

GLOBAL ECONOMIC AND LEGAL PROBLEMS OF INTRODUCING THE CIRCULAR ECONOMY AND GEORGIA

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Abstract

The study discusses the international economic and political obstacles to the transition of the circular economy, finance, the exploitation of economies of scale by businesses, consumer behavior and market demand, supply chain and infrastructural problems, legal assistance, and policy remedies.

Georgia's shift to a circular economy is described, along with its general goals. When deciding on the proper state policy emphases and establishing multifaceted parameters for the transition to the circular economy, the research helps to organize and prioritize issues.

Keywords: circular economy, value chain, circular models, circular practices and policies

Introduction

It is well recognized that the circular economy's implementation aims to reduce waste, save resources, and advance sustainability across a range of industries. In the process of putting it into practice, many nations face varying degrees of economic, social, legal, infrastructural, technical, and other issues.

The legal and economic aspects are the subject of the paper. The literature review makes a distinction between supply chain difficulties, economic issues, and inconsistent regulations and policies. Setting goals involves identifying and categorizing the global barriers to the circular economy, which should be essential in selecting the appropriate state policy goals and complex planning specifications. The study used empirical methods, such as expert and entrepreneur interviews, observational data, and comparison tools, because there is a lack of statistical data on the circular economy.

1. Economic challenges

Transition to a circular economy necessitates large investments in infrastructure, introducing of waste management systems, and new technology. Economic barriers are a significant obstacle to the implementation of the circular economy. The scientific literature has extensively examined these problems (1, 2, 3). Several hurdles are identified from an economic perspective:

Although circular models are a long-term approach, many companies put immediate financial gain ahead of sustainability over the long run. Making the shift to a circular economy requires coordination, planning, and effort. One major obstacle to the adoption of a circular economy is the size of economic operations, the scope of the output and associated expenses (4). Many entrepreneurs are hesitant to invest in new systems and technologies that might not provide immediate financial rewards since the initial expenses of switching to a circular model are significant for businesses. Installing infrastructure for the recycling or reuse of materials, training employees, developing items for recycling, and investing in new technology necessitates a large upfront cost. Businesses that manufacture plastic items, for instance, face higher expenses when attempting to build appropriate recycling equipment or transition to more sustainable, recyclable materials.

The price of creating circular supply networks, which involve gathering, classifying, and recycling discarded goods, is also added. When it comes to changing procedures and obtaining new technology, this process is particularly difficult for small and medium-sized business owners. They have a small production scale and small brands, and scarce financial resources. Due to their creative character and modest market reach, startups and small and medium-sized firms that concentrate on implementing the circular economy—such as waste-to-energy technology or biodegradable packaging—are high-risk businesses. They struggle to pay for these expenses, which disadvantages them in comparison to businesses with linear supply chains. Linear business models are not the same as the circular business notion. Traditional linear production models, on the other hand, have low unit costs and enjoy economies of scale in the consumer products sector.

Moreover, investments in novel recycling technologies are necessary for the circular economy, but their research and use are expensive. The absence of infrastructure for extensive circular operations exacerbates this, raising expenses and creating logistical difficulties for companies looking to adopt circular practices. Without a cohesive strategy or industry norms, fragmented circular economy initiatives are expensive and ineffectual. Changes to product designs come with increased expenses, which is another deterrent for businesses.

Traditional automakers with a traditional linear model and a focus on producing new cars have higher short-term profit margins than businesses that make cars that are meant to be easily disassembled and recycled in a number of countries. Even though it is more costly for the environment (in terms of emissions and noise) than buying new automobiles, recycling, auto repair, and auto renewal are highly popular in less developed countries.

The environmental costs of extraction, pollution, and waste processing are frequently overlooked when determining the price of raw resources. Environmental expenses are not reflected in market pricing. New materials may thus be less expensive than recycled ones. For instance, although recycled materials are better for

the environment, their usage is less appealing commercially in the building sector since freshly mined sand for concrete is less expensive than recovered aggregates.

The market's low demand for circular products is a significant obstacle that might prevent businesses from growing their circular product lines. When putting circular models into practice, consumer behavior matters. It is costly to provide incentives for customers to return unwanted goods for recycling or refurbishment. To collect and handle used goods, businesses must spend money on marketing efforts, incentives, or logistics infrastructure. If customers are not accustomed to returning old goods, it might be expensive for a firm that manufactures reusable packaging materials to set up a system for gathering, cleaning, and reusing packaging materials. As a result, the market for recycled goods is small. enterprises could not be motivated to invest in circular enterprises if there isn't a high demand for these goods.

The expense of conducting research to make circular judgments is considerable. This is particularly true in nations like Japan, the United States, Europe, and others that are seen as engines of innovation and progress. A substantial investment in research and development (R&D) is necessary to create new kinds of biodegradable polymers that can take the place of traditional plastics. Businesses may spend money on these breakthroughs, but the rewards are unknown and unexpected, and the expenses are considerable.

These financial obstacles demonstrate the necessity of encouraging laws, financial incentives, and other support systems to assist companies in overcoming the difficulties involved in making the shift to a circular economy. To overcome these obstacles, enabling legislation, technology advancements, and investment are needed to provide economies of scale in the use of circular models.

2. Complexity of the supply chain

Transition to circular economy necessitates cooperation amongst several stakeholders. Supply chain transformation to enable circular business is difficult, particularly when managing multinational supply chains. Every step involved in the creation and provision of a good or service is included in a value chain. It puts up certain obstacles to the adoption of the circular economy (5; 6). These obstacles arise when components that are acquired from several suppliers in various regions and nations, the supply chain is extremely fragmented, particularly in the electronics sector. Because the finished product (such as a smartphone) may be manufactured using parts from different vendors, each with their own requirements, it is challenging to integrate circular models and create a cohesive strategy to recycling or reusing materials (7).

The value chain's participants don't work together. The many value chain phases of the fashion sector, including the manufacture of fiber, fabric, and retail, are frequently overseen by separate businesses with little collaboration. Attempts to implement circular systems may be hampered by the absence of businesses involved in this system. It can be challenging for a clothing maker to create clothing that can be readily recycled

and extend its life cycle if they lack access to information on the recyclability of the fibers employed (8).

There are other obstacles. For instance, the value chain's usage of linear business models aims to establish processes that are simple to administer. Single-use packaging, which is inexpensive and simple to handle in a linear economy, is a common approach in the world of product packaging. Additionally, the circular model calls for the implementation of several packaging techniques, necessitating substantial and intricate adjustments along the whole value chain, from logistics to the procurement of components. New steel, concrete, and glass are among the materials used in established traditional methods, especially in the building sector. The use of recycled materials in new construction projects may be hampered by this mindset. While recycled steel might vary in quality and availability, contractors prefer to utilize new steel since it is more cost-effective and satisfies established criteria.

The value chain, such as in the consumer goods industry, typically concentrates on getting goods from manufacturers to customers. It lacks infrastructure for collecting and recycling used goods, though in some industries, like the furniture industry, it is not common for customers to return old furniture for recycling or refurbishment if it was not made of pricey wood. It is challenging to establish a circular economy without a robust logistical infrastructure.

The value chain has an unequal distribution of power. Large corporations frequently exert considerable control over smaller suppliers in the industrial, retail, and agricultural sectors. Small enterprises are unable to implement circular processes because of this power disparity. Small farms may wish to adopt sustainable measures like composting or recycling their trash, but they can lack the funds or motivation to do so if the bigger corporation they serve does not value these efforts.

The poor mobility of production processes, especially in the automobile sector where the linear production model typically results in highly specialized and optimized manufacturing processes, is a barrier to circular practices. Manufacturers of automobiles have had long processes in place for creating vehicles with easily assembled parts. Re-engineering these procedures to enable items to be disassembled and recycled is necessary to make the shift to a circular economy, but doing so can be expensive and challenging for businesses (9).

Barriers are created by limited access to circular materials; in the plastics industry, for instance, recycled polymers seldom ever satisfy the standards and quality that businesses want. Finding recycled plastics that satisfy the same criteria might be challenging because the value chain is frequently concentrated on creating high-quality new plastics.

In sectors where product safety and effectiveness are guaranteed by regulation and standardization, the supply chain is strong. One example of this is the pharmaceutical sector. Implementing circular practices, using recycled materials in packaging, and implementing programs for expired medications are all made more difficult by the value chain's rigidity. Reusing recycled or old materials in packaging is prohibited by strict

safety regulations, even when doing so benefits the environment.

Innovation in supply chain management, increased cooperation among value chain partners, and structural reforms are frequently needed to overcome these obstacles.

3. Issues with regulations and policies

Global policies now in place mostly support a linear economy in which goods are produced, consumed, and then discarded. Without political will, these restrictions cannot be changed to promote a circular economy.

There are laws in transitional countries that encourage the adoption of the circular economy in specific sectors, however merely enacting legislation pertaining to recycling, waste management, and the advancement of sustainable manufacturing is insufficient. There are difficulties with enforcement in this area: a lack of resources may result in inadequate enforcement. This may make it more difficult to adopt a circular economy. Encouragement of business incentives, including tax rebates and subsidies, is also necessary.

Overcoming the following obstacles is discussed in scientific literature (10; 11; 12; 13). Inconsistencies in what materials may be recycled and how they should be treated result from the EU's member states' disparate recycling laws and standards. Because of varying local laws, some plastic packaging types are considered garbage in one nation but recyclable in another. This discrepancy hinders the adoption of consistent circular economy policies and recycling initiatives for businesses that operate across several nations.

Even if a substance is still useful and reusable, regulatory systems in many countries mandate that it be categorized as waste after it leaves the original creator. For instance, by-products from one industrial process may be categorized as hazardous waste in the chemical sector, which makes it difficult to reuse them in another process because of stringent rules. As a result, they are destroyed, and the circular system's ability to circulate these materials is compromised.

Producers are not encouraged to design items for simple recycling or reuse in areas where strict Extended Producer Responsibility (EPR) has not been implemented. In the electronics industry, for instance, businesses in certain countries are exempt from paying for recycling initiatives or returning outdated technology, which does not guarantee that e-waste is recovered and recycled. On the other hand, because manufacturers are in charge of prolonging the life cycle of their products, countries with robust EPR laws see greater recycling rates.

Obstacles to the use of secondary raw materials are created due to restrictive regulations. For example, in the construction industry, strict building codes and safety regulations require the use of new materials, even if recycled materials meet the necessary standards.

Instead of encouraging the economic viability of recycling operations, the government makes it more affordable to produce new linear products when it offers subsidies, tax breaks, or incentives for linear business models (such as resource extraction or disposal) and fails to adequately support circular business models.

New business models like Product/Platform as a Service (PaaS), in which businesses keep ownership of their goods and lease them to clients, are sometimes not accommodated by regulatory frameworks.

Strict environmental laws in some places make circulation costly or challenging. For instance, a waste-to-energy facility in the municipal waste industry could have to adhere to stringent air quality regulations, necessitating costly technological advancements that render the operation unprofitable. Uncertain or rapidly changing legislation create uncertainty for businesses wishing to adopt circular practices, which also discourages innovation and investment in circular solutions.

Reforming policies and developing new frameworks that uphold the principles of the circular economy are frequently necessary to remove these regulatory obstacles. A coordinated strategy combining the government, private sector, and civil society is needed to address these issues. By working together, they can create a more robust regulatory environment, boost infrastructure spending, raise public awareness, and encourage innovation and cooperation among businesspeople.

Georgia's political attempts to implement the circular economy

The degree of circular economy is low in Georgia and other comparable countries. There are a lot of untapped resources, particularly in the fields of energy, building, and agricultural and food production. Not all of the issues and global difficulties mentioned above apply to Georgia. The shift of Georgia's economy from a linear model to a circular one and assuring sustainable growth are centered on waste reduction, reuse, and recycling of resources in specific industries and products because some industry sectors—mostly current high-tech sectors—are not well developed. It is predicated on regulatory actions taken by the government in areas like waste management, energy, and agriculture.

Circular regulation, policies that encourage circular behaviors, circular area designation, and strategy adaption to local needs are also under progress. Creating green jobs, cutting waste, raising recycling rates, and other objectives are among them. Expanding producer responsibility, encouraging public-private partnerships, measuring progress, putting in place a monitoring system, and supporting renewable energy are some of the main initiatives that are suggested. Georgia is emerging as a regional leader in the use of circular models, sustainable development, sustainability, and inclusivity with the help of international organizations. The political will and the plan created for the circular economy's implementation decide this (14).

Conclusion

Therefore, the challenges to the transformation of the circular economy are complex and include funding, the usage of economies of scale by businesses, consumer behavior and market demand, supply chain and infrastructural solutions, legislative backing, and political will. All countries that intend to switch to circular models must prioritize and systematize these issues in order to decide on the best state policy priorities and to plan the many criteria that guarantee the economy develops sustainably and effectively.

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