
A N N A L E S
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN – POLONIA

VOL. LVII, 1

SECTIO H

2023

JOLANTA BIENKOWSKA

jolanta.bienkowska@uni.lodz.pl

University of Lodz. Faculty of Management

22/26 Matejki St., 90-237 Lodz, Poland

ORCID ID: <https://orcid.org/0000-0002-4566-4906>

The Issues of Fashion Brand Equity in a Circular Economy

Keywords: luxury fashion; fast fashion; sustainable fashion; ecology; circular economy

JEL: D40; M31; Q01

How to quote this paper: Bieńkowska, J. (2023). The Issues of Fashion Brand Equity in a Circular Economy. *Annales Universitatis Mariae Curie-Skłodowska, sectio H – Oeconomia*, Vol. 57, No. 1.

Abstract

Theoretical background: The worldwide fashion business has confronted the demand to transit from a linear to a circular business model that involves a series of fundamental alterations to the hitherto highly efficient strategies. As a consequence, a conceptual issue concerning fashion brand value creation has emerged. This applies notably to luxury, premium and fast fashion brands. Satisfying the expectations of customers and stakeholders should cease to be simply a matter of manufacturing a varied and impressive product line, since it has to be both sustainable and sensitive to the emergent requirements of the natural and social environment. Along with the aforementioned challenges, the key messages conveyed by brands through the marketing communication are also undergoing a transformation.

Purpose of the article: To present the perspectives on building fashion brand equity in a circular economy, including risks and opportunities.

Research methods: A review of scientific and specialised studies, selected using specific keywords, was undertaken. Data sources included academic resources: books, articles, market data (e.g. McKinsey & Company) and statistics published on the Statista platform, as well as specialised resources: expert articles, reports from organisations approaching the issue under research (e.g. EU, UN, Fashion Revolution, the Ellen MacArthur Foundation, etc.). The search area was composed of electronic resources: licensed, open access websites and topic-related websites. The aim of the data analysis was to systematise background knowledge through an inductive method.

Main findings: 1. The fashion business needs a change of mission, vision and strategy along with cooperation and coopetition among brands of the luxury goods, mass goods and organic MSMEs markets within its ecosystems in order to achieve the expected brand value. 2. The implementation of circular economy model in the fashion business implies the necessity to restrict overproduction and overconsumption of clothes and accessories at the same time as utilising sustainable raw materials and production technologies. Furthermore, it requires the dissemination of the slow fashion model, which incorporates the reuse of clothes by other users (rental of clothes, second hand, upcycling). 3. Change of consumer behaviour, popularisation of research findings and expertise from independent organizations is a factor stimulating fashion brands to act towards a circular economy in order to maintain high brand value.

Introduction

The objective of a brand is to create and instil dreams associated with its product, as well as to induce customers to be loyal to it through persistent purchases (Park et al., 2010). Constant consumption of a brand's products leads to identification with its message (Stokburger-Sauer et al., 2012). As a result, brand equity grows on account of the derivation of financial value through the sale of its products (Burger, 2012). This dependence applies to every business, including fashion, i.e. those entrepreneurs who not only manufacture clothes, and accessories but also create their style of clothing.

Until the 1970s, the fashion business was predominantly represented by luxury brands led by exceptional designers. Later, brands from the lower levels of the fashion pyramid started to be included in the business, ending on the lowest stage – mass fashion. As a result, a strong industry has developed (Barry, 2018). Style creation has overtaken all fashion functions at every level of the fashion pyramid, triggering a fiercely competitive battle driven by the rapid change of collections (Aspers, 2016). The target of fashion brands has changed to drawing customers' attention to the need for an attractive appearance and possession of an extensive wardrobe as a marker of social status, especially for new affluent employees. Its implementation in a linear, turbo-capitalist economic model was not only relatively easy but also desirable since it noticeably fueled economic development. The whole process was greatly assisted by marketing activities that encouraged emotional purchasing decisions; consequently, the results of this strategy became impressive. So far, the highest turnover in the clothing industry in the European Union happened in 2018 with the amount of EUR 170 trillion, in 2021 (after a pandemic decline) – EUR 81.6 trillion in the textile industry and EUR 65.3 trillion in the clothing industry, i.e. in total, almost EUR 140 trillion (Euratex, 2022). However, the ecological impact of industries, which have still a positive economic state, is no longer optimistic.

On the contrary, the following data arouses not only anxiety but even fear that the fashion business poses tremendous ecological risks to people and the environment. The clothing industry is considered one of the most polluting, due to emitting into the atmosphere about 1.01 gigatons of carbon dioxide equivalent in 2019. This figure is estimated to increase to 1.6 gigatons by 2030 (Sadowski et al., 2021). It is also a major water consumer, draining 79 trillion litres per year, and is responsible for approximately

20% of industrial water pollution caused by textile processing and dyeing, as well as contributing 190,000 tons per year to ocean microplastic pollution (Niinimäki et al., 2020). Over 184 billion pounds of textile waste are generated worldwide each year (DeVoy et al., 2021). It illustrates Alto Hospicio, a giant garment-filled global dumping ground for new and used clothing from the USA, Europe and Asia (Jocić, 2022).

Offsetting the existing effects of environmental degradation along with preventing further deterioration have become a vital driver for changing the economic model from a linear to a circular one (Kumar et al., 2020), which was accentuated predominantly by environmental activists a few years ago. Nowadays, it is already enshrined in legislation governing the functioning of many industries, including fashion, since the last one is considered the most threatening to the future of our planet.

Literature review

The primal aim of the circular model is to minimize waste (Sverko Grdic et al., 2020). There are following approaches to implement in order to achieve the aforementioned goal: the long-term use of high-quality products, reselling clothes, processing for giving them new functionality, reusing parts and recycling (post-consumer processing into a new raw material) (Köhler et al., 2021). These methods provide a solution to the problem of lacking landfill and incineration sites, dealing with the toxicity of waste caused by its penetration into soil and groundwater; additionally, they bring an incentive to reduce overproduction and overconsumption, thus, limiting the carbon and water footprint (Niinimäki et al., 2020). Nonetheless, the implementation of these causes many problems for companies, as it requires remodelling of the business concept, the production process, the choice of raw materials, machinery, and waste management (Pandit et al., 2020). It jeopardizes, in particular, the maintenance of existing revenue and profit level and, therefore, brand equity (Puker, 2022). In consequence, companies deriving substantial benefits from large-scale production in the linear model focus on a high frequency of purchases. It is a reason for having a distant approach to entering the circular model since it forces them to revolutionize their business. These include fashion brands that focus on hedonistic messages and emotional purchasing decisions.

The fashion business significantly contributed to the global economic development after the Second World War and had an impact on the turbo development of the linear economic model. It happened due to the sociological aspects of fashion (Sullivan, 2015). Until the 19th century, fashion was only for the chosen ones as it offered luxury goods that only the aristocracy and wealthy entrepreneurs could afford (Pouillard, 2021). The outfits on offer were emphasizing social status accordingly to the canons dictated by designers.

In the 20th century, the fashion business became a tool for the democratization and emancipation of society, for both women and men (Kaiser, 2013). Equality

began to be communicated through attire (Barthes, 1983), so designers offered new ideas in line with the trend. Coco Chanel not only freed women from corsets but also pioneered comfortable yet elegant cuts inspired, among other things, by sailors' outfits. She also introduced the idea of using cheaper equivalents of luxury symbols – her famous artificial pearls (Dicker, 2018). Nevertheless, designed outfits were still attainable exclusively for prosperous individuals, albeit this group, owing to the industrial revolution, grew exponentially. The changes that appeared in the community began to blur the hitherto boundaries of various social groups that contributed to the further dissemination of fashion after the Second World War.

A brand has been permanently established in the fashion business regardless of the progressive democratization of fashion. Typically, its name corresponds with the designer's one, although it is contemporarily practised to denominate brands with invented names, like Zara. The name is a verbal symbol accompanied by a non-verbal symbol – the logo (Keller, 2003). These symbols encode a message to persuade customers to purchase and remain loyal to the brand (Kim et al., 2001). Customers identify with a brand as a result of the congruence of the offering benefits with individual expectations. The reasons for identification vary from social status to the possibility of expressing one's personality and emotions (Stokburger-Sauer et al., 2012). Accordingly, brand equity signifies the level of effectiveness in meeting customer expectations. The higher the degree of customer satisfaction, the greater the value of the company (Kotler, 2005). A brand is a competitive tool reflecting a whole set of benefits for a client, not only functional ones (Park et al., 2010). Therefore, building a brand's equity, i.e. taking actions affecting the positive brand image, its positioning, and strength, plays a crucial role in the effective conduction of business (Burger, 2012).

Due to the intrinsic economic and ecological alterations, the variables determining brand equity are redefined. The strategy of the former practice of brand communication was to put a significant emphasis on the affective aspect. The emotions were expected to rule the consciousness and subconsciousness of the client, prompting him to be loyal (Kim & Sullivan, 2019). The values embedded into brand communication had the features of materialistic hedonism, where the human finds happiness through the accumulation and use of material goods (Sloot et al., 2005). Currently, the significance of responsibility for oneself and for others is emphasized. In consequence, brand communication began to relate to cognitive values. Customers' expectations for businesses to care about ecological aspects grow increasingly (Granskog et al., 2020), so companies in response to changing consumer attitudes, multiplying top-down recommendations and restrictions are modifying their offers, including non-functional benefits communicated through the brand.

The aim of the article is to present the perspectives of building a fashion brand equity in a circular economy, considering possible threats and opportunities.

Research methods

The research for the purposes of this study was conducted using a qualitative secondary research method involving data collecting from existing resources, where the researcher did not initiate its creation and did not participate in it (Bryman, 2012). This makes it possible to describe and analyze cases demonstrating the undertaken research problem, along with broadening the knowledge about a not fully defined phenomenon (Mielcarek, 2014). This concerns the functioning scope of the fashion business from the perspective of its transition to the circular economy. These are relatively newfangled issues that have been raised in the global discussion for a decade, as evidenced by search results in databases such as EBSCOhost and ResearchGate. Moreover, the most frequent research studies have been devoted either to a particular brand, as an example of implementing pro-environmental changes, or to the group of brands from the one market: luxury, mass goods or environmental goods. In the latter, the group was examined from a specific perspective: positive or negative initiatives without taking into account an integrative approach. The following study, in contrast, aims to present a broad, integral, cross-sectional view on fashion business.

The main research question was: What actions are fashion brands undertaking with regard to moving towards a circular economy model?

It became the initial point of data selection.

Data sources used were predominantly academic resources: books, articles, market data (e.g. McKinsey & Company) and statistics published on the Statista platform, together with specialized resources: expert articles, reports from organizations approaching the problem under research (e.g. EU, UN, Fashion Revolution, the Ellen MacArthur Foundation, etc.). The criterion for data selection (Crowther & Lancaster, 2012) was the following keywords, (Butler, 2017) among:

- main: fashion, circular economy, sustainable fashion, fast fashion,
- specific: names of fashion brands.

The search was conducted within accessible electronic resources: licensed open-source websites and web pages dedicated to the aforementioned topics (Fisher, 2004). Sixty-one studies published between 2017 and 2022 were selected to form the basis of the study. The results of the research procedure were arranged according to three descriptive criteria, that allowed to identify the following research questions:

1. What are the brand equity sources?
2. What brand equity threats exist in the circular economic model?
3. What are opportunities for brand equity in the circular economic model?

Brands were grouped into three categories of markets offering a specific type of goods. The starting point for this division was the so-called fashion pyramid (Gander, 2017). Based on the results of the initial literature review, an adjustment supplementing the category with entities from the MSMEs sector offering organic products was made (European Commission, 2019). This resulted in the following ranking where the supplementary criterion was the market size:

- mass market brands (EUR 99.23 billion in 2022 [Research and Market, 2022]),
- luxury and premium market brands (EUR 91.05 billion in 2022 [Allied Market Research, 2022]),
- ecological MSMEs brands (EUR 7.65 billion in 2022 [The Business Research Company, 2022]).

There was a purposeful selection of fashion brands, used as the explaining examples. The popularity in search results determined by prominent activities arousing the interest of experts and consumers was the primary criterion.

The objective of the data analysis was to systematize knowledge (Snyder, 2019) on the prospects for building fashion brand equity in a circular economy model, with consideration of threats and opportunities. To accomplish it, an inductive method was used (Patton, 2015). The results obtained were provided in a descriptive form. On their basis, conclusions were formulated and threads for discussion were derived.

Results

Mass market brands

The equity of mass market brands is notable if measured by the revenue volume due to the adopted fast fashion business model. It involves the rapid introduction of new products to the purchase offer that may mean as many as 52 micro-seasons or one new trend per week (Kopp et al., 2021). Furthermore, brands like Zara and H&M have conquered many countries, the highest level of popularity is in France, Great Britain, and the USA, though they are also present on Asian markets, in Australia and New Zealand. Its sales strategy initially was based on large stores in shopping malls, though later it successfully spread to the online world. The clothes offered by popular brands receive moderate opinions considering their quality, hence maintaining a balanced ratio to price, especially in the light of attractive sales by the end of each collection.

The Chinese ultra-fast fashion brand Shein has become a salient player in this segment, it is based entirely on an e-commerce model providing up to 1,000 new styles of clothes daily in very low prices (it is an “under \$5” shopping category); additionally, it is also distinguished by a wide range of sizes from XXS to 4XXL. The other benefits include: every payment method is available, short-time delivery worldwide (1–3 days), and a long return time (up to 45 days) (Mahmood, 2022).

In order for the fast fashion model to continue gaining its benefit of brand equity, there should be no fundamental changes implemented to its assumptions; since this business is about to be a lot, cheap, various at the expense of high quality, which stands in stark opposition to the need of taking action to protect the natural environment. With regard to one of the basic tenets of the EU’s strategy for sustainable textile products in the circular model (European Commission, 2022) says that the

overproduction and overconsumption of clothing must be reversed: fast fashion should go out of the fashion market.

Mass market fashion brands turn out to be in a situation that required them to build a survival strategy. Despite their engagement in a discussion dealing with the necessity to stop the devastation of the natural environment, their actions can be judged as superficial, controversial and often referred to as “greenwashing”.

One of the examples is the H&M presentation of the sustainable line Conscious, according to the manufacturer, made from organic cotton or recycled polyester. However, the fibre-to-fibre recycling technology is constantly considered more myth than reality, with only 0.06% of all materials coming from post-consumer textile waste (Synthetics Anonymous, 2021). As a result, the company is being accused of and sued for misleading its customers with information on clothing labels (Bucher, 2022). In response to such initiatives by fast fashion leaders, the EU is embedding in its strategy the task to investigate and validate the veracity of environmental claims regarding the use of recycled plastic polymers in clothing (European Commission, 2022).

The European Commission has also declared the intention to oblige providing an information requirement on the subject of circular economy and other key environmental aspects through a digital product passport for textiles (European Commission, 2022). It is in response to the contemporary practices of simulating sustainable fashion. Marketing messages of mass market brands convince manufacturers use natural and degradable fibers such as viscose, rayon and bamboo. Nonetheless, the method of acquiring raw materials and the production process of fabrics are still far from even the basic ecological principles. It requires the usage of poisonous compounds, e.g. sulphur, in countries where it is permitted by law (in Asian and African countries), which is still discharged as post-production sewage directly into rivers from where local residents get water for their farms (Hepworth et al., 2021).

Besides, the focus on clothing recycling, i.e. extracting raw materials from waste products and re-using them to produce new goods, just seems to be a good solution taking into account the issues with overproduction and overconsumption of clothes, yet it does not correspond with reality. The problem is connected to the widely used some type of low-quality synthetic and blended fibers (Köhler et al., 2021). The most frequently used method of mechanical recycling outcomes having a material that is not even being suitable for industrial cleaning cloths or for the production of carpets. Even though it is estimated that up to 35% of textile waste could be recycled (in fact, it is only 15% on a global scale) (Juanga-Labayen et al., 2022), only pure natural fibers can be reused in production (Schumacher & Foster, 2022).

Within the circular economic model, there is a prime demand to use the product as long as possible, so mass market brands are slowly accepting the rules of the game. In 2019, H&M introduced a rental program of selected exclusive outfits in Stockholm (www1), and in 2021, launched a suit rental service in the United Kingdom and the United States allowing customers to borrow for free for 24 hours

(www2). Taking into consideration the scale of the H&M brand, more than 5,000 stores in 74 countries, having three rental systems around the world is drastically disproportionate. In spite of that, there is a possibility to recycle clothes of any brand in every store from the chain.

Zara, by the way, has introduced a programme to collect second-hand clothes that are supposed to be recycled or disposed of, and to donate them to non-profit organizations instead: OFPD, Caritas, Red Cross, China Environmental Protection Foundation, Le Relais, The Salvation Army (www10).

ASOS, meanwhile, has undertaken a trial partnership with the online apparel resale service for second-hand clothing in the Thrift+ app. By buying on the platform customer earns the credit, which can be spent on Thrift+, donated to charity or exchanged for ASOS vouchers (ASOS, 2022). The brand has also signed a three-year commitment to participate in the “Jeans Redesign” program (2021) of the Ellen MacArthur Foundation, according to which all jeans meet the requirements for a safe process in the production affecting long-term human health and welfare of natural ecosystems. They are made from 100% pre-consumer recycled and post-consumer recyclable cotton as well as they accomplish the precondition of long-term use – washing resistance, which allows for the reduction of water consumption, etc.

Luxury and premium brands

The equity of luxury and premium brands is generated through remarkable fashion inventions created by eminent designers who express the distinctive features of their brand's style in every collection. Clothing and accessories are made out of supreme quality materials with special care throughout the production process (often a bespoke preparation of individual orders, including handmade). The overriding aspect of a luxury and premium brand is exclusivity emphasizing status (Dana, 2008).

It is the exceptional fashion market that was the cause to usher it. One of the main threats to transit to the circular model is the adoption of the norm contradicting the former principles, such as multiple usages of the same garment, especially in women's fashion (in men's fashion, there is never a huge emphasis on the outfits' diversity). In consequence, there is a potential risk of reducing the frequency of purchases. Moreover, this market is waste-generating and allows the burning of unsold attires based on the belief that this class of brands cannot be second-hand goods. A famous example is the Burberry brand, which showed in its 2017–2018 report the physical destruction of finished goods worth GBP 28.6 million (Cybis & Bernard, 2021). The case was reported by the media as well as amplified by active, eco-friendly customers. Under the influence of a large-scale campaign labelled #burnberry, the company changed its approach. Nevertheless, the burning of unsold collections is prevailing within luxury and premium brands (Socha, 2018), as recorded in various indices examining the level of brand sustainability (Good on You, 2022).

Furthermore, premium and luxury brands are accused of the unethical sourcing of high-quality natural resources. On such imputations, the Valentino fashion house has responded by declaring to resign from alpaca wool. However, it is still the case for brands in this market usually only apply a basic formal policy of animal welfare protection (Rustam, 2021). In order to make the collection more attractive and intrigue the recipient's attention, brands still use furs, leathers, wool, and fluff, along with the hair and skin of exotic animals in the production of their clothes and accessories.

However, due to the emphasis on high quality and uniqueness of products, against the allegations, this market should not have any major problems with the transition to the circular economic model. First of all, in view of using innovative raw materials for the creation of authentic clothing and accessories. In 2017, a new fashion initiative for sustainable development – Green Carpet Fashion Awards ([www4](http://www.gcfawards.com)) – was launched in Italy. Its central intention is to reward and promote innovators implementing biodegradable raw materials while producing clothes and accessories, e.g. marble, wood, grape pomace, casein, or orange waste, etc. Alike solutions are demanded and seem befitting, taking into account that the customer's profile of luxury and premium brands contains a tendency to extravagance. Thus, not only ecological sensitivity but also the desire to distinguish oneself can work in favor of the circular model, since the uniqueness is due to limited access. So far, this maxim applied to natural raw materials, especially zoonotic, and nowadays it has been replaced with exceptional innovative substances of plant origin.

The behavioral pattern of persistent use is implemented on the initiative of brand ambassadors via wearing afresh the same creation, albeit the brands themselves do not endorse it. The vintage style based on clothes from previous eras, fashion trends, and collections becomes more popular these days (Moorhouse, 2020). It gives the space for experiments with fashion and using unfamiliar or, on the contrary, iconic models of clothes. That is why luxury and premium brands are markedly appreciated on the vintage market because their products lose neither their material nor aesthetic value for a long time. This makes it possible to return to the essence of fashion, i.e. creating a unique style and not following the trend without reflection.

The cloth rental is an alternative supplementary circular solution for luxury and premium brands. There are the greatest prospects included in this business idea for the development of circular fashion since the quality guaranteed by luxury and premium brands is of essential importance. Following this trend, Gucci has established cooperation with The RealReal, an online company selling second-hand attire and accessories. The platform will offer to buy clothes donated by the customers of the Italian fashion house along with new Gucci clothes that have not been sold in the current collection.

The luxury and premium fashion market has consistently unequalled value compared to others in the industry; this is the DNA of fashion, its roots, and the history of its founders.

Ecological MSMEs brands

The equity of ecological MSMEs brands is visible through the conscientious implementation of the mission based on the principles of sustainable development (Fletcher, 2010). The positioning depends on the brand's key attributes – its authenticity, the ability to develop commitment and fulfillment of providing the promised quality of the offered product essentials (Sivan et al., 2019). Although these attributes form the basis for building a brand in every market, in the case of mass market brands, price competition wins over, whereas luxury and premium products focus on producing exclusivity and extravagance.

The threats for this market that may be identified due to the conversion to the circular model concentrate on the costs that clothing companies are obliged to invest traceable to the compulsory regulations/restrictions. The European Union prepares to introduce an extended responsibility for manufacturers of textiles with eco-modulation fees and the obligation to prepare a digital product passport (European Commission, 2022). Simultaneously, it declares support for enterprises operating in the re-use sector, except for the social enterprises as a complementary adjective, i.e. those that provide jobs to people experiencing problems in the labor market (unemployed, disabled, etc.).

On the other hand, the ambitious dominance of fast fashion brands is still a present-day risk to ecological micro, small and medium-sized fashion enterprises. There are significant disparities in both production and labor costs that are higher in this segment in accordance with the applicable regulations and the principles of good practice together with fine quality, which affects the more expensive prices of the offered products. Therefore, the circular model gives the opportunity to introduce a relative balance to the fashion business.

On websites promoting ecological fashion, there are many brands of small producers not aspiring to become market giants one day. The primary distinguishing features are the focus on local resources indispensable for the production process (raw materials, place), naturalness and simplicity. Their offer is arranged out of innovative projects. These companies prioritize quality, and the products are displayed at craft fairs, events or in small boutiques, frequently accentuated with atmospheric historical and post-industrial spaces. Despite this, they sell through their online website along with dedicated for these types of brands' shopping applications in order to save money.

In this market, handmade with the upcycling method is still practiced; it is about the re-using of extant materials so the materials get another life in a new form and can be more worthy than before. Upcycling is indispensable in a circular fashion on account of recovering available fabrics for a revitalizing purpose and reducing the production of new ones; it is more about ideas and creativity than technology (Kim et al., 2021). All needed for original, innovative designs is attainable material: used, unsold, damaged or already processed. Bug Clothing, a one-person company from the UK, produces handmade clothes out of waste materials from large design-

er factories (www7). Another example is Jakob's jackets. By using second-hand attire and materials, the designer creates unique katanas with colorful stripes. The value of such products derives from an extraordinary idea, creative approach and handcrafting work, that is why the quantity of small brands involved in upcycling is escalating (www5).

Creating the Green Carpet initiative, luxury and premium brands are determined to promote innovative technological solutions in fabric production, whilst innovators around the world experience prosperity by doing the same on their local levels, therefore, establishing cooperation with prominent brands. Spiber is a Japanese startup that produces textiles using protein fibers, the company has created outdoor jackets made of microbe-derived silk and currently is working on the cost diminution of producing spider silk to a level similar to synthetic fibers (www6). Bolt Threads also fabricates spider silk using yeast and sells it to big brands like Stella McCartney (www3). There are a multiplicity of brand examples like the aforementioned ones on a global scale. The European Union in its policy accents the great potential and space for revolutionizing the fashion industry towards a circular model, more precisely among micro, small and medium-sized enterprises (European Commission, 2019).

Discussions

Change in approach to mission/vision/strategy formulation

Brand equity is conditional on the strategic objectives communicated in various ways and enshrined in the mission and vision statements. Therefore, the statement of Karl-Johan Persson, CEO of H&M, is noteworthy at this point, since he believes that a better way to reduce environmental pollution is to invest in renewable energy sources and to find some methods to improve the materials from which clothes are made. Furthermore, he deliberates that fighting omnipresent poverty is a challenge of much more tremendous salience than reducing greenhouse gas emissions (Cranley, 2019). Paying regard to the circumstances where modern companies are no longer at the stage of selection, but in the midst of establishing a strategy of action for each area, so they give prominence to making it possible to implement the forthcoming strategies in a parallel manner. It obliges fashion brands to revise their existing missions and visions in order to execute them accurately as it assumes by goals set in sustainable development and SGE (OECD, 2018). Most of the ongoing activities undertaken by clothing brands belonging to the fashion pyramid are primarily directed at protecting the financial value of the brand. Brands communicate through convincing messages their declarations of changes on being thoughtfulness to the problem of ecology (Chan, 2019). While simultaneously, brands are persisting to exploit as much as possible, i.e. the existing efficient business models, still not taking seriously the global consequences of overproduction and overconsumption (Puker, 2022).

It is not hard to estimate the existence of a few companies that would be willing to decide on a move like the one made by Patagonia. At the beginning of last year, the brand announced the limitation in the production of new clothes and switched to repairing and incorporating into a second circuit attire recovered from its customers (Blue Arrow, 2021). However, over time, the degree of implementation of the circular economy's assumptions will prevail, thereby entailing the need for new brand valuation methods, excluding a comparison of revenues with other brands. The upcoming changes are prompting evaluation and positioning in non-financial measurement scales (Fletcher, 2010).

Moving on, in the Ellen MacArthur Foundation's report *A New Textiles Economy* (2017) there is a manifest reference to the necessity of building new business models for the textile industry, including those where the core activity would be reselling and renting clothes; such models are already in operation in the sector of micro, small and medium-sized enterprises. There should be no expectations for the luxury and premium brands market to modify profoundly its business model (BoF, 2022a). Its adaptation to the requirements of the circular economy will mainly achieve the selection of ecological raw materials and substances, along with minimalizing overproduction so its garments would reach consumers from lower social groups to a limited extent. Fast fashion brands are facing the unavoidability of an essential change, the demand for it, or even the stipulation to remodel (Brewer, 2019). Consequently, fashion markets acutely need innovative technical and technological solutions, peculiarly in the field of eco-friendly raw materials, the technology of production and recycling more than new business models, although all these are complementary (Kumar et al., 2020). These are expectations set by customers on whose purchasing decisions the brand equity is contingent, as shown by the research results (Papandrea & Sherrier, 2021; Albella et al., 2022).

Cooperation/coopetition

The propensity to cooperate and coopetition of brands should affect the equity. Integration of all fashion entities generates new occasions, for instance, to create an ecosystem that enhances the capability to transform towards a circular model. The business ecosystem is a network of interdependencies between heterogeneous organizations involved in the manufacture and delivery of a specific product. Similarly to the natural ecosystem, each participant influences others and is affected by others, therefore, have to adapt and evolve in order to survive. Every participant linked by activities aimed at acquiring data and building knowledge resources, as well as the possibility of conducting tests and experiments (Heikkilä & Kuivaniemi, 2012). Within ecosystems, conditions are set up for the initiation of startups and the collaboration with existing brands. The examples of such cooperation appeared earlier in the article. Stella McCartney, whose company is offering accessories made from

mushroom skin (www8), has already practiced it successfully for several years. One of the examples of fashion ecosystems is Sustainable Fashion Alliance – an online platform and community for sustainable entrepreneurs and creators (www9).

Maturity of consumers

Both the actual brand equity in the linear model and the potential one in the circular model depend on consumer behavior, expectations and attitudes. Up to this time, many changes have even been forced by grassroots initiatives opposing previous practices degrading the natural environment. It is necessary, foremost, to refrain from overconsumption, expressly ruled by emotional decisions. Clothing shopping should cease to be a momentary whim as a way to improve one's mood or spend time with a friend.

At present, it is talked about the double-faced customers who, on the one hand, search for sustainable fashion on the Internet much more often, while at the same time do not abandon their hitherto favorite brands (Sadowski et al., 2021), as evidenced by the sales revenues. Just during the climax of the COVID-19 pandemic, there was a decrease in purchases of clothing and accessories, which had already bounced back, by some brands even with a small advance compared to 2019 (BoF, 2022b).

It is vital to educate consumers to make advantage of wearing clothing hence to express personality (Barthes, 1983). There is always an option to create one's own style purchasing from second-hand stores and rentals instead of buying disposable clothes. Building awareness of fashion consumption should be directed predominantly on young people with limited financial resources (Pierzchała & Pierzchała, 2020), trying to find their way in the prevailing fashion trends (less often looking for their own alternatives), organically interested in environmental problems, whereas typically finding a remedy for their problems on the Shein platform today.

Changing consumer behavior is served by the activities of contemporary popular sustainably influencers, pro-ecological organizations and some tools supporting their activities – for instance, the applications that offer an independent assessment method to inform consumers whether a brand is certified and trustworthy.

Slow fashion/slow economy

Based on the above-mentioned considerations, a new business model for fashion brands can be outlined and called slow fashion. Currently, this slogan is a linguistic symbol of the trend of consumer behavior in fashion shopping, thus, it is not yet an alternative to an effective fast fashion business model. Although the innovatory model is slowly crystallizing through calls for reduced production (Brewer, 2019), increased product quality, repair, re-selling, renting and recycling. This was the premise of

Kate Fletcher from the Center for Sustainable Fashion (2010), who introduced this expression in 2007. In her opinion, slow is not the opposite of fast – the principle of duality does not adopt here. Slow is a different approach applied by designers, buyers, sellers and consumers with a better understanding of the impact of products on workers, communities and ecosystems. The section results should presents an appropriate interpretation of the data in prospect of quoted references. Results should be discussed in details, sound reasoning and present originality and a sort of novelty.

A methodological limitation is the adopted design research, which implies presenting a broad, integral and cross-sectional view on fashion business, thus, distorting the communication clarity. However, as indicated previously, there are numerous factors for its application. Quantitative research method could be a possible alternative. Nevertheless, the impediment to conducting is the lack of capacity to undertake such a cross-sectional study. Moreover, it would preclude the rendering of business reality, citing Peters and Waterman: “chaotic, paradoxical” (2012).

Future research opportunities

From the content presented above emerges that the research could be on investigating the impact of pro-ecological organizations and consumers on the real change in strategic and innovative activities undertaken by fashion brands. Comprehending the scale of the effect as well as identifying the most adequate measures taken in this regard would allow for reinforcing the indispensable modifications. The rationale behind this line of research is many examples of fashion brands such as Burberry, Benetton, Levi's, GAP, H&M, etc. promoting their pro-environmental ventures, whilst organizations verifying actual activities cannot confirm this, if only because companies are not transparent. This is evidenced by the results provided by fashion business transformation organizations (Synthetics Anonymous, 2021; Fashion Revolution, 2022), which are tracked by individual customers and trigger shifts in their behavior (Granskog et al., 2020).

Another suggested area of research is the scope and nature of cooperation and competition of brands from various markets. The research conducted so far has focused on presenting the specificity of each market, while there is an insufficient number of research integrating and, above all, illustrating the processes of fashion ecosystem formation. Since it is a relatively new practice, therefore, knowledge about the strengths and weaknesses of this form of business existence, together with the opportunities and threats arising from it, is valuable not only for the fashion business but also it has benchmarking potential, because these are rudimentary practices in many other industries. To this end, it would make sense to develop case studies that illustrate the specific objectives of cooperation, interdependency relationships and the effects of interaction.

Table 1 provides a synthetic summary of the findings illustrating the prospect of creating fashion brand value in a circular economy. It includes responses given

to the stated research questions: what are the identified sources of brand value?, and what are the opportunities and threats for brand value due to the potential change to a circular economy model? Furthermore, there are presented implications of the implied modifications and recommendations for necessary/expected measures enabling adaptation to the emerging situation.

Table 1. The perspective of building the equity of a fashion brand in a circular economy – summary of research results

Mass market brands	Source of brand equity: – multiple collections – diversity of collections – mass production	Conclusion and recommendations: – implementation of SDGs and SGEs principles in the mission/vision/strategy to minimise fast fashion – use of sustainable materials and production technologies – clothes rental – recyclable clothes
	Threats to brand equity: – the prospect of a change from the fast fashion model – adapting to imposed regulations – reduction of overproduction and overconsumption – the requirement of producing products of higher quality – the trend for extending the longevity of clothing	
	Opportunities for brand equity: – seeking creative and innovative solutions affecting the image and value of brand	
Luxury and premium brands	Source of brand equity: – exclusivity	Conclusion and recommendations: – avoiding the discarding and incineration of unsold clothes – cooperation with second-hand suppliers – clothes rental – collaboration with manufacturers of eco-friendly raw materials from the MSMEs sector – promotion of environmental activities
	Threats to brand equity: – reduction of overproduction and overconsumption – restriction of the use of animal raw materials	
	Opportunities for brand equity: – incorporation of innovative, ecological (plant-based) materials	
Ecological MSMEs brands	Source of brand equity: – product quality – collection versatility	Conclusion and recommendations: – promotion of slow fashion / slow economy – providing innovative, eco-friendly fabrics to luxury, premium and mass brands – collaboration with luxury, premium and mass-market brands for sourcing second-hand garments
	Threats to brand equity: – cost of regulation / restrictions due to model change – evolution into fast fashion model	
	Opportunities for brand equity: – an integration of business model compatible with the principles of circular economy – maturity of consumers – unique offer: made-to-measure, handmade, upcycling – EU policy supporting the MSMEs sector	

Source: Author's own study.

Conclusions

The perspective of building the equity of a fashion brand in a circular economy, regardless of the market type, ought to take into account the elimination of overproduction, increasing the products quality, repair, reselling, renting and recycling, along with keeping transparency of activities. The mass market brands are facing the biggest challenge, owing to the fact that core business assumptions are in total opposition to the circular model. They currently report their willingness to maintain high ecological standards hereafter and simultaneously take actions that let them profit from the existent successful fast fashion model.

Addressing the issue of the prospects for building a fashion brand equity in a broadly circular economy allowed not only exposing the important postulate of the necessity to introduce environmental rigors on a large scale and in every action. Moreover, it enabled to pay attention to the very likely scenario of a reduction in the equity of also non-fashion brands, as measured by revenue volume.

Despite the broad view seemingly distances the perspective, it consents to notice those aspects that differ in the overall picture of the situation. These include potential avenues for further research on the determinants of brand equity: social impact on the strategic actions of fashion companies and the conditions for the construction and development of fashion ecosystems.

This study helps to popularize knowledge about the role of the fashion business in solving global environmental problems. Both the results and conclusions indicate the substantial roles of social influence generated by consumers and pro-ecological organizations in the revolutionary transition from a linear model to circular consumption and fashion brand equity strategy. Their commitment and maturity will determine whether and when the overproduction and overconsumption of fashion products end and the transition into a circular model occur.

References

- Albella, E., Balchandani, A., Cornbleet, N., & Lee L. (2022). *In search of fashion's sustainability seekers*. McKinsey & Company.
- Allied Market Research. (2022). *Luxury apparel market value worldwide from 2020 to 2031*. Retrieved from <https://www.alliedmarketresearch.com/luxury-apparels-market>
- ASOS. (2022). *ASOS launches second circular design collection and trial partnership with Thrift+*. Retrieved from <https://www.asosplc.com/news/asos-launches-second-circular-design-collection-and-trial-partnership-thrift/>
- Aspers, P. (2016). *Orderly Fashion: A Sociology of Markets*. Princeton: Princeton University Press.
- Barthes, R. (1983). *The Fashion System*. New York: Hill and Wang.
- Blue Arrow. (2021). *Patagonia nie chce już rosnąć. Jej szef mówi: „Klienci powinni nam odprzedawać nasze produkty”*. Retrieved from <https://4outdoor.pl/2021/01/27/patagonia-nie-chce-juz-rosnac-jej-szef-mowi-klienci-powinni-nam-odprzedawac-nasze-produkty/>
- BoF. (2022a). *The State of Fashion 2022*. McKinsey & Company.

- BoF. (2022b). *The BoF Sustainability Index 2022*. The BoF INSIGHTS.
- Brewer, M.K. (2019). Slow Fashion in a Fast Fashion World: Promoting Sustainability and Responsibility. *Laws*, 8(4), 24. doi:10.3390/laws8040024
- Bryman, A. (2012). *Social Research Methods*. New York: Oxford University Press.
- Bucher, A. (2022). *H&M class action alleges 'sustainability profiles' use false, misleading data*. Retrieved from <https://topclassactions.com/lawsuit-settlements/consumer-products/apparel/hm-class-action-alleges-sustainability-profiles-use-false-misleading-data/>
- Burger, M. (2012). *Brand Equity and Brand Value: Explanation and Measurement*. Books on Demand.
- Butler, J. (2017). Literature review. Resources for. In M. Allen (Ed.), *The SAGE Encyclopedia of Communication Research Methods* (pp. 880–881). SAGE Publication.
- Chan, E. (2019). Is fast fashion taking a green future seriously? *Vogue*, 23 August. Retrieved from <https://www.vogue.fr/fashion/article/how-effective-are-fast-fashion-brands-sustainability-initiatives>
- Cranley, E. (2019). H&M's CEO says that climate activists are encouraging people to 'stop consuming,' which poses a 'terrible' threat to the fashion industry. *Business Insider*. Retrieved from <https://www.businessinsider.com/hm-ceo-climate-activism-threat-to-fast-fashion-bloomberg-2019-10?IR=T>
- Crowther, D., & Lancaster, G. (2012). *Research Methods*. London: Routledge.
- Cybis, P., & Bernard, S. (2021). Fast fashion: Why firms incinerate deadstock, and public policies. *Clean Economy Working Paper Series*. Retrieved from https://institute.smartprosperity.ca/sites/default/files/Fashion_WP_report.pdf
- Dana, T. (2008). *Deluxe: How Luxury Lost Its Luster*. Penguin Books.
- DeVoy, J.E., Congiusta, E., Lundberg, D.J., Findeisen, S., & Bhattacharya S. (2021). Post-consumer textile waste and disposal: Differences by socioeconomic, demographic, and retail factors. *Waste Management*, 136, 303–309. doi:10.1016/j.wasman.2021.10.009
- Dicker, Ch. (2018). *Coco Chanel Biography: The Legend of The Fashion Industry Revealed*. Digital Publishing Group.
- Ellen MacArthur Foundation. (2017). *A New Textiles Economy: Redesigning fashion's future*. Retrieved from <http://www.ellenmacarthurfoundation.org/publications>
- Ellen MacArthur Foundation. (2021). *The Jeans Redesign Guidelines*. Retrieved from <https://ellenmacarthurfoundation.org/the-jeans-redesign>
- Euratex. (2022). *Facts & Key Figures 2022 of the European Textile and Clothing Industry*. Retrieved from <https://euratex.eu/wp-content/uploads/EURATEX-Facts-Key-Figures-2022.pdf>
- European Commission. (2022). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions EU*. Strategy for Sustainable and Circular Textiles, Brussels.
- European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs. (2019). *Support report mapping sustainable fashion opportunities for SMEs*. Publications Office.
- Fashion Revolution. (2022). *Fashion Transparency Index 2022*.
- Fisher, S. (Ed.) (2004). *Archival Information: How to Find It, How to Use It*. Westport: Greenwood Press.
- Fletcher, K. (2010). Slow fashion: An invitation for systems change. *Fashion Practice: The Journal of Design. Creative Process & the Fashion Industry*, 2(2), 259–266. doi:10.2752/175693810X12774625387594
- Gander, J. (2017). *Strategic Analysis: A Creative and Cultural Industries Perspective*. London – New York: Taylor & Francis.
- Good on You. (2022). *Why Do Some Fashion Brands Destroy and Burn Unsold Clothes?* Retrieved from <https://goodonyou.eco/fashion-brands-burn-unsold-clothes/>
- Granskog, A., Lee, L., Magnus, K.H., & Sawers, C. (2020). *Survey: Consumer sentiment on sustainability in fashion*. McKinsey & Company.
- Heikkilä, M., & Kuivaniemi, L. (2012). Ecosystem under construction: An action research study on entrepreneurship in a business ecosystem. *Technology Innovation Management Review*, 2, 18–24. doi:10.22215/timreview/564

- Hepworth, N., Narte, R., Samuel, E., & Neumann, S. (2021). *How fair is fashion's water footprint? Tackling the global fashion industry's destructive impacts on Africa's water and workforce health*. Water Witness International.
- Jocić, S. (2022). Sustainability in fashion: The role of a fashion designer in shaping a future that is ecologically acceptable and socially responsible. *Tekstilna industrija*, 70, 12–22. doi:10.5937/tekstind2201012J
- Juanga-Labayen, J.P., Labayen, I.V., & Yuan, Q.A. (2022). Review on textile recycling practices and challenges. *Textiles*, 2, 174–188. doi:10.3390/textiles2010010
- Kaiser, S.B. (2013). *Fashion and Cultural Studies*. A&C Black.
- Keller, K.L. (2003). *Strategic Brand Management: Building, Measuring, and Managing Brand Equity*. Upper Saddle River: Prentice Hall.
- Kim, A.C., Dongchul, H., & Aeung-Bae, P. (2001). The effect of brand personality and brand identification on brand loyalty: applying the theory of social identification. *Japanese Psychological Research*, 43, 195–206.
- Kim, I., Jung, H.J., & Lee, Y. (2021). Consumers' value and risk perceptions of circular fashion: Comparison between secondhand, upcycled, and recycled clothing. *Sustainability*, 13, 1208. doi:10.3390/su13031208
- Kim, Y.K., & Sullivan, P. (2019). Emotional branding speaks to consumers' heart: The case of fashion brands. *Fashion & Textiles*, 6, 2. doi:10.1186/s40691-018-0164-y
- Köhler, A., Watson, D., Trzepacz, S., Löw, C., Liu, R., Danneck, J., Konstantas, A., Donatello, S., & Faraca, G. (2021). *Circular Economy Perspectives in the EU Textile Sector*. Luxemburg: Publications Office of the European Union. doi:10.2873/828412
- Kopp, M., Cobbing, M., & Wohlgemuth, V. (2021). *Self regulation: A fashion fairytale*. Greenpeace Germany. Retrieved from https://www.greenpeace.de/publikationen/2021/1122-greenpeace-detox-fashion-fairytale-engl-pt1_0.pdf
- Kotler, P. (2005). *Dziesięć śmiertelnych grzechów marketingu*. Warszawa: PWE.
- Kumar, J., Singha, K., Pandit, P., Maity, S., & Ray, A. (2020). Challenges for waste in fashion and textile industry. In P. Pandit, S. Ahmed, K. Singha & S. Shrivastava (Eds.), *Recycling from Waste in Fashion and Textiles: A Sustainable and Circular Economic Approach* (pp. 1–33). John Wiley & Sons.
- Mahmood, Z. (2022). Ultra-fast fashion is taking over – and using every trick in the book to get us addicted. *The Guardian*, 18 April. Retrieved from <https://www.theguardian.com/commentisfree/2022/apr/18/ultra-fast-fashion-retail-sites-shein>
- Mielcarek, P. (2014). Metoda case study w rozwoju teorii naukowych. *Organizacja i Kierowanie*, 1(161), 105–117.
- Moorhouse, D. (2020). Making fashion sustainable: Waste and collective responsibility. *One Earth*, 3(1), 17–19. doi:10.1016/j.oneear.2020.07.002
- Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., & Gwilt, A. (2020). The environmental price of fast fashion. *Nature Reviews Earth & Environment*, 1, 189–200. doi:10.1038/s43017-020-0039-9
- OECD. (2018). *Policy Coherence for Sustainable Development 2018: Towards Sustainable and Resilient Societies*. Paris: OECD Publishing. doi:10.1787/9789264301061-en
- Pandit, P., Singha, K., Shrivastava, S., & Ahmed, S. (2020). Overview on recycling from waste in fashion and textiles: A sustainable and circular economic approach. In P. Pandit, S. Ahmed, K. Singha & S. Shrivastava (Eds.), *Recycling from Waste in Fashion and Textiles: A Sustainable and Circular Economic Approach* (pp. 1–18). John Wiley & Sons.
- Papandrea, D., & Sherrier, J. (2021). *55% Would Spend More on Eco-Friendly Products While Willing to Boycott Less-Green Companies*. LendingTree.
- Park, C.W., MacInnis, D.J., Priester, J., Eisingerich, A.B., & Iacobucci, D. (2010). Brand attachment and brand attitude strength: Conceptual and empirical differentiation of two critical brand equity drivers. *Journal of Marketing*, 74(6), 1–17.
- Pierzchała, K., & Pierzchała, K. (2020). *Świadomość ekologiczna i etyczna młodych konsumentów marek modowych*. Retrieved from <https://sg-cdn.uek.krakow.pl/file/root/aktualnosci/swiadomosc-ekologiczna-i-etyczna-modych-konsumentow-marek-modowych-w-polsce.pdf>

- Peters, T.J., & Waterman, R.H., Jr. (2012). *In Search of Excellence: Lessons from America's Best-Run Companies*. New York: HarperCollins.
- Pouillard, V. (2021). *Paris to New York: The Transatlantic Fashion Industry in the Twentieth Century*. Cambridge: Harvard University Press.
- Pucker, K.P. (2022). The myth of sustainable fashion. *Harvard Business Review*, 13 January. Retrieved from <https://hbr.org/2022/01/the-myth-of-sustainable-fashion>
- Putton, M.Q. (2015). *Qualitative Research & Evaluation Methods: Integrating Theory and Practice*. SAGE Publications.
- Research and Markets (2022). *Fast Fashion Global Market Report 2022*. Retrieved from [https://www.prnewswire.com/news-releases/fast-fashion-global-market-report-2022-301531964.html#:~:text=The%20global%20fast%20fashion%20market%20is%20expected%20to%20grow%20from,\(CA-GR\)%20of%207.7%25](https://www.prnewswire.com/news-releases/fast-fashion-global-market-report-2022-301531964.html#:~:text=The%20global%20fast%20fashion%20market%20is%20expected%20to%20grow%20from,(CA-GR)%20of%207.7%25)
- Rustam, R. (2021). *Animal Welfare in Fashion 2021: Towards a truly ethical and transparent fashion industry*. Animal Welfare. Worldwide.
- Sadowski, M., Perkins, L., & McGarvey, E. (2021). *Roadmap to Net Zero: Delivering Science-Based Targets in the Apparel Sector*. World Resources Institute, Working Paper.
- Schumacher, K., & Foster, A.L. (2022). *Facilitating a Circular Economy for Textiles Workshop Report*. National Institute of Standards and Technology. doi:10.6028/NIST.SP.1500-207
- Sivan, S., Abratt R., & Bendixen, M. (2019). The role of brand authenticity in developing brand trust. *Journal of Strategic Marketing*, 27(8), 714–729. doi:10.1080/0965254X.2018.1466828
- Sloot, L.M., Verhoef P.C., & Franses, P.H. (2005). The impact of brand equity and the hedonic level of products on consumer stock-out reactions. *Journal of Retailing*, 81(1), 15–34.
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339. doi:10.1016/j.jbusres.2019.07.039
- Socha, J. (2018). Kup, zużycy, nie wyrzucaj. *ICAN Management Review*. Retrieved from <https://www.ican.pl/b/kup-zuzyj-nie-wyrzucaj/PmA03A8Z1>
- Stokburger-Sauer, N., Ratneshwar, S., & Sen, S. (2012) Drivers of consumer–brand identification. *International Journal of Research in Marketing*, 29(4), 406–418. doi:10.1016/j.ijresmar.2012.06.001
- Sullivan, J. (2015). Karl Marx, Fashion and Capitalism. In A. Rocamora & A. Smelik (Eds.), *Thinking Through Fashion: A Guide to Key Theorists. Dress Cultures* (pp. 28–45). London – New York: Bloomsbury Publishing.
- Sverko Grdic, Z., Krstinic Nizic, M., & Rudan, E. (2020). Circular economy concept in the context of economic development in EU countries. *Sustainability*, 12(7), 3060. doi:10.3390/su12073060
- Synthetics Anonymous. *Fashion brands' addiction to fossil fuels*. (2021). Changing Markets Foundation. Retrieved from http://changingmarkets.org/wp-content/uploads/2021/07/SyntheticsAnonymous_FinalWeb.pdf
- The Business Research Company (2022). *Ethical Fashion Market 2022*. Retrieved from <https://www.thebusinessresearchcompany.com/report/ethical-fashion-market>
- www1: <https://about.hm.com/news/general-news-2019/h-m-to-trial-clothing-rentals-for-the-first-time.html>
- www2: <https://about.hm.com/news/general-news-2021/h-m-reveals-the-first-impression-that-s-ready-to-wear--boosting-.html>
- www3: <https://boltthreads.com/>
- www4: <https://greencarpetawards.cameramoda.it/>
- www5: <https://jackobbuczynski.com/>
- www6: <https://spiber.inc/en/>
- www7: <https://www.bugclothing.co.uk/>
- www8: <https://www.stellamccartney.com/pl/en/stellas-world/frayme-mylo-mycelium-bag.html>
- www9: <https://www.sustainablefashionalliance.com/>
- www10: <https://www.zara.com/pl/en/sustainability-collection-program-mkt1452.html?v1=1471213>