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From Circular Economy to Business-Level Circularity: A Descriptive Case Study

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Abstract. The need to manage waste and foster environmental sustainability has opened a call to transform the current linear economic model into a circular one. Circular Economy (CE) is continuously growing as a backbone economic model in both developed and developing countries. Still, in Albania the scholarly considerations about the topic are missing or at best have been neglected. Using Albania as a research setting, this study aims to provide a macro and micro perspective of the circular economy and the way it applies to business level. The theoretical framework includes advantages and criticism to circular economy, circular business models, and measurement tools for business circularity. The research design relies on the descriptive case study method. Thus, we first introduce an overview of the circular economy in Albania, and then we describe the case of Green Recycling company. Findings show that Albania is still below the EU average levels of waste management. Although the circular economy seems not to be a trend in the Albanian market, few companies including the described case study show an increasing involvement in business circularity with concrete environmental impact. In terms of numbers, only by the performed activities of 2020, Green Recycling reduced 4200 tons of CO₂ emissions.

Keywords: circular economy, business circularity, environmental sustainability, recycling, Albania.

1 Theoretical framework

1.1 Circular Economy between Advantages and Criticism

Recent research advocates the abandon of Linear Economy (LE) which broadly depends on energy consumption and the use of resources that leads to environmental deterioration, while promoting Circular Economy (CE) as being restorative by design (Androniceanu et al., 2021). The CE is generally described as a regenerative economic system that aims to keep its elements in use for longer, thus maximizing its productivity. In addition to that, the CE will significantly transform consumption and production systems while disengaging the monetary benefit from waste generation and resource exploitation (Chamaco-Otero et al, 2018). The substantial reduction of finite resources has led to increasing demand for new business models that can stimulate entities to move towards sustainable development (Lopes and Farinha, 2019). A relevant advantage of CE is targeting the consumption of only biological materials, while emphasizing the importance of natural systems not only to be protected but improved as well. Similarly, Vanhamäki et al., (2021) concludes that a CE is highly considered as a solution when it comes to facing sustainability challenges in today's world. As a result, CE is highly being adopted in European politics as a sustainability strategy (Foster et al., 2020).

On the other side, one of the main critics towards CE is the difficulty of implementing this model due to required coordinated efforts to redesign all production schemes and business models (Lopes and Farinha, 2019). While several organizations use CE reports as a greenwashing technique, for consumers the production process is irrelevant unless it affects them directly (Chamaco-Otero et al., 2018). Finally, CE incorporates the concept of sustainability only partially by mainly focusing on waste reduction. This view seems like an empty promise since decoupling consumption from economic growth (Foster et al., 2020).

1.2 Circular Business Models

According to Lahti et al. (2018), the pattern of product and material flows across the economy is altered by circular business models. In this way, the negative environmental impacts of the usage, exploitation, and final disposal of natural resources and products can be reduced. This is due to changes in production and consumption patterns, as well as advances in material productivity at the facility level. These models can be used alone or in combination, for firms to be able to increase resource productivity while cutting costs, generating revenue, and increasing customer value and distinctiveness. (2020).

Reim et al. (2019) describes companies like dots on a circle, establishing a value chain that connects suppliers and customers. This network can be constructed in one of two ways: as a straight line between natural resources and landfills (linear economy) or as a perpetual value cycle with zero waste (circular economy). In the latter case, circular business models help to decrease natural resource extraction and usage, as well as the

production of consumer and industrial waste. They reflect the essential steps needed to make the transition to a more resource-efficient and circular economy.

Apparently, the concept of circular economy and circular business models are not entirely new terms to society, because reuse and repair have existed for centuries (Bresanelli et al., 2018). Sharing of unused home items has a long history and providing access to objects rather than ownership is like traditional product renting. The novelty stands on the expanding sophistication and diversity of these business models, as well as the variety of industries in which they are deployed.

Studies about circular business models have been mainly emphasizing the concept of “value”, some referring to value chain (Roos, 2014), some others referring to value capture, creation, and distribution (den Hollander and Bakker, 2016; Nußholz, 2017). A common denominator of circular business model, as it is reviewed by Geissdoerfer et al. (2020), shows that the main components of a circular business model are cycling, extending, intensifying, and dematerializing (see figure 1).

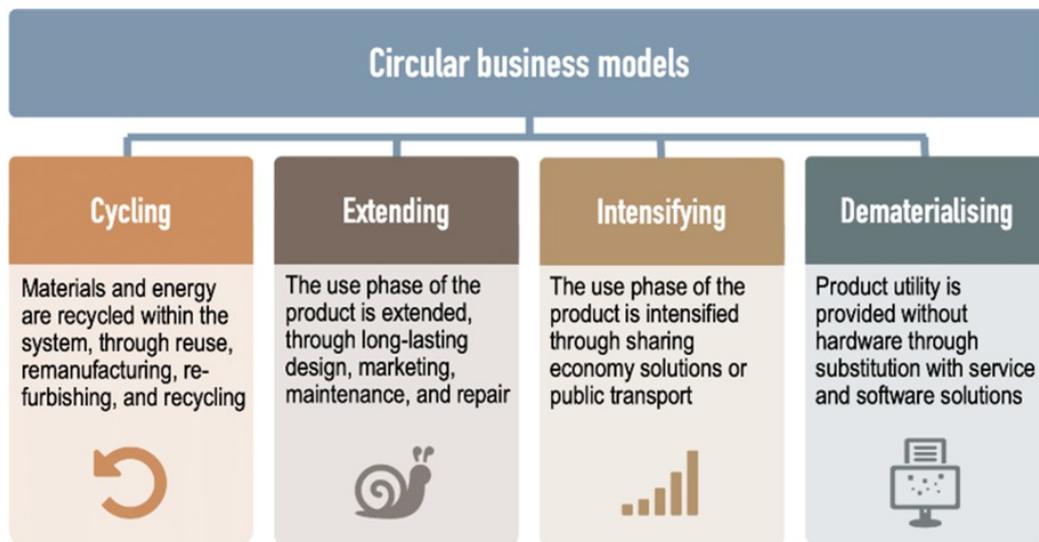


Fig. 1. Circular business models. Source: Geissdoerfer et al., 2020

1.3 Company-Level Circularity

Circularity evaluation is a new trend involving organizations that promote the circular economy. Like the quality certification or the sustainability reports, business-level circularity is a tendency to quantify and measure the impact organizations have on the environment and to communicate it through reports.

In terms of functionality, circularity evaluation helps businesses consider their position in society as resource custodians, make management choices, and engage with a

broader audience. In this respect, circularity assessment must be multi-scale and lifecycle based.

Circularity considerations should start much earlier than the input orders. Normally, the supply order follows product features and components. Therefore, the assessment of circularity must start in the early stages of product design and development (Kamp Albæk et al., 2020), so as the final product components will be environmentally friendly by influencing the whole supply chain, from resourcing to distribution.

On top of the organizations which promote and measure company-level circularity it can be distinguished The Ellen MacArthur Foundation and its company-level circularity measurement tool labelled as “Circulytics”. This tool assists businesses in making the shift to a circular economy, regardless of industry, complexity, or scale. Circulytics goes beyond examining goods and material flows to indicate the extent to which a firm has achieved circularity across its entire activities. It accomplishes this by utilizing a comprehensive collection of up to 18 indicators, divided in enablers and outcomes. Enablers include strategy and planning, people and skills, innovation, operations, and stakeholder engagement. Outcomes refer to products and materials, services, energy and finance, water, and plant-property-equipment assets.

2 An overview of circular economy in Albania

Albania is a developing country where concepts of circularity and sustainability have not been strongly debated among the public. However, the new agenda for the integration of Albania in the European Union requires efforts also in terms of environmental sustainability. The concept of circular economy (CE) has been used earlier in the draft Strategy on Integrated Waste Management (2018-2023) produced in January 2018.

In the Strategy Policy Paper and Integrated National Waste Management Plan 2020-2035 published by GIZ in collaboration with the Ministry of Tourism and Environment, the main target is the transition from linear economy to circular economy. According to the latest report (2020, pp.17) of Co-PLAN Institute for Habitat Development as part of the Env.Net Project, “In general, the situation of integrated waste management in the country appears to be extremely problematic. Currently, about 69% of the population receives waste management services; only 30% of waste is dispatched to the landfill, while the rest are disposed on inadequate deposit sites. Regarding the infrastructure and type of landfills, there are no landfills designed to meet EU standards. Most of the waste is deposited on local and illegal landfills. Meanwhile, three incinerators are being built in the Municipality of Tirana, Elbasan and Fier. Recycling companies in the country have reduced processing capacities, and in 2019 about 38 companies, recycled 4.5% of the total amount of waste, and their number and processing capacity is now somewhat unclear”. Albania is the first country in Western Balkans to implement an incinerator. The current three incinerators in Albania, altogether have the capacity to burn about 45 % of the total municipal solid waste generated in one year in Albania – including also recyclables and biowaste. But according to Baumann (2019, pp. 113-114), “there is no need for three incinerators in Albania though: If the EU target to recycle 60 % by 2020 is respected, only 10 % of waste will have to be sent to landfills and less than 30 % will

have to be incinerated. Therewith, the over-capacity of the three incinerators would account for 74 %. In other words, if recyclables, biowaste and other wastes, that cannot or should not be burned (e.g., hospital wastes, stones, e-waste) were disposed of adequately, the remaining waste would fill only 26 % of the capacity of the three incinerators”.

3 The case of Green Recycling

Green Recycling was founded in 2013, in Kamez (Albania), and it is one of the pioneers in the private sector to deal with the circular economy. The company mission is to help the clients not wasting paper and other waste materials throughout its services but taking care of human health and environment. Green Recycling is a sustainable business using recycling and biodegradable cardboard packaging, to accomplish circular economy requirements by having as input only recyclable materials. Some of its values are safety, integrity, ethics, passion, diversity.

Nowadays, it is very important to recover efficiently raw materials and be more sustainable. That's why Green Recycling implemented a recycle model, which helped in the reduction of raw materials consumption. Green Recycling offers many services like collection of recyclables and nonrecyclable wastes, storage cleanouts, secure shredding and product destruction by following the model they are using. It is licensed for the collection of wastes, and it offers a range of tailored collection of wastes and services of recycling for all business sizes. The services of wastes management are all relevant with the legislation and flexible. Pick-ups are made on agreed schedule, always by taking into consideration the environment side effects. Some of the recyclable wastes the company collects are cardboard, paper, glass, metal, used cooking oil, garbage, etc.

The way the company reuses papers is that they sell them to the industry of papers and cardboards like a secondary resource to produce new outputs. The company also buys and sells used plastics, after sorting it to the companies which use plastic for the creation of new outputs. That is one of the ways they help the environment by optimizing the recycling of raw materials. Green Recycling collects and recycles glass wastes in compliance with EU regulation. From the glass wastes they create a glass cullet that meets EU standards and can be re-melted.

Recycling E-wastes like computers, cell phones, fax machines etc., protect the ecosystem and because of their heavy metal they cannot stay in landfills. Moreover, they offer to restaurants and hotel industry a service where is guaranteed the collection of used cooking oil, because it should not be disposed of with other wastes.

Also, the company collects non-recyclable wastes like food wastes, for disposal in authorized landfills. Cleaning the environment by removing unwanted items is another company service. Despite the main activities of the company, its goal is to protect the environment and create a better quality of life for the future. The ways the life quality can be improved are by reducing the environmental waste, controlling the raw materials supply, increasing competitiveness between the markets, stimulating invocation, etc.,

even though it is so difficult for some products to be disassembled and to close the resource loop inside one industry.

Nowadays it is a necessity for all companies the obligation to protect people's identity by document shredding. Every client can be part of the process of document destruction or watch it online. The business provides to client's cartoons which are 100% biodegradable, recyclable and sustainable, so they can use them without harming the ecosystem.

The last service that the company offers is product destruction. Every product made by other companies but does not meet the company requirements and standards it is a threat to the business place on the market. Green Recycling makes the product destruction by environment friendly methods.

One of the external activities Green Recycling is performing is educating the population about taking care of the limited resources and ecosystem. They emphasize the fact that children should learn more about green future and the way to create a better world to live in. Moreover, on February 15 of each year, they send to their clients a report where are summarized the services they have made to each client and the positive impacts they had a cause. Also, the client contribution to reducing Co2 emission, saving trees, energy, and water is measured on these reports.

In the last report shared by the company it is stated that more than 3000 tons of paper were sold to authorized companies abroad, where they can use it to recreate paper or new products. Moreover, more than 100 tons of cooking oil was sent to recover BE plants to produce biodiesel. A recent annual report provided by Green Recycling shows the environmental impact of the company in numbers:

- 4180 tons of CO2 emissions avoided
- 28,000 preserved trees
- 40,000 m3 of water saved
- 24,000 barrels of fuel saved
- 5,000 m3 of locked space in the landfill

4 Conclusions

In this study it is shown the importance of Circular Economy (CE) and its continuous growth as a backbone economic model in both developed and developing countries. The study unfolded an objective consideration of CE by analyzing both advantages and critical perspectives. Although many authors and organizations advocate for the CE model as the ones who can better contribute on waste management and environmental sustainability, still there are others who claim that CE incorporates the concept of sustainability only partially by mainly focusing on waste reduction, making CE more fragile in the eyes of public which sounds like an empty promise since decoupling consumption from economic growth.

By shifting from a macro- to a micro-perspective, the study continues with the characteristics of circular business models. It shows that these models round about the concept of "value" (e.g., value chain, value capture, value creation, and value distribution),

and that a typical circular business model refers to cycling, extending, intensifying, and dematerializing.

Then, the CE it is seen from quantitative lens, attempting to find tools for circularity assessment at business-level. Thus, after providing a short narrative about company-level circularity, the focus has been on measurement tools, distinguishing Circulytics, a company-level circularity measurement tool created by The Ellen McArthur Foundation.

Because in Albania the scholarly considerations about the topic of CE are missing or at best have been neglected, then Albania it was used as research setting for this study. In this context, it was provided an overview of CE in Albania, with particular focus on the legal framework, concrete initiatives, waste management system, landfills, etc.

Since the research design of this study relied on the descriptive case study method, then we described the case of Green Recycling company. Findings showed that Albania is still below the EU average levels of waste management. Although the circular economy seems not to be a trend in the Albanian market, few companies including the described case study showed an increasing involvement in business circularity with concrete environmental impact. In terms of numbers, only by the performed activities of 2020, Green Recycling reduced around 4200 tons of CO₂ emissions. Moreover, more than 100 tons of cooking oil was sent to recover BE plants to produce biodiesel, and more than 3000 tons of paper were sold to authorized companies abroad for recreating paper or new products.

This study comes up with few implications for academia and business. For the Albanian scholars, this study is just a taste to be further developed with new terminology and other research methods, either qualitative or quantitative. For the business sector, one implication is related to a mindset shift that what it is good for society is also good for business and not the opposite (Porter and Kramer, 2019). Another one is about internationalization. So, Albanian businesses that aim to go global, need to respect international standards of environmental protection and waste management.

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