned above, in some areas of the business, regenerative business practices are in place. Yet, in other areas, progress is still to be made before the business can be 'doing the doughnut'. For example, while the introduction and growth of the Tetra Rex solution demonstrate promise, it still only represents 0.6% of total carton sales ([Tetra Laval Annual Report, 2021](#)).

Overall, both IKEA and Tetra Pak can be categorized as operating towards ‘Doing Mission Zero’, with publicized commitments to reach net zero by 2050 across scopes 1, 2 and 3 as well as partnerships and collaborations with actors, such as the SBTi. Both companies also recognize their impact and influence beyond their own operations, seeking to contribute to and align with the climate ambitions of actors across their value chain. These are reflected through examples of partnerships, collaborations and cooperation with regulations which exhibit commitments to positive impact and incremental steps towards ‘Doing the Doughnut’.

Redesigning the Business Pillars

Using the conceptual framework (Fig. 2) to evaluate sustainable innovation, the findings from both cases have been analysed to determine whether the approach to innovation that companies are taking aims to or has resulted in the redesign of one or several of the pillars of their business. Insights gained have been categorized based on the Pillars of Business and further examined to determine whether the dynamics have resulted in a redesign of the pillar and how that has led to transformation to one or more properties within the existing regime. Findings will be presented for one pillar at a time for both IKEA and Tetra Pak, with comparisons between both companies summarized in the conclusion.

Purpose

As a starting point to the mapping the findings to the ‘Purpose’ pillar, the mission statements and top line sustainability ambitions of the companies provide an insight into their *raison d’être*. At IKEA, the business is orientated towards inspiring and enabling people to live better lives, within the boundaries of the planet (IKEA Sustainability, 2022). Such a statement goes beyond internal success and contextualizes the business within the wider frame of its’ role in society. While anchored in maintaining business success and growth, its strategy seeks to deliver positive impact on people and planet (IKEA People and Planet Positive, 2020). Core to the approach is the recognition that for sustainability innovation to deliver against the business’ purpose, it has to operate independently to the status quo and develop new business models with sustainability as a base. As a function, initially within the global group sustainability organization, and now more recently within the global strategy development and innovation area, the findings demonstrate how sustainable innovation can develop new business areas and models that are rooted in purpose beyond financial metrics.

A powerful aspect of this was revealed in the interview where the sustainable innovation team embarks on future and world development exercises to enable the team to work ‘backwards’ and develop strategies that aim to achieve the future envisioned. That how the multiple views of the future, a variety of time-lines and plotting these visions on a scale of likelihood help the team at IKEA to identify common areas between all potential foresights, as well as prioritize concepts, and ensure alignment between IKEA’s purpose and what the world may

look like in the future. Importantly, this approach helps avoid incremental steps and establishes IKEA's relevancy in multiple future scenarios both at macro (the world) and micro (the individual) levels.

We're building stories, the story in a person's life in that (future) world. [...] It's nothing to do with IKEA. It's just trying to understand the future. (IKEA [Interview, 2022](#), 28 March)

Tetra Pak's purpose is underpinned by the mission to 'Protect What's Good' and is developed further, in a sustainability perspective, to protect food, people and planet ([Tetra Pak Sustainability Report, 2021](#)). The statement establishes a context whereby Tetra Pak is responsible for issues beyond its own business performance and seeks to deliver value to a broad set of stakeholders, including society and planet, while remaining true to its history and tradition of providing safe food solutions. IKEA's ambitious long-term commitments are established based on scientific modelling and a view towards the future, such as the SBTi, which the business can work with to develop a variety of strategies and innovation ideas.

The role of stakeholders in the development of innovations exemplifies the outward-facing approach to sustainability. Multiple stakeholder influence and inform the development of sustainable innovations at Tetra Pak; customer needs, sustainability regulation, functional and technical requirements that cascade from new solutions, changing consumer demands and values, industry initiatives and collaborations and, finally, research-led innovation internally or with external organizations such as start-ups or universities. As an example of cascading functional and technical requirements, when a plant-based polymer cap is developed, the innovation must be considered across the entire value chain. This may lead to further innovation across the value chain or within the sustainable innovation itself.

Considering the pillar of 'Purpose' to embody a reason of existence that goes beyond the satisfaction of a business's own performance, to one that encompasses a greater impact. The findings indicate that both IKEA and Tetra Pak orientate sustainability innovation towards purposes that seek to deliver value to the world around them, and not just financial performance that seeks to enrich the businesses, as suggested by the doughnut model. Yet, while financial viability and success are still a key component to sustainable innovation, this wider outlook on purpose, for both organizations, has led to redesigns how success is measured.

Networks

The networks of both companies provide an interesting context to explore, as collaboration and cooperation are intrinsic to their business models. Both IKEA and Tetra Pak are part of wider value chains, and both directly and indirectly are connected to suppliers and consumers. As a packaging provider, Tetra Pak sits between food and beverage producers and material suppliers. Working closely with either side of the value chain to ensure alignment on purpose and values, which is key to ensure that the needs and demands of all stakeholders across the value chain are met. For example, the use of FSC certified carton material across all carton packaging meets the demand of Tetra Pak customers and their

consumers to provide responsibly sourced materials, while adhering to the sustainability ambitions of Tetra Pak. Other such certifications, such as the Carbon Trust certification, have been successful in delivering additional value to Tetra Pak customers who seek to meet consumer demand for carbon neutral packaging. And the [Tetra Pak interview \(2022\)](#) goes on to elaborate the ambition for a sustainable and risk-minimized value chain that reduces carbon footprint but also supports its positioning with Tetra Pak customers and to improve brand reputation, product functionality and address evolving consumer demands.

Tetra Pak is engaged in several industry collaborations, for example, the Alliance for Beverage Cartons and the Environment (ACE) is a non-competitive consortium between Tetra Pak, its two main competitors, and its two key suppliers, who have all aligned on 10 sustainability objectives within a roadmap for 2030 ([ACE, 2022](#)). According to the interviewee, such collaboration leads to sustainable innovation, not only within Tetra Pak but also across its customers, suppliers and the wider industry. Several examples of successful and collaborative sustainable innovation are documented, such as the work with I-Mei in Taiwan to reduce food waste by upcycling food production waste into a usable ingredient.

The importance of network alignment is also critical to IKEA, which operates under a distinctive organizational structure. As a franchise business, the Inter IKEA Group engages with franchisees to go-to-market, working closely to develop brand, products, supply chain and business strategies. Interestingly, the development of sustainable innovations sits outside of the Inter IKEA group, within sister company INGKA group, working collaboratively with both the franchisees and the Inter IKEA group to deliver the sustainability strategy. External collaborations are also a mainstay of innovation and business execution, particularly in areas where the functions within the IKEA value chain do not have expertise. For example, in the development of solar panels as a renewable energy solution, IKEA collaborates with installers of solar panels regionally and locally who have the required expertise to deploy the product line.

Yet, tensions do arise in aligning objectives across the various stakeholders within the value chain. Franchisees, despite their ambition and willingness to adopt new innovations, are often under pressure to deliver against short-term financial and business objectives which often leads to resource constraints in deploying strategic innovations. In some cases, it is simply not feasible to deploy innovation concurrently across markets. In such cases, the Inter IKEA Group and the INGKA group seek to assume financial and logistical responsibility for the initial launch of sustainable innovations. For example, in the case of the solar panels, the sustainable innovation function within the INGKA group took on the responsibility for developing the installation partnerships at a regional and local level to support the franchisees to launch a complete solution to their customers. And while sustainable innovations are expected to reach 100% of IKEA's addressable market, there is acceptance that only 60–70% of the market may be ready for the adoption of sustainable innovations in the initial phase of deployment.

Overall, networks and developing value-based propositions for sustainability across the value chain are critical to both IKEA and Tetra Pak. Furthermore,

sustainable innovations often require new partnerships and collaborations which can be considered a redesign to the 'Network' pillar and, in turn, result in changes to the existing networks within the regime.

Governance

The role of governance, in relation to sustainable innovation, provides an indication of how decisions are made and by whom, as well as whether those decisions are aligned to the purpose of the organization and how progress to influence decision-making is measured. The sustainability teams and approach to innovation differ at IKEA and Tetra Pak, as they operate under different governance flows.

IKEA is structured within the Ingka group and works closely with the broader sustainability group, which is organized within the Inter IKEA group and led by the Chief Sustainability Officer as well as a variety of functions across specific countries, regions and the global group. The process of governance has been a key learning as the sustainable innovation function has evolved over the last 10 years, as a 'slim, fast-footed governance' (IKEA [Interview, 2022](#), 28 March) critical to the success of the function, particularly as it operates at a faster pace than the traditional business areas. To support this, several processes have been implemented to ensure effectiveness. For example, while the traditional business tends to meet every month or second month, the sustainable innovation team meet weekly to make decisions. Furthermore, monthly meetings are in place to support decisions on new projects.

A flexible milestone-based approach and a focus on outcomes throughout the innovation process enable consistency and provide clarity in the decision-making process, while allowing creativity to the approach of how things are done. A further example within sustainable innovation at IKEA lies at the intersection of the finance and governance pillars, where the innovation team has access to, relatively, small sums of financing to support accelerated progress within the innovation cycle. While larger requests of funding are decided upon during the monthly meetings, this streamlined process for smaller sums ensures that financing processes do not slow down the innovation process and approved projects have access to funds within a 5-day turnaround.

For the measurement of progress and success within the organization, the '4 Ps' of People, Planet, Perception and Profit are used as a guiding framework to evaluate sustainable innovation. The impact on each area is considered throughout the development of sustainable innovations, yet the parameters and criteria within are dictated by the individual project and can vary. These parameters dictate the KPIs used to measure progress and can alter as a project takes shape. The value against all or some of the Ps can also evolve and become clearer as the project develops. Importantly, the progress of a project can also be dictated by a focus on certain Ps that deliver greater value than others.

There are several examples to explain this further; the renewable energy solution mentioned previously is expected to generate multi-billion Euros (€) in revenue to IKEA within the next 5–6 years yet operates at lower levels of profitability in comparison to IKEA's traditional product lines. Despite this, due to the value

expected across the remaining three Ps, the business case is justified to deploy the innovation. IKEA's urban farming initiative, which utilizes container and vertical farming techniques to serve IKEA restaurant customers with produce grown on-site, does not deliver any improvements to profit levels in comparison to the existing globalized sourcing of produce. However, there is value in terms of sustainability, where continental transportation (emissions), water usage and the use of pesticides are significantly reduced. In this example, the innovation provides greater value in comparison to the status quo – without negatively impacting the existing cost structures. These insights indicate how the implementation of the four Ps provides a constant emphasis on ensuring the purpose and sustainability ambitions of the business are reflected in the decision-making process as sustainable innovation develops.

At Tetra Pak, sustainability is set up as a central function, led by the Executive Vice President of Sustainability and Communications, which interacts and works alongside other functional areas across the business. The department is separated into working groups which include a mix of broad sustainability functions, specific subject matter expertise on key topics and sustainability operations who are responsible for supporting the deployment of sustainability. The innovation process at Tetra Pak is heavily influenced by collaboration and engagement across a variety of stakeholders. Revenue and sales figures are key indicators for success, for example, the sales of packages with plant-based polymers are specifically tracked with internal goals in place to drive adoption. Yet, there is also recognition of the intangible value of sustainability, with brand profile and recognition.

At both companies, the governance surrounding sustainable innovation has been adapted to enable success and reflect the purpose of the organization. At IKEA, new processes and measurements for success have been developed, while at Tetra Pak, a value-based approach to the positioning and measurement of sustainable innovations ensures that the organization is able to capture both tangible and intangible value. From these findings, it is apparent that sustainable innovation is connected to the redesign of the 'Governance' pillar.

Ownership

Both companies are privately owned and founded by Swedish entrepreneurs, who have since passed away, which has resulted in differentiated ownership and organizational structures. However, an overview of the ownership structures at IKEA and Tetra Pak does provide an interesting context within which sustainable innovation occurs. IKEA operates with a franchise model, on the Inter IKEA group responsible for maintaining and developing the IKEA concept and operating as the franchisor. Interestingly, the Inter IKEA group is owned by a foundation, the Interogo Foundation, a self-owned entity that only allows the funds generated by the group to be used to fulfil the purpose of the organization itself ([Inter IKEA, 2022](#)).

The main purpose of Interogo Foundation is to secure the independence and the longevity of the IKEA Concept, and to own and govern Interogo Holding and Inter IKEA Group. ([Interogo Foundation, 2022](#), website)

In that sense, the organization is driven by the purpose of the foundation and the operating companies within it. Twelve franchisees operate alongside the Inter IKEA group, one of which, the Ingka group, was founded by the same founder as the Inter IKEA group and is also owned by a foundation, the Stichting Ingka Foundation. The Ingka group operates retail franchises, representing 89% of IKEA sales worldwide, and represents the responsible investments division of IKEA. The foundation's purpose is driven by a long-term focus on the business, people and planet, with most of the income reinvested into the business and the remainder donated to charitable foundations (Ingka Group, 2022).

Tetra Pak is one of three companies within the Tetra Laval group, which is responsible for the strategic direction, operation, and governance of the companies within the group. While the companies within the group operate independently and within their own management structures, these structures report into the parent group, which is privately owned by members of the Rausing family. The governance of the group is managed by the Tetra Laval board, who work to ensure the purpose of the group is reflected across the operations of the companies within the group.

While Tetra Pak's privately owned structure implies that the business is oriented towards the benefit of its owners, good governance is emphasized to ensure the purpose of the business extends to delivering a positive impact beyond its own success. At IKEA, the ownership structure is more complex and somewhat unique. The foundation-owned organization structures appear to enable strategic and longer-term decision-making is focussed on ensuring business success as well as fulfilling the purposes of the foundations and preserves the values of the founder.

Finance

The redesign of a business's approach to finance, particularly within the context of sustainable innovation, is core to evaluating its progress along the Corporate To-Do List and in understanding the effect of innovation on the business pillars.

At Tetra Pak, the scope of sustainability is driven by value propositions that ideally seek to meet the demands of customers and wider stakeholders or regulatory pressures. The nature of the business's sustainability commitments, which are anchored by ambitions for 2030 and beyond, allow for long-term perspectives and strategies beyond short-term financial performance. This value-based approach to sustainable innovation is important for development where any innovation is market-tested to prove tangible and intangible value, as well as deployment; robust and detailed information is required to demonstrate the value added beyond the status quo. This depth ensures confidence in the success of any sustainable innovation throughout the organization and the value chain.

For example, the introduction of plant-based polymer packaging was developed to reduce the carbon footprint of existing packaging solutions, not just for Tetra Pak but also for its customers, without compromising on the functional aspects of the product. As a costlier proposition, the communication of the value of this sustainable solution through credible, transparent and engaging data is important to demonstrate the value added vs the existing solutions. While, in Europe, the

value of sustainability is becoming increasingly recognized in relation to the relative cost, the proposition still requires detailed explanation to drive acceptance. In some markets and scenarios, this alignment on sustainability is less compelling, particularly in areas where a premium solution is out of reach or priorities lie elsewhere. This challenge is further exacerbated by the complexity of sustainability, where the impact of the innovations developed is multi-dimensional and must be evaluated across environmental, social and governance scopes.

In summary, the implication is that the financial return of sustainable innovation remains an intrinsic part for the measurement of success and the business case for sustainability at Tetra Pak, yet it does not operate in isolation. At IKEA, financial returns are not the sole driver for sustainable innovation, the four Ps (people, planet, perception and profit) guide the development and measurement of success. The examples of the renewable energy solutions and on-site vertical farming, discussed previously, offer insight into how the success of sustainable innovation is evaluated beyond financial indicators.

Another finding, which is worth emphasizing, is how sustainable innovation is funded. Operating within the Ingka group as a sister company to the Inter IKEA group enables a degree of independence to the operational functions of IKEA. And the work of the sustainable innovation function is budgeted for by a safeguarded investment, which ensures it is decoupled from the performance of the wider business. The governance process detailed above, which is linked to certain milestones and processes, ensures the pace of innovation is unhindered by onerous processes.

CONCLUSION

To ascertain whether and how MNEs are developing transformative sustainable innovation, this study has developed a conceptual framework (Fig. 1) that combines knowledge from [DEAL \(2020\)](#), [Geels \(2002\)](#) and [Raworth \(2017\)](#) to evaluate the actions, behaviours and dynamics of MNEs in their approach to sustainable innovation. Two Swedish MNEs were studied to see whether this framework can be confirmed by empirical findings.

Firstly, [Raworth's \(2017\)](#) 'Corporate To Do List' has been used to determine whether the companies studied are adhering to the principles of Doughnut economics' and working towards being a regenerative business that addresses society's needs, while operating within the planetary boundaries. The analysis shows that both companies have been on the journey towards 'Doing Mission Zero' (Fig. 3) due to their sustainability commitments and progress to date. While net zero has not yet been achieved, both companies have committed to achieve this across their value chain by 2050. In some areas, the companies' approach to sustainable innovation reflects an ambition to go beyond net zero and deliver a positive impact on society.

What remains to be seen from both companies is whether their approach to sustainable innovation will transform their existing regimes. Both companies reflect a commitment to sustainable development and the ambition to deliver a positive impact, yet, to date, sustainable innovations continue to co-exist alongside unsustainable business models and solutions. To evaluate whether sustainable

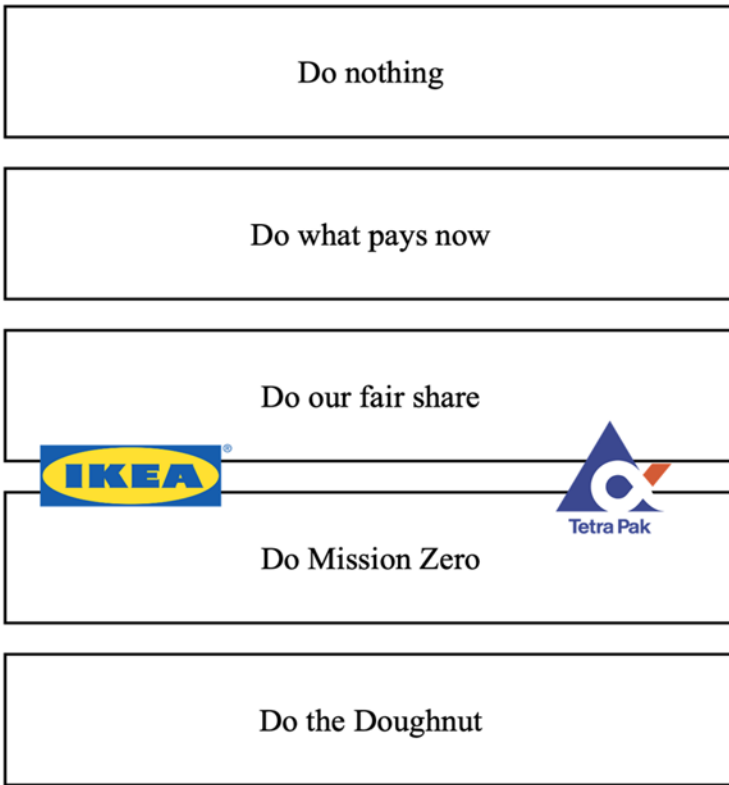


Fig. 3. Mapping the Journey Towards Transformation. *Source:* Based on [Raworth \(2017\)](#). This is an interpretation of theory, not an adaptation of a figure.

innovations from these MNEs can transform their existing regimes and contributes towards a system shift, the business pillars of the companies were analysed to determine whether sustainable innovations have led to or are supported by the redesign of those pillars. [Table 4](#) provides a comparative summary of whether sustainable innovations have led to or been supported by the redesign of the pillars of business. The analysis shows that within the context of sustainable innovation, four out of five of the pillars have been redesigned.

The study has, thus, found that certain properties within the existing regime have altered because of the redesign of these pillars. For example, at IKEA, the launch of the renewable energy solutions, providing solar panels and energy storage, and the redesign of networks, governance and finance have led to creating a new market, building new partnerships, developing new technologies and operating under new financial models. At Tetra Pak, the redesign of purpose, networks and governance has led to the formation of the ACE collaboration with competitors and suppliers. This has altered and introduced new properties of industrial networks, techno-scientific knowledge, sectoral policy and culture within the existing regime.

Table 4. Comparative Summary of Business Pillars Redesign.

Pillars of Business	IKEA		Tetra Pak	
	Redesigned?	How?	Redesigned?	How?
Purpose	Yes	Sustainable innovations are expected to be achieved against a framework of 4 Ps. This is aligned to the broader purpose	Yes	Value based propositions that align to actors across the value chain go beyond financial and functional considerations to achieve a purpose that seeks to deliver positive impact
Networks	Yes	New partnerships and collaborations were developed and deployed to achieve sustainable innovations	Yes	New partnerships and collaborations were put in place to achieve sustainable innovations
Ownership	No	Sustainable innovations have not led to a new ownership structure; however, they do benefit from the existing unique structures already in place	No	Effective governance is in place to ensure that business is driven towards the purpose, rather than just shareholder value
Governance	Yes	Unique governance processes are in place considering all stakeholders enable the success of sustainable innovations	Yes	Sustainable innovations are judged by tangible and intangible value that drives decision-making that seeks to deliver value to a broad set of stakeholders
Finance	Yes	Investments are made to meet expectations of sustainable innovations that differ from the traditional business areas and represent a new definition of success	Yes	The measurement of value throughout the value chain, people and planet of sustainable innovations, rather than just profit, demonstrates a new approach to determining the success of the business

The study confirms that sustainable innovations at the MNEs studied are resulting in the redesign of the five business pillars suggested by the framework. Redesign of strategies and activities based on these pillars, can help companies towards seeking to achieve sustainable transformation as they lead to new or altered properties within the existing regime. However, it is difficult to determine whether these dynamics have resulted in a transformative system shift of the regimes in which these MNEs operate. Such conclusions can perhaps only be drawn over a greater passage of time and as we approach the deadlines of

the sustainability commitments made by both companies for 2030 and 2050, we ought to see the impact of the sustainable innovation and whether sustainable innovation has led to a transformation of the system and ‘doing the doughnut’ or not.

From a theoretical perspective, the study and conceptual framework provides a basis for qualitatively evaluating sustainability strategies undertaken by MNEs. It is a direct response to Christ and Burritt’s (2019) call for further knowledge in the area of business sustainability, as well as seeking to address Caiado’s (2018) suggestion of a lack of clarity for MNEs to address sustainability. It marks the first application of the principles of doughnut economics towards individual business strategy, while remaining rooted in established innovation theory. In this respect, it further develops and enriches the doughnut model proposed by Raworth (2017) and DEAL (2020). However, in the absence of a time dimension to the study, the conceptual framework was unable to capture the impact of transformation over time. Future research could evaluate the actions of the MNEs studied, over an extended period. As well as delve deeper into the internal and external dynamics that support sustainable innovation for the MNEs and their stakeholders. Furthermore, each of the individual pillars outlined in the conceptual framework could be examined individually to provide greater depth to this study. The research provides an overview of two MNEs and their approach to sustainable innovation and how it can potentially transform their strategies. Future studies should include more companies and companies from different countries to further test and develop the conceptual framework proposed here.

This study provides several practical implications for MNEs interested in how to approach sustainable innovation. For example, the power of future world view and storytelling shared by IKEA provides other businesses with guidelines to develop actionable sustainable strategies. The importance of aligning the values and ambitions of actors throughout the value chain, described by Tetra Pak, also offers insightful guidance as to how to ensure the success of sustainable innovations. Furthermore, both companies emphasized the importance of establishing ambitious long-term, science-based, sustainability commitments that orient progress and create urgency, even if the path to achieving those ambitions is not yet defined.

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