

UDC 338.45:687]:502.174.1(477)

DOI <https://doi.org/10.26661/2414-0287-2021-3-51-05>

ESSENCE AND ECONOMIC PROBLEMS OF CIRCULAR BUSINESS MODELS' IMPLEMENTATION IN UKRAINE (ON THE EXAMPLE OF FASHION INDUSTRY)

Koloberdianko I.I., Kondratenko A.I.

Zaporizhzhia national university

Ukraine, 69000, Zaporizhzhia, Zhukovskij str., 66

koloberdjanko@ukr.net, anakondr129@gmail.com

ORCID: 0000-0002-9339-3450, 0000-0002-1598-7843

Key words:

circular economy, circular business model, fashion industry, circular fashion industry, sustainable development

The article considers the theoretical and practical aspects of the introduction of circular business models in the fashion industry. The essence of the circular fashion industry is revealed on the example of the Swedish company Nudie Jeans. As a result of the analysis of existing trends in the industry, the preconditions for the emergence of the concept of the circular fashion industry are highlighted and the essence of the problems the industry faced by nowadays is revealed. It is determined that today the fashion industry is one of the most polluting sectors of the global economy. Another important problem is the ambiguity of consumer needs for industry products. As a result of the analysis of scientific literature and practical experience the general view of circular business model in the fashion industry is reflected and the main stages of the product life cycle in the circular business model of the fashion industry are highlighted, their peculiarities are revealed. The peculiarities of the process of transition of companies in the industry to circular business models are analyzed. Thanks to this study, the advantages of using circular business models in the fashion industry and the main problems faced by entrepreneurs face while their implementation are highlighted. The circular business model of the Swedish company Nudie Jeans is analyzed, its features at each stage of the product life cycle are considered. The main directions of assistance in realization of the concept of the circular fashion industry are defined. Based on the analysis of the state of the fashion industry of Ukraine, its potential is highlighted and the need to promote the development of this industry in Ukraine, taking into account current trends in the introduction of circular business models, is justified. The main directions of state assistance to the development of the Ukrainian fashion industry on the basis of the concept of circular economy are determined.

СУТНІСТЬ ТА ЕКОНОМІЧНІ ПРОБЛЕМИ ВПРОВАДЖЕННЯ ЦИРКУЛЯРНИХ БІЗНЕС-МОДЕЛЕЙ В УКРАЇНІ (НА ПРИКЛАДІ ІНДУСТРІЇ МОДИ)

Колобердянко І.І., Кондратенко А.І.

Запорізький національний університет

Україна, 69600, м Запоріжжя, вул. Жуковського, 66

Ключові слова:

циркулярна економіка, циркулярна бізнес-модель, індустрія моди, циркулярна індустрія моди, сталий розвиток

У статті розглянуто теоретичні та практичні аспекти впровадження циркулярних бізнес-моделей в індустрії моди. На прикладі шведської компанії Nudie Jeans розкрито сутність циркулярної індустрії моди. Внаслідок проведення аналізу існуючих в галузі тенденцій виділено передумови виникнення концепції циркулярної індустрії моди та розкрито сутність проблем, з якими сьогодні стикається галузь. Визначено, що нині індустрія моди є однією з найбільш забруднюючих довілля з-поміж усіх галузей економіки в світовому масштабі. Як ще одну вагому проблему виділено неоднозначність потреб споживачів щодо продукції галузі. В результаті аналізу наукової літератури та практичного досвіду відображено загальний вигляд циркулярної бізнес-моделі в індустрії моди та виділено основні етапи життєвого циклу продукції в циркулярній бізнес-моделі індустрії моди, розкрито їх особливості. Проаналізовано особливості процесу переходу

компаній галузі до циркулярних бізнес-моделей. Завдяки проведенню даного дослідження виділено переваги застосування циркулярних бізнес-моделей в індустрії моди та основні проблеми, з якими стикаються підприємці при їх впровадженні. Проаналізовано циркулярну бізнес-модель шведської компанії Nudie Jeans, розглянуто її особливості на кожному з етапів життєвого циклу продукції. Виділено основні напрямки сприяння реалізації концепції циркулярної індустрії моди. На основі проведеного аналізу стану індустрії моди України виділено її потенціал та обґрунтовано необхідність сприяння розвитку даної галузі в Україні з урахуванням сучасних тенденцій до впровадження циркулярних бізнес-моделей. Визначено головні напрямки сприяння держави розвитку української індустрії моди на засадах концепції циркулярної економіки.

Statement of the problem

At the present stage of human development, a single and closely connected socio-ecological-economic system of planetary scale is being formed. The whole world is now facing a number of interrelated problems, the scale of which is growing over the years. These include, first and foremost, demographic, food, energy and material problems, as well as environmental problems (climate change and environmental degradation). The solution of these issues, along with the need to support socio-economic prosperity in the context of steady population growth, requires changes in the existing economic model. Today, the fashion industry also faces these challenges. Thus, the industry faces the task of extending the life cycle of products, saving natural resources, minimizing waste and negative environmental impact.

The problem of transition from the linear to the circular economy is especially relevant nowadays, in conditions of low efficiency of resource use, depletion of many natural resources and environmental pollution. Modern globalization processes increase the pressure on the environment, but also increase the possibilities for the implementation of the concept of the circular economy in life.

Analysis of recent studies and publications

In the economic literature, the problems of transition from a linear model of management to a circular one in the fashion industry were considered in the works of Julian M. Allwood, Søren Ellebæk Laursen, Cecilia Malvido de Rodríguez, Nancy Boken [1], Esben Rahbek Gjerdrum Pedersen, Kirsti Wright Andersen [2], Eva Gouldman [3], Barbara Resta, Paolo Gayardelli, Roberto Pinot, Stefano Dotti [4]. The authors paid special attention to the problems facing the modern fashion industry in the context of its transformation on the basis of the circular economy concept. Prospects for the development of fashion industry in Ukraine in the conditions of the instable external environment were studied by Tetiana Havrylenko, Iryna Brodiuk [5] and many other researchers. But the problem of the transition of companies in the fashion industry to the principles of the circular economy remains insufficiently investigated, because as of today there is no company in the world whose business model would be purely circular. Currently, there is a gradual transition of companies in the industry to the principles of a circular economy.

Objectives of the article

The purpose of the article is to study and analyze the basic approach to the introduction of circular business models in the fashion industry.

The main material of the research

The fashion industry is an industry that includes design, production, distribution, marketing, trade, advertising and promotion of all types of clothing [6].

Today, the fashion industry is one of the most polluting industries in the world and, according to the current trajectory of development, it is projected that by 2050 it will use 25% of the world's CO₂ emissions budget. The spread of «fast fashion» has led to a sharp reduction in the service life of clothing. Since 2002, the global production of clothing has more than doubled, with the average consumer buying 60% more, and each piece of clothing is kept half as long [7].

Nowadays the textile and clothing industries face the problem of meeting the expectations of consumers, which in some cases contradict each other. On the one hand, researches have shown that there is an unhealthy culture of «throwaway» consumption, which causes excessive consumption and waste. Consumers are increasingly getting used to the cheap, low-quality products of the fashion industry, which they can throw away after a few washings. On the other hand, other studies have shown that consumers are increasingly interested in eco-friendly products [3].

In general, the textile industry is characterized by high consumption of fuel, water and chemicals. Extensive energy consumption, for example, occurs in the production of artificial fabrics, yarn and finishing, as well as in washing and drying at the stage of usage and direct emissions during transportation [4]. Regarding the use and release of toxic chemicals in cotton and agriculture, and in most types of textile production, they are used in pre-treatment, dyeing and printing, which leads to soil and water pollution [1].

Thus, common modern linear industry business model causes and faces many environmental, economic and social problems. Therefore, the emergence of the concept of the circular fashion industry was only a matter of time.

The circular fashion industry is a concept of an industry that does not create waste, does not cause environmental pollution, whose products and materials are used as long as possible (including through reuse and recycling), and

which contributes to the restoration of natural systems [8]. Thus, nowadays there is a tendency to introduce circular business models in the fashion industry. The general view of the business model of the circular fashion industry is shown in Figure 1.

Circular business model of fashion industry involves the use of materials that have been properly made and designed with the principles of the circular economy in mind. Such products pass special certification (for example, Cradle2Cradle, which assesses whether the products have been properly designed and manufactured in the five most important performance categories: Material Health, Material Reutilization, Renewable Energy and Carbon Management, Water Stewardship and Social Fairness).

Clothing should also be designed with the principles of circularity and sustainability in mind. While clothes designing, it is necessary to take into account the perspective of how the product will be made, used and ultimately disposed of. Design issues to consider include the usage of single fibers rather than blends, the ensuring of easy removal of hardware and trims to facilitate their recovery for reuse, the usage of safe dyes and finishes etc.

The industry's products must be produced from high-quality materials with maximum strength to ensure its durability. It should also have a timeless style that would maximize the duration of the consumer usage stage in product life cycle.

At the stage of consumer usage, the following measures are used to extend the life cycle of clothing: rent, reuse, repair, redesign, resale. When the quality of clothing is already insufficient for rent, reuse, repair or redesign, it is sent for recycling for further reuse of the obtained materials in the production of new clothing.

The circular business model of the fashion industry also provides the end stage of the clothing's life cycle. If the product can no longer be used either entirely, in parts, or recycled back into raw materials, it must be disposed of without any harm to the environment by biodegradation and composting [8].

As a practical example of the circular business model of the fashion industry implementation, we can refer to the Swedish company Nudie Jeans, which specializes in the production, service and reuse of cotton clothing.

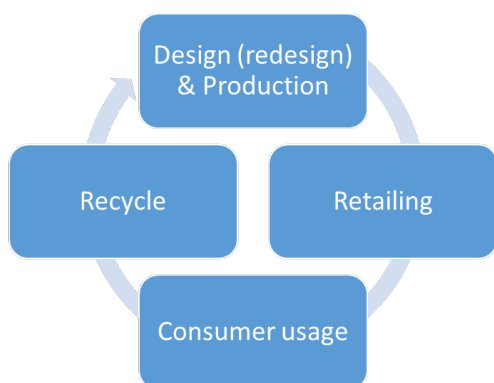


Fig. 1 – General view of the business model of the circular fashion industry

Source: formed by the authors on the basis of [8; 9]

The company has established a product return system in which customers receive a 20% discount on a new pair of jeans when they return the old ones to the store. The returned jeans are washed, repaired and sold as used. If they are worn out, they are sent for recycling. Then recycled fabrics are used to make new jeans (in combination with organic cotton) or to repair clothes. The company carries out clothing repair for its customers free of charge in selected stores. For those customers who cannot provide their clothes to such store or want to repair it on their own, the company provides free special repair kits.

In the production of denim clothing, Nudie Jeans uses only organic and recycled cotton, which significantly reduces the negative impact on the environment. Organic cotton is grown without the use of artificial fertilizers, pesticides or genetically modified seeds, which eliminates the risks associated with their use for soils and people. There are also more efficient irrigation methods used in the production of organic cotton, which allows to save water resources. The company also uses recycled polyester in the manufacture of clothing (to increase the strength of clothing, as well as for labels).

As for design, Nudie Jeans strives to create clothes that customers would like to wear for as long as possible and regardless of the season.

The company also cooperates with suppliers of fabrics to research environmentally friendly fabrics and fibers, adapt new developments and technologies for their further implementation in its production [10].

Thus, Nudie Jeans' circular business model helps to lengthen the product life cycle, saves natural resources, minimizes waste and the company's negative impact on the environment. But there are still a lot of problems on the way to the circular fashion industry.

As for manufacturing companies of the industry, the main problem is the lack of necessary technologies for the production and/or use of materials developed taking into account the principles of circular economy and sustainable development.

Another barrier for companies to implement circular business models in fashion industry is the need for constant change in the industry, which promotes overproduction, overconsumption and overwasting. Colors, shapes, materials, etc. are constantly changing, which contradicts the idea of clothing durability [2].

Possible solutions to these and some other problems can be solved by the following steps:

1. Introducing rewards for goods returned to retail stores to attract more consumers to facilitate the transition to a circular fashion industry and responsible consumption in general.

2. Designers should create a more classic clothing design that will be valuable to users over a longer period of time.

3. Companies should completely revise their current business models towards more circular ones, which involves the introduction of practices such as recycling of sold products, reuse of resources etc.

4. Creating trust among consumers regarding used clothing by issuing certificates from the trusted bodies for the goods [9].

Meanwhile, the Ukrainian fashion industry is currently going through bad times. Over the years of independence, the production of goods in the industry, due to the rupture of economic ties and the structural component of the economy, has decreased by at least 10 times. The number of employees has decreased from 750 thousand people in 1990 to 88 thousand people at the beginning of 2019 [11; 12].

Nowadays Ukrainian companies in the industry mainly use imported raw materials, which is caused by the reduction of its cultivation and production in Ukraine. The main activity of many Ukrainian companies are operations with tolling raw materials, the customers of which are mostly companies from the EU countries [5].

Fashion industry products are directly aimed at meeting the needs of the local population. Ukraine's fashion industry has significant potential (including human resources), as the industry was developed much better during the Soviet era. In addition, Ukrainian fashion products are in demand, primarily in developed European countries [12], which indicates a fairly high level of their quality. Therefore, the state should do everything possible to promote the further development of this industry. However, this development should be carried out taking into account current trends towards the introduction of circular business models, which will ensure the competitiveness of the industry's products in local and foreign markets in the long run.

So, for the development of the Ukrainian fashion industry it is necessary to improve standardization, promote the introduction of new technologies, the use of materials of higher quality, the introduction of energy- and resource-saving technologies at the industry's companies, monitor the financial condition of companies, contribute to the improvement in the investment climate, the diversification of production, the increasing of personnel qualification, the increasing of the level of after-sales service, eliminate barriers to business activity, reduce tax pressure on industry, provide support to newly established companies and exporting ones, contribute to the increasing of the population solvency etc.

Conclusions

Currently the fashion industry faces many environmental, economic and social challenges. In order to solve these problems, the concept of the circular fashion industry emerged, so nowadays there is a trend towards the introduction of circular business models by companies in the industry.

The circular business model of the fashion industry involves the use of materials that have been properly designed and produced taking into account the principles of the circular economy and the concept of sustainable development. Products must also be designed keeping these principles in mind. When designing clothes, it is necessary to take into account the perspective of how the product will be produced, used and ultimately disposed of. The industry's products must be produced from high-quality materials with maximum strength to ensure its durability. They should also have a timeless style that would maximize the duration of the stage of consumer usage in the product life cycle. At this stage measures such as rent, reuse, repair, redesign, resale are provided to extend the life cycle of a clothing. When the quality of clothing is already insufficient for such activities, it is sent for recycling for further use of the obtained materials in the production of new clothing. Also, the circular business model of the fashion industry has a stage of the end of the life cycle of clothing, which involves its disposal without harm to the environment by biodegradation and composting, when the product can no longer be used either in whole, in parts or recycled.

The fashion industry of Ukraine is currently in decline. The industry has significant potential, as it was sufficiently developed during the Soviet times. In addition, its products have a fairly high level of quality and are in demand in the EU countries. Therefore, the government should in every possible way contribute to the further development of this industry. However, this development should be carried out taking into account current trends in the introduction of circular business models, which will ensure the competitiveness of the Ukrainian fashion industry in both local and foreign markets in the long run.

References

1. Allwood, J.M., Laursen, S.E., Malvido de Rodriguez, C., Bocken, N. (2006) Well dressed? The present and future sustainability of clothing and textiles in the United Kingdom. University of Cambridge. Institute for Manufacturing.
2. Gjerdum Pedersen, E.R. & Reitan Andersen, K. (2013). The SocioLog.dx experience: a global expert study on sustainable fashion, Mistra Future Fashion. Copenhagen : Copenhagen Business School Centre for Corporate Social Responsibility.
3. Guldmann, E. (2016). Best Practice Examples of Circular Business Models. Copenhagen : The Danish Environmental Protection Agency.
4. Resta, B., Gaiardelli, P., Pinot, R., Dotti, S. (2016). Enhancing environmental management in the textile sector: An Organisational-Life Cycle Assessment approach. *Journal of Cleaner Production*. Is. 135. Pp. 620–632.
5. Havrylenko, T.V., Brodiuk, I.V. Perspektyvy rozvytku lehkoi promyslovosti Ukrainy v umovakh nestabilnoho zovnishnoho seredovyshcha [Perspectives for development of the Ukrainian light industry in the conditions of the instable external environment]. *Economies' Horizons*. 2018. № 1(4). P. 28–34. DOI: [https://doi.org/10.31499/2616-5236.1\(4\).2018.131940](https://doi.org/10.31499/2616-5236.1(4).2018.131940)
6. Official site of the Encyclopedia Britannica: Fashion industry. Available at: <https://www.britannica.com/art/fashion-industry> (accessed October 5, 2021).
7. Official site of the Fashion for Good, The Future of Circular Fashion: Assessing the Viability of Circular Business Models. Available at: <https://fashionforgood.com/wp-content/uploads/2019/05/The-Future-of-Circular-Fashion-Report-Fashion-for-Good.pdf> (accessed October 5, 2021).
8. Official site of the Common Objective: What is Circular Fashion? Available at: <https://www.commonobjective.co/article/what-is-circular-fashion> (accessed October 5, 2021).

9. Official site of the Online Clothing Study, What is Circular Fashion: Challenges in Circular Fashion Movement. Available at: <https://www.onlineclothingstudy.com/2019/11/what-is-circular-fashion-challenges-in.html> (accessed October 5, 2021).
10. Official site of the Nudie Jeans Co: Sustainability. Available at: <https://www.nudiejeans.com/> (accessed October 5, 2021).
11. Hryshchenko, I.M., Izovit, V.A., Izovit, T.L., Naumenko, I.P., Kurhanskyi, A.V. (2015) *Lehka promyslovisht Ukrainy: realii ta perspektyvy rozvytku : ekspertno-analitychna dopovid [Light industry of Ukraine: realities and prospects of development : expert-analytical report]*. Kyiv : KNUTD.
12. Official site of the Ukrainian Association of Light Industry Enterprises: *Analitychni materialy haluzi lehkoj promyslovosti [Analytical materials of light industry]*. Available at: <https://ukrlegprom.org/ua/analytics/> (accessed October 5, 2021).