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## Article

# Navigating the green path: The Scandinavian outdoor industry's quest for sustainability

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## ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

# Navigating the green path: The Scandinavian outdoor industry's quest for sustainability

Pia Heggelund<sup>1</sup>, Mari Berg Hersdal<sup>1</sup> and John A. Hunnes<sup>1\*</sup>

**Abstract:** Unsustainable consumption and production in the textile industry pose significant environmental challenges. The outdoor industry, which is moving towards more sustainable practices, provides an opportunity to understand how firms can shift to a circular economy. This study investigates how Scandinavian outdoor industry actors contribute to sustainable business practices for the industry and consumers. The methodology involved a qualitative document analysis of websites and publicly available reports from 20 firms. The data was analyzed to assess the businesses' motivations towards sustainability, potential for value retention, implementation of eco-innovations, and alignment with the targets of the Sustainable Development Goal (SDG) 12. Findings show only 10% of firms met SDG 12 material management targets. Although 90% adopted recycling and 95% integrated product innovation, only 10% innovated their business model. The relationship between value retention, eco-innovation, and SDG 12 is intricate and varies based on individual firm objectives, strategies, and characteristics. While product improvements are prevalent, broader sustainability requires more robust networks and clear objectives. Firms need to ensure their sustainability claims match their actions. Mature firms with substantial revenues are closer to achieving a circular model, but all companies have the potential to enhance their sustainability practices.

**Subjects:** Environment & Business; Corporate Social Responsibility

**Keywords:** sustainability; eco-innovation; value retention; outdoor industry; sustainable development goals

### 1. Introduction

Rampant unsustainable consumption and production are among the most pressing environmental dilemmas currently faced (EU, 2020). This challenge underscores the importance of the UN's 1987 seminal and highly cited definition of sustainability in *Our Common Future*, which describes it as a balancing act: fulfilling present needs without jeopardizing the capabilities of future generations to meet their needs (World Commission on Environment and Development, 1987). While numerous definitions of sustainability have since emerged, the majority align around three core dimensions: environmental integrity, social equity, and economic prosperity. These three pillars serve as guiding principles, emphasizing the interconnectedness of natural ecosystems, societal well-being, and economic viability in pursuing a sustainable future.

After establishing its foundational importance in global discourse, sustainability began to find its direction in the business sector as well. Porter and Van der Linde (1995) argued that sustainability could offer firms a competitive advantage, but at the time, many feared it would have the opposite effect through increased costs and loss of competitiveness. Since then, consumer behavior has changed. According to McKinsey and Company (2018) “True Gen” report, younger consumers from Generation Z (i.e., those born between 1995 and 2010) are particularly concerned about transparency, inclusivity, and sustainability. To keep up with their consumers, firms must realize that sustainability can be profitable (Porter & Van der Linde, 1995).

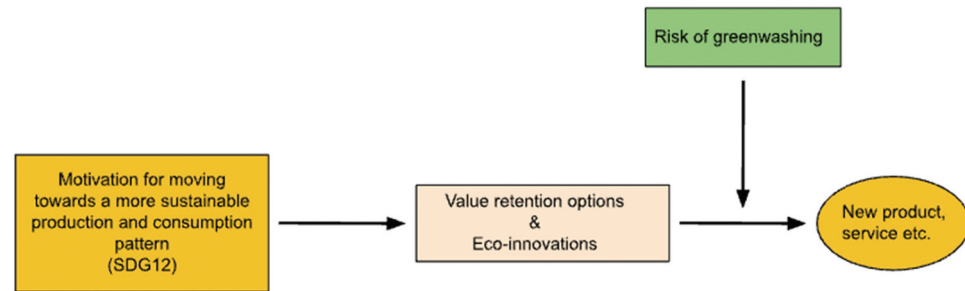
The textile industry is often criticized for its huge environmental footprint, as it accounts for 10% of the world’s total greenhouse gas emissions (EU, 2020). As production and consumption are especially harmful to nature, outdoor firms have been more proactive in terms of sustainability than other industries (Fuchs & Hovemann, 2022). To achieve sustainability, the circular economy offers a strategic approach. Rather than the traditional take-make-waste model of the linear economy, the circular economy emphasizes keeping resources within a continuous loop, focusing on reusing and recycling materials (Van Buren et al., 2016). It is worth noting that while several definitions of the circular economy exist, a comprehensive review of 114 definitions revealed that most encompass “a combination of reduce, reuse, and recycle activities” (Kirchherr et al., 2017, p. 221).

In a study by Ingulfsvann (2021), the author investigated outdoor brands in Norway and Sweden, aiming to highlight how eco-innovative initiatives are combined with retention options to move towards circularity within the Scandinavian outdoor sector. His findings indicated a brand focus on challenging the linear system through market innovation aimed at heightening customer interest. Prominent initiatives included rental and subscription models, collecting and reselling used clothing, and engaging local shoemakers for repairs. Despite its valuable insights, Ingulfsvann’s research was limited in its scope, considering only five actors in the industry, all of which operated with relatively high pricing strategies.

Building on Ingulfsvann’s foundational work, this study delves deeper into the implications of outdoor industry firms’ sustainability efforts. The research was guided by the question: *How do actors in the Scandinavian outdoor industry encourage sustainable business practices within the industry and among consumers?* Value retention strategies aim to keep a product’s value within the economic system through activities like recycling and reusing (Reike et al., 2022), while eco-innovation promotes sustainable solutions throughout a product’s life cycle (Prieto-Sandoval et al., 2018). Such innovations aim to achieve the UN’s Sustainable Development Goals (SDGs), developed to ensure global well-being (United Nations, 2023a). A 2018 KPMG study found that 55% of reporting companies focus on SDG 12, concerning sustainable consumption and production patterns (Rashed & Shah, 2021). Given the continuous growth of sustainability and the circular economy in retail, regular investigations into this topic are crucial. This study, therefore, extends the literature by examining a broader range of firms in the outdoor industry across different price points and further discusses the role of the SDG as a motivator for circular economy activities.

While, as already stated, Ingulfsvann (2021) closely parallels this research, other studies offer essential context. Tunn et al. (2019) combined sustainable consumption with the circular economy, spotlighting the clothing industry and advocating diverse business models to cater to evolving consumer needs in transitioning to a circular economy. Khaw-Ngern et al. (2021) emphasized that rising consumer awareness strengthens the competitiveness of firms adopting circular economy principles and highlighted the value of cross-sector collaborations in waste management. Kirchherr et al. (2018) pinpointed cultural barriers, such as limited consumer interest and cautious corporate cultures, as significant challenges to the circular economy’s adoption. Collectively, these works illustrate the complexities and imperatives of the circular economy transition, which our research delves into.

**Figure 1. A firm's path toward a circular economy.**



To answer the main research question, four sub-questions were generated: First, to what degree do the SDGs motivate firms to achieve a circular economy? The SDG's frequently serve as a foundation that firms use to reach their overall goals (Rashed & Shah, 2021). Second, how are firms initiating value retention? Retention strategies are key to a circular economy (Reike et al., 2022) and are already prevalent in the outdoor retail industry (Fuchs & Hovemann, 2022). Third, which eco-innovations are firms basing these initiatives on? As firms need to innovate to become more sustainable, this question will provide us with valuable insights into what kinds of innovations they are pursuing (Prieto-Sandoval et al., 2018). Fourth, what is the relationship between retention, eco-innovations, and SDG 12? Answering this question will build on Ingulfsvann's (2021) research and extend the understanding of how excelling in retention and innovation can help to achieve sustainability goals such as SDG 12.

## 2. Literature review

To answer the research questions, the most relevant concepts to the research were examined: circular economy, the SDGs, value retention strategies, eco-innovations, and greenwashing. A critical question is why firms adopt circular economy practices. One increasing motivation for sustainable business practices in the private sector are the SDGs, which often provide an overarching framework for environmentally and socially responsible behavior (Rashed & Shah, 2021). Analyzing firm motivations and relating them to specific SDGs will indicate the types of retention activities (i.e., circular economy practices) that firms need to adopt to work toward these sustainable development targets. However, circular behavior is difficult to implement and maintain, and it can result in greenwashing. Figure 1 shows how the different concepts relate to each other.

### 2.1. Circular economy

The concept of a circular economy has become increasingly salient in recent years, and many articles have been written on this topic, resulting in several definitions. Van Buren et al. (2016) definition was employed in this study, which states that a circular economy aims to create economic, social, and environmental value.

In contrast to a linear economy, a circular economy creates economic, social, and environmental value by keeping resources within a so-called loop wherein materials are reused (Van Buren et al., 2016). For many, fast fashion epitomizes the take-make-waste model, as the constant delivery of new products at low prices has led to a huge increase in the quantity of clothing being produced and thrown away. According to the EU (2020), Europeans use 26 kilos of textiles and discard about 11 kilos every year. Several firms in the outdoor industry refrain from following trends and creating poor-quality products to avoid such environmental consequences. This enthusiasm and adoption of more circular business models is rooted in the fact that sustainable development is becoming a mainstream priority in several markets and that consumer awareness of sustainability is growing (Gossen & Kropfeld, 2022). Despite this trend, limited progress has been made in terms of implementation. Kirchherr et al. (2018) identified several barriers to implementation, with the three most major ones being a lack of consumer interest and awareness, a rigid company culture,

and operating in a linear system. According to Gossen and Kropfeld (2022), the latter is still the main barrier in the outdoor industry.

Adjacent to the circular and linear economies is the recycling economy. Although it allows for the reuse of certain materials through recycling, it is not altogether circular, as it still produces waste (Van Buren et al., 2016). Outdoor firms are communicating their movement toward a green shift, indicating the adoption of a recycling economy and aspirations to transition into a circular economy. One increasing motivation to achieve such a shift is the SDGs.

## 2.2. Sustainable development goals

SDG 12 concerns sustainable production and consumption patterns, as it is often used as motivation to increase innovation and performance among outdoor industry actors (Rashed & Shah, 2021). SDG 12 consists of eight targets and indicators (United Nations, 2023b; see Table 1).

The first target, 12.1, is to implement what the UN calls the 10-year framework of programs on sustainable consumption and production patterns. This is a global framework that aims to develop, replicate, and scale up sustainable consumption and production while decoupling environmental degradation and resource use from economic growth. Such long-term frameworks can be used to identify what actions firms need to take to achieve sustainability goals.

Target 12.2 concerns resource management throughout the supply chain and reducing firms' environmental footprints. Targets 12.3–12.5 focus on waste management and the reduction of food, chemical, and other waste. An example in the outdoor industry is techwear, which has long relied on harmful chemicals to achieve its desired attributes (Luo et al., 2021). Improved waste management and reduced chemical use in textile manufacturing would help the techwear industry align with these SDGs.

The final three targets, namely 12.6 to 12.8, concentrate on promoting efficient and effective communication between producers and consumers in the context of sustainable behavior. These

**Table 1. SDG 12, targets 12.1–12.8**

<b>Targets</b>	<b>Aims and indicators</b>
12.1	Implement long-term sustainability frameworks that aim to support the shift toward more sustainable consumption and production.
12.2	Achieve sustainable management and efficient use of natural resources. Indicators include material footprints and material consumption.
12.3	Halve the retail and consumer levels of food waste and food loss.
12.4	Achieve sound management of chemicals and other waste throughout their life cycles. Indicators include certificates and partnerships concerning harmful chemicals.
12.5	Reduce waste generation through retention strategies such as refuse, reduce, recycle and reuse.
12.6	Encourage firms to implement sustainable practices and to create sustainability reports.
12.7	Promote sustainable public procurement practices in accordance with national policies and priorities.
12.8	Ensure that people everywhere have access to relevant information and awareness of sustainable development by providing transparent and accurate information.

Source: United Nations (2023b)

targets underscore the importance of ensuring that the disseminated information is accurate, comprehensive, and designed to motivate. The primary aim is to provide consumers with all pertinent details required to make well-informed purchasing decisions. Such information incorporates public disclosures made by firms, as well as their marketing initiatives.

### 2.3. Resource value retention strategies

To operate within a closed resource system, firms must implement different resource value retention strategies. These activities are related to creating economic and social value while protecting the environment. Reike et al. (2022) argued that the three common retention strategies (reduce, reuse, and recycle) are too narrow in scope to target current sustainability challenges. They suggested adopting a broader framework of 10 Rs that provides companies and policymakers with an expanded toolkit to drive the transition to a circular economy (see Table 2).

The Rs are divided into three types of loops: short, medium, and long. The short loops, R0–R3, exist close to the consumer in the supply chain and can be connected to an actor engaged in prolonging the lifespan of a product. A concept related to R0 and R1 that is often associated with the outdoor industry is sufficiency, which refers to avoiding overconsumption and reducing the use of scarce natural resources (Gossen & Kropfeld, 2022). The term sufficiency marketing refers to producers actively discouraging consumers from buying more than they need. R2 is resell and reuse, and an example from the outdoor industry is the use of third parties, such as the

**Table 2. Value retention strategies (R0–R9)**

Loop	Retention strategies	Description
Short	R0, <i>refuse</i>	Refraining from using or purchasing certain materials to prevent waste creation.
	R1, <i>reduce</i>	Reducing the amount of resources used in production or customers' purchases.
	R2, <i>resell/reuse</i>	Bringing products back into the loop by reselling or reusing items after initial use.
	R3, <i>repair</i>	Extending the lifetime of a product, which can be done by the customer, the producer, or a repair company.
Medium	R4, <i>refurbish</i>	Upgrading a product by replacing or repairing several components, keeping the main components intact.
	R5, <i>remanufacture</i>	Disassembling, checking, cleaning, and if necessary, replacing or repairing the entire structure of a product.
	R6, <i>repurpose</i>	Reusing discarded products for another purpose to give materials a new life cycle.
Long	R7, <i>recycle</i>	The handling of mixed streams of post-consumer or post-producer waste streams that can be reapplied anywhere.
	R8, <i>recover</i>	The capturing of energy from waste materials.
	R9, <i>remine</i>	Retrieving materials after the landfilling phase.

Source: Reike et al. (2022)



Scandinavian secondhand app Tise. Here, both consumers and companies can be part of a new marketplace that brings products back into the loop (Tise, 2023).

R4–R6 pertain to medium long loops in which products are upgraded and producers become involved again. These Rs often entail longer processes than repair, and the key terms are rethink and redesign. Outdoor firms engage in these loops through do-it-yourself workshops and by producing limited-edition products from leftover materials.

The remaining Rs, R7–R9, pertain to long loops where products lose their original function. Among these, recycling is particularly relevant, as it is practiced by most outdoor retailers today. It is important to note, however, that the retention strategies are interconnected; the potential to adopt a particular retention strategy depends on choices made in earlier design and production stages. Implementing these strategies will require innovations across the product life cycle.

#### 2.4. Eco-innovation

Eco-innovation is directly linked to the success of a circular economy, as innovation can refine a system's capability and close material loops (Prieto-Sandoval et al., 2018). What separates eco-innovation from other innovations is that the solutions are meant to fulfill humans' and nature's needs in sustainable ways (Hofstra & Huisingh, 2014). Based on the four most recognized types of innovation in the Oslo Manuals (OECD, 2005), as well as the ten innovation types suggested by Keeley et al. (2013), a typology of eight different eco-innovations specifically targeting how a circular economy can be achieved was developed by Prieto-Sandoval et al. (2018; see Table 3).

Firms that implement business model innovations (E1) increase competitiveness, financial efficiency, and overall profitability (Prieto-Sandoval et al., 2018). This is because they are creating and capturing value through new methods of production and communication that consumers consider valuable. An example of such a model in the outdoor industry is decreasing ownership through rental services. A survey showed that consumption is taking on a new meaning among Generation Z, where it is more important to have access to products or services than to own them (McKinsey & Company, 2018).

Network innovations (E2) allow firms to combine their resources and knowledge. The Scandinavian Outdoor Group (SOG) is an example of such a network in which firms within the

**Table 3. Eco-innovations (E1–E8)**

Eco-innovations	Descriptions
E1, Business model innovation	New ways of converting a firm's offerings into revenue.
E2, Network innovations	Creating new solutions through external relationships.
E3, Organizational structure innovations	Developing new organizational and management practices that are meant to support environmental strategies.
E4, Process innovations	Finding new and better ways to produce products.
E5, Product innovations	Developing products in more sustainable ways, including overall quality and function.
E6, Service innovations	Allowing for a product to be used multiple times by different consumers through subscriptions and rental services.
E7, Market innovations	Created through promotion channels and communicating brand values and product positioning.
E8, Customer engagement innovations	Emphasizing consumers' experience and meeting their desires through engagement.

Source: Prieto-Sandoval et al. (2018)



outdoor industry work together to develop industry best practices (SOG, 2023). Process, product, and service innovations (E4, E5, and E6) are usually combined with the three Rs—reduce, reuse, and recycle—but are approached through different methods. For example, the retention strategy of “reducing” can entail different types of innovation depending on the product lifecycle stage. Within the innovation process, reducing could involve creating new substitute substances to replace harmful chemicals used in production. Alternatively, for product innovation, reducing could entail using fewer virgin materials in the design stage.

Market and customer engagement innovations (E7 and E8) are both related to customer awareness. The former creates value for customers by showing companies’ values and product positioning—for example, through sufficiency marketing—whereas the latter pertains to engaging consumers, with reselling being among the most common strategies.

### **2.5. Greenwashing**

According to Fuchs and Hovemann (2022), the outdoor industry shows more concern for the environment than other industries in the retail sector, and some firms are even considered pioneers when it comes to sustainable behavior. However, what is communicated may not be in line with actual sustainable behavior, which is referred to as greenwashing (Delmas & Burbano, 2011).

Greenwashing can take the form of selective disclosure, which is when a firm only discloses advantageous information while withholding disadvantageous information (Lyon & Maxwell, 2011). Such activities can result in consumers being misled by firms’ communication strategies. However, given that transparency is highly valued by Generation Z, firms may have a difficult time getting away with greenwashing activities.

## **3. Methodology**

To answer the research questions, a document analysis was conducted, which is a qualitative research method in which one systematically reviews and evaluates documents (Bowen, 2009). Although this method is often conducted in combination with other research methods, it can be useful on its own in cases where the documents are sufficient.

### **3.1. Data collection**

The firms chosen for this study were mainly collected from the Scandinavian Outdoor Group (SOG), which consists of 70 Scandinavian outdoor brands. Firms from this association were selected to provide credibility, as SOG is a well-known coalition that houses well-respected manufacturers (SOG, 2023). To ensure a larger sample, other well-known outdoor firms not affiliated with SOG were also included (see Table 4 for a full overview of the firms). To extend Ingulfsvann’s (2021) research, firms that sell products at a range of prices were included. Price ranges were categorized as low, medium, and high based on a comparative analysis of selected products with commensurate attributes.

The documents used in the research consisted of firms’ websites and public reports. Using only public information ensured that all firms were evaluated based on equal terms. Bowen (2009) argued that even though documents can contain a lot of data, one should be cautious, as they may not always be accurate. In this context, the ethical issue of greenwashing becomes especially important to consider.

The available public information varied in terms of quantity. Some actors had published extensive information and sustainability reports, while others offered limited insights. There were also vast differences in how the firms presented themselves, with some appearing to be more transparent (e.g., including information on what they were not doing well) and others claiming to be excelling in most areas.

**Table 4. Overview of all the studied firms (listed by revenue)**

Brand	Country of origin	Year founded	Sale revenue in mill NOK, 2021 <sup>a</sup>	Products	Price range
Helly Hansen	Norway	1877	2,914	Apparel and bags	Medium/high
Fjällräven	Sweden	1960	1,264	Apparel and hiking gear	High
Revolution race	Sweden	2014	895	Apparel, backpacks, and shoes	Medium
Haglöfs	Sweden	1914	837	Apparel and hiking gear	High
Norrøna	Norway	1929	614	Apparel and hiking gear	High
Didriksons	Sweden	1913	534	Apparel	Medium/high
Bergans	Norway	1908	510	Apparel and hiking gear	Medium/high
Peak Performance	Sweden	1986	285	Apparel	Medium
Twentyfour	Norway	2006	266	Apparel	Medium/Low
Stormberg	Norway	1998	265	Apparel and hiking gear	Low
Lundhags <sup>b</sup>	Sweden	1932	252	Apparel and bags	Medium
Pinewood	Sweden	1996	177	Apparel	Medium/low
Skogstad	Norway	1937	174	Apparel	Low
Houdini	Sweden	1993	164	Apparel	High
Klättermusen	Sweden	1975	111	Apparel and bags	High
Tenson	Sweden	1951	63	Apparel and backpacks	Medium/low
Tierra	Sweden	1983	54	Apparel	Medium/high
Beyond Nordic	Sweden	2019	35	Apparel and backpacks	Low
Nordisk	Denmark	1901	19 <sup>c</sup>	Apparel and hiking gear	Medium/low
Röyk	Sweden	2010	6	Apparel	Medium

<sup>a</sup>Exchange rates for 2021 were obtained from Norges Bank (the central bank of Norway). <sup>b</sup> Lundhags is owned by Brav, meaning that the revenue reflects Brav's total revenue. <sup>c</sup> Gross margin.

To depict the differences in quantity and quality, the information was categorized as low, medium, and high. About quantity, low was given if the information available included a brief introduction of the firm's sustainability work, whereas medium was given to those who gave detailed information about said work. If the firm also included informative reports, it received a high score. As for quality, low represented simplistic information restricted to the website, for example, when details regarding actual behavior and strategy were lacking. A medium score was given if information regarding different measures considering their risk analysis and time-specific goals was available. To receive a high score, the firm also had to provide quantitative data on its environmental impact as well as credible references (see Table 5).

### 3.2. Data analysis

A document analysis consists of the following steps: skimming, reading, and interpreting (Bowen, 2009). Two of the authors first mapped out where to find relevant information, then divided the

**Table 5. Data collection sources**

Brand	Website	Sustainability report	Blog	Quantity of information	Quality of information
Helly Hansen	x			Medium	High
Fjällräven	x		x	Medium	Medium
Revolution race	x	x		High	Medium/High
Haglöfs	x	x		High	High
Norrøna	x	x	x	High	Medium
Didriksons	x	x		High	High
Bergans	x			Medium	Medium
Peak Performance	x	x		High	High
Twentyfour	x	x		Low	Low
Stormberg	x	x	x	High	Medium
Lundhags	x			Low	Low
Pinewood	x			Medium	Low
Skogstad	x			Medium	Low
Houdini	x	x		High	High
Klättermusen	x			Medium	High
Tenson	x	x		Medium	Medium
Tierra	x			Medium	High
Beyond Nordic	x			Medium	Medium
Nordisk	x			Medium	Medium
Röyk	x			Medium	Medium/low

sample set, and read the information thoroughly. The information found was collected in three tables covering the 10 Rs, eco-innovations, and the targets of SDG 12. This was followed by quality control of the other author's findings. The following retention strategies, eco-innovations, and SDG targets were not relevant to the outdoor industry and thus were not included in the results: R4, R5, R8, E3, and SDG targets 12.3 and 12.7.

To ensure that the firms were evaluated equally, guidelines were defined for each retention strategy, eco-innovation, and SDG target. For example, for a firm to fulfill SDG target 12.2, it had to provide quantitative data showing a reduction in its environmental footprint. This means that some of the firms may have had a positive trend in emissions but were not evaluated as such due to a lack of published data.

#### 4. Findings and discussion

This section presents the findings, which are structured in the same way as the literature review (SDG 12, value retention strategies, and eco-innovations). To enhance clarity and facilitate comparison, a table that contains an overview of the firms' scores in each domain precedes the analysis of their interrelationships. The discussion is guided by the main research question and the four sub-questions.

##### 4.1. SDG 12 as motivation

It was discovered that firms placed varying levels of focus on specific SDG 12 targets. They are presented in order of priority, from highest to lowest. All the firms except Beyond Nordic fulfilled target 12.4 (waste of harmful chemicals), and all but Twentyfour and Tenson fulfilled target 12.5 (reducing waste generations). Waste in the form of harmful chemicals seems to be harder for firms offering techwear with special attributes, such as extreme weather repellent jackets from

Didriksons or ice-climbing gear from Norrøna. Still, they fulfill the target, as they have been able to refuse the use of certain chemicals. Firms that have implemented at least half of the retentions refuse, reduce, recycle, or reuse have been classified as fulfilling target 12.5. However, only three firms; Bergans, Haglöfs and Houdini have implemented all mentioned retention strategies and are among the highest ranking firms overall (see Table 6).

Twelve of the firms met target 12.6 (reporting). The content of these reports varied significantly. Didrikson, Haglöfs, Houdini, and Peak Performance provided highly detailed reports, positioning them as top performers with respect to target 12.8 (information). In contrast, some firms only presented general information without substantiating their claims through specific firm activities. Statements such as products being made to last, aspirations to better the world, or encouraging passing on products once a consumer no longer desires them are prevalent. Such broad encouragements, when not accompanied by specific actionable solutions, align with the principles of sufficiency marketing as described by Gossen and Kropfeld (2022).

Nine firms fulfilled target 12.1 by presenting long-term frameworks of their goals. Norrøna, Didriksons, and Houdini all presented very detailed frameworks. The firms that did not fulfill this target communicated general goals without any timetable or strategy behind them, which again indicates more of a branding tactic. The target that most firms missed was 12.2 (material management), as only Didrikson and Houdini provided quantitative data showing a decrease in their environmental footprints. These two firms were the only ones to receive a 100% score on SDG 12 (see Table 6). Although Haglöfs also claimed to be carbon neutral through compensating activities, their reports showed that emissions related to their own activities were increasing, meaning that they did not fulfill the target (Haglöfs, 2021, p. 44). This does, however, strengthen their credibility in terms of target 12.8.

Based on these findings, to what degree do the SDGs motivate firms to achieve a circular economy? The analysis revealed an association between score percentage (see Table 6) and circular solutions implemented within a firm. In addition to sustainable behavior, the firms that received a score of 83% or higher all presented valid information on sustainable action, indicating that the firms who scored well on this goal were closer to achieving a circular economy than those with lower scores.

Firms with lower scores also incorporated sustainable behavior but paid more attention to product development rather than transforming their broader business processes. This aligns with the KPMG (2018) study claiming that the SDGs work as motivators for firms to act more sustainably (Rashed & Shah, 2021). A firm's revenue (see Table 4) can also influence the transformation process given that younger and less mature firms might not have the same investment opportunities as their older, more established counterparts. However, because one of the major barriers to a circular economy is a rigid company culture (Kirchherr et al., 2018), the results could have been the opposite.

#### **4.2. Implementation of value retention strategies**

Among the 20 firms, R7 (recycling) was the most prevalent retention strategy, with 90% implementation (see Table 7). Most firms implemented this by using recycled materials, while others worked on creating easily recycled products at the end of their life cycles. Houdini seems to have come the farthest in terms of recycling, with 85% of its latest collection being made from recyclables, of which 39% was also biodegradable (Houdini, 2023). Still, not all the firms making products that are easy to recycle offered a way for the customers to do so, thus requiring customers to find third parties to collect the used materials. Ta et al. (2022) claim that knowledge or incentives made by a firm affect a customer's sustainable behavior patterns. This suggests that in the absence of such initiatives, customers may be less inclined to recycle their textiles.

Refuse, reduce, and repair (R0, R1, and R3) were also implemented by the majority of the firms. All 15 firms that implemented R0 were refusing to use certain harmful chemicals, and some were

**Table 6. Firms' performance on SDG 12 targets 12.1–12.8 (sorted by overall score)**

Brand	12.1 Long-term framework	12.2 Material management	12.4 Waste (1)	12.5 Waste (2)	12.6 Reporting	12.8 Information	Overall score (%)
Didriksons	1	1	1	1	1	1	100
Houdini	1	1	1	1	1	1	100
Bergans	1		1	1	1	1	83
Haglöfs	1		1	1	1	1	83
Helly Hansen	1		1	1	1	1	83
Norrøna	1		1	1	1	1	83
Peak performance	1		1	1	1	1	83
Revolution race	1		1	1	1	1	83
Stornberg			1	1	1	1	83
Tierra			1	1	1	1	66
Fjällräven			1	1		1	50
Lundhags			1	1		1	50
Röyk			1	1		1	50
Beyond Nordic	1			1			33
Klättermusen			1	1			33
Nordisk			1	1			33
Pinewood			1	1			33
Skogstad			1	1			33
Tenson			1		1		33
Twentyfour			1		1		33
Overall score (%)	45	10	95	90	60	65	

**Table 7. Firms' degree of implementation of value retention options R0–R9 (sorted by overall score)**

Brand	R0 Refuse	R1 Reduce	R2 Resell/reuse	R3 Repair	R6 Repurpose	R7 Recycle	R9 Remine	Overall score (%)
Bergans	1	1	1	1	1	1		86
Haglöfs	1	1	1	1	1	1		86
Houdini	1	1	1	1		1	1	86
Norrøna	1	1		1		1	1	71
Didriksons	1	1		1		1		57
Fjällräven	1	1		1		1		57
Helly Hansen	1	1		1		1		57
Klättermusen	1		1	1		1		57
Peak Performance	1	1		1		1		57
Revolution race	1	1		1		1		57
Lundhags		1		1		1		43
Nordisk		1		1		1		43
Pinewood		1	1			1		43
Stormberg	1		1			1		43
Tierra	1			1		1		43
Beyond Nordic		1	1					29
Röyk			1			1		29
Skogstad	1					1		29
Tenson		1				1		29
Twentyfour	1		1					29
Overall score (%)	70	70	45	65	10	90	10	

also refusing to use animal-based materials such as fur and leather. For example, Stormberg refrains from even producing faux fur, as doing so would support the fur trend. Out of the 14 firms that had reduced their use of materials, all claimed to do so by producing fewer products that last longer, using the phrase “lasting a lifetime.” Some firms, such as Didriksons, genuinely offered lifelong repairs. However, for many others, the definition of “lifetime” remained ambiguous, hinting that these claims might align with the tactics of sufficiency marketing.

The brands that were most concerned with longevity all received a score of 57% or higher (see Table 7) and were among the more expensive brands. Repair services were offered by 13 of the firms, both in shops and online. Helly Hansen combines repairs with communication efforts by providing customers with detailed instructions on how to fix their garments themselves, accompanied by a repair kit included with the purchase. There is also a connection between the generosity of repair solutions and those that value longevity, thus strengthening the credibility of those firms.

The focus on longevity is also reflected in the increase in secondhand alternatives (R2), which have been implemented by eight firms. Stormberg implemented its secondhand market differently from the rest. It collects customers’ used products, which are then sent to a Norwegian prison where inmates are offered work training and receive a work certificate to repair garments before they are resold in two of the firm’s stores. As the secondhand market is increasingly attractive among young consumers (McKinsey & Company, 2018), Bergans and Twentyfour have also embraced the Tise platform. Repurpose (R6) is another retention strategy gaining attention, but only Bergans and Haglöfs had implemented it; most focused on repairing or reusing garments to create new ones instead. Remine (R9) is a retention strategy that only Norrøna and Houdini had implemented in the form of recycling activities; for example, Norrøna uses regenerated nylon from landfills and oceans.

Firms mostly implemented retentions that specifically targeted their products. This supports Reike et al. (2022) claim that retention strategies mostly depend on choices in the design and production processes. The three most common retention strategies were recycle, refuse and reduce.

#### **4.3. Needed eco-innovations**

The eco-innovations that the firms focused on most were product, network, market, and process innovation (E5, E2, E7, and E4), respectively (see Table 8). Product innovation (E5) is based on making products last longer by creating high-quality, functional products. “High quality” raises the same question as longevity, since it is rather subjective. To implement such solutions, many of the firms work together through networks (E2), both within the industry and with third-party collaborators.

Out of the 20 firms, 17 successfully met the criteria of E7 by effectively communicating their values. For example, Bergans organized a fashion show in their stores featuring redesigned products on Black Friday 2020. This served as a demonstration against the prevalent trend of Black Friday events that often promote fast and excessive consumption. However, it is essential to recognize that not all Black Friday campaigns encourage overconsumption. Some can be designed with sustainability in mind, aligning with a firm’s green values. Nonetheless, discrepancies between brand values and actions, especially if not communicated effectively, can likely reduce a firm’s credibility. This is a particularly important point for Generation Z (McKinsey & Company, 2018).

Customer engagement (E8) was implemented by nine of the firms (see Table 8). Stormberg, Houdini, and Bergans generate engagement with their customers through in-store recycling by encouraging them to send their used garments to be recycled. In return, the customer receives a voucher that can be used in their stores. According to Grębosz-Krawczyk and Siuda (2019), this increases brand value among consumers, making it coherent with E7. However, the most common



**Table 8. Firms' implementation of eco-innovations E1–E8 (sorted by overall score)**

Brand	E1 Business model	E2 Network	E4 Process	E5 Product	E6 Service	E7 Market	E8 Customer engagement	Overall score (%)
Bergans	1	1	1	1	1	1	1	100
Houdini	1	1	1	1	1	1	1	100
Didriksons		1	1	1		1	1	71
Norrøna		1	1	1		1	1	71
Revolution race		1	1	1		1		71
Fjällräven		1	1	1		1		57
Haglöfs		1	1	1		1		57
Helly Hansen		1	1	1		1		57
Klättermusen		1	1	1		1		57
Nordisk		1	1	1		1		57
Peak Performance		1		1		1	1	57
Pinewood		1	1	1		1		57
Röyk			1	1		1	1	57
Storberg		1		1		1	1	57
Beyond Nordic				1		1	1	43
Skogstad		1	1	1				43
Tenson		1					1	43
Tierra		1		1		1		43
Twentyfour		1		1				29
Lundhags				1		1		29
Overall score (%)	10	85	65	95	10	85	45	

method of encouragement was sufficiency marketing. Peak Performance (2023) embraces this form of communication as exemplified on their website: “STILL WANT A NEW JACKET, DESPITE WHAT YOU’VE JUST LEARNED? That’s great. But we’ve seen your current one, and it looks fantastic too.”

Only two firms, Bergans and Houdini, successfully implemented E1 (business model innovation) and E6 (service innovation), yet another trend that McKinsey and Company (2018) found to have increasing importance among Generation Z. As offering rentals and subscriptions is considered a new business model within the industry, Bergans and Houdini have also fulfilled the terms for E1, thus being the only firms to receive a 100% score on eco-innovations (see Table 8). Communication (E7) is both a strategy used to highlight the firm’s actions overall and a way for it to further engage its audience (E8). Among the firms, sufficiency marketing was the predominant method used. While it has the potential to bolster a firm’s credibility, if not executed authentically, it can also undermine it.

#### **4.4. Relationship between SDG 12, retention strategies, and eco-innovations**

Table 9 shows which retention strategies and eco-innovations correspond to each SDG target, according to the analysis.

The firms that provided detailed long-term frameworks (12.1) seemed to invest more resources in network, process, and product innovation (E2, E4, and E5). For example, Norrøna is investing in the development of chemical-free materials in collaboration with a network of suppliers, which aligns with its sustainability goals. The investment activity is associated with not only the firms that have higher revenue but also those with more expensive products (see Table 4). However, target 12.1 is likely to influence all retention strategies and eco-innovations, since the firms with concrete frameworks seemed to work more systematically toward specific goals. Target 12.2 (material management) can also be said to have a direct impact on all areas, as all retention strategies and eco-innovations in some way influence a firm’s overall environmental footprint.

Both waste-related targets (12.4 and 12.5) are related to the retention strategies refuse and reduce (R0 and R1), as the firms seemed to prioritize waste solutions in relation to their products. Process and product innovation mostly aimed to generate waste solutions (E4 and E5). The implementation of these retention strategies is manifested in the utilization of innovative production methods and materials. One effective approach to acquiring novel tools for promoting a circular economy is by assimilating knowledge from others and fostering innovation within networks (E2). Target 12.5, which concerns waste behavior, mentions reusing and recycling (R2 and R7) as ways to reduce waste production. To implement R2, innovations such as rentals and subscriptions are used, which alter the overall business model of the firm (E1 and E6).

Target 12.6 (reporting) is meant to hold firms accountable and keep consumers well informed. Therefore, the accuracy of a firm’s reports also affects its performance on target 12.8 (information). Sustainability reporting is a new concept for many firms, and third-party organizations are often used to facilitate risk assessments and reporting, which indicates a relationship between the target and network innovation (E2). The quality of the information included is important, and the firms with a high quality score (see Table 5) included retention R0, R1, R7, and R9, sharing quantitative data even when they showed unfavorable outcomes. This also includes market innovation (E7), as reports usually contain firms’ overall goals, visions, and values. The last target (12.8) is associated with the same retention strategies as 12.6, as these topics are considered valuable for the consumer and are implemented through market and customer engagement innovations (E7 and E8).

The findings support the notion that more mature firms with higher revenues are more likely to invest in sustainable processes beyond those solely related to their products, and are usually the ones with the most detailed frameworks. A connection also exists between the price range of

Table 9. Relationship between SDG 12, retention options, and eco-innovations						
	12.1 Long-term framework	12.2 Material management	12.4 Waste (1)	12.5 Waste (2)	12.6 Reporting	12.8 Information
Value retention options	R0	R0	R0	R0	R0	R1
	R1	R1	R1	R1	R1	R2
	R2	R2		R2	R7	R7
	R3	R3		R7	R9	
	R6	R6				
	R7	R7				
	R9	R9				
	E1	E1	E2	E1	E2	E7
	E2	E2	E4	E2	E7	E8
Eco-innovations	E4	E4	E5	E4		
	E5	E5		E5		
	E6	E6		E6		
	E7	E7				
	E8	E8				

a company's products and the degree of their focus on specific specializations. The analysis also demonstrates that product improvement is the most implemented solution and probably the most feasible option for most firms. The retention strategies and eco-innovations most closely linked to the SDG targets are R0, R1, R2, R7, E2, E4, E5, and E7 (see Table 9).

#### 4.5. Comparison to previous studies

Although Ingulfsvann's (2021) study was conducted three years prior to this one, Bergans, Fjällräven, Houdini, and Haglöfs scored relatively similarly in terms of value retention strategies and eco-innovations. One difference between the studies was that Fjällräven did not fulfill the criteria for the resell/reuse retention strategy in this research. Moreover, Fjällräven did not meet the requirements of network innovations in Ingulfsvann's study but did in this research. Furthermore, while Ingulfsvann awarded with E1, business model innovation, Haglöfs did not meet these requirements in this research, but it did fulfill network innovations that they did not in Ingulfsvann's study. These differences are likely to be the result of changes over time, demonstrating the importance of frequent research on the topic. Ingulfsvann (2020) further commented, similar to this observation, that the barrier of a rigid company culture seems to have been overcome.

Ingulfsvann (2021) noted that a limitation of his research was that the five brands he studied were quite expensive and that it was therefore doubtful that the findings would apply to low-cost brands. After researching a broader selection of firms operating within different price ranges, this assumption can be somewhat confirmed. For example, the more expensive firm, Norrøna, fulfilled 71% on the resource value retention strategies and eco-innovations, whereas the lower-cost firms, Twentyfour and Beyond Nordic, only fulfilled 29%. The most surprising finding that did not conform with Ingulfsvann's assumption was that although Fjällräven operated within a high price range, it did not fulfill more than 57% of either the value retention strategies or the eco-innovations.

#### 5. Conclusions

This study set out to investigate the relationship between a firm's motivation to meet the targets of SDG 12, mainly focusing on implementing retention strategies and eco-innovations in the Scandinavian outdoor industry. Before this research, the literature had seen limited exploration of value retention and eco-innovations, especially in the context of SDG 12. While some studies, like that of Ingulfsvann (2021), have touched on related aspects, this study uniquely contributes to the discourse on firms' motivations to pursue sustainability.

This research employed a document analysis to evaluate firms' websites and public reports, ensuring all entities were evaluated on equal grounds. The sample consisted of 20 firms primarily sourced from the Scandinavian Outdoor Group (SOG). To broaden the sample and include a diverse price range, other notable outdoor firms not affiliated with SOG were also incorporated. The analysis considered both the quantity and quality of available public information.

The findings indicate that more mature firms with higher revenues are closer to achieving a circular economy than less mature firms with lower revenues. This also indicates that implementing sustainable actions requires large investments and business experience. Throughout the research, sufficiency marketing proved to be the most repetitive among the firms' sustainability communication methods. This method has been seen to both strengthen and weaken firms' credibility in different contexts, but when used in line with the firm's actual behavior, this tool can be applied alongside strategies to meet SDG targets, retention strategies, and eco-innovations.

Interpreting these results suggests that the road to achieving sustainability is multifaceted. For mature firms, the journey towards a circular economy might be smoother due to their financial capacity and experience. The emphasis on product sustainability over internal business process change could indicate that product-focused interventions are more tangible or accessible for firms.

However, for less mature firms, leveraging network innovations might be a viable strategy to share costs and knowledge. The importance of setting specific long-term goals and understanding emerging consumer trends, such as the potential of rental and secondhand programs, cannot be understated.

This study was limited to Scandinavian firms, so future research should explore a larger, more global selection of firms in the outdoor industry. Doing so could provide a more comprehensive understanding of sustainability trends and practices in the industry. Additionally, exploring consumer perspectives through surveys or interviews represents another promising research avenue. It could supply firms with valuable insights into shifting customer preferences and priorities regarding sustainability. Ultimately, this type of research can help guide outdoor industry firms in effectively prioritizing and investing in the most impactful initiatives to support a sustainable future.

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#### Data availability statement

The data used in the research consisted of firms' websites and public reports.

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