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Business Model Innovation: a Framework for Assessing Corporate Engagement with Sustainability

Corentin Juin¹ · Valentine Georget² · Thierry Rayna¹

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Abstract

Business models and **sustainability** are at the heart of most company strategy. Raising environmental awareness together with worldwide ecological controversies prompted companies' sustainability integration into their business models. The **purpose** of this paper is to define how sustainable are impact-driven business models, and the logical path for that will be to analyse three best-in-class companies, Patagonia, Ikea and Unilever, sitting on the podium of sustainability rankings. The **methodology** and approach used was a qualitative literature review based on 38 references, that supported the emergence of a new theoretical concept: the Sustainability Mirror Framework. This model was applied to the equivalent of over 250 pages of web-scraped materials from the three companies' websites. The main **findings** indicated that while a company might have an impact, it doesn't necessarily mean that it is sustainable for itself and its environment. Integrating impact into business models poses both challenges and opportunities, it emerges as pivotal in addressing contemporary challenges, but clashes with entrenched strategic imperatives, necessitating a paradigm shift. **Further studies** were identified such as the integration of interviews to confront the collected data with an inner-view point, as well as implementing the developed theoretical framework on a larger scale to confirm its cross-industry applicability. Addressing these themes will contribute valuable insights to academia, policymakers, and practitioners, fostering sustainable and impact-driven practices in business.

Keywords Business model · Sustainability · Impact · Ecosystem · Innovation

✉ Corentin Juin
corentin.juin@polytechnique.edu

¹ i3-CRG, École polytechnique, CNRS, Institut Polytechnique de Paris, Palaiseau, France

² Université Côte d'Azur, CNRS, GREDEG, Valbonne, France

Introduction

Context

In the late 80's and 90's, sustainability was an idea shared by researchers and some political leaders, as one of the areas on to focus. That time is long gone, and sustainability is now at the centre of studies, government strategies, the “raison d'être” of NGOs and company roadmaps. As the world's population reaches 8 billion people, Antonio Guterres, United Nations Secretary-General, stated on 15 November 2022 “the milestone is an occasion to celebrate diversity and advancements while considering humanity's shared responsibility for the planet”.

A legitimate question to ask would be about the role of companies and the link between their business models and sustainability. In 2017, the CDP Carbon Majors Report highlighted the level of responsibility of firms by stating that “*over half of global industrial emissions, since human-induced climate change was officially recognized, can be traced to just 25 corporate and state-producing entities.*”

This evolution requires redefining business models to integrate impact-driven and circular principles, to drive value creation while minimizing resource consumption and waste [44]. However while most companies are taking actions, some of these actions are taken for genuine reason while others are taken for external communication purposes. Some actions are self-centered while others are taken as ecosystem-centric [31]. In what proportion are companies taking decisions for themselves, or for the planet, or for both?

The objective of this paper is to provide a state-of-the-art of existing approaches to company business models and their interlinkages with sustainability. This first step will give the appropriate theory to analyze three international companies largely engaged in sustainability: Patagonia, Ikea and Unilever. These three companies are often discussed and ranked among the top 10 most sustainable companies in the world (GlobeScan, ESG News, Environmental Resources Management, Environment Energy Leader, Green Queen, Sustainability Magazine, etc.), raising scholars interest with almost 2000 articles on Scopus with the search: TITLE-ABS-KEY (patagonia OR ikea OR unilever) AND (sustainability OR impact OR esg OR circular). The purpose of this research is neither to establish guidelines nor to report wrongdoings; instead, to identify trends and patterns that could be exploited for positive outcomes.

The selection of articles was based on major keywords used to identify articles related to the topic. The mind mapping (Fig. 1), realized with the selected article titles, helps to provide an understanding of the directions followed and the logic of the selection of the articles based on their title and filtered by their content. When the term “business model” appeared in an article title, the words immediately before and after it were included in the mind map. The right side of the mind map contains more elements than the left, as several titles begin with “Business model.”. From the literature review performed, a new framework emerged with the Gioia et al. method [21]. This framework was then applied as a case study on the institutional data web-scraped from the website of the three companies during the first quarter of 2024.

To properly develop this paper, the first step will be to review the interdependence between sustainability and profitability, as the main criterion for a company to remain in business is to generate profits. Secondly, the growing level of dependency binding business

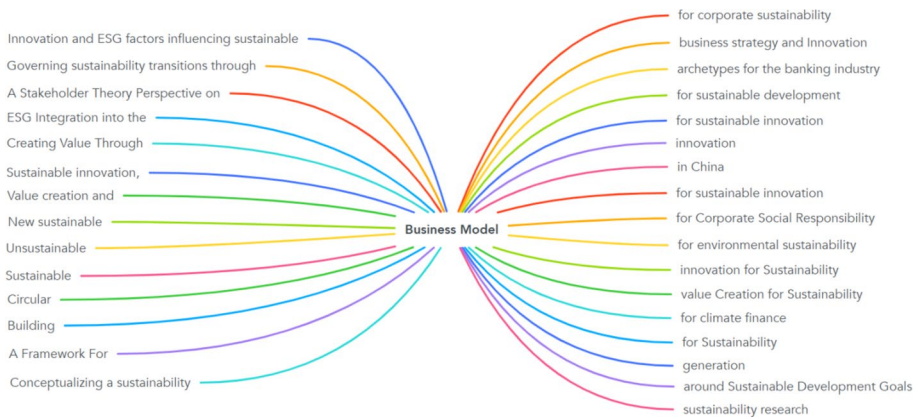


Fig. 1 Mind mapping based on the selected article titles within the literature review

models and sustainability will be investigated. The third angle will be to consider how innovation shapes business models and vice versa. And at last, the literature review will reflect on the extent to which innovation and sustainability can co-exist. This 4-step process will be key to developing a grid of analysis that will be applied to Patagonia, Ikea and Unilever.

In a first section will be presented the process of the literature review and how did the theoretical framework emerged through the *Gioia et al.* method. The following section will present the methodology, from the case selection to the application of the framework to the data collected. The third section will aim at presenting the results of this analysis through qualitative analyses. Finally in the last two sections, the findings will be discussed and the research will present its conclusions.

To support this investigation, the paper introduces a framework that distinguishes how sustainability is expressed in corporate discourse. It does so by identifying whether each sustainability-related activity is primarily aimed at benefiting the company (“anchored”), directed toward societal or environmental benefit (“steered”), or aligned with both goals (“embodied”). This distinction is essential to assess whether sustainability is genuinely integrated into the business model or strategically positioned for external perception.

Defining the Theoretical Background

What is a Business Model?

It would be almost safe to say that there are as many business models as there are companies worldwide. Yet, we can cite Michael H. Morris who defines (page 727) a business model as “a concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets.” [32]. Another definition could be the interdependence between value proposition, supply chain and customer interface [9]. Finally, Steve Evans defines business models as the way of doing business and creating, delivering and capturing value for a company [18].

How to Define Sustainability?

In 1987, the United Nations Brundtland Commission defined sustainability as “*meeting the needs of the present without compromising the ability of future generations to meet their own needs.*” The United Nations through its 17 Sustainable Development Goals (SDGs), defines the initiative as a “*framework for improving the lives of populations around the world and mitigating the hazardous man-made effects of climate change*”. At this point, it is possible to observe the common areas between sustainability and sustainable development. Overall, sustainability is the consideration of human, environmental, social and economic (not meaning growth) development, in the context of human footprint on earth. When business models and sustainability are used together, a major difficulty is to align competitiveness and business success with ecological and social performance [30].

What is an Innovation?

“*An innovation is a new or improved product or business process that differs significantly from the legal unit’s previous products or business processes and which has been implemented on the market...including product innovations and business process innovation*” according to the French National Institute of Statistics and Economic Studies (INSEE). Innovation for the past 10 years has increasingly been identified as technological, with artificial intelligence, blockchain, cloud, and big data now at the heart of the strategy and business models of most organizations. The notion of disruptive innovation also recently appeared as a real turning point of the ongoing rules and concept. Finally, the improvement of products and services introduced by public and private organizations face critics. Indeed, the development of data availability and instant communication tools, such as social networks since the beginning of the 21st century, relay the need for sustainable innovations [25]. However, beyond technical novelty, innovation must also be perceived as valuable by key stakeholders. Integrating perceived value early, especially in circular innovation, supports the creation of solutions that are both sustainable and meaningful [12].

Literature Review

Outlining the Selection

Academic Search Engines

Academic search engines and bibliographic databases (ASEBDs) are commonly used sources for carrying out in-depth research into a topic. Many are available, with the most widely-known being Google Scholar, AMiner, BASE, The Lens, Open Alex, Web of Science or Scopus. From a practical perspective and with a database of over 389 million articles (query hit count - QHC), the decision was taken to use Google Scholar exclusively for the research of articles [23].

Articles Shortlist

A major step in the search process was to identify keywords. Among those selected were business model, sustainability, and innovation. Research using these main keywords supported the selection of articles for the literature review (Table 1). This initial step also supported the theory of the need for interlinks between the different keywords as identified below in columns 4, 7 and 10.

Following an initial selection of 120 articles using combinations of relevant keywords (such as “business model”, “sustainability” and “innovation”), a two-stage screening process was conducted. A review of abstracts, introductions and conclusions allowed for a first round of exclusion (articles in languages other than English, draft conference papers, and those not aligned with the research question: *How sustainable are impact-driven business models?*) leading to 45 full text reviews. The final selection to 38 articles was based on conceptual relevance, empirical grounding, and the presence of one or more dominant themes identified in the literature (e.g., “sustainable development,” “business model innovation,” “corporate social responsibility”). A keyword frequency analysis confirmed the recurrence of terms such as “corporate social responsibility” (20 articles), “sustainable business model” (18), “environmental governance” (15) and “value creation” (11), which helped guide thematic alignment. A reference matrix was used to document and cross-analyse each article’s scope, ensuring diversity while maintaining analytical consistency. In addition, although over 80% of the articles were research-based, a few non-research publications were included to broaden the perspective and incorporate additional empirical viewpoints.

The Reference Matrix

“The next step was to develop a references matrix, firstly to allow the references to be easily selected, filtered and rearranged, but furthermore to be able to identify the main topics and directions of the articles, addressing the literature review using a thematic approach. The Gioia methodology [21] was used in order to define “1st Order Concepts”, “2nd Order Themes” and “Aggregate Dimensions” as detailed in the Table 2.

Table 1 Identification of search items

Col- umn #1	Business Model			Sustainability			Innovation		
	Col- umn #2	Col- umn #3	Column #4	Column #5	Column #6	Col- umn #7	Col- umn #8	Col- umn #9	Col- umn #10
Item	busi- ness model	“busi- ness model”	“business model” AND “sustain-ability”	Sustaina- bility	Sustaina- ble develop- ment	“sus- taina- bility” AND “in- nova- tion”	Inno- vation	“inno- vation” AND “busi- ness model”	“busi- ness model inno- va- tion”
Google scholar (re- sults)	5,340k	1,210k	380k	4,490k	3,940k	2,900k	6,110k	810k	77,2k

Table 2 Thematic approach table of the literature

Authors	1st Order Concepts	2nd Order Themes	Aggregate Dimensions
(Aldowaish et al., 2022)	ESG promoted by financial pressure	Society-steered sustainability	Sustainability (Sustainability for the profit or a profitable sustainability)
(Carroll and Shabana, 2010)	Sustainability to gain competitive advantage		
(Birkin et al., 2009)	EU quality standards driving ESG		
(Henisz et al., 2019)	ESG assessment includes getting it wrong		
(Stubbs and Cocklin, 2008)	The ESG outcome as the organization's core		
(Escrig-Olmedo et al., 2019)	COP 21 impact on the assessment of CSR	Economy-anchored sustainability	
(Duque-Grisales and Aguilera, 2021)	Higher ESG and lower financial performance		
(Porter et al., 2019)	ESG is connected to economic performance		
(Rezaee, 2016).	Need for sustainability teaching by academic		
(Raith and Siebold, 2018)	Sustainable business models around the SDGs	Stakeholders-steered ecosystem	Ecosystem (Business model for sustainability or sustainable business model)
(Freudenreich et al., 2020)	Stakeholder involvement in Sustainable BMs		
(Birindelli et al., 2018)	Positive ESG effect with women directors		
(Boons and Lüdeke-Freund, 2013)	Firms often treated as a black box		
(Salzmann et al., 2005)	Key economic arguments for driving CSR		
(Lüdeke-Freund, F., 2010)	Sustainable business models and competition	Self-anchored ecosystem	
(De Giacomo and Bleischwitz, 2020)	Business Models and the triple bottom line		
(Bocken an Short, 2021)	Definition of Unsustainable business model		
(Zucchella and Previtali, 2019)	Barriers to the adoption of sustainable models		
(Amit and Zott, 2012)	Definition of Business model Innovation	Context-steered impact	Impact (Business model for innovation or an innovative business model)
(Beattie and Smith, 2013)	Key component concepts of Business models		
(Bolton and Hannon, 2016)	Successful Business Model Innovation as a whole		
(Jørgensen and Pedersen, 2018)	The four phases of sustainable BM innovation		
(Osterwalder and Pigneur, 2010)	Business Model Design and Innovation		

Table 2 (continued)

Authors	1st Order Concepts	2nd Order Themes	Aggregate Dimensions
(Evans et al., 2017)	Impact assessment of new business models	Business model-anchored impact	
(Yip and Bocken, 2018)	Business model innovation is a mindset change		
(Teece, 2010)	Business model for innovation's understanding		
(Hwang and Christensen, 2008)	Technology and BM for a disruptive innovation		
(Schaltegger et al., 2016)	Technology bias of traditional green approaches		
(Boons et al., 2013)	Meanings of sustainable innovation	ESG/CSR-steered innovation	Innovation (Innovation for sustainability or a sustainable innovation)
(Pilař et al., 2019)	Sustainability connections with innovation & CSR		
(Grijalvo and García-Wang, 2023)	Triple dimension of sustainability		
(Kluza et al., 2021)	Positive impact of innovations and social factors		
(Broadstock et al., 2020)	ESG leads to better mechanisms for innovation		
(Xu et al., 2020)	R&D investment nurtures green innovation	Finance-anchored innovation	
(Friede et al., 2015)	Importance of long-term responsible investing		
(Schaltegger and Wagner, 2011)	Factors to get involved in sustainability innovation		
(Eccles and Serafeim, 2013)	Integrating financial and ESG performance		
(Kotsantonis and Serafeim, 2019)	Standardized ESG metrics by industry		

Reviewing the Literature

Sustainability for Profit or Profitable Sustainability

Multiple studies and articles have found evidence supporting increased dependencies between sustainability and profit in public and private organizations. On the one hand, there is pressure from the financial market pushing them to update products, processes and practices [2], while on the other, organizations must comply with industry norms to gain competitive advantage and ensure a win-win situation with stakeholders [13]. This idea of norms is well known by those firms having or wishing to have activities in Europe. Indeed, quality standards in terms of sustainability and more specifically Environmental, Social, and Governance (ESG) criteria are strict [6], particularly since the introduction of the European Corporate Sustainability Reporting Directive (CSRD), which significantly expands mandatory sustainability disclosure requirements for companies operating in the EU. Risks exist in this environment when striving for sustainability. Naturally, companies doing this success-

fully get positive outcomes, however any wrongdoing, even unintentional, usually results in substantial value destruction [24]. In short, organizations communicate their purpose, vision and mission in terms of sustainable development, internally and externally, through their strategy of sustainability [42].

The international community recognises the need for sustainability and dedicates some of its time and reform to the cause. This trend, initiated locally by regions and countries impacts directly on organization of events such as COP21 (Conference of the Parties), and is having a strong influence on the assessment of corporate sustainability performance [17]. The question of the positive and negative financial effects of the ESG is however still being debated. The research led by Duque-Grisales and Aguilera-Caracuel for multinationals in Latin America for example resulted in a lower financial profit for organizations achieving a high ESG score [15]. However, most research demonstrates a positive correlation between sustainability-implemented activities and economic performance, labour conditions and operational efficiencies [35]. A legitimate open question at this point would be to know to what extent schools and universities are supporting the teaching of sustainability to the managers of tomorrow. The availability of sustainability teaching and research is definitely a keystone for the future of sustainability [38].

Business Model for Sustainability or Sustainable Business Model

The UN global agenda can only be achieved with the assistance of policy makers and the involvement of companies. Instead of reconfiguring economically sustainable business models around the SDGs, sustainability and corporate social responsibility are often considered as an additional brick that is integrated (often not properly) into the business model [36]. In this context, the need for stakeholder involvement is a priority for companies; they must take an active role in reshaping their business models for the benefit of sustainable development [19]. When considering stakeholders, the role of the board of directors must be addressed. It is interesting at this point to mention an empirical study conducted by Birindelli, Dell'Atti, Iannuzzi, and Savioli, which concluded that the relationship between the presence of women on the board of directors and a bank's ESG performance constitutes an inverted U-shape, therefore proving the efficiency of gender balance on sustainability management [5]. To improve levels of sustainability in their business models, companies need to focus on two additional areas. The first is the difficulty of implementing sustainability when a firm is siloed [9]. The second is the identification by managers of key economic arguments for driving corporate sustainability management internally [39].

To take this argument one step further, it is legitimate to wonder how to determine if a business model is sustainable. Lüdeke-Freund defined ten years ago explaining that if a business model creates a competitive advantage and contributes to sustainable development for a company, then it can be interpreted as a sustainable business model [30]. For the business model to improve the firm's environmental sustainability, the economic, environmental and social dimensions must be fully integrated [14]. While defining a sustainable business model, it would equally be fair to provide archetypes of unsustainable ones, such as “1) Environmental resource exploitation and waste; 2) Human resource exploitation and waste; 3) Economic exploitation; 4) Unhealthy or unsustainable offering; 5) Quantity over quality and value; 6) Addictive consumption pattern; 7) Complex opaque global value chain; 8) Short-term shareholder– not stakeholder value and 9) Financing and supporting unsus-

tainable practices” [7]. To reshape these unsustainable business models, the existence of barriers to the adoption of sustainability needs to be acknowledged. Indeed, institutional frameworks and financial systems need to be redesigned to support the growth of circular business models [48].

Business Model for Innovation or Innovative Business Model

Business models and innovation have several areas in common. Business model innovation could be related to new activities, linking activities in new and disruptive ways, or changing the stakeholders performing an activity [3]. An innovative business model is therefore identified when innovation becomes involved in one of the key components of the business model: i.e. the resources, competencies, value creation and value delivery, strategy or competitive advantage, respectively [4]. The success of business model innovation depends as much on the internal factors of a company as the external environment. Political, economic, social, and technological components must be considered together [8]. Business model innovation can be seen from an internal perspective; the company could therefore recognize its business model by understanding the status quo and identifying the need for change. The company could also rethink, reinvent, or reorganize it [26]. It can also be considered from an external perspective. In that case, firms could identify and satisfy a need from the market, introduce a new technology, product, or service, improve the market context, or create an entirely new type of business [33].

Business model innovation should not be taken lightly and must be considered on a case-by-case basis; assessing the impact of a new business model is complex and significantly dependent on context [18]. The process entails a change of mindset for both management and employees, as integrating innovation will affect most of the companies’ future products and services [47]. However, it must be clear to organizations that integrating innovation into a broken business model will not suddenly save it. On the contrary, it is only with an increased understanding of the essence of business models that companies will gain an extensive understanding of innovation [43]. When considering the outcome, a business model for innovation has two major centres of interest. The first is that traditional business models have difficulties bringing affordability. The healthcare sector is an example where technology is supporting disruptive innovation which brings affordability to the consumers [25]. The second is “traditional green” technologies, integrated into the business models to allow the development of sustainable-oriented innovation [41].

Innovation for Sustainability or Sustainable Innovation

Sustainable innovation would have different definitions depending on whether it is considered from the angle of an emerging or a developed economy [10]. Yet around the world, the topics most interconnected with sustainability are innovation and corporate social responsibility [34]. The role of sustainable innovation is to allow organizations to develop a product or service with a client-focused approach, while also integrating the triple dimension of economic, social, and environmental sustainability [22]. The positive impacts of innovation on sustainability are many. A recent study in Europe identified that companies adapting their business models towards sustainability using innovations would note improvements in their overall performance [28]. The opposite was also proven to be correct: companies engaging

in environmental, social, and governance have developed stronger mechanisms for innovation, resulting in direct positive effects on their performance level [11].

Investment and stakeholder engagement are at the root of innovation for sustainability and sustainability for innovation. Results indicate that R&D investment has a positive impact on green innovation performance [45]. Sustainability, given the length of time required to achieve it, often conflicts with short-term plans that often do not properly integrate ESG factors [20]. It is for this reason that factors triggering the decision of a company to become involved in sustainability innovation must be understood and anticipated. Among several of these factors, the following could be considered: changes to regulation, initiatives of major stakeholders, or changes to the management team [40]. A key tool strengthening the link between innovation and sustainability is integrated reporting, which often combines innovation, financial and ESG performance information into one document [16]. One improvement path could be proposed regarding integrated reporting. Data and measurement tools are often standard elements from rating agencies or the market. Companies could and should customize their metrics reaching consensus with industry peers on standardized ESG metrics [29].

Definition of 1st Order Concepts, 2nd Order Themes and Aggregate Dimensions

The reference matrix supported the use of the Gioia methodology [21] with the emergence of the 1st order concepts, that are in this case the main idea or output from each of the article. Those 1st order concepts were then reviewed and grouped allowing the emergence of meso-concepts (2nd order themes). Finally the aggregate dimensions at a macro level have emerged naturally.

Methodology

Research Design

The methodology is based on a qualitative approach, case-based grounded. The literature review allowed the emergence of a new theoretical framework (Fig. 2) that will be mobilized within the case study analyses [46]. As summarized in above Table 2, we have identified

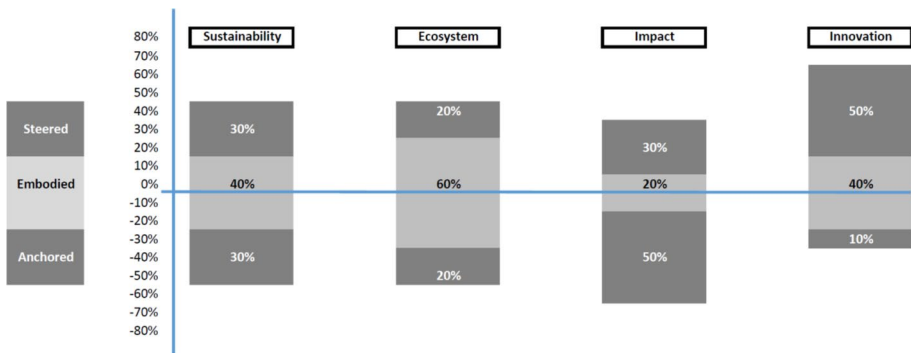


Fig. 2 The sustainable mirror framework that emerged from the literature (random example values for illustrative purpose)

four parameters (embodied sustainability, ecosystem, impact and innovation). Each of them on a vertical line will consider its virtuous driver (the steering) together with its business-as-usual benefit (the anchor). The objective is to ensure that an organization is aligned between its business model and the impact it is promoting. Therefore three elements will be interesting to analyze for each vertical, the emerged one (steering), the submerged one (anchor), and the more or less thick line in between that characterizes their long-term alignment, the embodiment of activities for the genuine good of both the company and its environment.

Case Selection

For more than 25 years, GlobeScan and the Sustainability Institute (ERM) have run expert survey to rank the best organizations about the integration of sustainability into their business strategy. In the 2023 GlobeScan survey, Patagonia, Ikea and Unilever respectively rank 1st, 2nd and 3rd of this survey. These three companies were also among the nine that initiated the 2021 pledge to decarbonize ocean shipping by 2040. A legitimate question could be about the rationale to analyze three completely different companies, from different industries and markets. Yet the analysis will try to demonstrate that those differences are not an issue when we review an organization's sustainability, innovation, impact and ecosystemic strategy.

Data Collection

This study will most probably be made of two parts, the first one aims at gathering secondary data from the organization's institutional websites to identify key constructs and trends. The second step will consist of collecting primary data through interviews to challenge the original findings. This paper will focus on the first step of the analysis, keeping in mind that institutional websites are declarative, and could include promotional elements as well as bias. To mitigate this risk only institutional website pages were analyzed, excluding all commercial pages.

For each of the three organizations, their institutional website was web scrapped manually to exclude any non-institutional pages, which in most cases are product pages. As outlined in Table 3, Patagonia web scrapping represents 51 final web pages of content, 42 web pages for Ikea and 37 for Unilever.

Data Analysis

An in-depth case-based approach [46] was taken to analyze the collected data, through the lens of the below theoretical framework that emerged from the literature review (Sustainable Mirror Framework). Unlike established sustainability models such as the Triple Bottom

Table 3 Volume representation of the data collected

Organizations	Website sections	Website URL pages	MS word pages	Word-count
Patagonia	11 sections	51 URL pages	84 pages	37 362 words
Ikea	5 sections	42 URL pages	90 pages	40 346 words
Unilever	7 sections	37 URL pages	123 pages	54 297 words

Table 4 Codebook developed from the emerging theoretical framework

	Sustainability	Ecosystem	Impact	Innovation
↑ Steered ↑	The company is taking actions or making decisions primarily to benefit society, with no direct benefit to itself. This approach is characterized by altruistic or non-interested motives.	The company is acting primarily to benefit its ecosystem stakeholders, with no direct benefit to itself. This reflects a non-interested or altruistic approach to ecosystem management.	The company is making decisions or taking actions that aim to have a positive impact on the environment, society, or economy, without direct benefits to itself. This approach is characterized by a focus on external impacts.	The company is innovating primarily to support ESG or CSR goals, with no direct benefit to its own finances. This approach is characterized by a non-interested or altruistic focus on social responsibility.
= Embodied =	The company's actions or decisions serve both the company and society. This approach reflects a balance where the company's sustainability efforts benefit both its own interests and those of the broader community.	The company's actions benefit both the company and its ecosystem stakeholders. This balanced approach ensures that the company and its partners within the ecosystem both gain from the collaboration.	The company's actions or decisions that create a positive impact both externally (on the environment, society, or economy) and internally (benefiting the company). This approach reflects a balance between the company's interests and its external impact.	The company's actions or decisions that benefits both the company's financial interests and its ESG/CSR goals. This balanced approach ensures that the company's innovations contribute to both its own success and broader societal or environmental goals.
↓ Anchored ↓	Actions or decisions made by the company that are primarily in its own economic interest. The focus is on serving the company's needs and goals, rather than those of society.	Actions or decisions made by the company that are focused on benefiting itself, rather than its ecosystem stakeholders. The primary motive is to serve the company's interests.	Actions or decisions made by the company that primarily serve its own business interests. The focus is on the benefits to the company's business model rather than the external impact.	Actions or decisions made by the company that are primarily driven by the company's financial interests. The focus is on innovations that serve to enhance the company's profitability or economic position.

Line (TBL), which focuses on balancing environmental, social, and economic outcomes, or ESG frameworks, which serve primarily investors and regulatory reporting, the Sustainability Mirror Framework emphasizes the internal strategic integration of sustainability. It uniquely suggest a bridge between “anchored” and “steered” elements within corporate discourse, enabling a nuanced understanding of whether sustainability is embedded or performative. The following step was to use NVIVO software as a qualitative data analysis tool to conduct with sentence-by-sentence deductive coding of the codebook (Table 4) developed from the emerging theoretical framework (the Sustainable *Mirror Framework*). To assess consistency in the qualitative coding, inter-coder reliability checks were done as the three authors each independently coded the first 10 pages of data from the three companies and then compared their results. With a coding similarity exceeding 82%, the primary authors proceeded to code the remaining data.

Each relevant quote was coded as one of the four categories and was then coded as + 1 if considered as a steering element, – 1 if considered at an anchoring element (both as the

dark grey areas below), and finally if embodied, meaning serving both, then coded as $-0,5$ and $+0,5$ (as the light grey areas below), to fill the central “embodied” area. Then everything was transferred to a relative figure as a percentage to fill the Fig. 2.

Definition of the Terms and Trade Off

Definition of the Aggregate Dimensions

The first two dimensions (sustainability and innovation) were introduced earlier in the “[How to Define Sustainability?](#)” and “[What is an Innovation?](#)” section. The third one, ecosystem, in its business sense is defined by Adner as the “*multilateral set of partners that need to interact in order for a focal value proposition to materialize*” [1], including all stakeholders such as suppliers, partners, clients, *etc.* The last one, impact, can be defined as the effects of activities, decisions or phenomena on diverse aspects of human and environmental systems, mainly focusing on balancing economic and environmental impacts while ensuring social and societal well-being [37]. This four aggregate dimensions represent key conceptual pillars observed across the literature review and case study material.

Definition of the Attributes

Steered is assigned when the activity or argument from the company do not benefit the company directly. Anchored is selected when the activity or argument from the company directly benefit the company. In the situation that the activity or the argument serves both the company and the society, then it is steered and anchored, which is considered as “embodied” (these concepts were first introduced in the introduction for clarity).

Trade-Off

One could argue that a given element would fit better with the ecosystem than the sustainability or the other way around, and it could be. The position taken here was to define the one category that seems the most relevant for each quoted item. To ensure a fair analysis, a fifth vertical will be made as an integrated view that will take all the gross figures (total of “steered”, “embodied” and “anchored”) to provide a single vertical giving an overall representation of the organization.

Beyond categorization, trade-offs also arise at a strategic level. Sustainability goals can sometimes conflict with short-term business imperatives, such as profitability or operational efficiency. Companies must bridge sustainability goals with business imperatives. When business priorities carry negative impacts, firms should identify the stakeholders affected and actively engage with them to mitigate harm and build trust.

Findings

The application of the Sustainable Mirror Framework that emerged to the 3 organizations selected - Patagonia, Ikea, and Unilever - revealed similar patterns and major differences between those three firms. While considered at the forefront of integrating sustainability

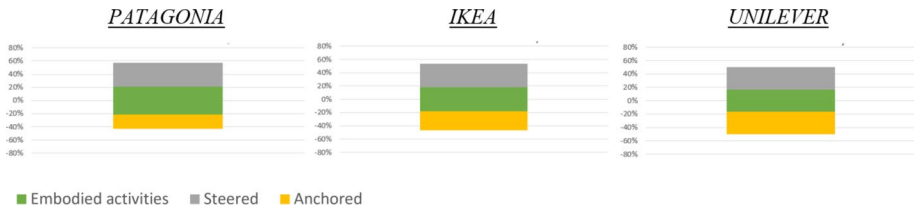


Fig. 3 Proportion of anchored, embodied and steered sustainability of observed firms

into their business models, paths for more embodiment were identified to validate a significant relationship between the structure of impact-driven business models and their sustainability outcomes.

Sustainability

Patagonia, IKEA, and Unilever all showcase notable sustainability efforts, yet their levels of embodiment vary, as represented on Fig. 3. Patagonia leads with 42% embodied sustainability, illustrating initiatives such as “*We work to reduce our impact, share solutions, and embrace regenerative practices.*” IKEA follows at 36%, integrating for example sustainability with its circular product design: “*We aim to develop products using the IKEA circular product design principles.*” Unilever achieves 34%, embodied sustainability: “*Sustainability is embedded into our business strategy, including goals to improve the health of the planet.*” However, substantial portions remain steered or anchored, such as Unilever’s economy focus elements: “*Our Growth Action Plan unlocks potential through financial performance.*” Patagonia, comparatively, demonstrates faster alignment with a society-steered strategy.

Ecosystem

Ecosystem embodiment highlights the companies’ interconnections with stakeholders. Patagonia with 77% embodied ecosystem, showcases collaborative efforts: “*We work with our suppliers to support fair wages and improve labor practices.*”. This example clearly shows the mutual benefits for the company and their suppliers to have good collaborating conditions with suppliers. Unilever follows with 72%, emphasizing shared value: “*Our partnerships create lasting benefits for suppliers, customers, and communities.*” In contrast, IKEA’s 60% reflects its supply chain focus: “*We collaborate with partners to ensure sustainable materials and practices.*” Notably, IKEA has a higher 27% anchored ecosystem, often tied to operational constraints, while Patagonia’s ecosystem stands out with only 6% self-anchored. Aligning stakeholders’ goals with core operations remains a challenge, particularly for IKEA, where operational scale can hinder deeper embodiment. Patagonia’s supplier-driven initiatives offer a benchmark for a more embodied ecosystem strategy. Figure 4 describes the proportion of Embodied Ecosystem of each observed companies.

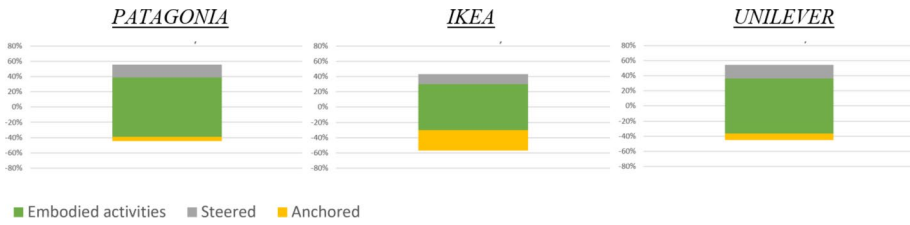


Fig. 4 Level of anchored, embodied and steered ecosystem

Impact

Figure 5 serves as an overview of the proportion of Embodied Impact elements across the observed companies. Patagonia once again leads in impact embodiment with a score of 70%, demonstrating holistic initiatives: “*We commit profits to environmental causes, ensuring tangible societal change.*” IKEA’s impact, with 42% embodied, leans heavily on its operational model, focusing on “*reducing emissions through supply chain efficiencies and resource optimization.*” However, IKEA remains 50% anchored, tied to what some people could call a volume-based strategy. Unilever achieves 44% embodied impact, balancing initiatives such as “*cutting plastic use by half while promoting circular economy solutions.*” Unilever also demonstrates a 38% steered focus, reflecting contextual influences. Patagonia’s impact-driven approach prioritizes external benefits while IKEA’s model prioritizes operational integration. Unilever presents a more distributed strategy, showing progress but also potential misalignment between anchored and steered priorities. Patagonia sets a higher bar for embodied impact by trying to ensure a consistent alignment between purpose, actions, and outcomes.

Innovation

Unilever achieves 50% embodied innovation, demonstrating a balanced approach between consumer needs and sustainability: “*We implement innovation to meet consumer needs sustainably while improving environmental outcomes.*” However, 38% anchored innovation might reflect its market-driven constraints, focusing heavily on financial performance. IKEA follows with 34% embodied innovation, prioritizing operational efficiency: “*We are introducing bio-based alternatives for glue to reduce fossil fuel use and climate footprint.*” Yet,

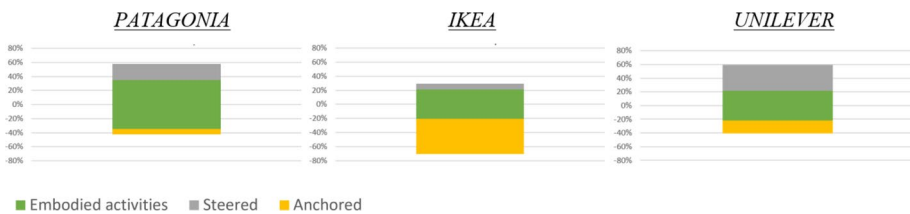


Fig. 5 Level of anchored, embodied and steered impact

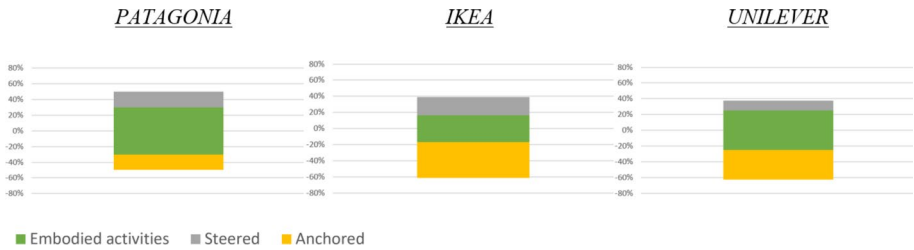


Fig. 6 Level of anchored, embodied and steered innovation

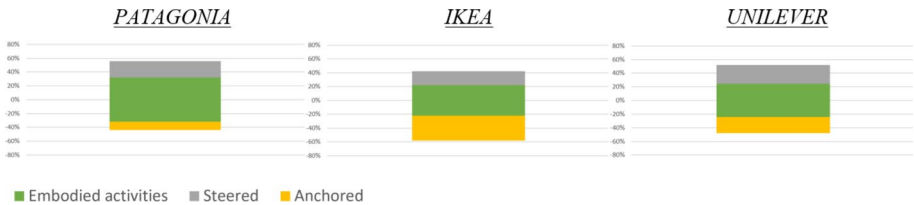


Fig. 7 Integrated view of anchored, embodied and steered for the four dimensions

IKEA remains 44% anchored, illustrating challenges in aligning innovation with sustainability as its volume-driven business model can limit deeper transformation. Patagonia with 60% embodied innovation, promote integrating regenerative materials into its processes: *“We innovate with regenerative practices to reduce environmental harm and support ecosystems.”* Patagonia’s approach seems more aligned with both societal and environmental goals, showcasing innovation as a core strategy. While all three companies embrace innovation as outlined in Fig. 6, Unilever and IKEA face hurdles in achieving deeper embodiment compared to Patagonia’s purpose-driven innovation model.

Integrated View

In the aggregated analysis presented in Fig. 7, Unilever exhibits a balanced yet cautious approach, with 48% embodied activities, 28% steered, and 24% anchored. Efforts like *“We use innovation to ensure our products meet consumer needs while reducing environmental harm”* highlight its dual focus on sustainability and impact. However, its anchored elements reflect the influence of market pressures and legacy operations.

IKEA follows with 44% embodied, 20% steered, and a notable 36% anchored. While innovations like *“introducing bio-based glue alternatives to lower climate footprint”* showcase progress, IKEA’s business model often ties it to operational constraints. This hinders deeper embodiment of ecosystem and impact goals.

Patagonia seems more advanced to associate steered with anchored activities with 64% embodied, supported by initiatives like *“To support our families, Patagonia provides company-paid health care and sick time for all employees, paid maternity and paternity leave, access to on-site child care for employees.”* With only 12% anchored, Patagonia demonstrates a highly integrated strategy, aligning innovation, impact, ecosystem and sustainability efforts toward societal and environmental goals while contributing to the company economic health.

The most important in this study and the associated results is and remain that those figures are not static, and that companies with those data have materials to analyze those activities and how to realign the anchored ones with the steered ones to increase the embodied ratio of the company.

Discussion

The findings of this study, underpinned by the Sustainable Mirror Framework, provide a nuanced understanding of how impact-driven business models align with sustainable practices. By analyzing the cases of Patagonia, Ikea, and Unilever, this research highlights the intricate balance between strategic intentions and practical embodiment of sustainability principles. This section critically discusses the results in relation to the existing literature, identifies areas of alignment and contradiction, and proposes implications for both theory and practice.

Confronting Findings with Literature

Sustainability and Profitability

The results affirm the intertwined nature of sustainability and profitability, as highlighted by numerous scholars. Patagonia's success, with its 42% embodied sustainability, resonates with Porter et al.'s assertion that sustainability can positively influence financial performance by reducing operational risks and enhancing brand equity [35]. The integration of regenerative practices not only aligns with this assertion but also echoes Salzmann et al.'s emphasis on leveraging sustainability for competitive advantage [39]. However, Unilever's relatively lower embodiment (34%) and Ikea's anchored elements suggest that economic pressures often dilute sustainability efforts, corroborating Duque-Grisales and Aguilera-Caracuel's observation that higher ESG scores may not always translate into immediate financial gains [15]. The tension between long-term sustainability goals and short-term economic imperatives remains a recurring theme in literature, underscoring the need for balancing these dual objectives [20].

The juxtaposition of these cases further highlights the variability in the adoption of sustainability strategies. While Patagonia's mission-driven approach exemplifies a proactive stance, Ikea's operational constraints mirror broader challenges faced by large-scale corporations. The findings affirm the claims of Lüdeke-Freund that embedding sustainability within business models requires a comprehensive alignment of economic, environmental, and social dimensions [30]. This alignment becomes even more critical as companies face increasing scrutiny from consumers and regulators, as noted by Eccles and Serafeim [16].

Stakeholder Ecosystem Engagement

The analysis of embodied ecosystems reveals Patagonia's superior integration (77%) compared to Ikea (60%) and Unilever (72%). Patagonia's collaborative approach aligns with Freudenreich et al.'s argument that stakeholder engagement enhances value creation [19]. By actively working with suppliers to improve labor practices, Patagonia demonstrates

the practical application of stakeholder theory in fostering sustainable ecosystems. This approach contrasts with Ikea's higher proportion of anchored elements, which suggests operational constraints limiting its ability to fully embody ecosystem principles. Birkin et al.'s findings on the challenges of implementing stakeholder-centric models in large-scale operations resonate strongly here, highlighting the need for tailored strategies to navigate these complexities [6].

Unilever's focus on shared value creation, as evidenced by its partnerships with communities and suppliers, underscores the importance of aligning stakeholder goals with corporate objectives. This alignment, however, remains uneven, reflecting broader trends in the literature that emphasize the difficulty of achieving genuine stakeholder engagement [13]. The findings suggest that while stakeholder involvement is essential, its implementation varies significantly across organizations, influenced by factors such as scale, industry dynamics, and organizational culture.

Innovation as a Driver for Sustainability

Innovation emerges as a pivotal factor in advancing sustainability. Patagonia's leadership in embodied innovation (60%) aligns with Hwang and Christensen's emphasis on disruptive innovation as a catalyst for sustainable transformation [25]. The use of regenerative materials and practices highlights how innovation can serve both environmental and societal goals. Conversely, Ikea's and Unilever's struggles with anchored innovation reflect the barriers to integrating sustainability into legacy systems. Evans et al.'s assertion that business model innovation requires a paradigm shift in organizational thinking is particularly relevant here [18]. For Ikea, the reliance on volume-based strategies appears to constrain its ability to adopt more transformative innovations. This limitation underscores the need for a strategic reorientation, as suggested by Teece, to foster an innovation-driven approach to sustainability [43].

Unilever's balanced approach to innovation, with initiatives such as reducing plastic usage while promoting circular economy solutions, highlights the potential for aligning market-driven strategies with sustainability goals. However, the anchored elements in its innovation strategy reflect broader challenges in achieving this alignment. The findings affirm the claims of Yip and Bocken that integrating sustainability into business model innovation requires addressing both internal and external barriers [47]. For all three companies, fostering an innovative mindset across organizational levels emerges as a critical factor in achieving genuine sustainability.

Identifying Confirmations, Contradictions, and Nuances

Confirmations

The study confirms several theoretical propositions:

The role of integrated reporting in linking sustainability, financial performance, and innovation, as highlighted by Eccles and Serafeim [16], is evident in Unilever's approach. By integrating ESG metrics into its reporting framework, Unilever demonstrates the practical application of this theoretical construct.

The importance of aligning organizational operations with stakeholder values, as argued by Lüdeke-Freund et al. [30], is demonstrated in Patagonia's high ecosystem embodiment. The company's collaborative efforts with suppliers and communities exemplify the principles of stakeholder theory in action.

Contradictions

However, contradictions also emerge:

Ikea's reliance on circular product designs contrasts with Zucchella and Previtali's claim that circular models inherently achieve higher sustainability embodiment [48]. The anchored elements suggest that operational scale and volume-driven strategies can undermine circularity.

The notion that higher ESG scores correlate with superior financial outcomes [20] is challenged by Unilever's moderate embodiment scores despite robust ESG initiatives. This discrepancy highlights the complexity of translating sustainability efforts into tangible financial benefits.

Nuances

The findings highlight nuances in sustainable business model implementation:

Patagonia's community-driven strategies demonstrate that smaller, mission-focused firms may achieve higher sustainability embodiment compared to larger, diversified corporations. This aligns with the observations of Stubbs and Cocklin regarding the unique advantages of niche players in adopting sustainable practices [42].

Unilever's balanced approach underscores the complexity of achieving sustainability in highly competitive and diverse markets. The company's efforts to balance market-driven constraints with sustainability goals illustrate the inherent trade-offs in this endeavor.

Weak Links and Improvement Opportunities

Weak Links

Several weak links in the alignment of sustainability and business models are identified:

The lack of modularity in Ikea's approach to product design suggests missed opportunities for deeper sustainability integration. While the company's bio-based glue initiative represents progress, it falls short of addressing broader design challenges.

Unilever's anchored innovation highlights the challenges of overcoming legacy constraints in traditional industries. The reliance on incremental rather than transformative innovations reflects broader industry trends that prioritize short-term gains over long-term sustainability.

Improvement Opportunities

To address these gaps, companies should:

Foster cross-departmental collaboration to break silos and enhance holistic sustainability integration. This aligns with Salzmann et al.'s emphasis on the importance of internal coordination in driving sustainability initiatives [39].

Invest in training programs to embed sustainability and innovation mindsets across all organizational levels. The role of education in fostering sustainable practices, as highlighted by Rezaee, is particularly relevant here [38].

And finally develop customized metrics for tracking progress, as suggested by Kotsantonis and Serafeim, to ensure transparency and accountability [29]. By aligning these metrics with industry standards, companies can enhance their credibility and stakeholder trust.

Implications for Theory and Practice

Theoretical Implications

The Sustainable Mirror Framework contributes to the theoretical discourse by providing a framework for analyzing the alignment of business models with sustainability principles. Future research should expand its application across diverse industries to validate its robustness and explore its adaptability. Additionally, the integration of qualitative and quantitative methods in applying this framework can provide a more comprehensive understanding of sustainability embodiment.

Practical Implications

For practitioners, the findings underscore the importance of:

Embedding sustainability into core business strategies rather than treating it as an add-on. This requires a shift in organizational culture, as suggested by Yip and Bocken [47].

Prioritizing transparent communication with stakeholders to foster trust and alignment. By engaging stakeholders in the co-creation of sustainability initiatives, companies can enhance their legitimacy and impact.

Leveraging innovation as a tool for achieving long-term sustainability goals. The development of cross-sector partnerships and collaborative innovation ecosystems, as highlighted by Schaltegger and Wagner [40], represents a promising avenue for advancing this agenda.

Overall, the Sustainable Mirror Framework is a tool that is used to evaluate the alignment between the activities that benefit the company and those that support the society. More than a percentage at first sight, it allows organizations to isolate their activities only contributing to one or the other as a starting point to mirror them and improve the degree of coherence and conciliation between them, and therefore increase the part that is embodied.

Conclusion

The insightful analysis of Patagonia, Ikea, and Unilever within this study has unveiled that impact-driven business models carry the essence of both opportunities and challenges in achieving sustainability. Although these corporations stand on the sustainability podium, the Sustainable Mirror Framework shows a nuanced relationship between a company's declared impact and its embodied sustainable practices. Patagonia's pledge to "*reduce our*

impact, share solutions, and embrace regenerative practices” alongside Ikea’s commitment to “*circular product design principles*” and Unilever’s integration of sustainability into their business strategy as per “*goals to improve the health of the planet*” all signify a shared intention towards sustainability. Yet, a significant portion of their sustainability activities remain unembodied, indicating a potential disparity between their aspirations and their entrenched economic strategies. The results suggest that while companies strive to align their business models with sustainability, the actual embodiment of these values is not as pervasive as one might expect.

The critical role of genuine integration of sustainability into business models implies for practitioners to move beyond superficial or not embodied sustainability pledges to embedding ecological and social principles into the fabric of organizational operations. Leaders should prioritize transparency, embracing a metrics-based approach to track progress, and fostering open dialogue with stakeholders to align common and different economic objectives with environmental and societal outcomes. This commitment can transform sustainability from a mere marketing tool into a core business driver, thus unlocking innovation and creating enduring value for companies, society, and the environment. An illustrative example of this approach is the Triple Layered Business Model Canvas [27], which extends traditional business model design to explicitly include environmental and social considerations alongside economic ones, offering a practical tool for embedding sustainability into corporate strategy.

Further research is necessary to bridge the gaps identified between the intended impact-driven models and the manifested practices. It is recommended that future studies incorporate interviews to contrast collected data with internal perspectives and apply the theoretical framework developed here across various industries to validate its generalizability. Moreover, variables such as the company size, ownership structure, culture, or industry constraints could be integrated in the analysis to identify trends and patterns between companies with a larger panel. Developing a comprehensive theoretical framework that encapsulates these aspects could prove pivotal in aiding companies to navigate towards true sustainability.

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