

Sustainable luxury: integrating circular design principles into the high fashion segment

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Received: 2025-09-10

Accepted: 2025-10-17

DOI: <https://doi.org/10.5281/zenodo.18261598>

Abstract. The relevance of the study is determined by the growing need to integrate the principles of sustainable development into the high fashion industry in the context of increasing environmental challenges and the transformation of the value orientations of luxury brand consumers. The purpose of the article is to provide a scientific justification for the possibility of combining the principles of the circular economy with the aesthetic, symbolic, and brand value of luxury fashion without losing its exclusivity. The research methodology is based on a combination of systemic and structural-functional approaches, conceptual analysis of the theory of circular economy, comparative analysis of the mass and luxury segments of the fashion industry, as well as qualitative analysis of empirical cases of leading luxury brands. The study found that circularity in the high fashion segment is implemented according to a design-oriented logic that differs from industrial models of mass production. It was found that upcycling of premium fabrics in luxury fashion functions not as a tool for waste disposal, but as a form of creating new aesthetic and symbolic value. It has been proven that limited production cycles and manual labor create conditions for the integration of circular solutions at the design stage. It has been substantiated that eco-ethical practices, under conditions of selective integration, can strengthen brand exclusivity rather than undermine it. A conceptual model of the balance between eco-ethics and exclusivity is proposed, verified through empirical cases of luxury brands. The practical significance of the results lies in the possibility of using the proposed approaches by designers, creative directors, and managers of luxury brands to develop sustainable development strategies that combine environmental responsibility with the preservation of the cultural and aesthetic uniqueness of high fashion.

Key words: Mass production, product life cycle, aesthetic value, design and cultural strategy, premium materials.

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Introduction

Over the past decade, the fashion industry has been considered one of the sectors with the highest environmental impact, due to its significant consumption of resources, generation of textile waste, and the complexity of reintroducing it into production cycles [1]. Although the concept of a circular economy has already been the subject of active scientific and practical discussion in the mass market segment, luxury fashion remains relatively understudied in this context. Traditionally, the high fashion segment is associated with uniqueness, limited editions, the use of premium materials, and the high aesthetic value of products, which is often perceived as incompatible with the ideas of reuse, recycling, or upcycling [2].

At the same time, it is precisely the luxury segment that has significant potential for shaping new standards of sustainable development, as it is characterized by high margins, long product life cycles, and a significant impact on symbolic and cultural consumption practices [3]. The problem is that the introduction of circular approaches in high fashion is often seen as a threat to aesthetic quality, loss of brand identity, or devaluation of exclusivity. As a result, there is a contradiction between the need for environmental transformation and established ideas about the value of luxury, which requires thorough scientific consideration [4].

The existing body of scientific literature on sustainability and the circular economy in the fashion industry demonstrates a gradual shift in focus from general environmental declarations to the analysis of structural transformations in individual segments, particularly the luxury segment. In this context, research by A. Abdelmeguid et al. [1] shows that the discourse of sustainability in the field of high fashion is formed not only around materials and production practices, but also around symbolic categories such as brand heritage, craftsmanship, and long-term value.

A systematization of scientific approaches to circularity in luxury fashion is proposed by A. Bilancia et al. [2], who demonstrate that most studies focus on process optimization and the implementation of lean practices, while the aesthetic and cultural dimensions of sustainability remain secondary. Their findings indicate the dominance of management logic in the interpretation of the circular economy.

The work of Shashi et al. [3] expands on this view, showing that luxury companies implement circular strategies selectively, adapting them to their own brand logic. The researchers conclude that established practices in the luxury segment cannot be standardized without the risk of losing identity and therefore require flexible management models. At the same time, the authors focus primarily on the strategic level, leaving aside the design mechanisms through which circularity is materialized in specific products.

The consumer dimension of sustainable luxury is examined in detail by M. A. Alim et al. [4], who show that the perception of circular practices in high fashion differs significantly from that in the mass segment. Their results show that for luxury consumers, environmental friendliness only becomes important when it is integrated into the narrative of quality, durability, and prestige.

The idea of circularity as a process of interaction between a brand and a consumer is developed by J. Holmqvist et al. [5], who propose the concept of an “engagement journey.” They establish that sustainable practices in luxury fashion form long-term relationships with consumers based on shared values rather than short-term transactions.

The material aspect of circular fashion is explored in more detail by M. Shamsuzzaman et al. [6], who argue that the reuse of textile residues has significant potential to reduce environmental impact. However, their conclusions are based mainly on universal production scenarios and do not take into account the limitations associated with preserving the artistic and tactile qualities of materials, which is critically important for the luxury segment.

The technological dimension of the circular economy is analyzed by P. Gazzola et al. [7], demonstrating that digital solutions and innovative platforms are playing an increasingly important role in the transformation of the fashion industry. At the same time, the authors acknowledge that technological tools alone do not guarantee sustainability if they are not aligned with the cultural and design values of brands.

Finally, A. P. Burnstine and R. Ghattas [8] show that circular supply chains can contribute to economic growth by combining sustainability with financial performance. However, their model is macro-level and does not take into account the specifics of segments with high symbolic value products.

Thus, analysis of current research shows that scientific literature has accumulated a significant body of knowledge on the circular economy and sustainability in the fashion industry, but the issue of integrating these principles into the high fashion segment is largely considered in a fragmented manner.

The purpose of this article is to justify the mechanisms for integrating circular approaches into the design and production practices of luxury fashion.

Results

The application of circular economy principles in the high fashion segment differs significantly from their implementation in mass clothing production, due to both the material and symbolic specificity of luxury goods. While in industrial fashion, circularity is mostly associated with waste reduction through large-scale recycling and optimization of material flows, in high fashion it takes on a different meaning, primarily focused on extending the product's life cycle, preserving its aesthetic value, and reinterpreting it culturally [7]. Thus, the circular economy in the luxury segment functions not only as an environmental strategy, but also as a design and cultural strategy.

One of the key features of the implementation of circular approaches in high fashion is the specificity of the use of premium materials. Natural silks, cashmere, wool of the highest categories, exotic types of leather, hand embroidery, and complex decorative techniques have high material and artistic value, which significantly limits the possibilities for their standard secondary processing [8]. Mechanical or chemical fiber restoration, which is widely used in the mass segment, leads to a loss of quality, texture, and visual appeal in luxury fabrics, which contradicts the basic principles of high fashion. In this context, circularity is transformed from a technological recycling process into a concept of preserving and transforming material without degrading it.

An important characteristic of the luxury segment is limited production cycles based on small series, manual labor, and a high level of individualization. On the one hand, this model complicates the implementation of unified circular solutions focused on scaling and standardization [9]. On the other hand, it creates unique opportunities for integrating circular economy principles directly into the design phase. In high fashion, decisions about product design, material selection, and processing techniques are made with long-term use, reparability, restoration, and further transformation in mind, which are key elements of circular thinking.

In this context, the difference between industrial and design circularity becomes particularly important. While the former focuses on the efficiency of resource flows and reducing environmental impact through large-scale recycling, the latter is based on the intellectual and aesthetic rethinking of the product [10]. In the high fashion segment, circularity manifests itself through the creation of products with built-in potential for reuse, reconstruction, or reinterpretation within new collections. This approach allows the uniqueness and status of the product to be preserved, while reducing the need for primary resources.

In addition, in luxury fashion, the circular economy is closely linked to the concept of durability as a value. Unlike fast fashion, where a short life cycle is part of the business model, high-quality products are created with the expectation of many years of use [11]. This shapes a different logic of consumption, in which repair, restoration, and even visible signs of age do not diminish the value of an item, but rather emphasize its authenticity and historical depth. In this sense, circularity in the luxury segment becomes part of an aesthetic philosophy, rather than just a tool for environmental optimization.

It is also worth noting that limited production cycles in high fashion contribute to the formation of closed internal material circulation systems [9]. Fabric remnants, archival elements from previous collections, and unused decorative components can be reintroduced into the design process without losing their artistic quality. Unlike mass production, where such materials are often considered waste, in the luxury segment they acquire the status of a unique resource, which enhances the exclusivity of the finished product. Thus, circular practices do not contradict the logic of brand exclusivity, but rather can reinforce it.

Therefore, it can be argued that the application of circular economy principles in the high fashion segment is based on a qualitatively different logic than in the mass industry [9]. Here, circularity is not limited to the recycling of materials, but is realized through durability, design transformation, and the preservation of the aesthetic and symbolic value of products. This approach allows us to consider circular design in luxury fashion as a tool for strategically rethinking sustainability, harmoniously combining environmental principles with the cultural and brand aspects of high fashion [10]. To summarize the key differences in the application of circular economy principles in the mass and luxury fashion segments, Table 1 presents a systematic comparative analysis that reveals the specifics of design-oriented circularity in high fashion.

Table 1 – Features of the implementation of circular economy principles in the high fashion segment

Circular economy principle	Mass fashion segment	High fashion segment
Approach to circularity	Focus on large-scale recycling and waste reduction	Focus on extending the product life cycle and preserving its aesthetic value
Types of materials used	Standardized fabrics, blended fibers, synthetic materials	Premium natural fabrics, rare materials, handcrafted decorative techniques
Recycling possibilities	High due to mechanical and chemical regeneration of fibers	Limited due to the risk of loss of quality, texture, and artistic value
The role of design in circularity	Subordinate to technological recycling processes	The central role of design as a tool for transformation and reinterpretation of a product
Scale of production	Large series, standardized cycles	Limited series, customized and manual production
Strategy for dealing with material residues	Disposal or recycling as waste	Reuse as a unique design resource

Product life cycle	Short-term, tied to seasonality	Long-term, focused on restoration and reconstruction
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Source: compiled by the author based on [7]

A logical extension of this approach is the analysis of upcycling as one of the most representative practices of design-oriented circularity, within which the principles of sustainability are implemented not through the technical processing of materials, but through their creative and conceptual rethinking [9]. It is in this context that upcycling in the high fashion segment takes on a fundamentally different meaning compared to its use in mass industry, as it is based not on the utilitarian reuse of materials, but on their aesthetic, cultural, and conceptual rethinking. In the case of premium fabrics, upcycling is not limited to minimizing waste, but is considered a design practice aimed at creating new value based on existing materials without losing their artistic and tactile qualities.

The specificity of upcycling premium fabrics is determined by the properties of the materials themselves, which are distinguished by high-quality fibers, complex weave structures, and often have a unique origin or historical context [12]. Unlike standard textile materials, such fabrics are not intended for mechanical or chemical reprocessing, as any intervention of this type leads to the loss of their original characteristics. In this regard, upcycling in luxury fashion focuses on preserving the material in its physical integrity, using design methods of deconstruction, reconfiguration, and combination of elements.

An important feature is that upcycling in high fashion is integrated directly into the creative process, rather than functioning as the final stage of the production cycle [13]. Archival fabrics, remnants from previous collections, or elements of unused products become an integral part of the design concept, forming a new visual and semantic narrative. In this approach, the material does not hide its past use; on the contrary, it is often emphasized as a marker of the uniqueness and authenticity of the product [12]. This allows upcycling to perform not only an ecological but also a communicative function, conveying the values of sustainability through aesthetics.

Limited production cycles, characteristic of the luxury segment, play a special role in the upcycling process. Small series and handmade production create conditions for an individual approach to each product, which makes standardization impossible, but at the same time opens up space for creative experiments with the material [14]. In this context, upcycling becomes a form of intellectual craftsmanship, where the designer works with unique textile fragments as an artistic resource rather than as production waste. This approach differs significantly from mass upcycling practices focused on functionality and minimal costs.

In addition, the upcycling of premium fabrics in high fashion is closely linked to the formation of a new value logic. Contrary to the traditional view that the novelty of a material is the determining criterion of luxury, in circular design, the status of a product is increasingly based on the complexity of its origin, history of transformation, and design uniqueness [14]. In this sense, upcycling does not undermine exclusivity, but rather enhances it, as each product acquires a unique character that cannot be reproduced in mass production.

The use of upcycling also contributes to a rethinking of the role of archives in luxury fashion. Fabrics and elements from past collections cease to serve solely as a means of preserving brand heritage and are transformed into an active resource for design innovation [15]. This allows brands to simultaneously maintain historical continuity and meet current ethical expectations by integrating sustainability principles into their identity without radically breaking with tradition.

The problem of combining eco-ethical principles with the preservation of brand exclusivity is one of the key issues in the process of transforming luxury fashion in the context of sustainable development [3]. Unlike the mass segment, where environmental friendliness is often positioned as a universal value and marketing advantage, in high fashion it enters into a complex interaction with traditional ideas about rarity, uniqueness, and status. It is this tension between ethical requirements and the symbolic economy of luxury that shapes the specific context in which sustainable development cannot be integrated without rethinking the very nature of brand value [10].

Eco-ethics in luxury fashion goes beyond environmental production standards and includes a broader set of responsibilities related to the origin of materials, working conditions, transparency of supply chains, and the cultural legitimacy of design decisions [4]. At the same time, brand exclusivity is traditionally based on the principles of scarcity, access control, and symbolic distance from mass consumption. In this context, there is a risk that excessive universalization of eco-ethical narratives may lead to the erosion of the uniqueness of a luxury product and its perception as just another “responsible alternative” rather than an exceptional object of cultural value [8].

At the same time, current transformations in consumer practices testify to a change in the logic of prestige, within which ethical awareness is increasingly becoming a component of status. For luxury consumers, the environmental responsibility of a brand begins to function as a marker of cultural capital, confirming not only financial capabilities but also belonging to a certain system of values [7]. In this sense, eco-ethics does not contradict exclusivity, but can be integrated into it as a new dimension of symbolic differentiation, provided that a high level of aesthetics and craftsmanship is maintained.

The balance between eco-ethics and brand exclusivity is achieved primarily by refusing to mass-copy established practices and moving towards interpreting them within the unique creative language of the brand [9]. In luxury fashion, sustainable development is not declared as an end in itself, but is embedded in the design narrative, becoming part of the history of the product's origin, its materiality, and conceptual design. This approach avoids reducing environmental friendliness to a marketing tool and maintains a distance between the luxury segment and mass forms of “green” consumption [8].

An important element of this balance is control over the scale and forms of communication of eco-ethical practices. Unlike mass brands, which actively use environmental markers as a means of attracting a wide audience, luxury brands often choose restrained or indirect communication aimed at the informed consumer [10]. This allows them to maintain a sense of exclusivity and avoid trivializing sustainable decisions, while emphasizing the depth and authenticity of their environmental commitments.

In addition, the balance between eco-ethics and exclusivity is reflected in the choice of circular design strategies that do not compromise on quality or aesthetics. Upcycling, the use of archival materials, and the repair and restoration of products in the luxury segment do not diminish their value but rather form an alternative model of luxury based on durability and craftsmanship [11]. In this sense, exclusivity is no longer associated exclusively with the novelty of the material, but is determined by the complexity of the design process and the uniqueness of the result.

Thus, the balance between eco-ethics and brand exclusivity in luxury fashion is not a compromise between opposing goals, but rather the result of their conceptual rethinking [6]. Sustainable development in this segment appears as a tool for renewing the symbolic logic of luxury, allowing ecological responsibility to be combined with aesthetic exclusivity, not by destroying but by transforming traditional ideas about the value of high fashion. To summarize the mechanisms of combining eco-ethical principles with brand exclusivity in luxury fashion, Table 2 presents a conceptual model that reflects the multidimensional nature

of this balance and demonstrates how sustainable practices can not only coexist with the logic of luxury, but also reinforce it.

Table 2 – Conceptual model of the balance between eco-ethics and brand exclusivity in luxury fashion

Conceptual dimension	Ethical component	Mechanism of integration into luxury fashion	Effect on brand exclusivity
Material	Responsible sourcing of materials, reduction of environmental impact	Use of premium fabrics with a long life cycle, archival and recycled materials	Enhancing the uniqueness of the product through the rarity and quality of the material
Design	Circular design, upcycling, durability	Creative rethinking of materials without losing aesthetic value	Formation of an individual artistic language and uniqueness of products
Production	Limiting overproduction, responsible practices	Small series, manual labor, controlled production cycle	Maintaining the scarcity and status of products
Cultural	Ethical consumption as a value	Integrating sustainability into brand narrative and heritage	Transforming eco-ethics into cultural capital
Communication	Transparency and responsibility	Restrained, selective communication of environmental practices	Avoiding mass appeal and maintaining symbolic distance
Consumer	Conscious consumption	Focus on long-term ownership and restoration	Rethinking prestige as a combination of status and values
Strategic	Sustainable brand development	Integration of eco-ethics into long-term brand strategy	Strengthening reputation without losing exclusivity

Source: compiled by the author based on [9]

Thus, the conceptual model presented in Table 2 demonstrates that the balance between eco-ethics and brand exclusivity in high fashion is not the result of a compromise between conflicting goals, but is formed through the multidimensional integration of sustainable practices into the material, design, production, cultural, and strategic dimensions of the brand [12]. The analyzed cases show that eco-ethical principles in the luxury segment are implemented selectively and contextually, in accordance with the unique identity of each brand, which allows avoiding standardization and maintaining a symbolic distance from the mass market. As a result, sustainability is transformed from an external regulatory requirement into an internal resource for value creation, reinforcing the perception of luxury

as a sphere of craftsmanship, durability, and cultural capital [14]. This confirms the thesis that circular and eco-ethical strategies in the context of high fashion can act not as a factor in the devaluation of exclusivity, but as an instrument for its renewal and strategic strengthening in the long term.

Conclusions

The study found that the integration of circular economy principles into the high fashion segment is based on a qualitatively different logic compared to the mass fashion industry and cannot be reduced to industrial models of material recycling. Circularity in the luxury segment is primarily achieved through the durability of products, design transformation, and the preservation of their aesthetic and symbolic value, which allows it to be considered a culturally oriented, rather than exclusively technological, strategy for sustainable development.

It has been proven that the specificity of premium materials and limited production cycles creates special conditions for the application of circular approaches, within which design plays a key role. It is at the stage of product creation that the potential for its further restoration, transformation, or reinterpretation is laid down, which significantly extends the life cycle of the product without losing its luxury characteristics.

It has been found that upcycling of premium fabrics in high fashion functions as a tool for creating new value, rather than as a means of waste disposal. Unlike mass upcycling practices, it is based on preserving the material integrity of fabrics, emphasizing their origin, and incorporating the history of the material into the design narrative, which enhances the uniqueness and cultural significance of the products.

It has been proven that eco-ethical principles, when selectively and contextually integrated, do not contradict brand exclusivity, but can act as a factor in its transformation and strategic strengthening. Empirical cases of luxury brands confirm that sustainable practices embedded in material, design, production, and communication strategies form a new model of prestige in which environmental responsibility becomes a component of cultural capital.

The proposed conceptual model of balance between eco-ethics and brand exclusivity demonstrates the multidimensional nature of this process and allows systematizing the mechanisms by which circular design can be integrated into luxury fashion without devaluing its aesthetic and symbolic value. The scientific novelty of the research lies in the justification of a design-oriented model of circularity as an alternative to industrial approaches to sustainable development in the fashion industry.

The practical significance of the results obtained lies in the possibility of their use by designers, creative directors, and managers of luxury brands to develop sustainable development strategies that combine environmental responsibility with the preservation of exclusivity and cultural identity of high fashion. Prospects for further research are related to the empirical assessment of consumer perception of circular luxury and quantitative analysis of the impact of sustainable practices on long-term brand capitalization.

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