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## Doing the Doughnut

Exploring how Swedish multinationals develop sustainable  
innovations to drive transformation

by

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This qualitative study explores whether sustainable innovation by multinational enterprises (MNEs) can lead to the transformation of existing regimes through the lens of innovation theory and doughnut economics. The study proposes a conceptual framework to evaluate the practices of businesses and the findings chart how sustainable innovation occurs within two multinational enterprises. Overall, the study provides practical insight into the dynamics of sustainable innovation, which aims to inform and inspire further progress in sustainable development by businesses and academia.

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# 1 Introduction

## 1.1 Research Problem

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 is consuming 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 the natural resources and systems. The causes and consequences are often interlinked but the impacts are far reaching. Sustainable development therefore requires governments, businesses, and citizens to act and make system-level changes to reduce and then eliminate carbon emissions and pollution. This will require a mindset shift, as organisations and individuals need to consider impact across all stakeholders. Transformative innovation, where the changes and impact are radical, non-linear, and at a system level (Roggema et. al., 2012) resonates with the mindset and system-level revolutions considered fundamental to sustainable development.

This is further supported by the United Nations and their emphasis on the collective responsibility of business, society, and governments to achieve the Sustainable Development Goals. In 2015, the United Nation’s 17 Sustainable Development Goals (SDGs) were established as a framework to address the global challenges the world is facing (Ghauri, Strange, & Cook 2021). Topple et. al. (2017) recognises the importance of the private sector in solving these challenges and multinational enterprises (MNEs) in particular, are considered powerful actors with the ability to address inequalities and help to achieve sustainable development (Ghauri, et al., 2021; Wood, Pereira, Temouri, & Wilkinson, 2021).

The relevance and implementation of the SDGs for businesses are often debated. Caiado (2018) highlights the lack of clarity for businesses to understand mechanisms to track, measure, and compare sustainability, while Brolan et. al. (2014) argue that the SDGs are a political framework, best applied to nations, and not developed collaboratively with or for the private sector. While research on specific sustainability topics, such as corporate social responsibility, environmental impact, and ethics, have been researched, there is hardly any research to support business strategy for sustainability. Overall Christ & Burritt (2019) argue that the SDGs and the general field of sustainability require further engagement from business and academics to generate knowledge in this area. The recent conception of doughnut economics by Raworth (2017), offers an evolution of the SDGs and has largely been developed and adopted by policymakers as a framework to develop sustainable strategies that seek to meet the needs of citizens, while remaining within the planetary boundaries that

support a safe space for humanity (O'Neill, et. al., 2018). Instrumental to the role of business within doughnut economics, is the redesign of the core business pillars (DEAL, 2020). Which can be interpreted as the need for transformative innovation that is radical and leads to systematic change (Roggema, et. al., 2012). Yet, while the principles of doughnut economics emphasise the importance of business for sustainable development, little research has been conducted to develop theory about business and sustainability.

Private sector ambitions to address rising civil pressure to deliver positive impact across wider stakeholders (Webb et. al., 2010), 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, at the worst, as superfluous and disingenuous. In my own professional experiences, working with sustainability professionals to help address the challenges, I have heard and discussed the issues facing companies. A lack of guidance, transparency, insufficient global coordination, and fear of failure often hamper ambition and progress.

## 1.2 Aim and Scope

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 lead to the transformation of the status quo. The expectation is for the study to contribute to the research gap of multinational enterprise (MNE) led sustainability and whether recent academic theory can support businesses to contribute towards a sustainable world. 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 and seeking to transform their system regimes?
- What are the dynamics enabling and challenging companies in achieving transformation through sustainable innovation?

# 2 Theory

## 2.1 Literature Review

### 2.1.1 Innovation for Sustainable Development

This study seeks to understand the process of innovation and how it can drive wider transformation within and outside the firm. Multiple definitions or interpretations of innovation exist across academic literature. Schumpeter (1934) defined it as the creation of new combinations, characterised 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 of new technology representing the application of innovation. Whilst 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.

Taalbi (2021) discusses that the interest in innovation lies in its potential to act as a mechanism to improve the world we live in. This research considers the importance of innovation, not only to the grand challenges facing our planet and society, but also to the viability of a business in a changing society. 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 organisations. Furthermore, studies show that there is a strong correlation between innovation and positive financial performance (Whelan & Fink, 2016).

Chaminade, Lundvall & Haneef (2018) discuss the concepts of weak vs. strong sustainability and its relevance to innovation and transformation. Firstly, weak sustainability addresses actions that seek to innovate whilst maintaining economic growth and use technology to compensate for any losses to natural capital. This approach seeks to address immediate societal needs, whilst reducing the negative impacts on the planet (Chaminade, Lundvall & Haneef, 2018). Yet by tackling 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, Lundvall & Haneef (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). To achieve this, multiple innovation typologies can be considered and interact with each other, these can be technological, social, or institutional. Such socio-technical systems often encompass multiple

innovation typologies, and the integration of such typologies can be considered key to innovation. The success of socio-technical systems can be attributed to successful collaboration and interaction between each other (Chaminade, 2021).

In the context of this study, different literature has been considered in explaining change and the terminology of transitions. Grin et. al. (2010) frame transformation as a form of transition pathways, representing a diversion within an existing system. Whilst Roggema et. al. (2012) differentiates clearly between incremental (where small changes occur slowly), transitional (improvement on the status quo), and transformational (radical, non-linear, and systematic) change. Transitions could also be considered as 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 innovation and if such innovation is developed as ‘transitional’ (incremental, sub-system level) or ‘transformational’ (radical, systems-level), with the aim of achieving change. Geels’ (2002) multi-level perspective acts as a relevant framework for consideration in this context. The multi-level approach is represented by 3 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, exemplifying a 2-way flow of influence and impact. Combining the literature discussed above, on transitions and transformation, with the multi-level perspective (Geels, 2002) illustrates how change can occur. Incremental and transitional change that may occur within the existing regime can lead to small changes to one or more of the properties within that system. While the model could be interpreted that the combination of transitional and incremental change can lead to system transformation over time, typically transformational change rises from innovation occurring within technological niches, which are able to successfully gain traction and disrupt the regime (Geels, 2002). Technological innovation can also originate from actors and changes to the properties within the established regime, not just the niches. Such technological innovations can also operate as a niche before they break through and disrupt the regime (Geels, 2002).

This study delves into the technological innovations driven by multinational enterprises (MNEs) operating within their established regime. MNE’s can be considered as incumbents within existing socio-technical systems and resistant to any disruption of their status quo. Yet due to landscape pressures, MNEs are beginning to innovate within the niches in anticipation of regime disruptions. These landscape pressures can range from regulation, changing competitive landscapes, and changing societal values (Geels, 2002). The research being conducted aims to ascertain whether such innovations are undertaken with the ambition to drive regime shifts through either transformational or transitional innovation. Today, MNEs are seen significant influencers in the attempts for innovation to address economic, social, and environmental challenges (Van Zanten & Van Tulder, 2021).

### 2.1.2 Doughnut Economics

Rockström et. al. (2009) outlines 9 interdependent planetary boundaries of the system processes on Earth and the respective environmental boundaries to sustain humanity. 7 of the 9 boundaries are currently quantifiable and provide scientific guidance on the health of the planet. Notably, 4 key planetary boundary processes have already exceeded their boundaries: climate, ocean acidification, and the ozone (Steffen, et. al., 2015) With the other 6 processes all interacting with and contributing towards these tipping points. These overshoots and the overconsumption of resources continue to accumulate, and as a result, place our planet under significant pressure (Rockström et al., 2009; Carpenter and Bennett, 2011). 12 social boundaries represent the inner ring of the donut and provide 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).

The doughnut has largely been developed and adopted by policymakers 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 5 categories, 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 The Corporate To Do List*

Do nothing	Business-as-usual, profit maximisation, shareholder value prioritisation
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

This journey from extractive to regenerative business models is key to businesses ‘doing the doughnut’. Yet Raworth (2017) emphasises 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 of business: Purpose, Networks, Governance, Ownership, and Finance (DEAL, 2020). The following table (2) details the thinking behind each pillar and questions how

businesses can redesign them (DEAL, 2020). Research has not been conducted 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.

*Table 2 DEAL & Doughnut Economics Pillars of Business*

Purpose	The reason for a organisations' existence and what it seeks to achieve.  Redesign: 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.  Redesign: Do the networks align to the purpose and values?
Governance	The incorporation of purpose across the decision-making process and the persons involved.  Redesign: 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.  Redesign: Does ownership dictate the purpose? Who owns the successes and failures?
Finance	The financing of the business and the resulting modus operandi that results.  Redesign: What does the financing demand? Does finance serve the purpose, or visa versa? How is finance measured?

*(Based on DEAL, 2020)*

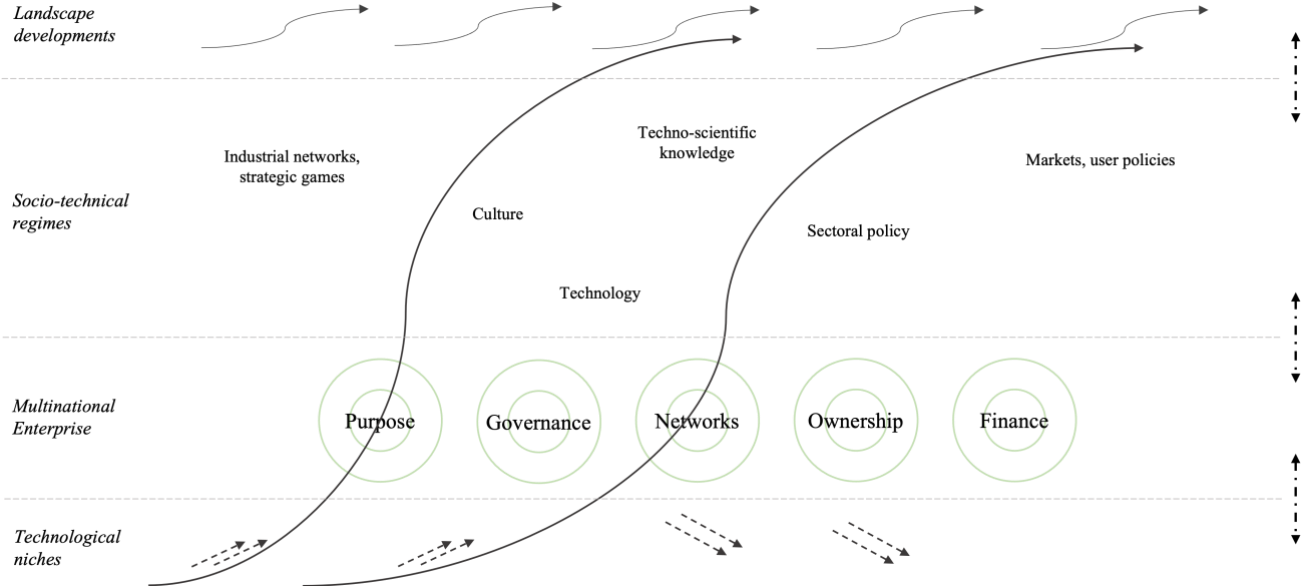
## 2.2 Conceptual Framework

While a variety of literature has been examined within the context of sustainable development and innovation, the proposed research seeks to understand real-world occurrences by focussing through the lens of innovation theory and doughnut economics to understand the how and why of business practices and ascertain whether the innovation undertaken leads or will lead to a regime shift. The study posits that innovation delivered by multinational enterprises, whether as transition (incremental) or transformation (radical), can support wider regime shifts (Geels, 2002, Roggema, et. al., 2012). To do so, businesses need to map their journey towards generative business, through the lens of Raworth's (2017) Corporate To Do

List. And seek to progress towards ‘doing the doughnut’ by undertaking sustainable innovation that redesigns the key business pillars outlined by DEAL (2020).

Using this 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.

Figure 1 Conceptual Framework



(Based on DEAL, 2020; Geels, 2002; and Raworth, 2017)

First the characteristics of the MNEs being studied are mapped against the Corporate To Do List (Raworth, 2017) to determine the status quo of a business and chart whether a journey is underway to develop towards being generative business. Then sustainable innovations developed by MNE’s are categorised 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 have then successfully shifted the socio-technical regime through transformation or whether it can be expected to in the future. This can be evaluated by attempting to identify whether existing properties, such as culture, policy, or technology, have altered. In essence the research seeks to mimic the flow of Geels’ (2002) multi-level perspective, moving from the bottom left towards the top right of Figure 1, by incorporating an analysis of innovation against the business pillars of MNEs and how innovation undertaken by the businesses researched impacts the properties within the existing socio-technical regime through the redesign of the pillars of business.

# 3 Research Methodology

## 3.1 Methodology

Based on the research problem and aim (Jankowicz, 1991) the study employs a qualitative methodology to develop an understanding (Cresswell, 2007). 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 will be 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. Furthermore, taking a phenomenological approach allows for the exploration of the individuals' perspective within a wider context to determine a specific view in that moment of time. As research on the topic is relatively underdeveloped, the aim is to develop an accurate and insightful understanding of the real-life dynamics occurring (Eisenhardt and Graebner, 2007; Doh, 2015). As Eisenhardt et. al. (2017) outline, this approach seeks to discover the previously unknown and develop unanticipated understanding.

The use of a case study approach supports exploratory research that seeks to capture the how and why (Ghauri, Gronhaug & Strange, 2020). Yin (2009) suggests case studies as the preferred approach to research current real-life occurrences. Semi-structured interviews with sustainability professionals from Swedish multinational enterprises (MNEs), who will share experiences and insights from within the business, have been utilised. The pre-designed questions, emerging from the research questions and framework, will focus on the how and why of innovation, with an open scope to enable respondents to expand and for follow-up questions to evolve. This technique helps minimise bias through careful design (Ghauri, 2004), whilst allowing for flexibility and personalisation to capture enriched insights as the interview advances (Robson 2011).

Creswell's 8 points of advice (2014) have been referred to in conducting the research, notably triangulation; where multiple sources are considered, and researcher bias; where any preconceptions of the researcher influence the process and findings, have been considered in the research design. Marschan-Piekkari & Welch (2004) also outline the importance of determining context sensitivity when producing qualitative data and analysis, with a focus on topic sensitivity and the researcher's ability to build rapport and manage interviews. With these elements in mind, the interview guide has been designed with open questions, as well as a variety of pre-prepared follow-up questions that were not shared in advance with the interviewees. Preparing an outline of hidden follow-up questions ensures the interview meets the aims of the research yet allows a degree of flexibility to adapt the wording to the language and context of the interviewee. This is to support a level of preparedness and allow the



interview conversation to flow, so that concentration of the researcher is not diverted away from the interviewee.

Thematic elements of the interview were designed consistently to enable a degree of comparability. However, to ensure that the design meets the overall aims of the research, most of the interview guide has been designed specifically for each respondent. This enables the flexibility to capture unique processes, contexts, and experiences of the interviewee and their relevant company, as well as a deep dive into innovations relevant to the company and individual. Respondents were provided with a high-level interview guide in advance, to allow for a degree of preparation that could fulfil the research aims. A more detailed interview guide, with pre-prepared follow-up questions has been utilised to conduct the interview, which the respondents did not have access to. As discussed above, this approach aimed to uncover unexpected information (Eisenhardt et al., 2017). As suggested by Yin (2009), every step of the process and the interactions have been documented and recorded to provide transparency. The interviews were audio-recorded, with permission from the respondents, to support active listening and conversation during the interview, which note-taking can often detract from. Recorded interviews also enable multiple revisits to the interview, where further insights could potentially be drawn. The interview recordings have been transcribed through a software solution, [otter.ai](https://otter.ai) and then manually edited to ensure accuracy.

## 3.2 Data Sources

### 3.2.1 Primary sources

To address the logistical feasibility of the study, companies with a notable Swedish presence have been considered as potential research subjects. This is meaningful to the study due to the limited timescale available, as well as the potential to utilise the networks and connections of Lund University. To further refine the pool of subjects, leading companies by number of employees and turnover in the Skåne region, where 10% of Swedish companies are headquartered (Invest In Skåne, 2021), have been considered (Nordic Market Data, n.d.; Largestcompanies, 2021).

The study's feasibility was not the only criteria in creating the list of companies to research; the relevance to sustainability has also been considered. In the overall rankings of SDG performance, which measures a nation's progress towards the SDGs, Sweden ranks 2<sup>nd</sup> out of the 193 nations of the UN (Sachs, et al., 2021). At a corporate level, several different sources have been examined to identify potential companies to study. 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). The Swedish Corporate Sustainability Ranking is an annual report that evaluates how Swedish companies communicate sustainability (Dagens Industri, 2018) and the 2021 ranking was used to compile a list of companies (Aktuell Hållbarhet, 2021). From a global perspective, European companies are considered sustainability leaders, where 41 of the

100 most sustainable publicly listed companies globally are based in Europe and 11 of those are based in the Nordics. (Corporate Knights, 2022).

Through the process of exploring the above-mentioned rankings and lists of companies, a compiled list of companies has been collated and relevant potential interviewees identified through LinkedIn, a social media network for professionals. These potential interviewees have then been contacted via the LinkedIn messaging service or e-mail (if available). The relevancy of individuals is established through keyword searches within job roles including, but not limited to, ‘sustainable’, ‘sustainability’, ‘innovation’. The intention of the study is to interview sustainability professionals working for 2 MNEs located in Sweden to provide in-depth insights. A relevant individual from each company has been interviewed and identified based on their significance to the study, with professional roles focussed on innovation within the sustainability departments of the companies (see Table 3). The interviews have been secured with individuals from 2 MNEs: IKEA and Tetra Pak.

*Table 3 Overview of Respondents*

<b>Company</b>	<b>Role</b>	<b>Role Description</b>	<b>Remit</b>
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

Tetra Pak was founded in Lund, Sweden and, since 1981, has been headquartered in Lausanne, Switzerland. In 1991 Tetra Pak acquired Alfa Laval and from 1993 the business was reorganised, 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. While no longer headquartered in Sweden, Tetra Pak retains a notable presence in the country, with around 500 employees and €1.85 billion of revenue reported against the Swedish company listing (Dun & Bradstreet, 2022). For context this represents 17% of Tetra Pak’s total global revenues.

In approaching Tetra Pak, an introduction to the Sustainability Transformation Director has been facilitated, via e-mail, through a previously established contact in the commercial team at Tetra Pak. Initial conversations have been held in December 2021, which have revealed that the individual may not be able to support the research, as their tenure at Tetra Pak is coming to an end prior to the research phase in which interviews are scheduled to occur. Therefore, the Sustainability Transformation Director has directed my research request to colleagues within the sustainability function at Tetra Pak. Following e-mail discussions with various individuals within the sustainability team, an individual with the role of Sustainability Transformation Manager has been identified due to their experience and knowledge in Tetra Pak’s sustainable product offerings. In this role the individual identified has worked at Tetra

Pak for over 2.5 years and is responsible for communicating the value and details of sustainable innovations within the Tetra Pak product range to customers and internal customer-facing teams.

IKEA is headquartered in the Netherlands but has also developed from a history and establishment in Sweden, which is still represented in their company culture today (IKEA Culture and Values, n.d.). 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. For IKEA, a keyword search for potentially relevant individuals within the company was conducted using LinkedIn. In this process the Head of Sustainability Innovation, who has worked at IKEA for over 21 years and in this role for 10 years, has been identified as a suitable respondent for the study and, through a personal connection, a line of communication has been facilitated. Based on the information available on the individuals' LinkedIn profile, relevance to the study was implied and this was further validated through e-mail correspondence. In their role the individual leads the sustainable innovation function at IKEA, with oversight into the development and deployment of sustainable innovations.

While the focus on conducting interviews with individuals employed by the chosen companies is expected to provide insights beyond the information available publicly, it is worth noting that this could lead to a level of bias within the findings uncovered. There may be certain points of information, opinions, and perspectives that interviewees are unable, consciously or subconsciously, to share. Furthermore, the findings shared are via the perspective of the interviewee and their role within the organisation, which may vary or even counter those of their colleagues. To attempt to address this, secondary research from published reports and media publications has been reviewed to provide further context to the topics researched.

Prior to finalising interview dates, a brief overview has been shared to provide the individuals with information about the research project and how their knowledge and experience would support the study. Long interviews with each representative and a small sample size are intended to enable an in-depth analysis (Ghauri, Gronhaug, & Strange, 2020) and support theoretical explanations through the comparative understanding and contrasting of the decisions, processes, successes, and challenges shared by respondents (Miles and Huberman, 1994). The data gathered has been supported by secondary sources, such as annual reports, sustainability reports, and media publications.

### 3.2.2 Secondary sources

Secondary research from company reports and media publications has been reviewed to provide further context to the topics researched. In particular, the annual and sustainability reports of IKEA and Tetra Pak were examined to offer context and related insight to the primary research conducted. Worth noting is that the use of company reports can be subject to bias and represents a single point of view. To that end, media publications were also explored to provide alternative perspectives to the company reports.

### 3.3 Analysis

The importance of data analysis is to develop insights and understanding by bringing order, structure and meaning to gathered data (Marshall & Rossman, 1995). Miles & Huberman (1994) suggest 3 elements to analysis; using data reduction to generate categories, themes, and patterns, organising and then compressing that information through data display, which then finally enables deductions and conclusions. Stake (1995) supports such an approach, where categorical aggregation by collecting data points can help identify meaning and alongside patterns can form shared insights between case studies to inform comparative conclusions. This can be further supported by identifying similarities and differences between cases (Boyd et. al., 1985). Ghauri, Gronhaug, & Strange (2020) suggest a series of analytical activities to support qualitative research. Starting with categorisation, abstraction, comparison, dimensionalities, integration, iteration, and finishing with refutation. With these theories in mind the findings from the interviews and secondary sources are analysed and structured through the lens of the theoretical framework and in particular the pillars of business (Raworth, 2017). The interview transcriptions have been edited, summarised, and then thematically categorised, while information from secondary sources has been thematically categorised to help develop a clear image of the areas of research.

The conceptual framework (Figure 1) for the research provides a lens to explore the findings of the research and address the research questions. Firstly, determining the status quo of the selected companies within the Raworth's (2017) Corporate To-Do List, maps the 2 companies progress towards generative business. Secondly, evaluating sustainable innovation against the pillars of business and whether the innovation leads to redesigns of those pillars helps determine the nature and impact of sustainable innovation. Finally, examining the impact of redesigned business pillars from sustainable innovation at the identified companies supports an understanding of how sustainable innovation occurs and whether such efforts can lead to transformative regime shifts.

# 4 Findings

## 4.1 Mapping the Corporate To Do List

The annual and sustainability reports of both companies have been examined to help determine the staging of the companies within Raworth's (2017) Corporate To Do List. This seeks to chart a business's journey towards being a generative business, delivering value to a wide range of stakeholders that include people and planet. The culmination of this journey marks the recognition of a business 'doing the doughnut', by creating positive impact through its actions.

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 3 key aims (IKEA Sustainability, n.d.).

- 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 3 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 recognise their role as a leader and inspiration for change. Emphasising their scale, reach, and impact as tools for positive change (IKEA Sustainability, n.d.)

***“No method is more effective than a good example.”***

*Ingvar Kamprad, IKEA Founder (IKEA Sustainability, n.d., online, n.p.)*

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, n.d.) 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.

To address unsustainable consumption IKEA are focussing 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 have publicised 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 (IKEA People and Planet Positive, 2020). This progress is measured by IKEA against their 2030 ambitions to redefine and inspire sustainable consumption with IKEA 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. And in their IKEA People and Planet Positive report (2020), it is written 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. Which is underpinned by IKEA's stated intention to ensure inclusive, equal, decent, and meaningful work across the value chain by working collaboratively within and outside of IKEA. 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 UN's Sustainable Development Goals, the Paris Agreement, and science-based targets that seek to achieve a 1.5 °C world. There is also recognition of the importance of decoupling business growth from resource consumption, which dictates a redesign of business models.

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. Yet, in the lead up to COP26 in November 2021, IKEA collaborated with the Science Based Targets Initiative (SBTi) to develop their net zero ambitions, and while this path is not yet charted, further work is ongoing to develop this commitment into a strategy. Based on these findings, it is possible to map IKEA's practices as approaching 'Doing Mission Zero' within Raworth's Corporate To Do List (2017), with clear indication of IKEA reducing harm, lowering impact, and striving for net zero. In certain areas, IKEA are delivering on commitments and making progress beyond this stage and closer towards 'Doing the Doughnut'. The headway and commitments on circularity, positive impact, and operating within the planetary boundaries demonstrate that steps are underway towards a generative business design. 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). However, progress in other areas of the business and a clear path towards net zero is less clear and yet to be publicised.

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 (Tetra Pak Sustainability Report, 2021).

While Tetra Pak packaging is recognised 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 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, aim 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.

Although packaging is synonymous with the perception of Tetra Pak and intrinsic to the business in terms of value, other areas of the value chain are greater contributors to emissions (Tetra Pak Sustainability Report, 2021). This is recognised by Tetra Pak, and the wider corporate group Tetra Laval. For example, dairy processing across Tetra Pak's value chain accounts for 10 times the emissions of Tetra Pak's own operations, emphasising 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).

Tetra Pak's sustainability strategy is well documented and, like IKEA, built upon internal and external sustainability frameworks. From these public commitments and the progress made so far, Tetra Pak is working towards net zero impact and striving to operate within 'Mission Zero' of the Corporate To Do List. Through the partnerships, collaborations, and certifications mentioned above, Tetra Pak acknowledges their role within wider system change and the influence of their behaviour as a sustainability leader. In some areas of the business, regenerative business practices are in place, such as the use of FSC certified carton materials across the entirety of the product range. Yet, in other areas progress is still to be

made before the business can be considered to be ‘Doing the Doughnut’. For example, while the introduction and growth of the Tetra Rex solution demonstrates promise, it still only represents 0.6% of total carton sales (Tetra Laval Annual Report, 2021).

Overall, both IKEA and Tetra Pak can be categorised as operating towards ‘Doing Mission Zero’, with publicised 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 recognise 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’.

## 4.2 Redesigning the Business Pillars

Using the conceptual framework developed for this study (Figure 1) as a frame of reference to evaluate sustainable innovation, the findings from both secondary sources and the interviews conducted 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 business. To present the results, insights gained have been categorised 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 one pillar at a time for both IKEA and Tetra Pak, with comparisons between both companies summarised in the conclusion.

### 4.2.1 Purpose

As a starting point to the mapping the findings to the ‘Purpose’ pillar, the mission statements and top line sustainability ambitions of the studied 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, n.d.). Such a statement goes beyond internal success and contextualises 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). This is reflected through the sustainability commitments outlined above and demonstrates the interconnectedness between business success and sustainability. Through the interview conducted with IKEA’s Head of Sustainable Innovation (IKEA Interview, 2022, 28 March) further insight was gained into how the company’s purpose is operationalised. Core to the approach was 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 organisation, and now more recently within the global Strategy Development and Innovation area (IKEA Interview, 2022, 28 March), the findings demonstrate how sustainable innovation is able to develop new business areas and models that are rooted in purpose beyond financial



metrics. These metrics for success will be discussed further within the governance and finance pillars.

The commitments that support IKEA's purpose provide further context to the sustainability ambitions of the organisation. A powerful aspect of this was revealed in the interview (IKEA Interview, 2022, 28 March), where the sustainable innovation team embarks on future and world building exercises to enable the team to work 'backwards' and develop strategies that aim to achieve the future envisioned. The interviewee goes on to share how the multiple views of the future, a variety of timelines, 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 prioritise concepts, and ensure alignment between IKEA's purpose and what the world may look like in the future. Importantly, from the interviewees perspective this approach helps avoid incremental steps and establishes IKEA's relevancy in multiple future scenarios at both a macro (the world) and micro (the individual) level (IKEA Interview, 2022, 28 March).

***“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' (Tetra Laval Annual Report, 2021) 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. This is reflected in the sustainability commitments outlined in the previous section of this piece, which not only seek to deliver innovation and address sustainability within Tetra Pak's own operations, but also throughout its value chain, from suppliers through to end-consumers (Tetra Pak Sustainability Report, 2021). Like IKEA, ambitious long-term commitments are typically established based on scientific modelling and a view towards the future, such as the SBTi, which the business is then able to work back from to develop a variety of strategies and innovations (Tetra Pak Interview, 2022, 16 March).

From the interview with the Sustainable Transformation Manager at Tetra Pak, the role of stakeholders in the development of sustainable innovations exemplifies how the purpose of Tetra Pak reflects the outward facing approach to sustainability. Multiple stakeholder types 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 organisations such as start-ups or universities (Tetra Pak Interview, 2022, 16 March). As an example of cascading functional and technical requirements, when a plant-based polymer cap is developed, the innovation must consider the closure system across the entire value chain, where customers are utilising specific machinery to fill and secure produce within the packaging. According to the interviewee, this may require further innovation across the value chain or within the sustainable innovation itself to ensure success (Tetra Pak Interview, 2022, 16 March).

When considering DEAL's (2020) recommendation for 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 interpretation of annual and sustainability reports and the findings from the interviews conducted, 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 themselves. Yet, while financial viability and success are still a key component to sustainable innovation, this wider outlook on purpose, for both organisations, has led to redesigns in how success is measured, which will be discussed further in the findings within the pillars of governance and finance.

#### 4.2.2 Networks

The networks of both companies examined provides 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 connected to suppliers and consumers. Furthermore, both companies are involved and invested in external partnerships and collaborations with a variety of organisations.

As a packaging provider at its core, 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 itself (Tetra Pak Sustainability Report, 2021). 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 (Tetra Pak Interview, 2022, 16 March). And the Tetra Pak interviewee (2022, 16 March) goes on to elaborate that the ambition for a sustainable and risk-minimised value chain, that reduces carbon footprint, not only meets the objectives of Tetra Pak, but also supports its positioning with Tetra Pak customers, who in turn are seeking 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 2 main competitors, and its 2 key suppliers, who have all aligned on 10 sustainability objectives within a roadmap for 2030 (ACE, n.d.; Tetra Pak Interview, 2022, 16 March). 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 (Tetra Pak Interview, 2022, 16 March). 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 (Tetra Pak Sustainability Report FY21, 2021).

The importance of network alignment is also critical to IKEA, which operates under a distinctive organisational 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 that support the success of the franchisees (IKEA Sustainability Report FY21, 2022). 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 functions to deliver against the sustainability strategy (IKEA Interview, 2022, 28 March). It is therefore considered critical for sustainable innovations to address the demands and needs of several stakeholders, both within the immediate IKEA value chain and from wider societal and environmental perspectives. Strong internal networks for those working within sustainable innovation are also key to success according to the interviewee (IKEA Interview, 2022, 28 March). 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 (IKEA Interview, 2022, 28 March). For example, in the development of solar panels as a renewable energy solution, IKEA collaborate with installers of solar panels regionally and locally who have the required expertise to deploy the sustainable product line (IKEA Interview, 2022, 28 March). This indicates that the success of the product for IKEA, as well as the franchisees responsible for selling the new products is, reliant on effective networks.

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 metrics (IKEA Interview, 2022, 28 March). Which often leads to resource constraints in deploying strategic innovations. In some cases, it is simply not feasible to deploy innovation concurrently across markets (IKEA Interview, 2022, 28 March). Yet to counter this, the interviewee explains how the Inter IKEA Group and the INGKA group seek to assume financial and logistical responsibility for the initial launch of sustainable innovations (IKEA Interview, 2022, 28 March). For example, in the case of the solar panel product line, 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 (IKEA Interview, 2022, 28 March). Furthermore, the central groups take on financial responsibilities in the early stages of launching sustainable innovations, which will be further discussed within the findings related to the finance pillar. And while sustainable innovations are expected to reach 100% of IKEAs addressable market, there is acceptance that only 60% to 70% of the market may be ready for the adoption of sustainable innovations in the initial phase of deployment (IKEA Interview, 2022, 28 March).

Overall, based on the analysis of their published reports and the interpretation of the 2 interviews, networks and developing value-based propositions for sustainability across the value chain are critical to both IKEA and Tetra Pak. It is an area that both companies are working on and prioritise, as alignment within this business pillar is key to ensure impactful collaboration and an important component to the development and deployment of sustainable innovations. Furthermore, sustainable innovations often require new partnerships and collaborations which can be considered a redesign to the 'Network' pillar, and in turn results in changes to the existing networks within the regime.

### 4.2.3 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 organisation and how progress to influence decision-making is measured. The sustainability teams and approach to innovation differ at IKEA and Tetra Pak, and therefore operate under different governance flows.

As mentioned above, the sustainability innovation function at IKEA is structured within the Ingka group, a sister company to the Inter IKEA group (IKEA Interview, 2022, 28 March). Due to the importance of collaboration, the function works closely with the broader sustainability group, which is organised within the Inter IKEA group and led by the Chief Sustainability Officer (IKEA Sustainability Report FY21, 2022), as well as a variety of functions across specific countries, regions, and the global group (IKEA Interview, 2022, 28 March). The process of governance has been a key learning as the sustainable innovation function has evolved over the last 10 years, as the interviewee explains; with *“slim, fast-footed governance”* (n.p.) critical to the success of the function, particularly as it operates at a faster pace than the traditional business areas (IKEA Interview, 2022, 28 March). 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.

According to the interviewee, a flexible milestone-based approach and a focus on outcomes throughout the innovation process enables consistency and provides clarity in the decision-making process, while allowing creativity to the approach of how things are done (IKEA Interview, 2022, 28 March). 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 (IKEA Interview, 2022, 28 March). Governance processes such as these typify how the actions of sustainable innovation has redesigned traditional operational procedures to enable the function to work towards its purpose.

The interview at IKEA also provides insight into the measurement of progress and success during the innovation process of sustainable solutions. Developed within the organisation, 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 which deliver greater value than others. The totality of the 4 Ps is therefore core to the development of the supporting business case and provides the

motivation behind why IKEA pursues a sustainable innovation (IKEA Interview, 2022, 28 March).

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 3 Ps, as well as the significant expected revenue, the business case is justified to deploy the innovation (IKEA Interview, 2022, 28 March). IKEA's urban farming initiative, which utilises 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 globalised 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 across people, planet, and perception – without negatively impacting the existing cost structures (IKEA Interview, 2022, 28 March). As outlined by the interviewee, sometimes the financial dimensions of an innovation project are very important, yet in others the value of the other dimensions outweigh or are equal to it. These insights indicate how the implementation of the 4 Ps provides a constant emphasis on ensuring the purpose and sustainability ambitions of the business are reflected in the decision-making process as a 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 the other functional areas across the business (Tetra Pak Sustainability Report, 2021). The department is separated into working groups which include a mix of broad sustainability functions, specific subject matter expertise on key sustainability topics, and sustainability operations who are responsible for supporting the deployment of sustainability (Tetra Pak Interview, 2022, 16 March). The innovation process at Tetra Pak is heavily influenced by collaboration and engagement across a variety of stakeholders, as discussed in the networks section above. And deployment of sustainable innovation is typically preceded with a clear evaluation on market readiness and several stages of testing. Revenue and sales figures are key metrics for success when evaluating sustainable innovation at Tetra Pak, for example the sales of packages with plant-based polymers are specifically tracked with internal goals in place to drive adoption (Tetra Pak Interview, 2022, 16 March). Yet there is also recognition of the intangible value of sustainability, with brand perception, recognition, and risk also tracked (Tetra Pak Interview, 2022, 16 March).

To ensure Tetra Pak's purpose is reflected in the evaluation and decisions of sustainability innovations, individual performance objectives, executive compensation, and balanced scorecards are linked to the sustainability strategy and climate targets (Tetra Pak Interview, 2022, 16 March). The interviewee goes on to share how these are driven by departmental objectives that are related to areas of sustainability relevant to the responsibilities of the department. Most importantly, sustainable innovation at Tetra Pak seeks to add value to existing solutions and that value is preferably linked to customer demand or regulatory requirements, ensuring that conflict within the purpose of Tetra Pak is avoided or minimised (Tetra Pak Interview, 2022, 16 March).

At both companies, the governance surrounding sustainable innovation has been adapted to enable success and reflect the purpose of the organisation. 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 the organisation 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.

#### 4.2.4 Ownership

Inadvertently and unrelated to the research methodology, both companies are privately owned and founded by Swedish entrepreneurs, who have since passed away, which has resulted in differentiated ownership and organisational structures. While a core pillar within the Pillars of Business overview, it is not an area that was explored during the interview due to the recognition that sustainable innovation is unlikely to influence the established ownership structures of a company and address the research questions. Yet an overview of the ownership structures at IKEA and Tetra Pak does provide an interesting context within which sustainable innovation occurs.

IKEA operates as a franchise model, with 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 organisation itself (Inter IKEA, n.d.).

***“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 (n.d., online, n.p.)*

In that sense the organisation is driven not by the demands of individual shareholders, but rather the purpose of the foundation and the operating companies within it. 12 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 (Ingka Group, n.d.). The Ingka group operates retail franchises, representing 89% of IKEA sales worldwide, and represents the responsible investments division of IKEA (Ingka Group, n.d.). The foundation’s purpose is driven by a long-term focus on the business, people, and planet, with the majority of income reinvested into the business and the remainder donated to charitable foundations (Ingka Group, n.d.).

Tetra Pak is 1 of 3 companies within the Tetra Laval group, which is responsible for the strategic direction, operation, and governance of the companies within the group (Tetra Laval Annual Report, 2021). While the companies within the group, including Tetra Pak, 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, descendants of the founder. The governance of the group is managed by the Tetra Laval board, who work to ensure the purpose of the group, to provide solutions that ensure the efficiency, quality, and

safety of food and beverage production, processing, and packaging, is reflected across the operations of the companies within the group.

The conceptual framework emphasises the importance of ownership structures in driving the purpose of an organisation beyond its own success. While Tetra Pak's privately owned structure implies that the business is orientated towards the benefit of its owners, the business is clear to emphasise the importance of good governance to ensure the purpose of the business extends to delivering a positive impact beyond its own success (Tetra Pak Sustainability Report, 2021; Tetra Laval Annual Report, 2021). From an analysis of the reports and the interviews, it can be interpreted that Tetra Pak seek to balance these perspectives by embarking on sustainable innovation that delivers against its purpose, commercial success, as well as meeting sustainability commitments. At IKEA the ownership structure is more complex and somewhat unique. The foundation-owned organisation structures appear to enable strategic and longer-term decision making, not driven by the demand for individual dividends, but focussed on ensuring business success is continuously orientated towards fulfilling the purposes of the foundations and preserves the values of the founder. This is reflected in the comments from the interviewee, who shared how funding for sustainable innovations is safeguarded (IKEA Interview, 2022, 28 March) and managed by the foundation within which the Ingka group operates (Ingka Group, n.d.), which is further discussed in the next section regarding finance.

#### 4.2.5 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 (Raworth, 2017) and in understanding the effect of innovation on the business pillars (DEAL, 2020). In the interviews conducted, both companies shared changes in culture and approach regarding the financial methods and expectations of sustainable innovation.

At Tetra Pak, while generating commercial success and revenue remains an important element to evaluating sustainable innovation, the scope of sustainability is driven by value propositions that ideally seek to meet the demands of customers and wider stakeholders or regulatory pressures (Tetra Pak Interview, 2022, 16 March). The interviewee elaborates how ensuring alignment between the sustainability ambitions of the business and those of the actors along the value chain is instrumental to the success of sustainability innovations (Tetra Pak Interview, 2022, 16 March). From the analysis of the published reports (Tetra Pak Sustainability Report, 2021; Tetra Laval Annual Report, 2021), an interpretation can be made that the nature of the business's sustainability commitments, which are anchored by ambitions for 2030 and beyond, allow for long term perspectives and strategies, which recognise success beyond short term financial performance. This value-based approach to sustainable innovation is important to development; where any innovation is market-tested to prove tangible and intangible value, as well as deployment; where robust and detailed information is required to demonstrate the value add beyond the status quo (Tetra Pak Interview, 2022, 16 March). While this level of validation could be considered onerous, the interpretation garnered is that this depth ensures confidence in the success of any sustainable innovation throughout the organisation 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 add vs. the existing solutions (Tetra Pak Interview, 2022, 16 March). Yet the interviewee goes on to share that despite alignment on value between Tetra Pak, its customers, and the broader value chain, cost competitiveness can remain a challenge. Furthermore, that while in Europe the value of sustainability is becoming increasingly recognised in relation to the relative higher cost, the proposition still requires detailed explanation to drive acceptance of sustainable innovations (Tetra Pak Interview, 2022, 16 March). Furthermore, 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 (Tetra Pak Interview, 2022, 16 March). This challenge is further exacerbated by the complexity of sustainability, where the impact of the innovations developed are multi-dimensional and must be evaluated across environmental, social, and economic scopes. This requires a balanced approach to developing value propositions that are understandable and compelling, yet do justice to the complexity behind the scenes (Tetra Pak Interview, 2022, 16 March).

In summary, the implication is that the financial return of sustainable innovation remains an intrinsic part to the measurement of success and the business case for sustainability at Tetra Pak, yet it does not operate in isolation. Tangible and intangible elements of value are also considered, particularly where progress can be made towards achieving the sustainability commitments of Tetra Pak and its broader value chain. As discussed previously, aligning sustainable innovation to the demands of a variety of stakeholders, from customers to regulatory bodies, further cements the value proposition of sustainability beyond the financial dimensions. However, while this value-based approach to the positioning of sustainable innovations implies a redesign of the finance pillar, the challenges in cost competitiveness and complexity in the propositions, demonstrate how Tetra Pak may have to compromise on sustainability when engaging with certain customers or markets.

At IKEA financial returns are also not the sole driver for sustainable innovation, as presented in the findings within the governance section, the 4 Ps (people, planet, perception, and profit) guide the development and measurement of success. While sustainable innovation needs to be commercially viable and be supported by a business case, IKEAs approach to sustainable innovation allows it to develop new approaches and revenue models that do not necessarily have to align with the traditional business (IKEA Interview, 2022, 28 March). This is enabled by the organisational structure of the sustainable innovation team at IKEA, which sits independently to the operating business, and is responsible for developing new business streams that embody sustainability at the core through the 4 Ps (IKEA Interview, 2022, 28 March).

The examples of the renewable energy solutions and on-site vertical farming, discussed previously, offer insights into how the success of sustainable innovation is evaluated beyond financial metrics. While the findings from the ownership structure at IKEA demonstrates how the financial gains generated by the Inter IKEA group and the Ingka group are reinvested into the business to deliver against the purpose of the organisation (Inter IKEA, n.d.; Ingka Group,



n.d.). Another example shared by the interviewee, where long term value was prioritised above short-term financial return, was IKEA's shift from incandescent to LED bulbs in 2014. This decision was driven by environmental and efficiency evaluation that validated the value in the discontinuation of incandescent bulbs, as LED bulbs were significantly more energy efficient (IKEA Interview, 2022, 28 March). At the time the cost difference between the 2 technologies was substantial and to approach this IKEA defined ambitious commitments to firstly phase out incandescent bulbs within 2 years, and then to achieve cost parity between the 2 options within 4 years. This commitment led to significant investment in new technology, manufacturing processes, and an overhaul of the lighting range. All of which was unprecedented within the lighting industry at the time (IKEA Interview, 2022, 28 March). This example is indicative to IKEA's long-term approach towards sustainable innovation, its attribution of value across the 4 Ps, not just financial returns, and how the principles of the finance pillar have been redesigned to enable sustainable decision making.

Another interpretation from the interview with IKEA, which is worth emphasising, 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 (Ingka Group, n.d.; IKEA Interview, 2022, 28 March). Through the governance process detailed above, the interviewee believes that the access to finance, which is linked to certain milestones and processes, ensures the pace of innovation is unhindered by onerous processes (IKEA Interview, 2022, 28 March).

To support the deployment of sustainable innovation, IKEA also takes an approach which acknowledges the franchise model operated. The interviewee shared how sustainable innovations are always piloted across multiple markets prior to a wider deployment. These pilots are funded by the innovation function to prove the value across the 4 Ps and evaluate the business case for deployment across IKEA. Once the decision is made to deploy, the innovation is placed within an incubation phase that is managed and funded by a dedicated organisation for 1 to 2 years while it is rolled out to franchisees. This enables new ideas to be deployed in markets, without burdening the franchisee with the cost during the operationalisation phase and provides sufficient overlap for enablement in the handover between the innovation functions and the retail sides of the IKEA business (IKEA Interview, 2022, 28 March). As an example, the interviewee went on to share how the renewable energy solution mentioned previously was deployed and funded by the sustainable innovation team across 11 markets, prior to being handed over to franchisees (IKEA Interview, 2022, 28 March).

From the interview conducted and the analysis of IKEA's published reports, the ownership, governance, and financial structures across IKEA enable a unique approach to financing sustainable innovation. In particular, the processes in place within the sustainable innovation function and the use of the 4 Ps demonstrates how IKEA are redesigning the 'Finance' pillar to ensure value is generated beyond traditional financial metrics, all while maintaining commercial success.

# 5 Conclusion

## 5.1 Research Aims

To ascertain whether and how MNEs are developing transformative sustainable innovation, this study has developed a conceptual framework (Figure 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 have then been 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, IKEA and Tetra Pak, are ‘Doing the Doughnut’ and working towards being a generative business that addresses society’s needs, while operating within the planetary boundaries. From the analysis conducted, both companies have been interpreted as on the journey towards ‘Doing Mission Zero’ (Figure 2, below), 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 positive impact on nature and society.

Figure 2 Mapping the Journey



(Based on DEAL, 2020)

What remains to be seen from both companies is whether their approach to sustainable innovation will transform their existing regimes. From the reports examined and interviewees conducted, both companies reflect a commitment to sustainable development and the ambition to deliver positive impact, yet, to date, sustainable innovations continue to co-exist alongside unsustainable business models and solutions. To evaluate whether sustainable innovations from these MNEs can transform their existing regimes and contributes towards a system shift, the business pillars of IKEA and Tetra Pak have been examined and an analysis made to determine whether sustainable innovations have led to or are supported by the redesign of those pillars. The conceptual framework developed (Figure 1) indicates that the redesign of business pillars through sustainable innovations, should lead to the transformation of properties within the existing regime, and thereby contribute to a wider system shift.

Table 4 (below) provides a comparative summary of whether sustainable innovations have led to or been supported by the redesign of the pillars of business. From the reports examined and interviews conducted, the study shows that within the context of sustainable innovation, 4 out of 5 of the pillars have been redesigned.

*Table 4 Comparative Summary of Business Pillar 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 (people, planet, perception, and profit). Which go beyond the business’s own success and align 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 have been developed and deployed to achieve sustainable innovations.	Yes	New partnerships and collaborations have been 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 structure in place.	No	Sustainable innovations have not led to a new ownership structure. However, effective governance is in place to ensure that business is driven towards the purpose, rather than just shareholder value.

Governance	Yes	Unique governance processes 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.

Based on the insights and examples from the findings, the study has 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 business, providing solar panels and energy storage, the redesign of networks, governance, and finance has led to IKEA 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.

The conceptual framework developed in this study is thus confirmed by company practices and can conclude that sustainable innovations at the MNEs studied are resulting in the redesign of the 5 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 within. 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 driven by IKEA and Tetra Pak and whether sustainable innovation has led to a transformation of the system and both businesses ‘doing the doughnut’.

## 5.2 Practical Implications

The research conducted provides several practical implications for MNEs interested in how to approach sustainable innovation. The case study methodology has uncovered interesting

insights into the practices of IKEA and Tetra Pak in terms of their approach and the processes in place to support sustainable innovation. Which aims to inspire other businesses and organisations with practical examples that can support sustainable development.

For example, the power of future world view and story creation shared by the interviewee at IKEA provides other businesses with guidelines to develop actionable sustainable strategies. The importance of aligning to the values and ambitions of actors throughout the value chain, as explained by the interviewee at Tetra Pak, also offers insightful guidance as to how to ensure the success of sustainable innovations. Furthermore, both companies emphasised the importance of establishing ambitious long term, science-based, sustainability commitments that orientate progress and create urgency, even if the path to achieving those ambitions is not yet defined.

### 5.3 Limitations and Future Research

This study sought to explore the research frontier by adapting relatively new academic thinking within an area where existing research is limited. Due to the time constraints inherent in producing a MSc thesis, the research could have benefited from more time to further develop the conceptual framework and methodological tools to deliver more in-depth findings. As well as the opportunity to stress test the conceptual framework with alternative contexts and or research areas.

While the methodology employed and the individuals interviewed were able to provide an in-depth analysis, the research could have gone further by interviewing other relevant individuals within the same companies, as well as externally across the value chains those companies operate within. This would have enabled further triangulation of the results, as well as provided different perspectives to sustainable innovation and its impact on regime transformation.

Future research could delve further into specific areas of the conceptual framework used in this study. While this study provides an overview of 2 MNEs and their approach to sustainable innovation and how it can potentially transform a regime, each element to the conceptual framework could be researched further in isolation.

Findings from this study could also prompt further research, for example, the insight gained on IKEA's approach to future world building would be an interesting topic to delve further into and could provide actionable insights that could support other businesses in developing sustainability strategies. While Tetra Pak's approach to network and proposition building across their value chain to develop sustainability propositions would be another area to research further.

## 5.4 Summary

To conclude, this qualitative study has developed a conceptual framework based on innovation theory and doughnut economics, which examines how sustainable innovations by MNEs have been able to contribute towards the redesign of core business pillars, and in turn alter properties within an existing system regime. While the research is unable to conclude whether this leads to the transformation of a regime, it does confirm that MNEs are working towards developing transformative sustainable innovations. Furthermore, the findings reveal how MNEs are developing sustainable innovations and the challenges faced.

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# Appendix A

## A.1 Interview Guide – Tetra Pak

1. Could you please share how the Tetra Rex innovation came to be?
2. What were the notable successes in the early stages of development of Tetra Rex? What do you think attributed to those successes?
3. What were the notable early challenges in the development of Tetra Rex? How were those resolved?
4. What is the current status of Tetra Rex?
  - a. To understand the rhythm of business, what is an estimate on the number of meetings held focussed on Tetra Rex?
  - b. How many people are solely focused on the Tetra Rex product line?
5. What are the ambitions for Tetra Rex today? And what constitutes success for Tetra Rex today?
  - a. Revenue targets?
  - b. Share of market targets?
6. Will Tetra Rex contribute to Tetra Pak's climate goals to achieve net zero GHG by 2030? And if so, how? What is the path to achieve this?
7. What internal and/or external incentives are in place to drive the adoption of Tetra Rex?
8. Do the current financials support the substitution of equivalent Tetra Pak products with Tetra Rex?
9. What are the challenges facing Tetra Rex in achieving its ambitions?
10. What lessons have been learned from Tetra Rex, which are now being implemented in Tetra Pak's general approach to sustainable innovation?

# Appendix B

## B.1 Interview Guide – IKEA

1. Could you please share how sustainability innovations are developed in the initial stages?
2. What success criteria are applied in the early stages of development of an innovation?
3. What are the usual challenges in the earlier stages of development of something new and sustainable? How are those resolved?
4. What are the ambitions of sustainability innovations today at IKEA? And what constitutes success?
  - a. Revenue targets?
  - b. Share of market targets?
5. Are all sustainability innovations designed to contribute to IKEA's climate goals to achieve net zero GHG by 2050? And if so, how? What is the path to achieve this?
6. Could you share some examples of innovations that are central to IKEA's sustainability ambitions?
7. What internal and/or external factors are in place to drive the adoption of sustainability innovations?
8. Do the current financials support the substitution of equivalent IKEA products with sustainable options?
9. What are the challenges facing IKEA in achieving its sustainability ambitions?
10. What lessons have been learned from past sustainability innovations, which are now being implemented in IKEA's general approach to sustainable innovation?