A framework proposal: analysing studies of circular economy with the institutional theory

Proposta de framework: analisando estudos de economia circular com a teoria institucional

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ABSTRACT

This study proposes a framework to facilitate the Circular Economy (CE) implementation cases analysis from the Institutional Theory (IT) perspective. The development of this theoretical framework was based on the levels of operationalisation of the Circular Economy and the types of isomorphic changes. To demonstrate the framework's applicability, we present a matrix classifying 59 case studies into nine quadrants (3 x 3). Subsequently, the papers' contents were discussed, revealing strategies and practices for institutional behavioural change that drive CE implementation at the micro, meso, and macro levels. Therefore, the results of this work contribute not only to academia by introducing a new way of analysing CE case studies but also to managers by discussing implemented or ongoing implementation cases.

Keywords: Circular economy. General packaging. Institutional theory. Isomorphism.

RESUMO

A presente pesquisa teve por objetivo propor um framework para propiciar a análise de casos de implantação da Economia Circular (EC) sob a perspectiva da Teoria Institucional (TI). A elaboração desta estrutura teórica teve por base os níveis de operacionalização da Economia Circular e os tipos de mudanças isomórficas. Para demonstrar a aplicabilidade do framework, foi apresentada uma matriz que classifica 59 (cinquenta e nove) estudos de caso, em 9 quadrantes (3 x 3). Em seguida, os conteúdos

dos papers foram discutidos, revelando estratégias e práticas para a mudança de comportamento institucional que alavanca rumo à implantação da EC, no nível micro, meso e macro. Portanto, os resultados deste trabalho contribuem não somente para a academia, ao introduzir uma nova forma de analisar estudos de caso de EC, como também para gestores, ao discutir casos implantados ou em fase de implantação.

Palavras-chave: Economia Circular. Embalagens em geral. Teoria Institucional. Isomorfismo.

1 INTRODUCTION

Unregulated markets, failed investments, and supply risks have led entire countries into increasingly prolonged economic recessions. Additionally, the primitive consumerist mindset prevails, posing a challenge to reduce the negative impacts of human activities on Earth (GEISSDOERFER *et al*., 2017).

The Covid-19 pandemic has generated an unprecedented crisis and brought negative economic consequences to various manufacturing and service sectors (MALISZEWSKA *et al*., 2020). Authors like Everingham and Chassagne (2020) criticise the myth of perpetual growth in capitalism and see the post-pandemic period as an opportunity to rethink the current economic model.

Regarding the high standard of production and consumption of goods, Ghisellini *et al*. (2016), for example, emphasise the urgency of changing business models to use fewer raw materials and energy and extend the lifespan of products. In this sense, Circular Economy (CE) emerges as an alternative. It aims to replace the linear take-make-dispose philosophy with a circular logic where actions of reduction, reuse, and recycling are implemented.

The pursuit of process efficiency to achieve product circularity is also present in other circular thought theories, such as biomimicry, regenerative design, and cradle-to-cradle (C2C) (EMF, 2013). However, the approach of CE is relatively new and lacks a deep theoretical foundation (KORHONEN *et al*., 2018).

Organisations compete not only for resources and customers but also for the power to influence policies and establish institutional legitimacy. Therefore, organisations must often change to adapt (DIMAGGIO; POWELL, 1983). In this context, Institutional Theory (IT) helps understand the macro environments of organisations. IT can facilitate stakeholder collaboration (SUDDABY, 2010), which is crucial for the viability of the circular supply chain and economic development (NORTH, 1991).

Thus, this study aims to apply Institutional Theory (IT) to analyse the operationalisation of the Circular Economy in the packaging chain. After this brief contextualisation and presentation of the main objective, we organised this paper as follows: the theoretical framework presents concepts of Circular Economy and the understanding of classical and contemporary authors about Institutional Theory.

Next, the methods section demonstrates the steps taken and the methodological classifications. Subsequently, this paper presents the framework created to analyse the implementation of CE from the perspective of Institutional Theory, and the same theoretical structure is applied to demonstrate its usefulness. Accordingly, the results are presented in matrix format and discussed, exposing the content of the analysed papers. Finally, the conclusion synthesises the paper's main contributions, acknowledges limitations, and suggests future research.

2 THEORETICAL BACKGROUND

2.1 CIRCULAR ECONOMY OF PACKAGING

The main purpose of the Circular Economy (CE) is linked to economic prosperity with environmental quality and equity (KIRCHHERR *et al*., 2017). The Ellen MacArthur Foundation (EMF) has extensively collaborated to promote the term CE through its participation in various editions of the World Economic Forum (EMF, 2013). CE proposes to reject the concept of waste, as it believes that materials still hold value even after their initial use, whether products have technical or biological cycles (GHISELLINI *et al*., 2016).

In order to describe the three main scales of CE operationalisation, Ghisellini *et al*. (2016) categorise and several subsequent works have used this pedagogical division (BRESSANELLI *et al*., 2021; LÜDEKE-FREUND *et al*., 2019). CE operationalisation is studied in products, companies, or consumers at the micro level. At the meso level, it is studied in a sector or eco-industrial parks, and at the macrolevel, it is evaluated in a city, region, or even between countries (GHISELLINI *et al*., 2016).

Among other studies that have also used this classification in their research, it is worth mentioning Lüdeke-Freund *et al*. (2019). From the literature, they presented 26 business models adopted in the circular economy and discussed their implementation strategies. Another study using this classification of CE operational levels was conducted by Oliveira, Luna, and Campos (2019). The authors examined the challenges of implementing the circular economy by analysing reverse channels and the supply chain of polystyrene packaging in Brazil (OLIVEIRA *et al*., 2019).

Marrucci (2020) warns that despite the growing interest of the scientific community in the subject, the volume of Municipal Solid Waste (MSW) has been increasing worldwide. Furthermore, the author states that the three levels of CE operationalisation have been analysed separately (MARRUCCI, 2020). Jacobi *et al*. (2018) affirm that it is more common to find works dedicated to the micro and meso levels, and there is still a lack of frameworks that aim to integrate the three levels.

At the macro level of analysis, many studies focus on municipal solid waste management (MARRUCCI, 2020). For example, Ferronato *et al*. (2019) investigate two recycling systems in developing countries and find that the complexity of CE practices increases as the scale level increases. To integrate the different operational levels (micro, meso, and macro), the authors emphasise the need for more assertive government policies of incentives and charges, the inclusion of the informal sector that contributes in a marginalised manner, public-private partnerships, and population awareness programs, among other measures (FERRONATO *et al*., 2019).

Figure 1 illustrates the segmentation researchers use to observe the transition to CE. As this is a theoretical division, it is reiterated that circular practices involving phases such as planning, procurement, design, and production need to be integrated for the preservation of ecosystems and the well-being of society (MURRAY *et al*., 2015).

Figure 1 | Levels of analysis of the operationalisation of the Circular Economy

Source: Adapted from Murray et al. (2015).

General packaging consists of materials such as paper, plastic, metal, or glass designed, created, and used to protect and facilitate product transportation, storage, and commercialisation. For example, packaging for food and beverages provides protection and safety for these products during transportation and storage (BATISTA *et al*., 2018; LASO *et al*., 2016). However, it is essential to remember that packaging, in general, is a significant contributor to urban solid waste (BOESEN *et al*., 2019; EMF, 2013).

Specifically regarding packaging, European countries are pioneers in seeking sustainable development through a paradigm shift: transitioning from a linear economy to a circular economy (RUBIO *et al*., 2019). The European Union, an economic bloc of countries, aims to embrace the concept of circularity in sustainable production, focusing on avoiding waste generation and promoting activities that extend the lifespan of products, such as reuse and recycling (LASO *et al*., 2016).

2.2 INSTITUTIONAL THEORY

In order to understand the ideas and behaviour patterns of institutions, as well as the values and beliefs of individuals that impact and are impacted by them, North (1994) proposes the theory of institutional analysis. According to North (1994), institutions play a fundamental role in economic growth. They provide confidence in determining outcomes, limit individual choices, and change over time, altering the available options. Institutions, such as customs and rules, affect individuals' incentives and disincentives, influencing the array of available economic choices.

To achieve economic growth through productivity, it is essential to understand institutions and how they shape the economy, as North's institutional analysis theory (1994) suggests. Thus, Institutional Theory (IT) can contribute to the maturation of debates towards the operationalisation of the Circular Economy. Understanding organisations is fundamental for order and progress, as they form the basis of social life. By comprehending them, one expands the understanding of the meaning people give to life and moves towards societal stability (CAMPBELL, 2004). There is a continuous conflict of interests in the organisational field, motivating institutions to make changes, seek adaptation, or even survive in the environment (DACIN *et al*., 2002). Organisational changes can happen radically or incrementally, and often, it is difficult to perceive that changes are underway (CAMPBELL, 2004).

During the 1980s, Institutional Theory developed in response to the challenge of understanding the increasingly intense and frequent changes happening (and continuing to happen) worldwide (SCOTT, 1991). The same author attributes the most outstanding contribution of institutional theorists to the

re-conceptualisation of organisational environments (SCOTT, 1991). Environments could be divided into technical and institutional, with the former involving information exchange and complex technology, while the institutional environment involves formal and informal rules, socially defined categories (MEYER; ROWAN, 1977; SCOTT, 1991).

Being part of an institutionalised environment is a characteristic of organisations in modern society, as these institutions are composed of professionals directed by policies and programs aimed at rationality and efficiency in resource use. Organisations need to grow in legitimacy to increase their survival chances (MEYER; ROWAN, 1977), and these structured fields tend to lead organisations to adopt similar behaviour. Isomorphism, therefore, emerges as a concept that translates this impetus of organisational units seeking similar attitudes as they face similar problems (DIMAGGIO; POWELL, 1983).

Besides overcoming market challenges, organisations need to interact with other organisations constantly. They compete for resources, customers, and power to influence policies and establish institutional legitimacy, so they must continuously change to adapt. Thus, isomorphism becomes vital in understanding what makes companies similar (DIMAGGIO; POWELL, 1983).

Dimaggio and Powell (1983) list three mechanisms to differentiate institutional isomorphic changes, namely: 1) coercive isomorphism, which derives from political influences, for example, when the state induces or forces organisations to adopt measures or change behaviours; 2) mimetic isomorphism, a tendency towards homogenisation arising from standardised responses to uncertainty, often occurring when organisations copy other successful ones; and 3) normative isomorphism, which usually arises from professionalisation projects, motivated to respect obligations that arise and are demanded by society. It is worth noting that the types are not pure, meaning they are not exclusive but rather interactive.

Suddaby (2010) believes in theories' importance in fostering more productive organisational changes; he states that theories are tools. In this author's opinion, the institutional theory is helpful for this macro understanding of organisational environments, and this paradigm can even lead to ease of collaboration among stakeholders and consequently facilitate access to resources.

Institutions, therefore, arise from political, economic, and social interaction. Thus, institutionalisation is the process of making institutions widely known and perpetuating them in the long term. The frameworks that support institutionalisation can potentially contribute to economic growth as they reduce costs and increase cooperation among economic agents (NORTH, 1991).

3 METHODOLOGICAL PROCEDURES

In order to propose a framework to facilitate the analysis of Circular Economy (CE) implementation cases, it is essential to highlight the significance of creating these theoretical structures. A framework is a tool to aid in understanding complexities in the real world. Therefore, they are researchers' creations for comprehending phenomena that still lack analysis. The development of these models contributes to clarifying the relationship between elements, including possible cause-effect relationships (MUNCK *et al*., 2013).

According to Shehabuddeen, Probert, and Phaal (2000), frameworks can take different forms: simple, elaborate, descriptive, or causal. Theoretical structures differ from simple mappings as they represent abstractions of dynamic, non-static events.

Furthermore, Shehabuddeen, Probert, and Phaal (2000) state that developing a theoretical structure involves identifying specific purposes. Subsequently, a structure of relationships is created by establishing categories. Hence, three questions were formulated to guide the bibliographic classification: 1) Which levels of operation of the Circular Economy for packaging are most studied? 2) Which mechanisms of institutional change towards the Circular Economy for packaging are most studied? 3) What are the existing trends and research gaps?

Figure 2 illustrates the framework created by the authors of this study.

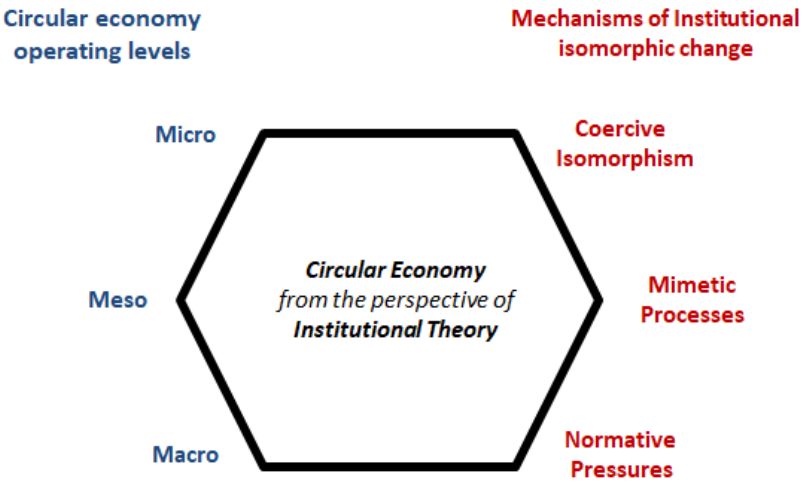

Figure 2 | Framework for analysing the CE from the perspective of IT

Source: Authors.

Figure 2 relates a well-established administrative theory (Institutional Theory) with an emerging and increasingly used theory in the fields of engineering, management, and applied social and environmental sciences (Circular Economy). This created structure allows analysts to reflect and investigate the levels of operation of CE and the mechanisms of institutional change that could contribute to the institutionalisation of practices that promote sustainable development.

The next section, dedicated to presenting and discussing the results, used the Integrative Literature Review conducted by Cerqueira-Streit *et al*. (2022) to apply the developed framework. This review incorporated theoretical and empirical articles, seminal and more recent articles published in international journals on the Circular Economy of packaging.

It is important to emphasise that the content analysis was of the thematic categorical type, according to Bardin (2011). In other words, a text fragment can give rise to a category of analysis. If this excerpt is homogeneous, exhaustive, and pertinent, a specific communication segment can be considered a category of analysis.

Although the three isomorphism types are often mixed in practice, Dimaggio and Powell (1983) reinforce that the theoretical division can facilitate the analysis of different pressures. Therefore, the authors of this research analysed all 59 case studies that are part of the sample of the Integrative Literature Review conducted by Cerqueira-Streit *et al*. (2022). This RIL is aligned with the interests of this research; the search criteria were systematic, allowing the following classification: 1) regarding the level of operationalisation of CE for Packaging (micro, meso, and macro) and 2) regarding the mechanisms for institutional change towards CE for Packaging (coercive, mimetic, or normative isomorphism).

4 RESULTS AND DISCUSSION

The understanding of this study about CE aligns with studies that represent CE as a paradigm shift. This change aims to promote waste generation prevention, energy and material savings by closing the production cycle, and it is believed that it can be implemented at the micro, meso, or macro levels. At the micro level, companies and consumers are studied, while at the meso level, changes in economic agents participating in the same sector are analysed from a symbiotic perspective. At the macro level, cities, regions, or countries are studied to compare general governmental, business, and societal attitudes.

It is essential to mention that the articles were classified according to the locus where the studies were applied (micro, meso, or macro) and the authors' mention of possible isomorphic behaviours (coercive, mimetic, or normative). For example, Kuo *et al*. (2019) was classified in the present structure as Micro and Coercive. The researchers interviewed managers from a single LCD (Liquid Crystal Display) panel manufacturing plant to investigate the possibility of changing to a less degrading logistics system with higher quality and more reusable packaging.

Throughout the work, the researchers emphasise the importance of regulation to force companies to restructure logistics and modus operandi regarding work safety, efficiency, storage activities, and product handling. Regulation can even alter how companies communicate and instruct customers about proper consumption, handling, and disposal (KUO *et al*., 2019).

By conducting five expert interviews and eight non-participant observations in a hospital in Antwerp (Belgium), Harding *et al*. (2021) made important considerations about packaging waste management in the hospital environment. They reflected on the quantity and quality of various types of packaging generated, such as plastic, paper, metal, and multilayer packaging (which combine more than one material). They also discussed the importance of sterilisation centres and the use of packaging for protection after sterilisation. The authors emphasised the need to "ecologise" hospitals, including surgical rooms, to reduce waste and optimise reuse processes (through sterilisation) and recycling when possible. In the authors' view, this hospital is ahead of others in seeking such actions and is now an example to be followed. The presence of successful circular practices and the encouragement of benchmarking characterise the stimulus for mimetic isomorphism (HARDING *et al*., 2021).

Understanding consumer behaviour can be considered a stimulus for investigations at the micro level of CE operation, as the success of this new paradigm also depends on individual practices. Abuabara *et al*. (2021) interviewed 40 participants from the coffee capsule supply chain (plastic and aluminium packaging) to understand consumers' interests in aspects related to reverse logistics and environmental management. As a primary output, the authors developed a theoretical framework to assist managers in decision-making based on the thoughts and actions of end consumers.

Community engagement tends to bring positive collective impacts on the environment and well-being. When these actors push for more professional projects from companies that implement serious reverse logistics programs or demonstrate concern for waste management, the importance of normative mechanisms in institutionalising CE becomes evident. It is necessary to stimulate conscious behaviour and civil responsibility so consumers more frequently opt for "eco-friendly" products and companies, valuing those that act appropriately and creating competition for more sustainable actions (ABUABARA *et al*., 2019).

Table 1 presents the matrix in which the 59 case studies on CE of packaging were classified, demonstrating the application of the proposed framework.

Table 1 | Case studies in the Circular Economy of packaging analysed according to Institutional

		Mechanism of isomorphic institutional change		
		Coercive Isomorphism	**Mimetic proccess**	**Normative proccess**
Levels of operationalisation of the Circular Economy	Micro	Ameli *et al*. (2019); Guerin (2020b); Kuo *et al*. (2019); Laso *et al*. (2018).	Guerin (2020a); Harding *et al*. (2021); Leissner; Ryan-Fogarty (2019); Marrucci *et al.* (2020); Principato *et al*. (2019); Selina *et al*. (2021).	Abuabara *et al*. (2019); Ermolaeva; Rybakova (2019); Jang *et al*. (2020); Marotta *et al.* (2019); Rizzo *et al.* (2017); Stephan *et al*. (2020); Virsta *et al*. (2020).
	Meso	Bruno *et al*. (2020); Kazulyte; Kruopiene (2018); Laso *et al*. (2016).	Bishop *et al*. (2021); Friedrich *et al.* (2020); Niero *et al*. (2017); Usapein; Chavalparit (2014).	Casarejos *et al*. (2018); Husgafvel *et al.* (2018); Mura *et al.* (2020).
	Macro	Andreasi Bassi *et al*. (2020); Bogusz *et al*. (2021); Ezeudu; Ezeudu (2019); Foschi *et al*. (2021); Fuss *et al*. (2021); Guarnieri *et al*. (2020); Kranzinger *et al*. (2017); Kudela *et al.* (2020); Polygalov *et al*. (2021); Rigamonti *et al*. (2019); Roithner; Rechberger (2020); Rubio *et al*. (2019); Rutkowski (2020); Thabit *et al*. (2020).	Aznar-Sánchez *et al*. (2020); Faussone (2018); Fitch-Roy *et al*. (2021); Jeswani *et al*. (2021); Nevrlý *et al*. (2021); Nimmegeers; Billen (2021); Oyelola *et al*. (2017); Pluskal *et al*. (2021); Somplák *et al*. (2019); Van Eygen *et al*. (2018)	Allison *et al*. (2021); Lucia; Pazienza (2019); Jang *et al*. (2020); Kakadellis *et al*. (2021); Miliute-Plepiene; Plepys (2015); Roche Cerasi *et al.* (2021); Simoens; Leipold (2021); Taffuri *et al*. (2021).

Source: Research data.

After discussing some articles that addressed the micro level with different mechanisms of isomorphic change and presenting Table 1, the following paragraphs highlight the studies that addressed the meso and macro levels.

In addressing the fish industry chain, Laso *et al*. (2016) used Life Cycle Assessment (LCA) to identify the best treatment for the waste of canned anchovy: the head, bones, scales, and unutilised meat. The LCA is a quantitative tool inspired by eco-efficiency principles, allowing the reduction of the environmental footprint by controlling the product's utility.

The unused parts of the fish (head and bones) can produce fishmeal and fish oil. The authors also state that fish scales and skin can be valorised in producing bioplastics for packaging, as technology is already available for such utilisation (LASO *et al*., 2016).

Considering the substitution of single-use packaging, which would be discarded after the first use, is part of the search for solutions proposed by the Circular Economy (EC). Disposal in landfills or incineration was considered the least advantageous due to the high government costs. At this point, the work fits as coercive since the authors indicate that the sector's pursuit of eliminating the concept of waste is motivated by the attempt to comply with European environmental legislation (LASO *et al*., 2016).

One of the studies classified as meso (as it is applied in a specific industrial sector), with the isomorphic mechanism considered mimetic, was Niero *et al*. (2017). In this study, the authors present a framework combining Life Cycle Assessment with Cradle to Cradle (C2C) certification for aluminium cans in the Carlsberg brewery industry. It becomes more evident that adjustments like this are motivated by the fact that the studied company does not want to fall behind the competition, characterising mimetic isomorphism.

By achieving certification like C2C, companies progress toward EC and can prove it to the entire market, helping them gain a competitive advantage. One of the main challenges in implementing EC strategies is product design, meaning that the product is designed and built from the beginning to facilitate reuse, reconditioning, and other R's (NIERO *et al*., 2017).

In stating the importance of C2C certification, the authors mention several times the pioneering nature of the beverage industry and how various others are seeking adaptation (not just Carlsberg and its chain). Indeed, understanding what the authors call the "Carlsberg community" facilitates understanding the meso level that aims to move toward EC (NIERO *et al*., 2017).

In addition to solid legislation and incentives for industry compliance, customer demand is essential. Husgafvel *et al*. (2018) investigated the opportunities and challenges of wood reuse by applying questionnaires and conducting semi-structured interviews with large and small companies. In addition to the furniture and carpentry industry, wood is a material that can be used in sawmills, pallet construction, and packaging manufacturing.

This study was classified as normative, as the authors emphasise the importance of society in demanding that companies increase their level of professionalism and consider sustainability issues. In Finland, where this case was studied, public opinion is believed to play a fundamental role in companies' view of corporate responsibility as an opportunity to add value to their businesses (HUSGAFVEL *et al*., 2018).

By analysing the implementation of the first phase of the Sectoral Agreement for packaging in Brazil, Guarnieri *et al*. (2020) used documentary analysis and semi-structured interviews with government representatives, companies, and recyclable material pickers. Although the term CE is not present in the Brazilian National Solid Waste Law (No. 12,305/10), its objectives, principles, and instruments are believed to align with what this new paradigm advocates (BRASIL, 2010).

In its first phase, the sectoral agreement showed interesting results regarding support for picker cooperatives (who collect, sort, and facilitate the shipment of packaging for recycling), installation of PEVs (Voluntary Delivery Points), and environmental education programs for the population. However, the authors point out that this phase happened as a pilot project since it was implemented only in 12 Brazilian cities, those that would host the World Cup in 2014 and, therefore, had more significant logistical infrastructure (GUARNIERI *et al*., 2020).

The authors defend coercive isomorphism as they believe the law should be implemented throughout the Brazilian territory, respecting the principles of shared responsibility and socio-productive inclusion of the pickers (GUARNIERI *et al*., 2020).

The industry and consumers have appreciated the incredible versatility of plastic for decades. The composition of these polymers has significantly contributed to food packaging, especially the use of multilayer plastics, which help prevent food from coming into contact with light, moisture, or oxygen. However, according to Nimmegeers and Billen (2021), these properties make plastic a versatile material, leading to increased complexity in the recycling chain.

Through statistical analyses conducted by the authors, this study investigated the wide range of plastic packaging waste in Belgium. Issues related to the complexities in the collection (due to widespread use) and recyclability (due to multilayers) were discussed, and the authors presented the waste flows that contribute most to the complexity of separation. Therefore, the authors recommend that this statistical model be applied to other case studies, characterising the idea of imitation and applying best practices typical of the mimetic isomorphism mechanism (NIMMEGEERS; BILLEN, 2021).

Finally, it is worth highlighting at least one work included among those that addressed the macro level of circular economy and advocated normative isomorphism for its institutionalisation. Despite Extended Producer Responsibility (EPR) in German legislation since the 1990s, Simoens and Leipold (2021) claim that many obstacles remain to its operation.

Similarly to Brazil, the packaging sector in Germany has various coalitions that vehemently defend their interests. These groups include legislators, producers, distributors, and well-established waste management companies (SIMOENS; LEIPOLD, 2021).

In Germany, the packaging sector can also be divided between those who advocate privatisation and those who support greater municipal control over waste management. Among the main challenges reported, the authors state that German consumers still exhibit low behaviour towards selective waste collection, and more awareness-raising actions are needed. The results of this paper indicate that the real transition to the Circular Economy will happen gradually and necessarily involves increasing citizens' demand for more efficient collection and recycling systems, whether operated by the government or companies (SIMOENS; LEIPOLD, 2021).

5 CONCLUDING REMARKS

The current economic model shows few signs of sustainability. Finite natural resources are increasingly scarce, social ills such as hunger and lack of basic sanitation persist, and economic problems like unemployment and class inequalities continue to grow. Therefore, there is an urgent need for a paradigm shift to replace the current model of production and consumption with a less degrading and, consequently, more sustainable approach.

Enter the Circular Economy as a new way of doing business, which emphasises minimising the use of raw materials and energy and extending the utility of products and their components. Therefore, this paper's central objective was to develop a framework capable of analysing the operationalisation of the Circular Economy in the packaging chain based on already published empirical cases and from the perspective of Institutional Theory.

The results of this research can be summarised in Figure 2 and Table 1. Figure 2 highlights the framework created for the analysis of the Circular Economy from the perspective of Institutional Theory, while Table 1 demonstrates its application. With this goal in mind, a matrix was created with the 59 case studies on the Circular Economy of packaging, which were analysed from the perspective of Institutional Theory (Table 1).

The content of some of these articles was discussed to demonstrate their classification and to present tools such as Life Cycle Assessment (LCA), Cradle-to-Cradle (C2C) certification, and Extended Producer Responsibility (EPR). It is worth noting that the criterion adopted was presenting at least one article from each quadrant. Therefore, 9 (nine) articles resulting from the 3 x 3 (three times three) cross-cutting of the 6 (six) thematic categories were discussed (micro, meso, macro, coercive isomorphism, mimetic, and normative).

Despite numerous case studies at various levels of analysis and indicated isomorphic change, the topic is far from being exhausted. This work highlights the variety of places, methods, scopes, and different materials that research on the Circular Economy of packaging can cover.

This study's main limitation is its reliance on arguments based on analysts' interpretations, which facilitated the classification of the articles. Despite this limitation, the article stimulates reflections on the practice of the Circular Economy of Packaging in light of Institutional Theory. During the discussion

of the cases, it demonstrates the application of strategies and tools that lead to the 3Rs (reduction, reuse, and recycling) and debates their results. This article's main theoretical contribution is to create a structure capable of analysing real cases of the Circular Economy. In addition, this work proved helpful in filling the gap raised by Korhonen *et al*. (2018). These authors warned that studying the Circular Economy in the light of a theory would be a rich contribution to the field. Additionally, authors like Fischer and Pascucci (2017) indicated the need for the Circular Economy to be studied based on well-established scientific theories, as with Institutional Theory.

Future studies can apply the framework presented to evaluate other Circular Economy works, not limited to those dealing with recyclable materials. We also hope that new studies based on other administrative theories will be written and published, thus perhaps giving the Circular Economy the necessary robustness to continue growing in academia and public and private organisations.

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