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STRATEGY AND PRICING FOR SUSTAINABLE DEVELOPMENT OF COMPANIES IN THE CONDITIONS OF CIRCULAR ECONOMY

СТРАТЕГІЯ ТА ЦІНОУТВОРЕННЯ ДЛЯ СТАЛОГО РОЗВИТКУ КОМПАНІЙ В УМОВАХ ЦИРКУЛЯРНОЇ ЕКОНОМІКИ

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Abstract. *The article considers the relevance of the transition to a circular economy model. The need for rational use of limited resources has been noted.*

The basic principles of the circular economy have been presented. The importance of ensuring a closed production cycle, reducing waste and the costs of its processing and disposal has been emphasized.

Attention has been focused on the implementation of the theory of rational consumption as one of the main conditions for resource conservation.

The shortcomings of the linear economic model, which is currently predominant in many countries around the world, have been indicated.

It has been noted that a successful sustainable development strategy is based on the effective interaction of the economic, social, and environmental components of the development of modern society.

The need to create a closed production cycle in industries that consume a significant amount of resources has been emphasized, in particular: construction, agro-industrial complex, textile production.

It has been noted that a circular economy model in the long term can provide the greatest benefits for producers and consumers through the efficient use of resources and reduced negative impact on the environment.

It has been stated that the circular economy requires effective management of resources, including labor and financial resources, based on the use of project management.

It has been indicated that the strategic direction in the work of the project team is the implementation of modern business management technologies in the context of the transition to a circular economy model.

Strategic management and pricing of enterprises in the context of the transition to a circular economy as a response to global environmental challenges have been considered.

Key aspects of sustainable development have been highlighted, in particular: eco-design, the use of secondary materials, sharing models, the product-as-a-service business model, energy efficiency, digitalization, transparency, staff training, and the creation of partnerships.

The main barriers to the implementation of circular approaches have been outlined: economic, technological, institutional, and social.

Ways to overcome mentioned main barriers have been proposed, which include infrastructure development, support for innovation, policy improvement, and enhanced cooperation between stakeholders.

It has been noted that the integration of circular economy principles provides enterprises with an environmental and competitive advantage on a long-term horizon.

Keywords: *circular economy, resources, closed production cycle, sustainable development, project management, management technologies, strategic management, strategy, pricing.*

Introduction.

Recently, the world has paid more attention to the rational use of various resources due to population growth and increased consumption. The problem of limited resources has become relevant, which has led to the need to reuse existing resources and minimize waste.

The purpose of this article is to analyze the relationship between of strategic and project management of various circular business activity, as well as pricing mechanisms for further sustainable development of companies within the framework of a circular economy, key aspects that determine the sustainable development of enterprises in the above context of the principles of the circular economy as a complex process that faces a number of barriers, and understanding these obstacles is key to developing effective strategies to overcome them for further sustainable development.

Analysis of recent publications on the research topic. Issues of strategic and project management of various circular business activity are on the agenda and many scientific publications, as well as discussions at conferences, in the Internet space, on various forums and platforms are devoted to current discussions [1-10].

Main results of the study.

In current economic conditions a new concept has emerged in economic science and terminology: circular economy, or an economy without production waste. Circular economy is also interpreted as a cyclical economy or a closed-loop economy. It involves the reuse, restoration and recycling of existing materials and products for as long as possible. This approach helps save limited resources and preserve the environment. These issues are especially urgent for governments around the world to address.

The increase in man-made stress on the environment, rapid population growth in the world, consumer boom, advertising, marketing and other attributes of the free

market have a negative impact on the efficient use of resources, depleting the planet and polluting the natural environment. The circular economy operates according to the following three R-principles:

REDUCE → RECYCLE → REUSE

It is based on the desire to minimize the amount of waste, which is constantly increasing and is becoming a huge problem for companies around the world.

Currently, more money is spent on waste disposal than on the production of goods. Along with this, the theory of reasonable, or limited consumption, which is based on reducing the amount of goods consumed by the population in order to reduce the costs of various resources for their production, has become widespread.

The main principles of the circular economy are the following:

1) creating closed cycles of production and maintenance of goods;
2) using renewable energy in production;
3) introducing systems thinking, when production and consumption become conscious practices.

On a more global level, the circular economy is a strategy for developing companies without harming the planet. Today, economic growth still depends mainly on the efficiency of using natural resources. Thus, a linear economic model prevails in the world, requiring an increase in the resources used in order to increase the production of goods and services. However, in the context of limited resources, climate change and new social challenges, this development option only exacerbates existing economic problems.

According to UN forecasts, by 2050 there will be more than 9 billion people on the planet with a significant increase in consumption. By 2030, the world demand for food will increase by 35%, water – by 40%, energy resources – by 50%. Currently, resource consumption in the world increases by an average of 75% compared to their restoration [1].

In a circular economy, raw materials and finished products can remain in the production chain for as long as possible. When their useful life comes to an end, they are returned back, that is, the cycle is completed.

A circular economy contributes to the achievement of the Sustainable Development Goals. In particular, it provides for responsible consumption and production, the use of inexpensive and clean (renewable) energy, and can also function optimally in sustainable cities and communities. At the same time, sustainable development should ensure the interaction of economic, social and environmental components in society.

In a circular economy, smart and efficient management is possible not only to reduce waste, but also to improve the efficiency of the production process as a whole. Such a strategy can be used in various fields and industries: from construction to textile production. This fact is most clearly seen in the fashion industry. A huge number of different resources and materials are used extremely irrationally, following new fashion and advertising trends. In a short period of time (no more than a season), one collection of clothes, shoes or accessories is replaced by another. This happens due to the pursuit of manufacturers to constantly update the range of goods and increase profits. As a result, a large number of resources are used irrationally, and discontinued products are thrown away or turned into waste.

According to the EU plans to create a closed-loop economy by 2030, such a popular type of clothing material as cotton may almost disappear from the production of jeans and T-shirts. By 2050, it is planned that all materials will come from the circular economy; and by 2030, 50% of them should be partially recyclable and 25% should be fully recyclable [2].

Thus, the circular economy model may seem disadvantageous in the short term. The consumer is forced to buy more expensive goods; the manufacturer must work harder to improve the quality of the goods and their service life. However, in the long term, both can benefit more than with a linear economy model. Production and consumption become “allies” who are interested in jointly solving many issues effectively, which has a positive effect on profit growth and economic well-being.

The transition to a closed cycle in the economy is possible if companies simultaneously implement circular business models and technologies of the Fourth Industrial Revolution and to do this, it is necessary to complete three main tasks:

1) modify (change) the existing value chain in order to reduce waste and increase production efficiency;
2) develop core business areas by implementing a circular approach;
3) invest in completely new, revolutionary, circular models and scale them [3].

So, in a circular economy, a successful project management strategy involves the effective management of various resources. In our opinion, the most important of them are labor resources, or the labor potential of the organization's team, as well as its financial resources. In this case, the project manager and the project team should focus their efforts on the optimal use of available resources in order to ensure a closed production cycle on their basis. The strategic direction in the work of the project team is the development by employees of new modern principles and methods of business management in the context of a circular economy [4].

Thus, in the first part of our study it has been focused on the fact that project management should gradually change to make management decisions with a reorientation of the management strategy to the circular economy format. The need to promptly solve many complex and interrelated problems requires a rapid change in the way of thinking of managers, company personnel and the population as a whole, as well as the introduction of new innovative solutions and methods of doing modern business. Taking into account the achievement of the set goals, it is possible to expect in the short term an acceleration in the pace of transition from a linear economic model to a circular economy model as the one that best meets modern conditions of limited resources and the need for their more efficient use.

In the second part of our study, it has been focused on the fact that in current economic development environment global challenges related to the depletion of natural resources and environmental problems are prompting companies to adapt their strategies to the principles of a circular economy. Implementing such strategies requires a deep understanding of innovative approaches to production, consumption, and resource management.

Below are considered the key aspects that determine the sustainable development of enterprise’s strategies in this context, such as: Eco-design of products, Use of

secondary materials, Introduction of sharing models, Transition to a "product-as-a-service" business model, Energy efficiency and use of renewables, Creation of closed supply chains, Digitalization for process optimization, Transparency and stakeholder engagement, Training and development of personnel and Creation of partnerships.

Firstly, eco-design involves creating products that are environmentally friendly throughout their entire life cycle, from design to disposal. The main goal is to reduce the negative impact on the environment by using materials that are easily recycled and minimizing the number of components. For example, Philips has implemented a strategy to produce lamps that are easy to disassemble, which greatly simplifies the recycling process. Eco-design also helps reduce production costs by optimizing the use of resources. Companies should integrate Life Cycle Assessment methods into their processes to ensure compliance with the principles of sustainable development.

Secondly, one of the key elements of the circular economy is the reuse of materials. Companies such as IKEA are already implementing strategies to switch to the use of secondary raw materials in the production of furniture. This allows them to reduce their dependence on primary resources and reduce carbon emissions. The use of secondary materials also opens up new opportunities to reduce the cost of production, while increasing the company's competitiveness in the market. To achieve maximum effect, enterprises should invest in the development of waste sorting and recycling technologies, as well as actively cooperate with suppliers of secondary raw materials.

Thirdly, sharing models allow for more efficient use of resources by distributing access to them among many users. Services such as car-sharing are a prime example of this approach. They reduce the need for own cars, which, in turn, reduces the volume of new vehicle production and the associated environmental consequences. Companies seeking to integrate this approach need to create convenient digital platforms for consumers that allow easy interaction with the sharing system, as well as develop partnerships to expand the geography of services.

After that, it is necessary to pay attention to the fact that the "product-as-a-service" business model changes the traditional approach to selling goods. In this model, the

company retains ownership of the product, and the consumer gains access to its functionality through a lease or subscription. For example, Michelin offers its customers to rent tires instead of buying them, with a service guarantee. This ensures more rational use of resources and encourages manufacturers to create durable products. To successfully implement this model, it is worth to ensure an effective asset management system and develop tools for monitoring the condition of the product.

It should be noted that, by passing to the use of renewable energy sources (RES), companies can significantly reduce their environmental footprint. For example, Apple has already achieved 100% use of RES in its offices and production facilities. Investing in solar, wind or hydroelectric power plants allows not only to ensure sustainable development, but also to reduce dependence on traditional energy sources. In addition, increasing the energy efficiency of production processes helps to reduce costs, which is an important competitive factor for companies.

In fact, closed supply chains involve the collection of used goods for their further recycling or reuse. Many companies have implemented strategic programs, such as "Worn Wear" – looking to give their clothes a new home and offers store credit ranging from $10-$100, "Like New" – where shoppers can trade in gently worn gear for store credit as well as purchase (heavily discounted) secondhand gear directly from the website, **"**Levi's Secondhand" – it features another trade in opportunity for shoppers where customers can trade clothes for store credit, "Madewell Forever" – with its the denim upcycling game, has pioneered the denim upcycling game for years: their denim buyback program started the brand's environmentally conscious journey, when you bring in any pair of jeans Madewell gives you a $20 credit off of any full-price pair of their jeans, and then Madewell repurposes those jeans into housing insulation, and "REI Used" – secondhand marketplace includes not only clothing but also hundreds of pieces of outdoor equipment. Starting in 2017, REI Used was established to reduce REI's overall carbon footprint, in addition to making high-quality outdoor equipment more affordable and accessible. On its website, REI puts it simply: "We're trying this out as a way to help more people get outdoors while keeping useful stuff out of the landfills. Certainly a strategy we can get behind!". Thus, such strategic

programs or similar ones allow customers to exchange used clothing, things, materials, equipment etc. [10]. This approach helps reduce waste and encourages consumers to behave environmentally responsible. To succeed in this area, it is necessary to establish effective reverse logistics and invest in recycling equipment.

In general, all companies need to better manage resources. For example, modern companies use the Internet of Things (IoT) to monitor and optimize its customers' energy consumption. Digital tools also help reduce operating costs by providing transparency in processes. Companies that want to become leaders in the circular economy must actively invest in developing and integrating digital solutions into all aspects of their operations.

We emphasize that open communication about environmental goals and achievements is also a key factor for success. For example, Unilever regularly publishes reports on its progress in the field of sustainability, which not only increases consumer trust, but also attracts new partners. Companies should ensure regular reporting and create mechanisms to engage customers in the joint achievement of environmental goals.

In general, employee education in the field of sustainability is also essential for the successful implementation of circular principles. For example, Nestlé provides training for its employees on production optimization and waste management. Developing personnel competencies contributes to the introduction of innovations and increasing the efficiency of the company's operations.

We would like to draw attention to the fact that successful integration of the circular economy requires collaboration across sectors. Partnerships with different companies, governments and civil society organizations allow resources and knowledge to be pooled to achieve common goals. Therefore, implementing strategies around the principles of the circular economy requires a deep understanding of innovative approaches to production, consumption and resource management [5-9].

Below key aspects that determine the sustainable development of enterprises in the above context of the principles of the circular economy, are considered (Table 1).

Table 1 – "Key aspects determining the sustainable development of enterprises in the context of principles of circular economy"

Key aspects regarding the principles of circular economy	Eco-design of products	involves creating products that are environmentally safe throughout their entire life cycle — from development to disposal
	Use of recycled materials	allows you to reduce dependence on primary resources, reduce carbon emissions, new opportunities for reducing product costs, while simultaneously increasing the company's competitiveness in the market
	Implementing sharing models	allow more efficient use of resources by distributing access to them among many users
	Transition to a "product-as-a-service" business model	changes the traditional approach to selling goods, the company retains ownership of the product, and the consumer gains access to its functionality through rental or subscription
	Energy efficiency and use of renewable energy	significantly reduces the "ecological footprint" and can reduce dependence on traditional energy sources
	Creating closed supply chains	involves the collection of used goods for their further processing or reuse, contributes to the reducing of waste and stimulates consumers to environmentally responsible behavior
	Digitalization for process optimization	allows companies to manage resources better, helps reduce operating costs
	Transparency and stakeholder engagement	allows for regular reporting and creating mechanisms to engage clients in the joint achievement of environmental goals
	Staff training and development	promotes innovation and increases the efficiency of the company's operations
	Creating partnerships	allows you to combine resources and knowledge to achieve common goals

Source: compiled by the author based on [5-9].

It should be noted that the transition to a circular economy is a complex process that faces a number of barriers, and understanding these obstacles is key to developing effective strategies to overcome them, namely:

1. Economic barriers:

- High initial investment, as the development of new technologies, the re-equipment of production facilities, and the creation of infrastructure for waste collection and processing require significant financial resources.
- Insufficient demand for circular economy products, as it is known that consumers often prefer cheaper but less environmentally friendly products.

- Short-term prospects, as many companies are focused on a quick return on investment, which can discourage long-term investment in circular projects.

2. Technological barriers:

- Absence or insufficient development of technologies, as some technologies for recycling and reusing materials have not yet reached the required level of efficiency and economic feasibility.
- Difficulty in scaling, because the transition from pilot projects to large-scale production can be a difficult task.

3. Institutional and political barriers:

- Lack of a clear legislative framework, namely insufficient regulation in the field of waste management, promotion of the circular economy and responsibility of producers for their products.
- The complexity of coordination between different sectors, namely the cooperation between government agencies, businesses, and the public is necessary, but there are often difficulties in coordinating efforts.

4. Social barriers:

- Low public awareness and insufficient awareness of the benefits of the circular economy and ways to participate in this process.
- Resistance to change, because of changing consumption and production habits takes time and effort (Table 2).

Table 2 – Main barriers to the implementation of circular models

Barriers	Economic
	Technological
	Institutional
	Political
	Social

Source: compiled by the author based on [5-9].

It is proposed, therefore, to focus attention on the formation of ways to overcome the main problems of implementing circular models, namely:

- ✓ Developing effective policies: creating incentives for business, investing in research and development, and establishing clear environmental standards.
- ✓ Investing in infrastructure: creation of a network of waste collection and processing points, development of logistics for the transportation of secondary resources.
- ✓ Collaboration between all stakeholders: creating platforms for dialogue between business, government and the public.
- ✓ Education and awareness raising: informing the public about the benefits of the circular economy and ways to participate in it.
- ✓ Support for innovation: stimulating the development of new technologies and business models, promoting cooperation between scientific institutions and enterprises [9].

Conclusion.

In the first part of our study it has been focused on the fact that project management should gradually change to make management decisions with a reorientation of the management strategy to the circular economy format. The need to promptly solve many complex and interrelated problems requires a rapid change in the way of thinking of managers, company personnel and the population as a whole, as well as the introduction of new innovative solutions and methods of doing modern business. Taking into account the achievement of the set goals, it is possible to expect in the short term an acceleration in the pace of transition from a linear economic model to a circular economy model as the one that best meets modern conditions of limited resources and the need for their more efficient use.

In the second part of our study, it has been focused on the fact that in current economic development environment global challenges related to the depletion of natural resources and environmental problems are prompting companies to adapt their strategies to the principles of a circular economy. Implementing such strategies requires a deep understanding of innovative approaches to production, consumption, and resource management.

Our research has underlined that a sustainable development strategy implementing in a circular economy requires a comprehensive approach that encompasses eco-design, resource efficiency, process digitalization and stakeholder engagement. It has been noted that companies that integrate the mentioned principles into their operations will not only contribute to environmental sustainability, but will also gain competitive advantages in current dynamic business environment. Thus, the transition to a circular economy is a long-term process that requires comprehensive solutions. However, overcoming existing barriers requires joint efforts of government, business and the public and investing in innovation, changing legislation, and raising public awareness are just some of the steps that can accelerate this transition.

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Анотація. *В статті розглянуто актуальність переходу до циркулярної моделі економіки. Відзначено необхідність раціонального використання обмежених ресурсів.*

Наведено основні принципи циркулярної економіки. Підкреслено важливість забезпечення замкненого циклу виробництва, скорочення відходів та витрат на їх переробку та утилізацію.

Акцентовано увагу на впровадженні теорії розумного споживання як однієї з основних умов збереження ресурсів.

Вказано недоліки лінійної моделі економіки, що зараз є переважною у багатьох країнах світу.

Зазначено, що успішна стратегія сталого розвитку базується на ефективній взаємодії економічної, соціальної та екологічної складових розвитку сучасного суспільства.

Підкреслено необхідність створення замкненого циклу виробництва у галузях, що споживають значну кількість ресурсів, зокрема: будівництво, агропромисловий комплекс, виробництво текстилю.

Відзначено, що циркулярна модель економіки у довгостроковій перспективі може забезпечити найбільш вигоди для виробників та споживачів за рахунок ефективного використання ресурсів та зменшення негативного впливу на навколишнє середовище.

Наведено, що циркулярна економіка вимагає ефективного управління ресурсами, зокрема трудовими та фінансовими, на основі використання проєктного менеджменту

Вказано, що стратегічним напрямом у роботі проєктної команди є впровадження сучасних технологій управління бізнесом в умовах переходу до циркулярної моделі економіки.

Розглянуто стратегічне управління та ціноутворення підприємств в умовах переходу до циркулярної економіки як відповідь на глобальні екологічні виклики.

Висвітлено ключові аспекти сталого розвитку, зокрема: екодизайн, використання вторинних матеріалів, моделі обміну, бізнес-модель продукту як послуги,

енергоефективність, цифровізація, прозорість, навчання персоналу та створення партнерства.

Окреслено основні бар'єри впровадження циркулярних підходів: економічні, технологічні, інституційні та соціальні.

Запропоновано шляхи їх подолання, які включають розвиток інфраструктури, підтримку інновацій, удосконалення політики та посилення співпраці між зацікавленими сторонами. Визначено, що інтеграція принципів циркулярної економіки надає підприємствам екологічну та конкурентну перевагу в довгостроковій перспективі.

Ключові слова: *циркулярна економіка, ресурси, замкнений цикл виробництва, сталий розвиток, проєктний менеджмент, технології управління, стратегічний менеджмент, стратегія, ціноутворення.*

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