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TOWARDS A NEW FRAMEWORK OF CIRCULAR ECONOMY

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Abstract. Although governmental institutions are talking loudly about the importance of businesses moving towards sustainability and adopting a circular economy (CE) approach, moving towards CE can take time for business companies. Business entities must review their business ideas and the possible implementation and adoption of their business processes towards more sustainable business activities. Adapting various sectors' business models towards the circular economy is not easy, and in many cases, there is a lack of motivation from business entities, as well as the knowledge and lack of confidence in starting changes, which can question the profitability of changing businesses. The difficulty of transition can be seen in various discussions in scientific publications. This article uses the literature review approach, comparison, synthesis, and analysis methods to collect and analyse CE principles and processes. The main goal of this article is to systematize all possible processes approaching CE in businesses and suggest a framework for CE, attributing processes into creative and technological categories. This created framework can better help business entities moving towards CE to plan the implementation of various business activities, reviewing and improving business ideas while preparing to move towards the CE approach. After analysing, systematizing, and comparing scientific literature about CE, a framework was developed that embraces a variety of processes that can ease changing business actions moving towards CE. The developed framework identifies two creative CE processes, six technological processes and one combined process containing creative and technological features.

Keywords: circular economy; circular economy processes; creative processes; technological processes; sustainability

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JEL Classifications: O11, F64, L00, Q5

1. Introduction

The awareness about the importance of circular economy (CE) for the world's sustainable development is growing. Some changes must appear in the business environment for the circular economy to become a reality. The pressure for businesses to become circular is increasing from various sides – governments have already prepared the European Green Deal (52021IP0040, 2021). The Industrial Demonstrations Program (USA) led to new business orientations and re-planning production and services to become more sustainable via adopting CE principles and moving towards zero emissions. Governments of various countries are already giving support in different ways for more sustainable, eco-friendly and circular production. Also, pressure could be noticed from the consumer's side as more and more people are looking for information about products they are purchasing and where to place them after the product is no longer needed. Changes in consumption preferences for products and services produced in more sustainable and circular ways are already appearing and will be growing in modern economies in the future. Financial institutions have also started to impact the choice of business models. Businesses are already beginning their transition towards circularity, but only in some fields that work in business-to-customer sectors and involve plastic packaging or other materials that can be recycled or

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reprocessed; also, some brands in the fashion business and sustainable furniture producers care about their customer's attitudes and choices. Most traditional business-to-business and business-to-customer industries are still thriving using a linear economic approach and see the challenges of the Circular economy as a threat to their profitability and stability in business. Government support for more sustainable companies might change to pressure for a more circular approach, such as additional taxes on a linear business approach, which could become a great challenge for many business entities. With all this, businesses have many questions about how to change towards a circular business model.

The authors reviewed Chu et al. (2021), Blomsma and Brennan (2017), Blomsma et al. (2019), Jawahir and Bradley (2016), Guldmann (2016), Sharpe and Giurco (2018), Hahladakis and Iacovidou (2019), Flowers and Gorski (2017), Potting et al. (2017), Tang and Chen (2022), Lyu and Liu (2023). and other authors' studies in a field of Circular economy processes. The authors of this research use the processes to embrace the variety of notions used by other authors, such as principles, approaches, etc. While systemizing processes, a need was identified to narrow circular economy processes from the current variety and structure them into technological or creative categories.

A new circular economy processes framework will provide a tool for new companies looking into the transition towards circularity in businesses. The framework will help identify creative and technological processes that the company's management should plan while preparing for changes in future business models.

The scientific problem for this research is to review CE processes found in scientific literature and structure them into categories that could help business entities overthink their possibilities to move towards a circular business approach.

The object of the research: processes of circular economy. The research aims to suggest a new framework for circular economy (CE) processes by attributing them to creative and technological categories.

The tasks of research: 1. To analyse a variety of CE processes discussed by a diversified academic community. 2. To identify possible reallocation of standard CE processes into two action groups.

Research methods: scientific literature review and generalization, synthesis and analysis.

2. Knowledge and circumstances needed for the CE processes identification and structuring

Circular economy as a theoretical concept has been analysed already for a while. In practice, we still see relatively slow growth of companies implementing CE in their businesses. It's necessary to overview the obstacles that hinder CE implementation.

Authors Walmsley et al. (2019) discuss that increasing circular flows in processes should combine engineering knowledge and design skills with economic benefits. Circular integration combines process integration, industrial ecology, and circular economy paradigms.

Blomsma et al. (2019), in their article, discuss that a circular strategies framework can be developed for a specific business type with the ability to support Circular Oriented Innovations (COI) processes and, at the same time, state the importance of a circular strategies framework for the manufacturing context which links to Circular Strategies Scanner. This shows that Blomsma et al. (2019) agree with other authors researching CE and adopt the view that both resource efficiency and resource effectiveness are important in the manufacturing context. Transitioning towards a more sustainable future requires knowledge of various fields, the possibility to accumulate and implement this knowledge, and a broader view of business.

Blomsma et al. (2019) analyse how a circular strategies framework can be developed for a specific business type that can support Circular Oriented Innovations (COI) processes, and it proposes a circular strategies

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framework for the manufacturing context. A collaboration of industries and academia can help achieve the results of improvements in CE and COI.

Jawahir and Bradley (2016) state that to develop the circular economy with the inclusion of the 6R elements, there must be mechanisms to drive sustainable value creation. Authors identify these mechanisms as product/process innovation, quality education and training, novel methodology and visionary thinking. All this shows that more is needed to talk about CE and support it with technological advances and optimisation of products, processes and systems. Rizos et al. (2016) identified that the lack of technical know-how for CE appears because of a lack of resources in SMEs and the need for more time to acquire skills training. Also, companies need more financial possibilities to hire external experts. Jawahir et al. (2013) discussed the importance of educating youth not only in formal university education in the field but also through technical schools to educate and train an entirely new industry workforce for next-generation manufacturing. Jawahir and Bradley (2016) also identify the importance of visionary thinking, which should combine creativity with an established technical basis and resolve existing problems.

Nunez-Cacho (2018) indicates that companies looking at the sustainability issues and implementing the CE model should be thinking about the long-term orientation of their reputations and place more efforts towards the conservation of resources, the use of sustainable energy, and the reuse of components, all valued as critical factors in a new form of future entrepreneurial competition. According to Suchek et al. (2021), cleaner production, pollution controls, waste management, product-service logic, and reverse logistics are the main changes observed in the transition to circular business models.

Jawahir and Bradley (2016) discuss that it is essential to create an assessment toolkit that should define the scope of relevant mechanisms and involve the creation of metrics and indicators for sustainable value creation. A cost model would help assess economic performance from the view of the total life cycle. Environmental view could appear by determining the environmental impact/burden of the product. Looking towards society's needs would help to develop more social metrics and indicators that could be used to assess societal well-being. According to Jawahir and Bradley (2016), combining the abovementioned mechanisms and assessments is the primary approach in implementing the 6R elements as the technological basis for the circular economy.

Romero et al. (2021) agree that CE is based on eco-conceptions, industrial and territorial ecology, functional economy, second use, reuse, repair, recycling, and valuation. Still, at the same time, the authors express the concern that there are not enough studies showing positive benefits for individuals and guarantees for the development of sustainable life from a social and political perspective. Sharpe and Giurco (2018) indicate the importance of governmental help in creating a methodology for business entities to enter CE mode. Kyriakopoulos et al. (2019) notice a need for a social dimension in the design of CE policies. There is enough attention paid to sustainability, but consumption behaviour should also be researched as it relates to CE and transforms problems into opportunities regarding regulated waste management, modelling analysis, and trade-off proposals and policies for municipalities. Efficient and effective waste management ways should be researched and developed, as they benefit city and enterprise management.

According to Iacovidou et al. (2017), using processes such as repair, remanufacture, reuse and recycling can reduce additional negative value creation and minimise wastefulness of materials, components and products (MCPs) environmental (e.g. water, energy), economic (e.g. costs of design, manufacture and distribution), social (e.g. labour intensity) and technical (e.g. properties, quality) values. A few years later, Iacovidou et al. (2021) identified that the lack of supply and demand networks for second-hand components and products limits repair, remanufacture, and reuse options.

Meanwhile, Kyriakopoulos et al. (2019) identify the importance of reverse logistics for companies planning to follow circular economy principles and promote cost-efficiency and better quality in dedicated collection areas through an incentivised system to return materials and recover energy flows. Suchek et al. (2021) discuss business model innovations in creating value by implementing Circular economy principles and that tools evaluating the life cycle and ecological design are highly needed. In this case, start-ups are more flexible, capture

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opportunities and develop innovations. Meanwhile, existing businesses influence CE development opportunities.

The literature review provides insights into multiple aspects, including needed circumstances in business and society, missing tools for evaluation, governmental help, and cooperation between business and academia to spread knowledge and improve skills required. The following insights should be helpful for CE's broader establishment into the economy in general.

3. Research Methodology

This article uses theoretical scientific literature review analysis, considering the main principles of comparison, structuring, analysing, and synthesis of scientific publications in CE processes. This article aims to identify and systemise CE processes and develop a framework of categories: creative and technological. The possibility of seeing the whole scope of CE processes in the scientific literature will allow us to identify how many of those processes are crossing/covering the same or similar actions and how many analyzed processes can be developed into technological or creative (see Figure 1).

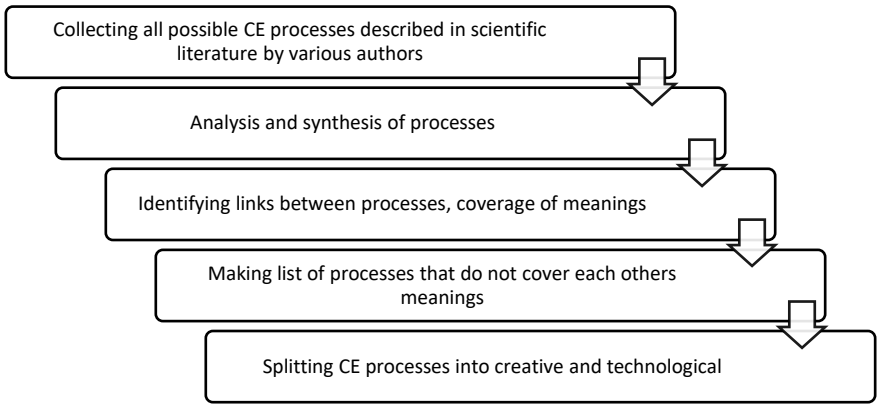

Figure 1. Theoretical Research Methodology

Various authors distinguished and offered a wide range of circular economy processes. The first core processes of CE are 3R: reduce, reuse, and recycle over time. Various authors extended them. The variety of extensions reached 6R, 10R, etc., even not having R as the first letter of the process. In reviewing the offered processes, it can be noticed that offers differ across continents and fields where CE will be implemented.

The core idea of this article is to systematise CE processes that can be relevant for most businesses and identify those processes which could be called creative and are related to the managerial part of business planning and the technological processes that could have general meaning but at the same time different content depending on the business field either industry.

This theoretical analysis is not oriented to any specific business field, so the peculiarities of various businesses (industries) must be considered. Also, have to be taken in mind that companies have to consider possible processes and outcomes from them, but according to business structure, field of action and peculiarities, it might just analyse but not take any actions in a field of some CE processes as they might be not relevant enough.

4. Theoretical overview of Circular Economy processes

The World Commission of Environment and Development (1988) noted that experience in industrialised nations has shown that anti-pollution technology has been cost-effective in terms of health, property, and environmental damage avoided and has made many industries more profitable by making them more resource-efficient. According to Dagiliene et al. (2023), this reference from the Brundtland Report (World Commission on Environment and Development, 1988) can be identified as the first reference to the circular economy idea.

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For a long time, the circular economy has heavily relied upon the principles of the 3Rs: Reduce, Reuse and Recycle. It aims at optimum production by utilising reduced natural resources and producing minimum pollution, emissions, and wastes using the 3R (Jawahir, Bradley 2016) and according to Potting et al. (2017), reducing means increased efficiency in product manufacture or use by consuming fewer natural resources and materials. According to Jawahir and Bradley (2016), the idea of one of the 3Rs came in the 1980s, when it started to talk about 1R (*Reduce*), which became very important in lean manufacturing later. Jawahir and Bradley (2016) state that new manufacturing technologies and innovations are required at product, process, and system levels to shift towards sustainable value creation for humanity, and it is essential to move from lean to green and sustainable manufacturing.

Meanwhile, Guldmann (2016) describes *reuse* as easily understood and explains use for a second or further time.

*Recycl*ing, according to the Oxford English Dictionary (2013), can be separated into additional processes, such as reusing (material) in an industrial process and returning (material) to a previous stage of a cyclic process. To process (waste) to convert it into a usable form; to make it available for processing into a reusable form. Also, it is used to reclaim (a material) from waste so that it may be reused. According to the European Union (2008), recycling refers to any recovery operation by which waste materials are reprocessed into products, materials or substances, whether for the original or other purposes. It includes reprocessing organic material but does not include energy recovery and reprocessing into materials to be used as fuels or for backfilling operations.

With time and awareness of the circular economy, the number of processes used to describe its implementation increased. According to Jawahir and Bradley (2016), the conceptual message of the circular economy is compelling as it is based on reducing wasteful resources through effective design and implementation of products and processes for improved resource efficiency with circular material flow involving recovery, reuse, recycling and remanufacturing of products. From this statement, we see that there are additional terms used, like recovery and remanufacturing. According to Rli (2015), *recover*y means the incineration of materials with energy recovery. Guldmann (2016) describes *remanufactur*ing as putting (a manufactured material or product) through a manufacturing process again to manufacture from recycled material or parts.

Blomsma and Brennan (2017) and Blomsma et al. (2019), analysing manufacturing companies, identify that many operate in complex scenarios using two or more circular strategies based on CE processes. Authors explicitly include reducing and avoiding resource use and impacts and resource productivity strategies aimed at continued use and value delivery (Blomsma et al., 2019). Also, authors Blomsma et al. (2019), in their analysis, offer to think of product/service systems where direct reuse, repair, refurbishment and remanufacturing are taking place, in addition to the recycling of materials.

Here, two more terms – processes are included in the circular economy description: repair and refurbishment. *Repair*, according to Rli (2015), is understood as the repair and maintenance of a defective product so it can be used with its original function. The Oxford English Dictionary (2013) describes *refurbishing* as the action that is restored to good condition, renovated, repaired and redecorated.

Guldmann (2016) also indicates one more possible process of Circular economy – *redistribution*, which can be described as the distribution of something again or differently. This also refers to the idea that many things in CE can be achieved differently or more sustainably.

There can be found the 6R methodology in CE analysis. This methodology introduces 6 Circular economy processes and assumes that everything should be based on that 6R. Jawahir and Bradley (2016) describe reduction as mainly focusing on the first three stages of the product life-cycle and refers to the reduced use of resources in pre-manufacturing, reduced use of energy, materials and other resources during manufacturing, and the reduction of emissions and waste during the use stage.

The second stage of processes would go to *reuse*, which is understood as using the product or its components again after the first file cycle, thus reducing virgin materials for its production. The third would be *recycling*,

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involving those things that earlier would have been considered waste and turning them into new products or materials for them. According to Jawahir and Bradley (2016), collecting products at the end of the use stage, disassembling, sorting and cleaning for utilisation in subsequent product life cycles *is called "recover*". As noted by various authors, CE is about not leaving things for trash and unsorted. The total involvement of all economic actors is needed, although the outcomes and the processes might vary. Another activity from 6R is the possibility of *redesigning*. It would be oriented toward redesigning next-generation products using materials, components, and recovered resources from the previous life-cycle products. The following process involves the re-processing of already used products for restoration or the reuse of as many parts as possible without loss of functionality, and this process is called *Remanufacture*.

Meanwhile, Rli (2015), in introducing circular economy, introduces CE strategies within the production chain that are supported by 10 processes named R's. Those processes are: Refuse, Rethink, Reduce, Reuse, Repair, Refurbish, Remanufacture, Repurpose, Recycle, Recover. As most of the R's were already met in the previous analysis, it is necessary to overview the meaning of the new ones added to CE processes.

According to Rli (2015), *refuse* means making a product redundant by abandoning its function or offering the same function with a radically different product. This process requires excellent creativity, changes in society and demand. Potting et al. (2017) describe the rethinking process as making the products more intensive by offering the market multi-functional products through sharing them. Meanwhile, another new process, *Repurpose*, is understood as the use of a discarded product or its parts in a new product with a different function (Rli, 2015).

Authors Sharpe and Giurco (2018), analysing circular economy implementation and its need in Australia, provide a slightly different list of processes companies could overview considering becoming circular. Those processes are: Repair, Reduce, Reuse, Remanufacture, Rethink, Recycle, Recover, Reclaim, Respect, Redesign, Reimagine. This widened variety (11) of R's brings a new approach and identifies local issues that industries face with their supply chains and the costs of new materials.

The expansion of processes is only sometimes entirely related to other authors' suggestions or previous analysis, so there appear to be additional suggestions and a widening variety in R's as CE processes. The different R's mentioned by Sharpe and Giurco (2018), but not identified and described earlier, are: Reclaim, Respect, Reimagine.

In this case, *Reclaim* is not described by authors, but according to the Oxford English Dictionary (2013), it would mean to take something that was yours. It is a possible reclaim of products already used in the market and, after their life-cycle, returned to the producer for further processing.

The processes of Respect and Reimagine are more related to sustainability and the possible creativity of business entities. As the Oxford English Dictionary (2013) describe, *Respect* is admiration felt or shown for someone or something that you believe has good ideas or qualities, and reimagining is to have a new idea about the way something should be.

Circular economy goes beyond waste reduction and embraces the idea that materials, components and products (MCPs) should be designed and produced so that they can be restored, retained and redistributed in the economy for as long as it is environmentally, technically, socially and economically feasible (Hahladakis, Iacovidou 2019).

According to Jawahir and Bradley (2016), all the above-listed circular economy processes show that it becomes not an option but inevitable for continued economic prosperity and ecological balance to maintain biodiversity with human life and economic growth.

The other related to the CE process found in various articles is *Recommerce* or *Re-sell*. According to Tang and Chen (2022), it's to sell, trade in and recycle used products. Chu et al. (2021) add that this is related to costly reverse returns resulting from sellers overestimating the grades of their used products.

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Meanwhile, *upcycling* is a type of recycling where discarded products are remanufactured into other products of higher value (Flowers, Gorski, 2017). Wang (2011) explains that upcycling can add value by reinventing or transforming to higher quality something that would be disposed of.

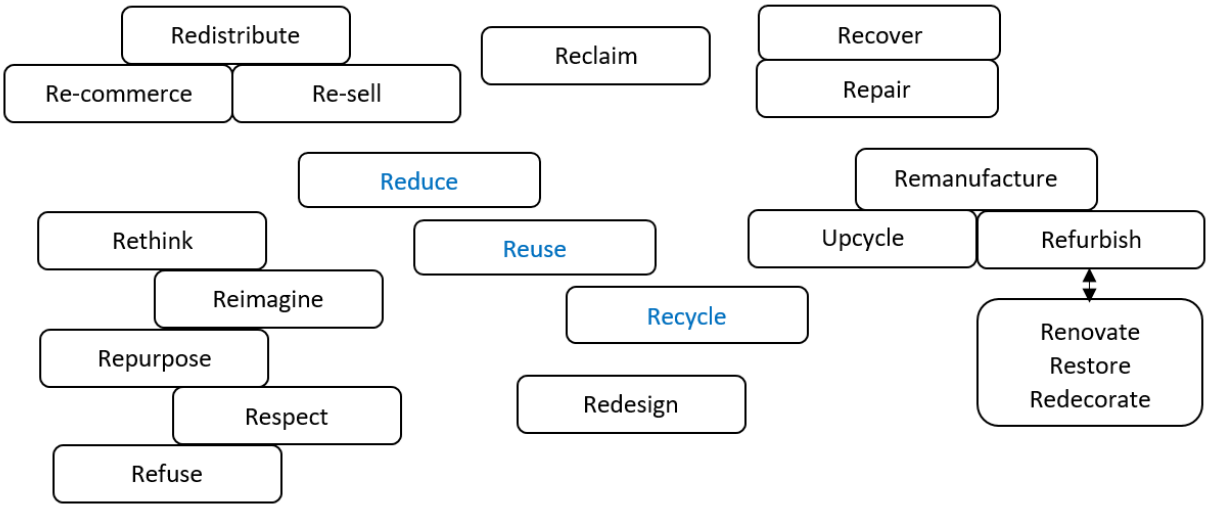

Figure 2. Circular economy processes found in the scientific literature

As can be seen, the variety of Circular Economy processes from simple 3R increased a few times. Still, simultaneously, some of those named processes complement each other and even bring more difficulties to businesses that could change their linear approach to circular.

5. Technological processes and creative processes in Circular economy

Technological processes, according to Varese et al. (2020), are activities involving the preparation of goods. Hollen et al. (2013) are writing about preparing technological process innovations to introduce new input materials, physical equipment or software systems in a firm's production operations. According to Hollen et al. (2013), technological innovation will lead to lower production costs, product quality improvements, lower disposal costs and the ability to use cheaper raw materials. The authors identify three stages of technological process innovations: 1) the discovery phase (creating new technological knowledge, 2) the development phase (developing from a laboratory scale and testing towards an industrial scale), and 3) the deployment phase (adopting in full-scale production operations). Those qualities could be adopted in the circular economy process, and innovations in those processes could be convenient for companies.

Harvey and Kou (2013) identify that the creative process can in a way that overcomes the challenges of collective creativity.

Mao et al. (2021) state that creative process engagement is usually perceived to be composed of three stages: problem identification, information search and encoding, and idea alteration and generation. During the first stage – the problem is defined and identified as what is beneficial for achieving high quality and originality of the solutions; it should involve environmental circumstances having relations with the situation and different views. After searching for information, encoding and interpretation of the information collected is also essential. The third idea generation stage combines and reorganises the gathered information about the identified problem (Mao et al., 2021).

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Managerial processes could be adopted in sorting circular economy processes. This could lead to understanding that success in CE might depend on creativity processes and the possibility of companies working out on them, as well as being capable of analysing and finding the best options in technological processes.

6. Discussion on a framework of the new CE Processes Model

The CE processes analysis showed that from core 3R: reduce, reuse and recycle, a variety of CE processes in scientific articles has grown with various explanations and even processes that cover each other. Meanwhile, it is essential to note that according to Bianchini et al. (2019), the terminology, methods, models, and KPIs to implement and assess CE are often very different and suitable only for the specific application. The proof for that can be an example of Reh (2013) in steel production, where steel from a demolished structure is separated and distributed to the different reuse, incineration, down cycle, and landfill flows. Here, we see additional processes: incineration, down-cycle, and landfill. According to the Cambridge Dictionary (2023), *Incineration* is the process of burning something completely. *Downcycle/ downcycling* is using waste material or old or used objects to make a product of lower value than the original material or object.

Meanwhile, the process "down-cycle" is mentioned, and in other resources, it analyses other industries adopting CE principled processes. *A landfill* is the process of getting rid of large amounts of rubbish by burying it (Cambridge Dictionary, 2023). According to Reh (2013), choosing the optimal recycling process becomes extremely complex, but finally, releasing the burden in many cases makes it worthwhile.

Group of authors Ciliberto et al. (2021) additionally to traditional Reuse, Recycle, Repair, Refurbish, Remanufacture, added also *Cannibalize*. Although they admit that the processes – repair, refurbishment, remanufacture, and cannibalisation- are parts of disassembling in the production process.

After reviewing the processes of CE, it is vital to discuss the involved technological elements. As Jawahir and Bradley (2016) state, it is assumed that the activity Reduce is blended in all stages of the life-cycle, and the first necessary step in the post-use stage is Recover, from which all other four innovation-based Rs (Reuse, Recycle, Redesign and Remanufacture). According to the authors, these elements can create sustainable value in the economy, society and the environment. Nidumolu et al. (2009) discuss value creation in the context of sustainability (referred to as the Triple Bottom-Line (TBL/3BL)) serving as the driver for innovation and having a significant impact on the integral elements of sustainable manufacturing, such as products, processes and systems.

Meanwhile, Bianchini et al. (2019) state that comparing circular initiatives is difficult because of the variety of definitions, elements, and underlying models of CE and the use of different data to measure circularity.

Triguero et al. (2023) admit that Redesign can extend to multiple generations or life cycles of a product. And to implement a circular economy, it is obliged to think beyond a single circular loop. It makes innovations with advancements occur from one loop to the other.

As seen in Figure 2, circular economy processes found in various scientific resources show that some processes are quite similar, which could bring features into specific businesses but not into a general theory. The willingness to generalise processes is worth leaving only those that would not create additional meanings and will help companies move towards circular economy implementation in their businesses; the processes should be cleared and specified. It is essential to mention that the core 3Rs are the essence of CE, and the rest of the processes supplement them to clarify the understanding of CE and its performance.

The redesign process is independent and actual in today's economies, as many products and services must be reviewed and redesigned.

First of all, it is reasonable to group some of the processes. One cluster of similar processes includes remanufacturing, upcycling and refurbishing. Those processes all include old products or parts of them and the

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possibility of renovating, restoring, and redecorating them. A general understanding of all those processes can be described as Remanufacture, which can be achieved at different levels in each business domain. This process could be allocated to technological processes as activities producing new or renewed products will be proposed during this process.

Another group of processes identified in the literature is Recovery and Repair, which generally means the product after altering and fixing it. With the scarcity of fossil fuels used as raw materials for production, it is necessary to use alternative energy and other parts that could be used for output from earlier stages. This leads to the future, where one more process will be added. This Reclaim process could be used in many industries and is related to the recycling and sorting used products or materials. While the Recovery process could be called technological as it leads to new or renewed products, the Reclaim is the process of balancing technical decision-making and the creativity process of the company's staff.

One more cluster of very similar Creative processes that could be named complimentary to each other are: Rethink, Reimagine, Repurpose, Respect and Refuse. All those processes depend on each other and, first of all, alert businesses to stop and use their internal creativity to reduce something in their production. In the most precise way, all those processes can be named the Rethink process already used in some CE process descriptions.

The last group of processes (Redistribute, Re-commerce, Re-sell) join actions that link to creativity in achieving more sustainable distribution, reaching new groups of customers and introducing products more creatively to prove that all remanufactured either sustainably manufactured products can be sold through Re-commerce.

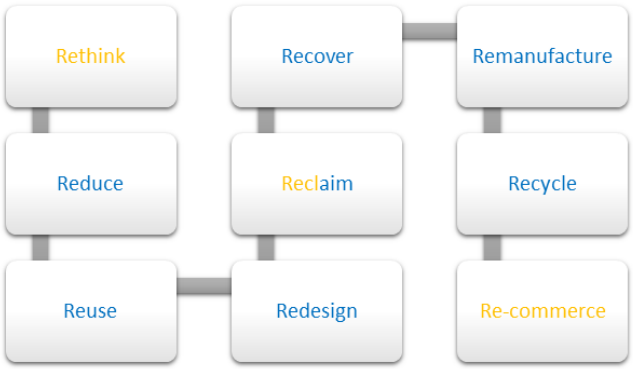

Figure 3. Revised Circular economy processes (blue – technological, orange – creative)

The visualised new circular economy processes in Figure 3 show that two of the processes (coloured orange) are purely creative and should cause the company's staff to consider possible actions to implement the circular economy approach. Meanwhile, six CE processes (coloured blue) can be called technological, as they could create final products during those processes. Process Reclaim takes as much of a creative approach as could be called technological. In the future, some of the products could be collected from the users and returned to companies to recover them, either reassembled or remanufactured. This will need a lot of creative approaches to working with customers, resellers, and manufacturing companies' departments.

The developed framework of restructured circular economy processes will give businesses a more effortless look into transforming their business models and activities into more circular ones. This will ease the beginning of circular business and ordinary business restructuring towards circular business and allow starting from creative processes moving towards technological ones.

Scientifically looking into the implication of the developed framework of Circular Economy processes, identifying Creative and Technological ones is an excellent ground for further research on implementing circular economy business models. It opens a gap for scientific research on how to use the developed frameworks of

processes in various industries, making those CE processes more effective. Also, this developed framework might help with research on practical Circular Economy implications in existing businesses.

Conclusions

Circular economy spread in the worldwide business market depends on various circumstances: customers demand more sustainable, environmentally friendly products, their approach towards consumerism and the attitude of using second cycle products, the government pressure either help and the readiness of business to adopt CE. The financial institutions' priorities to finance circular companies are increasing in many countries. Governmental policies through various strategic documents have indicated the need to move businesses towards an environmentally friendly circular economy.

More than eighteen processes named circular economy processes were found in various scientific literature. Additionally, various specific processes can be identified for particular industries that have no similarities in other business fields. Differences in identifying processes could be found between continents in naming processes that are different from other parts of the world. Some of the identified processes are complimentary or overlap with each other.

In preparing a new framework of circular economy, Creative and Technological processes were identified as core processes that can be relevant in all business fields. Also, summarized processes were separated into processes that can be developed as Creative and Technological. Two creative processes were identified in analysing CE processes: Rethink and Re-commerce and six Technological processes – Reduce, Reuse, Recover, Redesign, Remanufacture, and Recycle. One process, Reclaim, is understood to be combined and contains creative and technological parts. The balance of processes named in various scientific literature but not identified in the final developed framework is covered in one or another by the remaining processes identified in the framework.

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