UNIVERSITY OF LJUBLJANA
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MASTER THESIS

ANALYSIS OF THE RELATIONSHIP BETWEEN CIRCULAR BUSINESS MODELS AND FIRM PERFORMANCE IN SLOVENIA

Ljubljana, January 2023 SARA PRGUDA

AUTHORSHIP STATEMENT

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INTRODUCTION

The idea of a circular economy has gained traction with policymakers all around the world (Brennan, Tennant, & Blomsma, 2015). This has led to the European Circular Economy package (McMillan, 2019) and the Chinese Circular Economy Promotion Law (Lieder & Rashid, 2016) and many other initiatives. It has also drawn significant attention from the private sector (Esposito, Tse, & Soufani, 2016), which has resulted in a number of initiatives by major companies, including Google and Renault (Bocken, Ritala, & Huotari, 2017). With a significant surge in publications and journals covering this subject over the past ten years, the idea has also emerged as a significant area of academic study (Geissdoerfer, Savaget, Bocken, & Hultink, 2017). Business model innovation is viewed by industrial practitioners as a crucial tool for implementing the circular economy at the organizational level because it enables a systemic shift in the fundamental assumptions that underlie businesses and the alignment of the incentives of various stakeholder groups (Rashid, Asif, Krajnik, & Nicolescu, 2013; Schulte, 2013). Designing and implementing business models that are focused on utilizing as little resources for as long as feasible while extracting the most value from the process is necessary for a circular economy system. Reconsidering value propositions and creating value chains that deliver workable cost efficiency, production effectiveness, and commercial success are necessary for organizations that want to embrace the circular economy model (Rashid et al., 2013; Schulte, 2013). As a result, during the past five years, interest in research on business model innovation connected to the circular economy has increased (Lopez, Bastein, & Tukker, 2019).

Despite the significance of the circular business model concept, its theoretical conceptualization and place in economic and operations literature are not at all clear. According to recent research, it is necessary to build consensus foundations (such as definitions) and a common theoretical framework to assist companies in designing and implementing circular business models as well as innovating circular business models (Pieroni, McAloone, & Pigosso, 2019; Rosa, Sassanelli, & Terzi, 2019). To understand whether specific techniques for value proposition, value capture, value distribution (such as customer interaction), and value creation (such as supply chain management) might support various circular business models, a conceptual framework is particularly necessary (Rosa et al., 2019). For now, the conceptualization of circular business models and circular business model innovation are seldom ever discussed in studies of the subject because most of them concentrate on the general idea of a circular economy.

Additionally, current evaluations of circular business models or circular business model innovation concentrate on particular methods or tools rather than their theoretical conceptualization (Pieroni et al., 2019; Rosa et al., 2019). A much more sustainable economy requires economic activity that adheres to the three principles of reduce, reuse, and recycle (Ying & Li-Jun, 2012). According to Frishammar and Parida (2019, p. 8), “a circular business model is one in which a focal company, together with partners, uses innovation to create, capture, and deliver value to improve resource efficiency by extending the lifespan

of products and parts, thereby realizing environmental, social, and economic benefits." The basic logic of circular business models (CBMs) is built on using the economic value that remains in items after usage to create value (Evans et al., 2017; Linder & Williander, 2017). However, in order to do so, it is imperative that CBM adoption goes beyond local projects and pilot programs. With its high resource levels, the industrial sector may profit greatly from the use of CBMs as the central component of its operations (Lüdeke-Freund, Gold, & Bocken, 2019). CBM adoption throughout the industry is difficult, though, and many businesses struggle to do so and realize their full potential (Achtenhagen, Melin, & Naldi, 2013).

The main purpose of this thesis is to provide a deeper understanding of how a Circular Business Model can affect a firm's general performance. It will allow companies to better understand the value behind this model and to see the comparisons between their industry and other industries. It will also provide information on how well businesses in Slovenia are doing compared to other countries, which will be an addition to the literature on CBM.

The goals are:

1. to define a Circular Business Model and understand how it is measured and implemented in practice (from the literature);
2. to determine what is the relationship between CBM and firm performance according to existing models (from the literature);
3. to examine how several companies in Slovenia integrate CBM;
4. to establish how different CBMs affect firm performance and value creation in these firms, and to determine whether there are differences across industries;
5. to explore whether there are differences in the findings in Slovenia and in other countries.

This thesis was done based on both primary and secondary resources and has a theoretical and empirical part. I have done a survey using a ReSOLVE framework to calculate the level of CBM in each company in 4 industries and compared that to their profitability, firm reputation and costs.

In the first chapter I discuss defining CBM and why is it important, measuring CBM, different types of models, and advantages and challenges of CBM . The second chapter deals with relationship between CBM and firm performance. In chapter 3 we discuss methodology, research design, methods of data analysis and sample description. Chapter 4 contains all results gathered and analyzed, while chapter 5 contains discussion of the analysis, practical implication, limitations and ideas for future research.

1 CIRCULAR BUSINESS MODEL (CBM)

The first section focuses on the clarification of fundamentals of the circular business model concept. Existing knowledge on this term and other well-established literature will be reviewed and analysed. This is followed by an investigation into how these are connected through the illustration of models, ultimately coming to an evaluation of its advantages and disadvantages.

1.1 Defining CBM and why is it important

The concept of a linear business model is simple – natural resources are used to produce a product that eventually becomes waste. Rising issues in managing this waste globally have made sustainable approaches more attractive to consumers. Cities account for over 70% of energy consumption and carbon dioxide emissions despite occupying only 3% of the Earth's territory (Pomponi & Mancaster, 2017). Few academics and thought leaders extended their thinking beyond what is still the present economic paradigm throughout the 1970s and 1980s, when much of the globe was awakening to the realization of our planet's environmental boundaries (Brundtland et al., 1987). According to the scientific journal Environmental Sustainability, there is an island today made completely of plastic located in the Pacific Ocean and its size is around 1.6 million square kilometres. This severally endangers marine life and humans, and the main issues causing this is companies that use plastic for packaging. The article also states that many species will be extinct in the following years and that unchecked CO2 emissions will cause rising temperatures, leading up to catastrophic weather events (Adams, Jeanrenaud, Bessant, Denyer, & Overy, 2016). Circular economies' fundamental innovation is decoupling resource depletion and growth, with the premise that ever-increasing economic development and profitability may be achieved without increasing environmental pressure.

The idea of a circular economy pushes for closed-loop resource flows that preserve the environment and create economic value in products throughout time (NußHolz, 2017). Given the diminishing of non-renewable resources and the subsequent price volatility, this is a concept attractive to corporations. Accelerating this switch are factors such as increasing consumption, rising population, stricter legislation and technological advancements. The circular business model was created in order to be able to reconcile business profits with the regeneration of resources. The term builds upon and connects two well-known notions, business models in management and circular strategies for resource efficiency.

In addition to the circular economy end goal, it is important to define the term ‘business model’ and what it encapsulates. Managers should take many things into consideration when strategically choosing a business model (Martins, Rindova, & Greenbaum, 2015), and all business models should give an answer to 4 main dimensions which include:

- What is offered to customers?

- What activities and processes are used to deliver this value?
- Why is the revenue model economically feasible?
- Who are our target customers? (Teece, 2010).

Osterwalder & Pigneur (2010) stated that it is the rationale of how an organization creates, delivers and captures value. In his work, the business model canvas is used to depict the dynamics and building blocks of its operational model and structure. However, the proposed model took into consideration only financial outcomes, disregarding social and environmental impacts. The depiction of business models has been a fundamental strategy used to help business model innovation in management studies. Visual representations help to comprehend and explain the business model, originate and develop new business model concepts, and remove barriers to innovation by reducing complexity and revealing tacit patterns. Circular business models lack these types of tools in literature and thus less discussion on the way the product lifecycle is planned and how it can create value from closed loop production (NußHolz, 2018).

The construction of an altogether new business model or the reconfiguration of the pieces of an existing business model are both examples of business model innovation, and both are linked to greater company competitiveness. Business models revolve around the concept of value. The value captured for the firm, its customers, and stakeholders such as shareholders is referred to as value in conventional management literature. Negative externalities of production and consumption habits are insufficiently embedded into prices in today's economic system, and many enterprises' potential value creation opportunities are lost, ignored, or destroyed. The circular business model and explorations on the topic call for a broader definition of value beyond the organization and its end consumers.

A circular business model (hereinafter CBM) provides answers to all of the four questions while still taking into consideration the principles of circular economy (Dreyer, Lüdeke-Freund, Hamann & Faccer, 2017). Some authors have defined CBM as a set of activities including recycling, reusing, refurbishing and similar activities. Other have placed more emphasis on communication and coordination in very complex ecosystems in order to gain the advantages of circular economy (Aspara, Lamberg, Laukia, & Tikkanen, 2013). A combined definition of these two is provided by (Frishammar & Parida, 2019), who define CBM as a model in which a company creates, captures, and delivers value in order so that they can better their resource efficiency in a way that will extend the product’s lifespan as well as the lifespan of product’s parts. They will do this in a way that realizes environment, economic and social benefits.

Information technology provides new business concepts that were previously unthinkable. Car sharing, for example, has only been operating for a few years. The widespread success of this new kind of shared commodity usage has been attributed to smart phone apps. Furthermore, the construction of reverse networks for resources has only become effective when materials are tracked using RFID or other types of identification technology.

Moreover, we are at the start of a widespread shift in customer behavior that increasingly favours performance over ownership (Boroswy, 2013).

Thankfully, an increasing number of companies is starting to place sustainability issues as one of their highest priorities (Borowy, 2013). For example, Siemens, a famous German manufacturer, has become the most energy-efficient firm in its whole industry. Additionally, there have been other companies like Johnson & Johnson and Cisco that are becoming more sustainable and are taking the lead when it comes to adapting their practices for this cause (Frishammar & Parida, 2019).

1.2 Measuring CBM

In recent years, many companies have started to move away from the original product orientation towards a combination of both products and services so that they can achieve their sustainability goals. Initiatives like this are often referred to using the term circular economy (Langhelle, 1999). Ellen MacArthur Foundation defined it as an industrial system that is designed and intended for restoration and regeneration (Ellen MacArthur Foundation, n.d). Numerous companies have been trying to adapt the principles circular economy entails by implementing the cradle-to-cradle logic. This means that the company takes responsibility for a product lifecycle, relies solely on renewable energy, recycles, reuses, and refurbishes its products, and improves its maintenance commitments (Langhelle, 1999).

Complex activities at the local, national, regional, and global levels are required to create a circular economy. To shift from a linear to a circular trajectory, European economies and businesses must implement the ReSOLVE framework, which consists of six actions: regenerate, share, optimize, loop, virtualize, and exchange. This in turn makes it easier for the effectiveness of a circular economy to be measured. This framework was used in this paper. Its specific steps and what is considered under each is illustrated in Figure 1.

Figure 1: ReSOLVE framework

Source: Manninen et al. (2018).

When considering prospective circular economy activities by organizations, the framework offers a wider view on the concept. The ReSOLVE framework stresses the potential of digital technology to greatly contribute to the circular economy in addition to offering choices to regenerate and optimize (Parida, Sjödin, & Reim, 2019). The following is a description of the six components that make up the ReSOLVE framework. The transition to renewable energy and materials is referred to as regenerate. It has to do with giving the biosphere back recovered biological resources. Through user sharing, share actions seek to maximize the use of items. If it is physically possible, sharing also include recycling things and extending their useful lives through upkeep, repair, and durability-boosting design. The goals of optimize actions are to improve a product's performance and efficiency and reduce waste in the supply chain and manufacturing process. The use of big data, automation, remote sensing, and steering are all topics that they can connect to. It's crucial to note that optimization doesn't call for modifying the product or the technology (Lewandowski, 2016). The goal of loop operations is to maintain materials and components in closed loops. Inner loops are given a greater priority. Actions that virtualize a given utility aim to provide it digitally rather than physically. Exchange activities concentrate on substituting outdated resources with modern nonrenewable materials and/or by utilizing new technology (e.g., 3D printing). Additionally, it could entail selecting fresh goods and services (Schulze, 2016).

A circular business model can be evaluated for efficacy and impact using a variety of other frameworks. The Circularity Index, created by the Global Reporting Initiative, is one widely-used framework (GRI). The GRI is a nonprofit organization that offers standards and guidelines for businesses and organizations to report on sustainability. The Circularity Index

is a tool that assesses how closely a company's operations and business model adhere to the circular economy's guiding principles. It evaluates the circularity of a business's value chain, taking into account material procurement, production procedures, and product end-of-life management. The Company's efforts to cut waste, save resources, and have a positive social and environmental impact are also taken into account by the Index (Global Reporting Initiative, n.d.).

The Cradle-to-Cradle Design Protocol, created by the Cradle-to-Cradle Products Innovation Institute, is another framework for evaluating circular business concepts. Using five criteria—material health, material reuse, renewable energy and carbon management, water stewardship, and social fairness—this methodology assesses the environmental and social performance of goods and materials. Companies can evaluate the circularity of their products and pinpoint areas for development by using this approach (Cradle to Cradle Products Innovation Institute, n.d.).

In addition to these frameworks, there are instruments and methods made specially to assess the circularity of particular sectors or industries. For instance, the circularity of the food, plastic, and clothing industries is measured by the Ellen MacArthur Foundation's Circularity Indicators framework, and the circularity of the UK construction industry is measured by the Circularity Index created by WRAP's Waste and Resources Action Programme (Ellen MacArthur Foundation, n.d.).

It is crucial to remember that each framework has its own advantages and disadvantages and that no single framework can be used to quantify circularity perfectly. As a result, it is advised that businesses evaluate the circularity of their business model and look for areas for development using a combination of frameworks and measurements. For the purposes of this paper, we have used the ReSOLVED framework as it encompasses several different parts of the business and is easy to follow.

1.3 Different types of models

It's helpful to understand how businesses construct a value chain to better grasp the relationship between a circular economy and circular business models. The circular economy is not a single enterprise. It is, in other words, not a single vertically integrated corporation. Companies are like dots on a circle, forming a value chain that connects suppliers and customers. This network can be constructed in one of two ways: as a straight route between natural resources and landfills or as a perpetual value cycle with zero waste (Urbinati, Chiaroni & Chiesa, 2017).

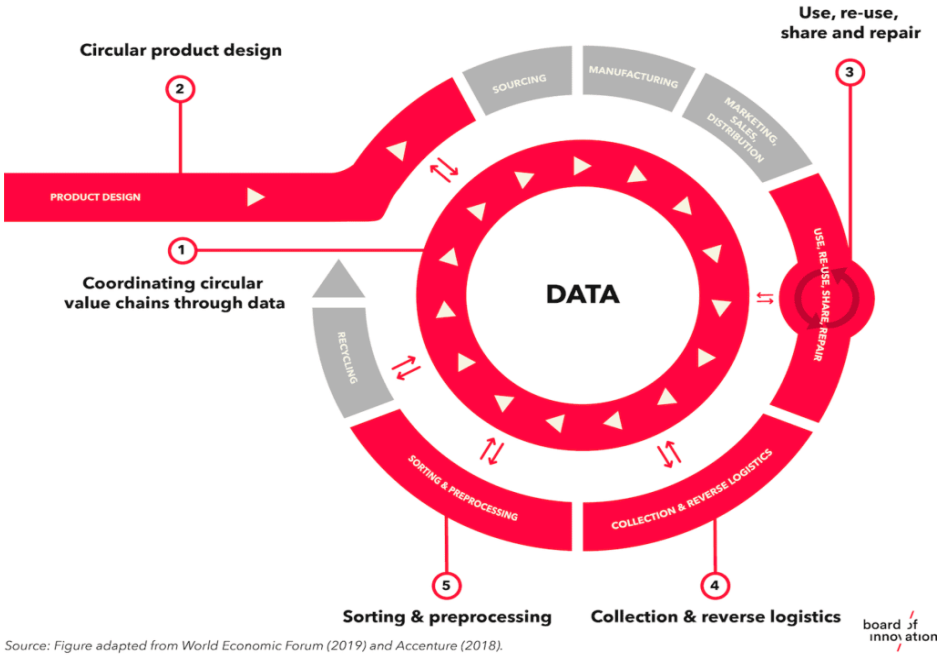
According to certain literature, products, enterprises, networks, and policies are all part of the circular economy. First and foremost, items must be designed to be recyclable and reusable, with green supply chains and clean manufacturing practices. Second, new business models are required for enterprises to provide both private and public benefit. Third,

networks of companies and customers involved in the production and consumption of vital items, such as automobiles, must be connected. Fourth, policies to support markets are required (Kirchherr et al., 2017).

There are certain models suggested that help businesses transition to a circular economy at a faster pace. Although there has been a rise in initiatives in the past decade, they mostly make change on a smaller scale – not nearly enough to make a significant difference. The introduction of a true circular economy requires a complete re-engineering of business models, that is more than smaller incremental changes we have seen thus far (Lewandowski, 2016).

What is now referred to as the 'wise pivot' is the key to yielding the required results for a true circular economy. This entails an implementation of circular business models and disruptive technologies across industry value chains. Figure 2 illustrates the importance of data and its integration in a holistic manner throughout logistics, processing and sourcing. It will enable responsible processes in all activities in an organized manner allowing for strategic circular planning (Pieroni, McAloone & Pigosso, 2019).

Figure 2: Integration of data



Source: Board of innovation (n.d).

The complexity of the many business models, each with a unique set of advantages and disadvantages, is the first hurdle in the implementation of CBMs. It is crucial to identify, create, and execute a CBM that is most suited to the current scenario facing the organization. Making the incorrect decision may very quickly lead to failure. For instance, adopting a take-back agreement is only a practical option when the product's residual value is recovered

through re-use or re-manufacturing and when the business avoids being caught up in issues with discarding returned goods (Gnoni, Mossa, Mummolo, Tornese, & Verriello, 2017). Another instance of a mismatch between corporate requirements and the CBM is when businesses retain control or take ownership of the product's conditions without being able to produce value as per the agreement. The issue here is that they lack the digital technology to monitor the product's status or the expertise to fix problems (Reim Sjödin, & Parida, 2019). The deployment of CBMs is influenced by a wide range of variables, including the diversity of consumer categories, product attributes, distribution networks, and marketing techniques. Despite the fact that the business model explains how the value in an offer is produced, the predominant opinion in the business model literature contends that the tactical decisions are what make or break a CBM. This is due to the fact that these options are defined in order to ascertain how much value is actually produced by the business model in use (Casadesus-Masanell & Ricart, 2010). A corporation can only effectively offer a certain business model when they are able to make the appropriate tactical configurations. Therefore, it is crucial to take tactical settings into account while selecting between various business model methods (Reim et al., 2015). The full potential of the selected CBM will not be realized if the tactical settings and the CBM are not compatible (Parida et al., 2019). In turn, this would raise the possibility of using the potential for complete circularity in the particular application and decrease the chances that CBM implementation would fail.

Due to the diversity of businesses, the effective adoption of CBMs mostly relies on a company's ability and readiness to do so (Lewandowski, 2016; Reim et al., 2019). Although there are several potential CBMs, each new business model deployment necessitates the creation of new organizational capacities (Lüdeke-Freund et al., 2019; Mezger, 2014; Zollo Bettinazzi, Neumann, & Snoeren, 2016). There is a gap in the existing literature regarding how the company should be reorganized to create the capabilities and procedures that provide CBMs (Bocken, Short, Rana, & Evans 2014; Lewandowski, 2016). The existing literature focuses primarily on different activities that must be executed when offering multiple CBMs (Frishammar & Parida, 2019; Inigo & Albareda, 2017). Additionally, distinct sets of competences are required for the different kinds of CBM. Providing, for instance, necessitates the creation of internal procedures and life-cycle analysis, whilst looping business models must concentrate on consumer engagement with the delivery organization and procedures for reverse logistics (Parida, Sjödin, Lenka, & Wincent, 2015). Despite the fact that literature has consistently stressed the significance of developing business models for the circular economy (Lewandowski, 2016), there is still a knowledge vacuum about how to assess and build skills for various types of CBM.

1.4 Advantages and challenges of CBM

Administrations have begun to integrate environmental, economic, and social considerations into the supply chain as a result of recent advancements in sustainability. Sustainable SCM aims to reduce material flows in the supply chain, both in terms of consumption and

production, as well as pollution and waste formation. When it comes to environmental benefits there are a great number of them. Primarily, it decreases the use of raw materials (Linder & Williander, 2017) and it also reduces the carbon and greenhouse gases. Research shows that products that are product with linear production have a much greater level of carbon emissions than products made with non-linear production (Nassir, Genovese, Acquaye, Koh, & Yamoah 2017).

The principles of the circular economy on the farming system ensure that key nutrients are returned to the soil through anaerobic processes or composting, softening land and natural ecosystem exploitation. As "waste" is returned to the soil, the soil becomes healthier and more robust, allowing for a greater balance in the ecosystem. Furthermore, because soil deterioration costs the global economy an estimated $40 billion per year and has hidden costs such as increased fertilizer consumption, loss of biodiversity, and loss of unique landscapes, a circular economy might be extremely beneficial to both soils and the economy. In actuality, a circular economy model implemented in Europe's food systems has the potential to reduce artificial fertilizer consumption by 80%, thereby helping to soil natural equilibrium (Wijkman & Skånberg, 2015).

Studies show that there are also many financial benefits to companies that implement CBM (Linder & Williander, 2017). One of the main values for businesses is that this model allows for costs reduction like decrease in buying virgin materials, significantly lower waste, and lower environmental taxes (Lehr, Thun, & Milling, 2013) Furthermore, there are several ways that profits are increased. For example, companies generate cash from selling what would normally be waste as input for another industry, they are able to create energy for themselves also from what would normally be waste and they better their brand reputation (Chaabane, Ramudin, & Paquet 2012).

Why have circular economy business models not yet made the world a better place if the benefits of a circular economy are so evident and the basic concepts have been available for more than three decades? The causes are numerous, and some of them are founded in both conceptual problems in our global economic order and the fundamental irrationality of consumer behavior. Consumers tend to encourage this trend by focusing solely on transaction costs at the point of sale, even if the net present value of upgrading to a more expensive but more lasting product would be more cost effective (Planing, 2015).

The challenges to implementing a circular business model were divided into five categories: structural, operational, financial, attitudinal, and technology. They attribute structural impediments to a lack of clarity in the company's role and responsibility for CE concerns, as well as a lack of information sharing between actors. Because use-phase services like maintenance are taken on by the provider, circular business models often entail greater operational risk for the provider than a pure sales model.

The main challenge is to rethink how to maximize the value of products and materials and this way to contribute to reducing the usage of natural resources and create positive societal and environmental impact (Bocken, Schuit, & Kraaijenhagen 2018). To accelerate the transition towards a circular economy, the European Union has launched an ambitious Circular Economy Package, which will contribute to "closing the loop" in product lifecycles through greater recycling and re-use, and bring benefits for both the environment and the economy (McMillan, 2019).

While the circular economy is based on feedback-rich (non-linear) systems, a system-wide innovation changing the entire value creation processes is often required to enhance the transformation of companies, industries, and entire economies to adapt and succeed in the application of a circular economy. In actuality, rather than being revolutionary, fundamental, and system-wide, business model innovation is frequently piecemeal or gradual. System-wide innovations can only be achieved when they are combined with related complimentary breakthroughs; in other words, they are not self-contained (Antikainen & Valkokari, 2016).

For established businesses, the transition to a circular economy poses a number of problems. In certain circumstances, it may even render their existing capabilities, networks, and business models obsolete. Uber and Airbnb, for example, are excellent examples of disruptive business models based on the sharing economy that are already disrupting the entire value network. As a result, the sharing economy and service industry have been identified as not just trends that promote our transition to a circular economy, but also as a source of enormous, yet unexplored, prospects for both existing and new participants (Tukker & Tischner, 2006).

In many circumstances, the first step could be for businesses to view their customers as users rather than buyers. The shift from a product-oriented to a service-oriented economy helps to achieve the circular economy's goals in a variety of ways, such as driving enterprises to extend product lifetimes through repair and remanufacturing, as well as more efficient resource uses (Antikaine & Valkokari, 2016).

Governments and corporations are realizing that the essentially linear systems of resource usage expose both communities and enterprises to a variety of major threats. Resource restrictions, as well as rising waste and pollution volumes, are projected to pose increasing threats to welfare and wellbeing, as well as competitiveness, earnings, and business continuity from a commercial standpoint (Veleva & Bodkin, 2018)

However, the advantages listed alone will not lead to broad acceptance of circular economy business models. The old technique of buying tangible products remains the major rival when selling a specific performance rather than the items themselves. Giving up one's automobile in favor of mobility solutions that combine several forms of transportation, for example, is not a given for the vast majority of automobile owners, even if it is more cost effective. As a result, the major lever for change will be to improve the value proposition of

circular economy business models by taking into account both rational and non-rational customer motivations. This includes information about people's habits and routines.

2 RELATIONSHIP BETWEEN CBM AND FIRM PERFORMANCE

Globalization, along with industrial and scientific advancement during the past century, has led to tremendous economic expansion that has improved human wellbeing. Nevertheless, the basis of this development route is resource utilization that is growing rapidly (Kok, Wurpel, & TenWolde, 2013). The integration of sustainability into corporate operations is a crucial undertaking that involves a certain developmental process (Zollo, Cennamo, & Neumann, 2013). The circular economy, which emphasizes the three actions of reduce, reuse, and recycle, is a responding to this demand for sustainability (Ying & Li-Jun, 2012). In light of this, CBMs must be created to produce and capture value while assisting in the achievement of an optimum state of resource utilization (e.g., creating a design that most accurately represents nature and approaches total material recycling). As a result, the objective of the business model changes from generating money via the sale of goods and artifacts to making money through the flow of resources, materials, and things across time, especially through resource recycling and product reuse (Linder & Williander, 2017). According to this logic, businesses may lessen their adverse effects on the environment by delivering and capturing value utilizing this alternate value proposition. To accomplish closed or slow material loops, an ambitious change of this scale, however, necessitates tight cooperation and coordination amongst industrial network players (Klewitz & Hansen, 2014). The next section will cover the relationship between adopting a circular business model and the resulting impact on a company’s reputation, employees, costs and market share.

2.1 Reputation

Although there are many different interpretations of reputation, most agree that it is an intangible asset that can help a company gain a competitive edge. To demonstrate how the concept might be utilized in reputation management, a hypothetical example of the hiring process, sometimes referred to as employer branding, is often seen as an advantage. Systems thinking in this regard is seen as a high-quality approach to organizations, but it is difficult to implement and has been sluggish to catch on (Friedman & Miles, 2006).

Several large corporations are in the process of transitioning from linear to circular business models. It is critical for large multinational corporations to have a reputation for being socially responsible and supporting "good" causes, which is becoming increasingly important to customers and other key stakeholders. These companies can use sustainability-oriented efforts as methods to improve their reputation and earn income by adopting the circular business model. There are numerous examples of large corporations leading the road to a circular economy (Jabbour et al., 2020).

If stakeholder management is done in the right way, this can increase the reputation of businesses in their respectful fields. Involving them in the decision-making process is key to avoiding a one-sided model. This in turn fosters a more long-term relationship with those stakeholders, resulting in a stable circular business model. The added reputational benefit is the resulting alignment of circular economy principles and values in the company, which is often something the target market would look for (Salvioni & Almici, 2020).

According to studies, companies with strong corporate responsibility reputations 'experience no meaningful declines in share price compared to their industry peers during crises,' whereas companies with poor CSR reputations do. In the latter's case, reputations decreased by 2.4-3 percent, resulting in a market capitalization loss of $378 million per firm (Whelan & Fink, 2016)

2.2 Firm in the eyes of employees

Corporate sustainability also effects the morale of the company since it increases the motivation of the employees and also flourishes their commitment to the company (Brammer, Millington, & Rayton, 2007). This saves companies both time and money when it comes to recruitment and training process for the new employees (Vitaliano, 2010). On the other side, the external benefits of acting in a sustainable way include the fact that this significantly better the company's corporate reputation. (Hussainey & Salama, 2010). We have to note that corporate reputation is defined in the literature as one of the most important intangible resources in order for the company to be competitive. Moreover, companies that have good reputation when it comes to corporate sustainability are in the position where they can improve their relations with numerous stakeholders (Roberts & Dowling, 2002).

The stakeholder group that 'constitutes' organizations is employees. They are the people who use resources to complete activities and operate tasks; they are the ones who build organizational habits, patterns of behavior, and practices. Furthermore, understanding the role and perspective of employees in the implementation of CE principles in organizations is a topic that has received little attention to date in any scenario.

According to a study done by Klein, Ramos & Deutz (2021) the majority of interviewees stated that CE has significant potential for their organization and the public sector as a whole, citing the size of the central government, which spans multiple locations, as well as the potential for improved performance and efficiency, cost savings, and collaboration and social cohesion. A few interviewees underlined the necessity of tiny adjustments in the organization, stating that 'it would be easier to adopt these tiny instances so that both the suppliers and the public entities become used to these little adjustments over time.' According to a growing body of literature, an organization's management control must evolve when its business model or strategy evolves in order for management control to remain compatible with the organization's objectives and strategies.

It is also important to observe the labour market and what will happen to it with the switch to a circular economy. Questions on whether this will entail job loss or generation ultimately decides the perspective employees are going to have on such a transition. Using an event study regression model, Popp, Vona, Marin & Chen, Z. (2020) investigate the job effects of the American Recovery and Reinvestment Act (ARRA). They indicate that for every $1 million invested, 15 new employments were produced, notably between 2013 and 2017. Surprisingly, construction and waste management jobs accounted for more than half of the new jobs produced as a result of the AARA green stimulus.

2.3 Costs

In the past, business success was only dependent and measured by the financial gains it brought to its shareholders (Upward & Jones, 2016). This extreme focus solely on how the firm performs financially has been criticized by pointing to severe costs and issues like global warming, pollution, and the depletion of the ozone layer. The literature largely argues that the main root of these issues are the business activities and the way we produce (Schaltegger, Lüdeke-Freund & Hansen, 2016).

The EMF and McKinsey believe in their recent report "Growth Within" that resource productivity is a vastly underutilized source of future income, competitiveness, and business revival. According to their calculations, only approximately 5% of the remaining value of most material objects is caught and used when they are discarded. Businesses actually spend a large amount of money to get rid of what may be valuable assets (Geng, Sarkis & Bleischwitz, 2019).

Some countries have seen the advantages to their bottom line in introducing some elements of the circular economy into their business models. For the past two decades, China and South Korea have run industrial parks that employ circular economy ideas to connect enterprises' supply chains and reuse or recycle common resources. More than 50 similar parks have been certified in China (Bartolacci, Del Gobbo, Paolini & Soverchia, 2017). However, the aggregate of all of these efforts is insignificant. Projects operate in isolation and have not shifted global industry's behemoths.

It seems to be less costly to build a circular business model from scratch than switch to it from decades of operating a certain way. New business concepts and markets arise. A copper smelting factory, for example, might recycle outdated wires and components and extract metal from minerals. Automobile makers may take cars back and upgrade parts to make them last longer. When a car reaches the end of its useful life, its metals and polymers could be recycled to create new items (Andersen, 2007).

On a more global scale, transitioning to a circular economy will entail significant costs. The majority of these expenditures would be covered by R&D and asset investments, stranded investments, subsidies, and spending on digital infrastructure. There are no exact comparable

cases, however the British government estimates that establishing a fully functional reuse and recycling system would cost roughly €14 billion, or €108 billion on a European level. Between 2000 and 2013, Germany's renewable energy transition cost operators of renewable energy plants €123 billion in feed-in tariffs alone (Bouton et al., 2016).

However, if well managed, this transition might also provide chances for economic and industrial renewal: moving to a circular model might help Europe achieve its growth, employment, and environmental goals. Many previously overlooked options are now becoming apparent. The European Commission's plan for creating a digital single market and an energy union, for example, might provide the foundation for a regenerative and virtualized system. Coordination is required to establish a solid foundation for the circular economy (Bouton et al., 2016).

2.4 Revenue and market share

Several authors have hypothesized about how theoretically, that market value should be positive if a company is acting in a responsible, resource-efficient, and sustainable way. Firms to do not engage in corporate sustainability only because of the environment but also because it produces a form of competitive advantage for them. Hence, we can say that CBM results both in internal and external benefits for the company (Branco & Rodrigues, 2006).

Finally, Alblas, Peters, & Wortmann (2014) argue that CBM brings about a higher market share and other authors found that recycling and repairing increase the firm’s profitability while reconditioning and remanufacturing increase sales (Khor, Udin, Ramayah, & Hazen, 2016). A study was also done on 313 waste exchanges in the UK that showed that CBM reduced costs while the company gained additional income (Paquin, Busch, & Tilleman, 2015).

Nonetheless, the circular initiatives that have been implemented thus far are incremental and limited in scope since they are focused on emission reduction, energy and resource efficiency, and waste reduction, all of which are still rooted in a linear mindset. Thus, they do not constitute a significant enough impact to document the subsequent effect it would have on market share.

While the benefits of implementing CBM for the environment, and to some extent also to companies’ performance, has been extensively documented, the exact measurement of how CBM can affect firm performance is still questioned in the literature. Several models have been proposed but the question of how exactly a circular business model affects firm performance, rather than sustainability and environment, still remain open.

3 RESEARCH METODHOLOGY

Despite the importance of the circular business model notion, there is considerable lack of clarity about its theoretical conceptualization and position in economic and operations literature. There are some empirical findings when it comes to other countries, however, there is a severe lack of information regarding the CBM level and its implications in the Slovenian market. Focusing only on the Slovenian companies, this thesis represents an important contribution to organizational studies and literature about effects of CBM on the Slovenian companies. This chapter consists of research design and methodology. The research design investigates the topic and the research questions. The methodology part discusses measures used, the process of data collection and data analysis methods.

3.1 Research design

The main purpose of this thesis is to provide a deeper understanding of how a Circular Business Model can affect a firm's general performance. It will allow companies to better understand the value behind this model and to see the comparisons between their industry and other industries. It will also provide information on how well businesses in Slovenia are doing compared to other countries, which will be an addition to the literature on CBM.

The goals are:

1. to define a Circular Business Model and understand how it is measured and implemented in practice (from the literature);
2. to determine what is the relationship between CBM and firm performance according to existing models (from the literature);
3. to examine how several companies in Slovenia integrate CBM;
4. to establish how different CBMs affect firm performance and value creation in these firms, and to determine whether there are differences across industries;
5. to explore whether there are differences in the findings in Slovenia and in other countries

The thesis tries to answer the following research question: Is there a relationship between Circular Business Model and firm performance in Slovenia? This research question focuses on whether the level of implementation of CBM results in any change in firm performance and in what way. Our second research question is: What is the difference between the level of CBM implementation between the 4 industries.

3.2 Methodology

This thesis was done based on both primary and secondary resources and has a theoretical and empirical part.

The theoretical part of thesis mainly consists of determining what is a circular business mode, how is it implemented and measured, and what are its advantages and barriers. Academic literature was used to describe in great detail what is the relationship that we can expect to see between the circular business model and the performance of the firm. All theory that that was collected in this part served as a backbone of the primary research that was done and the two were then compared against each other to see if we got the expected results. All secondary research was done using appropriate and reliable online databases of literature, journals, and statistical data.

Primary data was obtained by using a structured online questionnaire. The survey was created by the internet survey tool called 1KA. The link was sent via email to many different companies from 4 industries in Slovenia which include: automotive industry, pharmaceuticals, fashion, and tourism. The goal was to get responses from 4-5 companies from each of the 4 industries to answer a questionnaire. Questionnaire was created in English language as the author of this thesis is not fluent in Slovene. Reaching the sample this way was both convenient and cost effective both for the sample themselves and the author of this paper.

The survey has a total of 15 questions. The first 3 questions are the first part of the questionnaire defining the sample and giving us more information on the types of companies that entered the survey. The second part of the survey consists of 6 questions with multiple statements that they scored from 1 (being the lowest) to 5 (being the highest) how much they agree with a certain statement based on the RESOLVE framework. This framework is based on a set of 6 different actions that companies can do in order to move towards a circular economy. These six include: Regenerate, Share, Optimize, Loop, Virtualize and Exchange (Manninen et al., 2018). In the next question respondents had to answer how each of the performance indicators: profitability, reputation and cost are affected by their level of CBM from highly negative to highly positive. Next part consists of 3 open ended questions that allowed us to get more information about the situation in Slovenia in particular and how different the situation is between the industries. Finally, last two question provide ordinal scale to the companies from which they can pick a range for % net earning both in terms of the industry average and for their company. The full questionnaire can be found in Appendix 3.

3.3 Methods of data analysis

Each question of survey represents one part of the ReSOLVE framework. The companies answered the statements ranking them from 1 (being the lowest) to 5 (being the highest) how much they agree with each statement. They also have the option does not apply. Each of these answers brings them corresponding points on the level of CBM they are implementing; does not apply – brings 0 points, 1 – brings 1 point, 5 – brings 5 points etc. This means that if a question has 5 statements the company can get a maximum of 25 points. In the next part

of the questionnaire the companies answered a question regarding % of their net earnings. In order to see if there is any relationship between the two, we firstly separated the results based on what industry they were in. Furthermore, we created a table for each of the questions were the data of points gathered and the % net earnings were stated.

In the following question the respondents had to answer how each of the performance indicators: profitability, reputation and cost are affected by their level of CBM from highly negative to highly positive. Possible answers were Highly positive (hereinafter HP), Positive (hereinafter P), No effect (hereinafter NE), Negative (hereinafter N), Highly negative (HP). Once again, the companies were separated into industries and a table was created with the total CBM score from previous section and answer they gave each of the performance indicators to see if there was any relationship between the two variables.

For 3 open ended questions we defined what are the main points all companies wrote about. In the Further analysis section, we gave a better explanation and definitions for the things companies stated and compared it to the results we saw in the previous part of the questionnaire.

3.4 Sample description

From question 1 of the questionnaire, we see that a total of 25 companies filled out the questionnaire out of which were 7 companies from tourism, 7 companies from automotive, 5 pharmaceutical companies, and 6 companies from fashion industry. From question 2 we can see that the breakdown of the companies in terms of size is as following in Table 1 below.

Table 1: Breakdown of respondents in terms of size

Industry:	0-50 (very small)	51-100 (small)	101-200 (medium)	201-500 (big)	501+ (very big)
Tourism	1	3	2	1	0
Automotive	0	0	0	1	6
Pharmaceutical	0	0	0	1	4
Fashion	0	0	1	1	4

Source: own work (N=25)

Question 3 shows us that the breakdown of the 25 companies in terms of their age is as shown in Table 2 below.

Table 2: Breakdown of respondents in terms of age

Industry	0-5 years	6-10 years	11-20 years	21+ years
Tourism	2	3	1	1
Automotive	0	0	0	7

Pharmaceutical	0	1	3	1
Fashion	0	1	3	2

Source: own work (N=25)

From question 15 we gathered information on what the companies stated is the average % of net earnings in their industry. Results showing in Table 3 below.

Table 3: Average % of net earnings in each industry

Industry	% Net earnings
Automotive	0%-5%
Fashion	6%-10%
Pharmaceutical	31%-35%
Tourism	6%-10%

Source: own work (N=25)

From question 16 we gathered information on what the companies stated is the % of net earnings in their company. Results are as shown in Table 4.

Table 4: % of net earnings of each company

Industry	1	2	3	4	5	6	7
Automotive	0%-5%	0%-5%	0%-5%	6%-10%	6%-10%	6%-10%	6%-10%
Fashion	0%-5%	0%-5%	6%-10%	6%-10%	6%-10%	11%-15%	/
Pharmaceutical	31%-35%	31%-35%	36%-40%	36%-40%	36%-40%	/	/
Tourism	0%-5%	0%-5%	0%-5%	6%-10%	6%-10%	11%-15%	11%-15%

Source: own work (N=25)

4 RESULTS

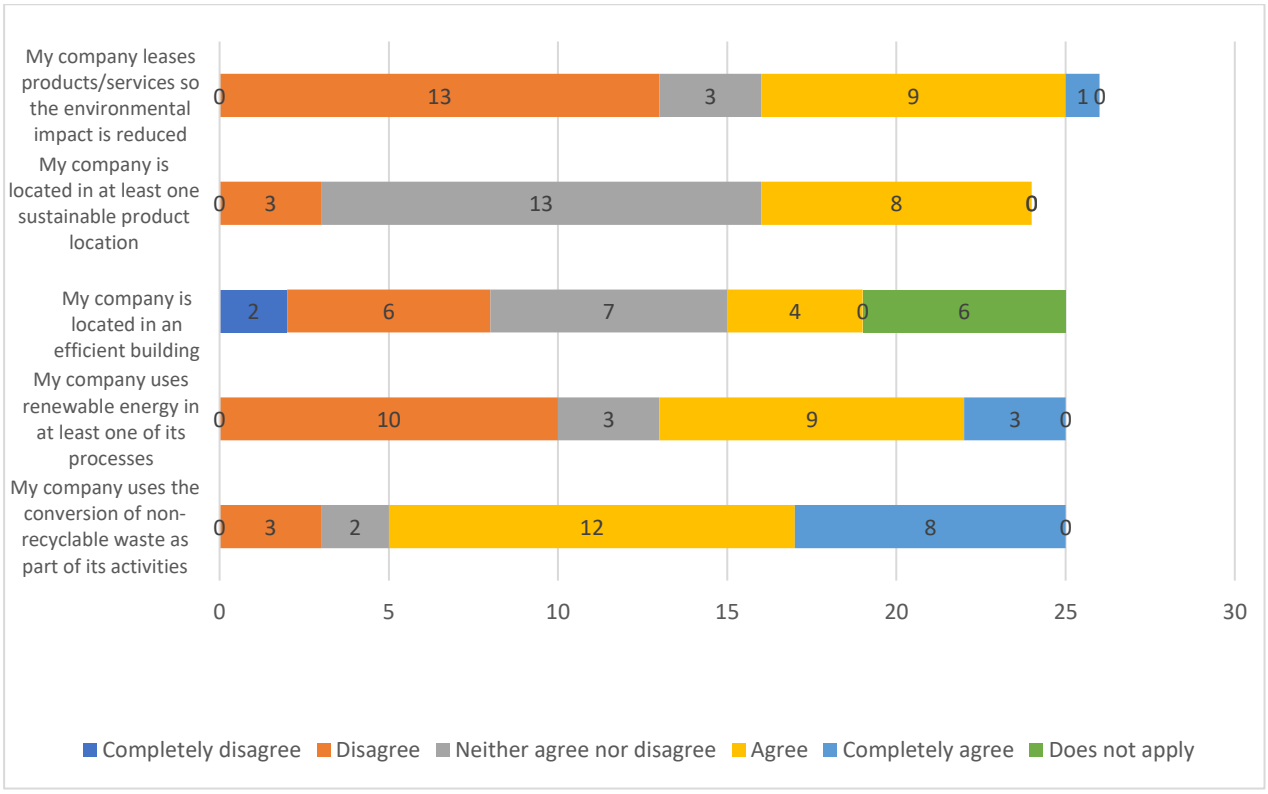
Firstly, we will show the results of the empirical research. After that, the relationship between the variables will be show for each section so see if any correlation can be found. Lastly a further analysis will be shown for additional findings

4.1 Results by business action

4.1.1 Results for REGENERATE business dimension

In the Figure 3 below we can see the results gathered the REGENERATE part of the questionnaire. The transition to renewable energy and materials is referred to as regenerate. It has to do with giving the biosphere back recovered biological resources.

Figure 3: Agreement with statements regarding REGENERATE

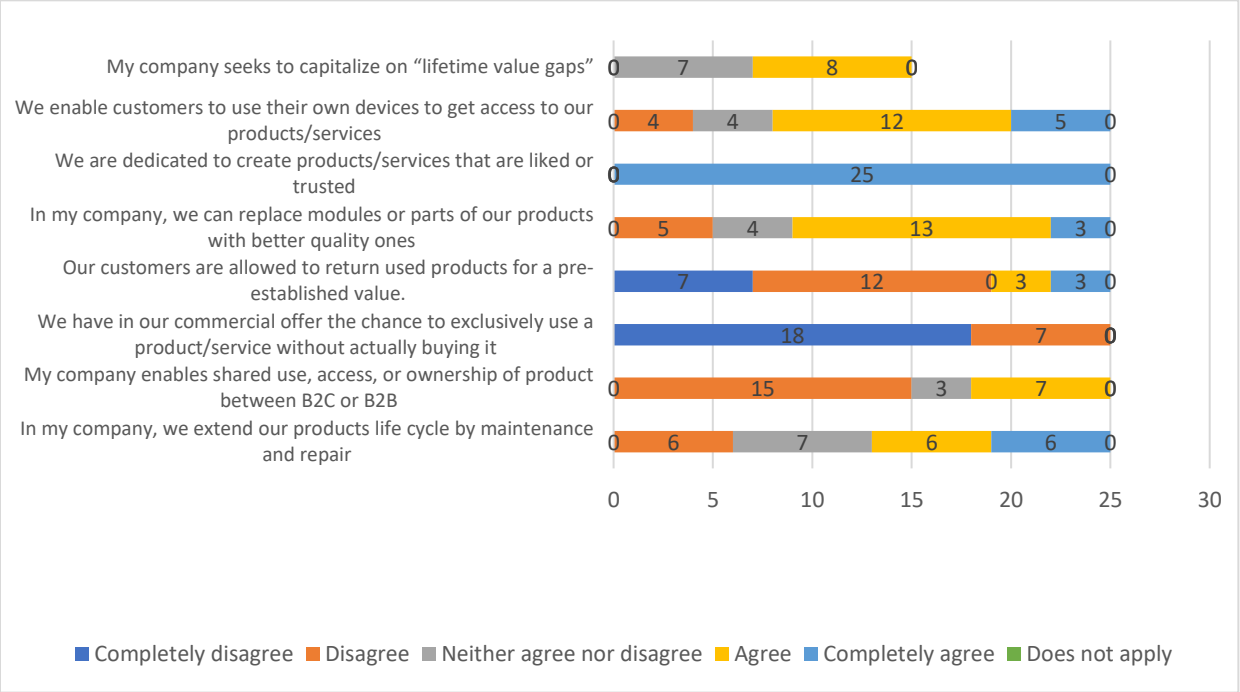


Source: own work (N=25)

4.1.2 Results for SHARE business dimension

In Figure 4 we can see how all companies answered questions regarding this business action. Through user sharing, share actions seek to maximize the use of items. If it is physically possible, sharing also include recycling things and extending their useful lives through upkeep, repair, and durability-boosting design.

Figure 4: Agreement with statements regarding SHARE

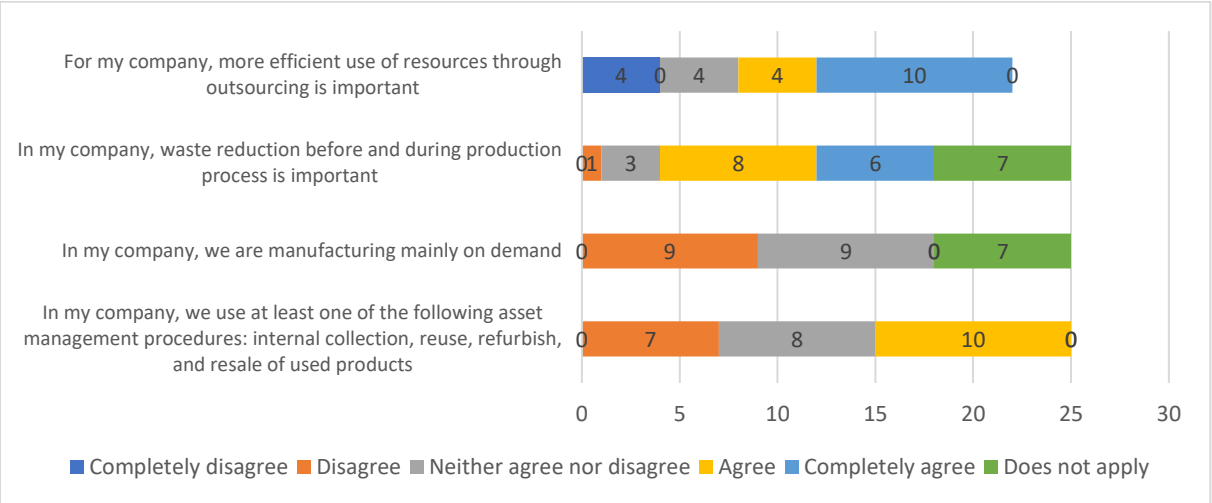


Source: own work (N=25)

4.1.3 Results for OPTIMIZE business dimension

In Figure 5 all the answers given by all companies in all industries for Optimize business actions are presented using a stacked bar. The goals of optimize actions are to improve a product's performance and efficiency and reduce waste in the supply chain and manufacturing process. The use of big data, automation, remote sensing, and steering are all topics that they can connect to.

Figure 5: Agreement with statements regarding OPTIMIZE

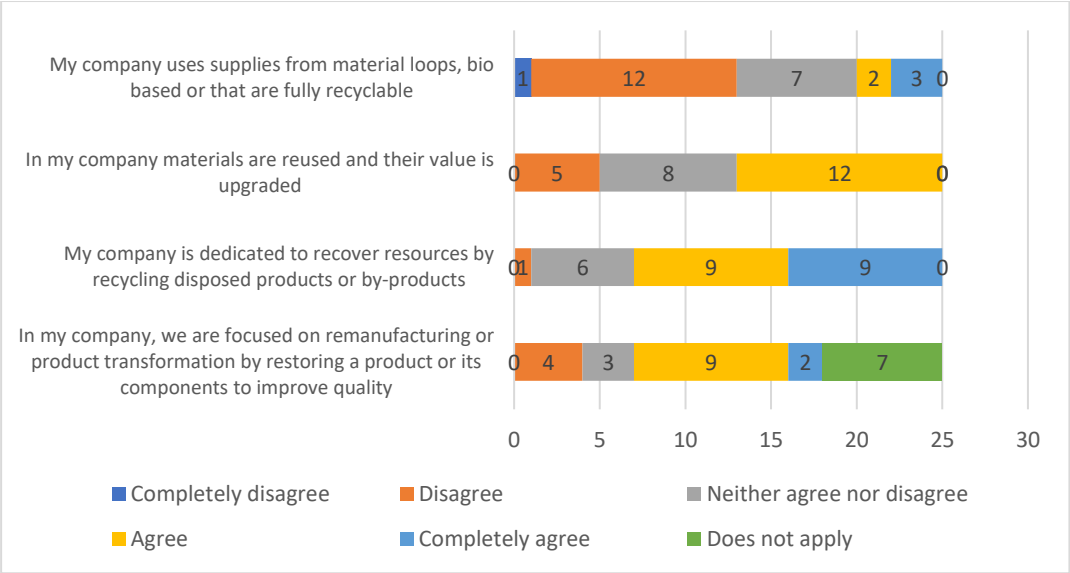


Source: own work (N=25).

4.1.4 Results for LOOP business dimension

When it comes to loop business action, we can see how companies agreed or disagreed with the statements in the Figure 6 below. The goal of loop operations is to maintain materials and components in closed loops. Inner loops are given a greater priority.

Figure 6: Agreement with statements regarding LOOP

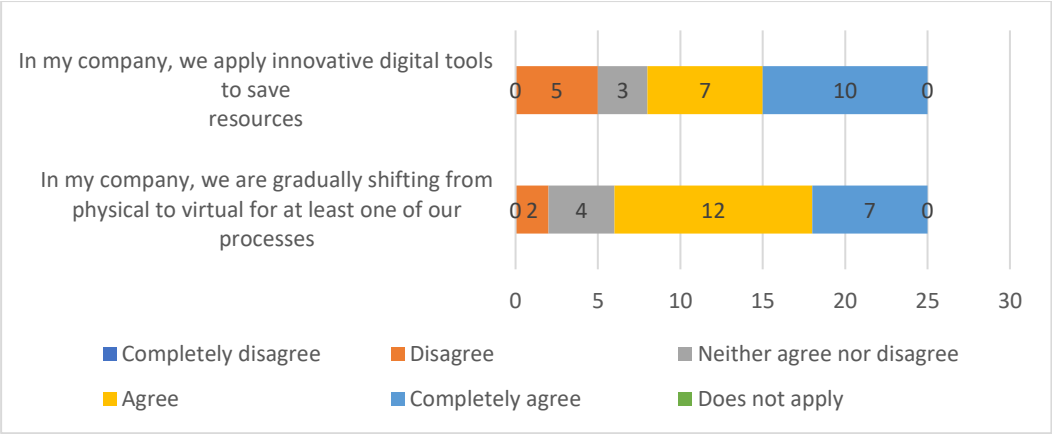


Source: own work (N=25).

4.1.5 Results for VIRTUALIZE business dimension

When it comes to VIRTUALIZE business action, we only had two statements in the questionnaire. The answers we received for these statements can be seen in the Figure 7 below. Actions that virtualize a given utility aim to provide it digitally rather than physically.

Figure 7: Agreement with statements regarding VIRTUALIZE

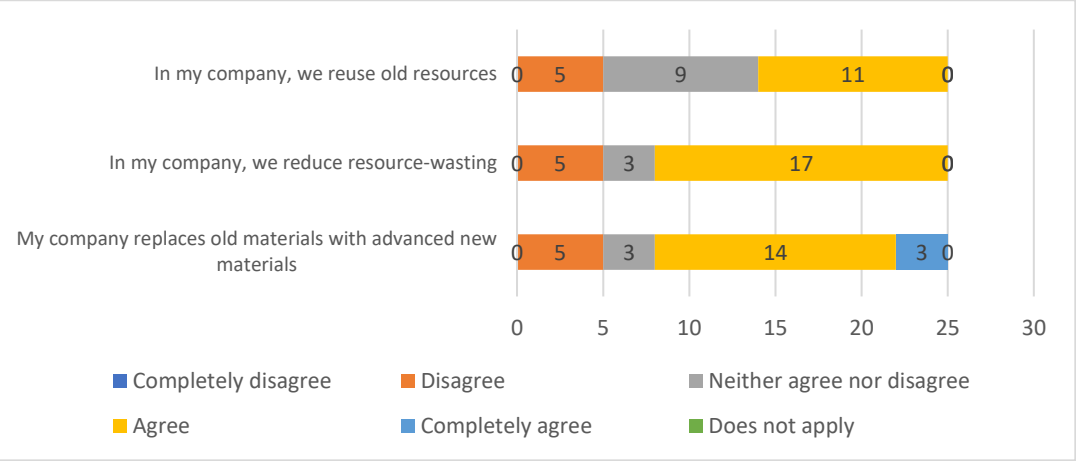


Source: own work (N=25).

4.1.6 Results for EXCHANGE business dimension

Final business action of the ReSOLVE framework is the Exchange business action. The answers we got from all 25 companies can be seen in Figure 8 below. Exchange activities concentrate on substituting outdated resources with modern nonrenewable materials and/or by utilizing new technology (e.g., 3D printing).

Figure 8: Agreement with statements regarding EXCHANGE



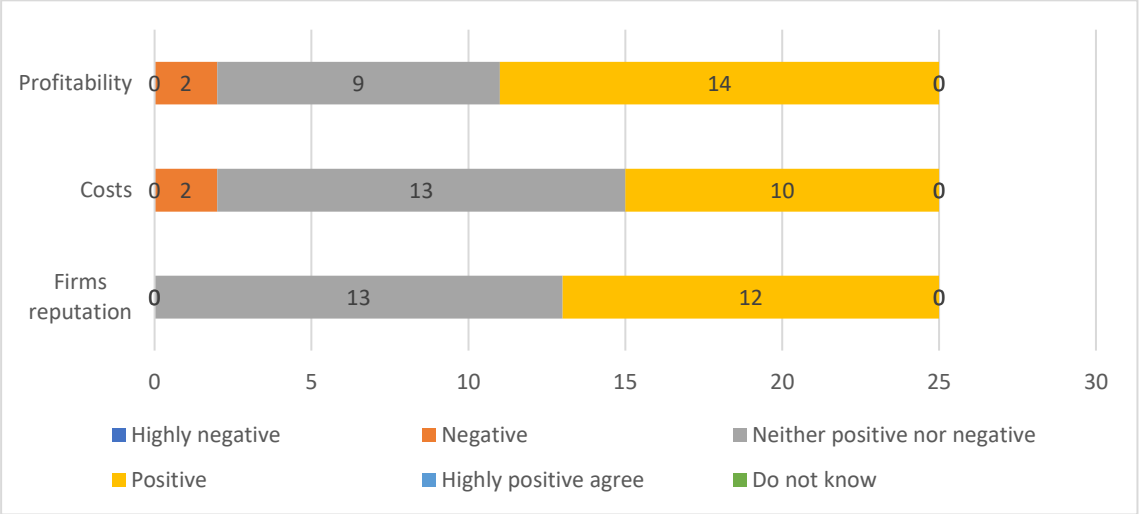
Source: own work (N=25).

4.2 Perceptions of managers

4.2.1 Effect of current CBM on each of the performance indicators

From the Figure 9 below we can see the view of the managers from all the firms on how their current business model in regards of CBM implementation has affected the 3 performance indicators (profitability, costs, and firm reputation).

Figure 9: Effect of current CBM on each of the performance indicators



Source: own work (N=25).

4.2.2 Innovations and changes the company is making for higher CBM

This was an open-ended question and each company could list certain innovations. The answers were divided into groups and below is the list of all the things mentioned by companies for their industry.

1. Automotive:

- Using more environmentally-friendly materials
- Implementing energy-efficient manufacturing processes
- Reducing water usage
- Developing electric and hybrid vehicles
- Offering car-sharing programs
- Recycling end-of-life vehicles

2. Fashion:

- Using more environmentally-friendly materials
- Promoting slow fashion
- Implementing a transparent supply chain

3. Pharma:

- Implementing a recycling program
- Using sustainable materials
- Implementing a carbon offset program
- Developing products with a longer shelf life:

- Donating excess products

4. Tourism:

- Using sustainable materials
- Encouraging sustainable travel
- Partnering with local businesses
- Offering sustainable tourism experiences

4.2.3 Comparison of Slovenia with other countries

When asked about the state of Slovenia compared to other countries, all companies from all the industries gave similar answers to this question. They all stated that Slovenia is fair ahead when it comes to the Balkan countries in terms of implementing CBM. However, it still lacks strong regulatory frameworks and commitments to sustainability that have countries like Sweden, Germany, Switzerland, Finland and Denmark.

4.2.4 Relationship between CBM activities and company's performance

I also asked the company representatives whether they thought CBM activities influenced their performance indicators and in what way. Once again, all companies from all industries provided us with similar answers. They all stated that the 3 performance indicators mentioned were positively impacted by higher levels of CBM. Furthermore, they provided a few additional examples of performance that higher level of CBM improves. These examples include:

- Increased innovation
- Reduced risk
- Improved employee engagement

4.3 Relationship between CBM and profits

This part is devoted to the depiction of the relationships between the selected variables in order to properly interpret the research findings.

Firstly, we will compare the points companies from each industry received (ReSOLVE framework) from each question with the range of % net earnings (hereinafter NE) they stated that their company has. Tables were created to see the relationship.

In the second part the question was to compare the current business model to total CBM points they scored from question 4 to 9 (ReSOLVE framework). Once again, the companies were separated into industries and a table was created with the total CBM score and answer

they gave each of the performance indicators to see if there was any relationship between the two variables.

4.3.1 Analysis of business action REGENERATE

This question had 5 statements for which each company could get a maximum of 5 points if their answer was Completely agree. Hence, this means that the company could get a maximum of CMB 25 points (hereinafter Points).

4.3.1.1 Automotive industry:

Table 5 below shows us that companies with higher points have higher %NE. Even though the effect is not completely linear we can see that there is correlation. Companies that scored more than 15 points have %NE in a higher range than the other companies. Furthermore, the companies that have scored higher points are also the ones that have %NE above the industry average which was identified to be between 0% and 5%. Other companies fall under the same range as the industry average. Out of maximum 25 points we see that the highest ranked company in automotive industry scored 21; second best scored 18. This shows us that in this part of the framework automotive industry is relatively good in its implantation. This is probably because many companies are using renewable materials in production, innovating in terms of electrical vehicles and invest in many similar examples in order to shift to renewable energy and materials.

Table 5: Relationship between Regenerate score and %NE in Automotive industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	21	18	17	16	15	14	13
% NE	6%-10%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7).

4.3.1.2 Fashion industry

In Table 6 we can clearly see that companies with higher points scored have higher %NE. For example, the company with highest score of 15 is the only one that has %NE between 11% and 15%; while companies that scored 11 have %NE only between 0% and 5%. We have previously seen that industry average is between 6% and 10%. The company with the highest score is also the only one to have above average %NE. The companies that have scored significantly less selected their %NE to be below the average.

Table 6: Relationship between Regenerate score and %NE in Fashion industry

	1	**2**	**3**	**4**	**5**	**6**
Points	15	13	12	12	11	11

% NE	11%-15%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%

Source: own work (N=6).

4.3.1.3 Pharmaceutical industry

Although we see a relationship between the variables in Table 7 it is not as concrete as in the previous examples. The companies scoring high all selected higher %NE. The only company that has the lowest score selected the lower %NE. 2 out of 5 companies scored 22 out of 25 showing that pharmaceutical industry in Slovenia is working hard in shifting to renewable sources of energy and materials.

Table 7: Relationship between Regenerate score and %NE in Pharmaceutical industry

	1	**2**	**3**	**4**	**5**
Points	22	22	19	19	16
% NE	36%-40%	36%-40%	36%-40%	31%-35%	31%-35%

Source: own work (N=5).

4.3.1.4 Tourism industry

Here in Table 8, we can see a clear relationship between the variables. The companies that had the significantly lowest scores are the ones that have %NE in the range between 0% and 5% while the industry average is between 6% and 10%. The company with the highest score has %NE in the range between 11% and 15% which is above average. These big differences in CBM levels can be due to the fact that many smaller tourism companies do not have enough resources to invest more and have more projects focused on sifting to renewable energy and materials.

Table 8: Relationship between Regenerate score and %NE in Tourism industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	18	17	17	16	11	10	10
% NE	11%-15%	11%-15%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7).

Finally, we can see that in terms of sifting to renewable energy and materials pharmaceutical companies are implementing these strategies the most, while fashion companies are implementing these strategies the least. One of the reasons might be that pharmaceutical production processes are more complex and energy-intensive than fashion production processes. As a result, pharmaceutical companies may be more motivated to invest in renewable energy to reduce their energy costs and decrease their carbon footprint.

Production techniques for pharmaceuticals are frequently more complicated and energy-intensive than those in fashion industry. Thus, companies in pharmaceutical industry could potentially be more inclined to make investments in renewable energy in order to lower their energy expenses and lessen their carbon impact. Also, we can see that pharmaceutical companies have %NE far higher than in any other industry which means that they have more resources to invest into renewable projects and strategies.

4.3.2 Analysis of business action SHARE

This question had 8 statements for which each company could get a maximum of 5 points if their answer was Completely agree. Hence, this means that the company could get a maximum of CMB 40 points.

4.3.2.1 Automotive industry:

In Table 9 we can clearly see that the companies with the higher scores have higher %NE. Once again, the companies that have profitably in the same range as the average of the industry are the ones that scored lower, while companies with higher scores also have higher profitability. The highest score in this industry is 31 out of maximum 40. This means that automotive industry in Slovenia is finding ways to create share actions where products can be utilized by sharing them among users. This is mainly to the strong growth of car sharing trend that is significantly growing all around the world.

Table 9: Relationship between Share score and %NE in Automotive industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	31	31	30	28	27	27	26
% NE	6%-10%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source*: own work (N=7)*

4.3.2.2 Fashion industry:

In the fashion industry the relationship is even more clear. In Table 10 shows that the company with highest score of 29 is the only one that has %NE between 11% and 15%; while companies that scored 23 have %NE only between 0% and 5%. We can see that fashion industry as a whole scored well but is not excelling in this business action. This is probably because sharing as an action is somewhat less functional in this industry as clothes sharing is not a trend and might be very hard for users to accept.

Table 10: Relationship between Share score and %NE in Fashion industry

	1	**2**	**3**	**4**	**5**	**6**

Points	29	29	28	25	23	23
% NE	11%-15%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%

Source: own work (N=6).

4.3.2.3 Pharmaceutical industry:

The results shown in Table 11 show us a much clearer linear relationship between the two variables than we had in the Regenerate business action for this industry. In this example, the two companies with the lowest scores are the ones with lower profitability. On the other hand, pharmaceutical industry as a whole scored lower for this business action than they did for the previous one. For example, highest score was 27 out of 40, in the last section it was 22 out of 25. This is probably because these companies focused more on recycling and reusing than they did on sharing due to their business model and the types of products they offer.

Table 11: Relationship between Share score and %NE in Pharmaceutical industry

	1	**2**	**3**	**4**	**5**
Points	27	27	23	22	21
% NE	36%-40%	36%-40%	36%-40%	31%-35%	31%-35%

Source: own work (N=5)

4.3.2.4 Tourism industry

Data gathered in Table 12 shows that tourism industry has the big differences in terms of %NE and points scored. This is probably because the companies that answered the questionnaire differ in size the most out of all 4 industries. The linear relationship is very clear in Figure 18. Highest score achieved was 28 for two companies that are both the only ones that have %NE higher than the industry average of between 6% and 10%. We can expect this score to be even higher in the future because sharing is becoming more popular amongst users. We can see this in the up rise of Airbnb, sharing tours, package deals etc.

Table 12: Relationship between Share score and %NE in Tourism industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	28	28	27	23	22	22	22
% NE	11%-15%	11%-15%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

When it comes to creating options for customers with the aim to maximize the utilization of products by sharing them among users, we can see automotive industry has the highest score overall. As earlier mentioned, this is mainly due to a huge growth car sharing option and because these companies do a lot of maintenance and repair to their products. The lowest scores for this business action had the pharmaceutical industry. This is mainly because of the different product nature. Automotive products can be physically shared among users, whereas pharmaceutical products, such as drugs, are typically intended for single-use and cannot be easily shared. Another aspect of it might be that pharmaceutical companies invest heavily in Research and Development in order to create new drugs. This can make investing in sharing activities less desirable, especially if the company is not sure if they will be profitable.

4.3.3 Analysis of business action OPTIMIZE

This question had 4 statements for which each company could get a maximum of 5 points if their answer was Completely agree. Hence, this means that the company could get a maximum of CMB 20 points.

4.3.3.1 Automotive industry

In Table 13 we can see that even though there is some correlation between the variables the conclusion is not as evident as in the previous examples due to the fact that all 4 companies scored very similarly regarding this business action. Highest score was 17 out of 20 which is high and the lowest score as 15 out of 20. What we can conclude is that automotive industry is in fact investing into optimization with the aim of increasing the performance/efficiency of a product and removing waste in the production process. This is probably done because removing wastes in addition to having a good impact on the environment also gives them cost benefits and competitive advantage.

Table 13: Relationship between Optimize score and %NE in Automotive industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	17	17	17	16	15	15	15
% NE	6%-10%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

4.3.3.2 Fashion industry

We can clearly see in Table 14 that the company that scored the highest with 15 points had above industry average profitability while the company that has the lowest score of 9 points has the below average profitability. The company with the middle score of 12 has its

profitability in the same range as the industry standard that was disclosed to us by the companies. The big difference we see in this industry can be explained by the difference in fast fashion brands sustainable high-end companies. A fast fashion company that prioritizes low costs and rapid turnaround times will most probably invest significantly less in performance optimization and waste removal than a sustainable fashion company that prioritizes environmental and social responsibility.

Table 14: Relationship between Optimize score and %NE in Fashion industry

	1	**2**	**3**	**4**	**5**	**6**
Points	15	15	12	10	10	9
% NE	11%-15%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%

Source: own work (N=6)

4.3.3.3 Pharmaceutical industry

When it comes to pharmaceutical industry, in Table 15 we can see that the 3 companies that scored high 17 and 16 points out of 21 are the ones that have higher %NE of between 36% and 40%. The two companies that scored 13 points have lower %NE of between 31% and 35% which is the industry average. This shows us a linear relationship between the two variables. Overall, this industry scored high when it comes to this business action. This is possibly because it allows them to decrease costs but also because optimization help them with meeting safety regulations. On the other hand, we see a big score difference between the highest scoring company and the lowest scoring company. This could be explained by what the company's main objective was in the previous period. If a company has recently launched a new product or are in the process of developing one, they may invest less in these areas.

Table 15: Relationship between Optimize score and %NE in Pharmaceutical industry

	1	**2**	**3**	**4**	**5**
Points	17	17	16	13	13
% NE	36%-40%	36%-40%	36%-40%	31%-35%	31%-35%

Source: own work (N=5)

4.3.3.4 Tourism industry

In Table 16, although the relationship is there it is not as visible as in the previous section due to the fact that all companies scored very low. However, we can see that the companies that have scored higher do have average or above average %NE, while the companies that scored lower have average or below average %NE. This low score in mainly due to the fact

that out of 4 questions 2 did not apply to these companies as they do not have manufacturing facilities. When it comes to other 2 question that they could answer, the points are low because it is hard for companies in this industry to find a way to reuse, refurbish, and resale used products.

Table 16: Relationship between Optimize score and %NE in Tourism industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	7	7	7	3	3	3	3
% NE	11%-15%	11%-15%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

Out of the 4 industries both automotive and pharmaceutical industries scored the highest for optimization. This is mainly because they both have production facilities and can have a wide list of benefits from optimization. Lowest scoring was tourism. As already mentioned, this is due to the fact that they do not have manufacturing facilities and it can be challenging for them to find ways to reuse or resale used products.

4.3.4 Analysis of business action LOOP

This question had 4 statements for which each company could get a maximum of 5 points if their answer was Completely agree. Hence, this means that the company could get a maximum of CMB 20 points.

4.3.4.1 Automotive industry

In this section we can clearly see the relationship between the variables shown in Table 17. Two companies with highest score of 17 out of 20 and two companies with middle scores 16 and 14 are both having %NE in a higher range than the industry average. While the 3 companies that scored 13 out of 20 have %NE in the same range as the industry average. In general, automotive industries scored high for this business activity. This can be explained by the fact that one of the main benefits of investing in closed-loop systems is that it can help reduce costs and improve the efficiency of operations.

Table 17: Relationship between Loop score and %NE in Automotive industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	17	17	16	14	13	13	13
% NE	6%-10%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

4.3.4.2 Fashion industry

Even though the scores are not that high for the fashion industry we can still see in Table 18 how points scored and %NE are connected. The only company with above average profitability has the highest score of 14 out of 20. The companies that scored only 10 out of 20 have profitability in a below industry average range. The fashion companies are trying to achieve closed loops likely due to the fact that keeping closed loops can reduce the need for raw materials and help with following environmental regulations.

Table 18: Relationship between Loop score and %NE in Fashion industry

	1	**2**	**3**	**4**	**5**	**6**
Points	14	14	12	12	10	10
% NE	11%-15%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%

Source: own work (N=6)

4.3.4.3 Pharmaceutical industry

In case of pharmaceutical industry, a very clear linear relationship is visible in Table 19. Three companies that have above average %NE have high score of 18 out of 20, while the two companies that fall in the same range as industry average in terms of %NE have lower scores of 16 and 15. Pharmaceutical industry as a whole scored very high for this business action. Just as in the automotive industry, closed loosed-loop systems can bring many benefits, including reduced costs, improved efficiency and quality, and compliance with regulations.

Table 19: Relationship between Loop score and %NE in Pharmaceutical industry

	1	**2**	**3**	**4**	**5**
Points	18	18	18	16	15
% NE	36%-40%	36%-40%	36%-40%	31%-35%	31%-35%

Source: own work (N=5)

4.3.4.4 Tourism industry

Once again tourism industry as a whole scored lower. This is because one of the questions did not apply for these companies as they are not involved in manufacturing. However, we can still see from Table 20 that the companies with the highest scores have above average %NE, companies with average scores have industry average %NE, and companies with the lowest scores have lowest %NE.

Table 20: Relationship between Loop score and %NE in Tourism industry

	1	2	3	4	5	6	7
Points	11	11	10	8	7	7	6
% NE	11%-15%	11%-15%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

We can see from the data gathered above that the pharmaceutical and automotive industries have much higher scores for closed-looped systems. As mentioned before, this is mainly because closed loosed-loop systems bring many benefits to both industries. Pharmaceutical industry has slightly higher scores but that industry has a much higher profitability in general. Lowest scoring was tourism because they may not have a direct need for closed-loop systems, as it does not typically involve the production of physical goods. Furthermore, the immediate financial benefits of creating a closed-loop system might not be as obvious for the tourist sector since it may have a less direct link with the products and resources it uses.

4.3.5 Analysis of business action VIRTUALIZE

This question had 2 statements for which each company could get a maximum of 5 points if their answer was Completely agree. Hence, this means that the company could get a maximum of CMB 10 points.

4.3.5.1 Automotive industry

In Table 21 the relationship is less visible because all companies scored high and there were only two statements to provide answers for. Even though the highest scoring company does have higher profitability than the lowest scoring company this relationship is not as direct since the difference between the scores of the two companies is only 1 point. Nonetheless, we can see that the automotive company overall did well for this business action. In general, the ability of virtual technologies to provide clients a new or superior service and establish new income streams with less investment than physical equivalents are the primary drivers behind automotive firms investing in them.

Table 21: Relationship between Virtualize score and %NE in Automotive industry

	1	2	3	4	5	6	7
Points	9	9	9	9	9	8	8
% NE	6%-10%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

4.3.5.2 Fashion industry

In fashion industry, the relationship between the variables is much more visible since there is more variation in terms of scores. Table 22 shows that the company with the highest score of 9 out of 10 has above industry average %NE; company that has the lowest score of 5 out of 10 has below average %NE. In general, fashion industry scored high but not all companies invest the same in this business action. There are many different ways that fashion companies can use virtual actions to deliver a particular utility. Some of these include virtual "try on" option and virtual shows or more simply online stores. While these options are very innovative and interesting for the consumer, they are also expensive which might explain the variation in scores in this section. Smaller fashion companies might not have the funds to invest to these virtual solutions.

Table 22: Relationship between Virtualize score and %NE in Fashion industry

	1	**2**	**3**	**4**	**5**	**6**
Points	9	9	7	6	5	5
% NE	11%-15%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%

Source: own work (N=6)

4.3.5.3 Pharmaceutical industry

In Table 23 we cannot discuss any relationship between the variables since all companies in this industry scored maximum of 10 points. There are many possible reasons why this industry has such high scores. Virtual activities have the potential to broaden the reach and accessibility of their products and services. For instance, a virtual reality software can be made that enables patients to discover a new medication or therapy in an interactive and interesting way. Better results may result from improved patient comprehension and adherence to treatment plans. Additionally, this can be more cost-effective than providing in-person support, and it also allows patients to receive support on their own schedule, making it more convenient for them.

Table 23: Relationship between Virtualize score and %NE in Pharmaceutical industry

	1	**2**	**3**	**4**	**5**
Points	10	10	10	10	10
% NE	36%-40%	36%-40%	36%-40%	31%-35%	31%-35%

Source: own work (N=5)

4.3.5.4 Tourism industry

When it comes to the tourism industry, we can easily see a relationship between the variables in Table 24. Companies that have above industry average %NE scored the highest 8 out of 10, while the companies with below industry average %NE scored the lowest with only 4 out of 10 points. We can see that some companies in tourism invest more into this action that others. This is because some companies are creating apps that allow exploration of the destination before a trip, create virtual tour guides and many several other options.

Table 24: Relationship between Virtualize score and %NE in Tourism industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	8	8	8	7	5	4	4
% NE	11%-15%	11%-15%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

We can conclude that when it comes to this business action pharmaceutical industry is the leader as all companies scored maximum points. As previously explained, virtual solutions are increasingly becoming popular in these industries and their consumers what everything to be available using apps. Overall, the lowest scores achieved tourism industry. Although some companies are investing into virtual options, others are falling behind presumably due to the fact that these options are expensive and not as accessible to everyone.

4.3.6 Analysis of business action EXCHANGE

This question had 3 statements for which each company could get a maximum of 5 points if their answer was Completely agree. Hence, this means that the company could get a maximum of CMB 15 points.

4.3.6.1 Automotive industry

Somewhat of a relationship can be seen in Table 25 since the company with the highest score of 13 has %NE in the range between 6% and 10%, while the company will lowest score of 11 has %NE in the range between 0% and 5%. However, this relationship is not that strongly shown due to the fact that the companies scored very closely to one another. We can conclude from the results above that this industry does invest in this business activity. This is probably because replacing old materials with advanced nonrenewable materials and/or through applying new technologies it enhances performance, cuts their spending and helps them meet their demand in the future.

Table 25: Relationship between Exchange score and %NE in Automotive industry

	1	2	3	4	5	6	7
Points	13	13	13	12	12	11	11
% NE	6%-10%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

4.3.6.2 Fashion industry

In fashion industry a clearer relationship between the variables is visible. In Table 26 highest score was 12 out of 15 and that company has above industry average profitability. Lowest score was 6 and this company has profitability below the industry average. We can see that there is a significant difference between how much companies in this industry are focused on this business action. Even though this can bring many benefits for the fashion company similar to the ones mentioned for the automotive industry this has limited scalability. Furthermore, some fashion businesses might not want to modify their use of conventional materials or procedures since they have a strong brand identification based on them.

Table 26: Relationship between Exchange score and %NE in Fashion industry

	1	2	3	4	5	6
Points	12	11	10	9	7	6
% NE	11%-15%	6%-10%	6%-10%	6%-10%	0%-5%	0%-5%

Source: own work (N=6)

4.3.6.3 Pharmaceutical industry

Similarly, to the automotive industry, the variation between the scores is very low. Thus, somewhat of a relationship can be seen in Table 27 since the company with the highest score of 12 has %NE in the range above the industry average, while the company will lowest score of 11 has %NE in the range same to the industry average. Due to this we cannot conclude a very clear linear relationship as in previous examples. In general, this industry scored high for this activity, probably in order to raise the efficacy of their goods, meet legal requirements, enhance production procedures, save costs, and gain a competitive edge. These investments may result in the creation of novel, cutting-edge medications, vaccines, and medical equipment that will help address unmet medical needs and enhance patient outcomes.

Table 27: Relationship between Exchange score and %NE in Pharmaceutical industry

	1	2	3	4	5
Points	12	12	12	11	11
% NE	36%-40%	36%-40%	36%-40%	31%-35%	31%-35%

Source: own work (N=5)

4.3.6.4 Tourism industry

For this business activity, the clearest relationship between the two variables can be seen in fashion industry in Table 28. Companies that have the highest score of 12 out of 15 are the only ones with above industry average %NE. Companies with lower results have %NE within industry average and lowest score 6 received companies with %NE below industry average. From the big difference in scores, we can see that some companies focus on this aspect of their business significantly more than others. This activity can improve the overall efficiency and sustainability of companies` operations, help to improve their reputation and image, and meet growing consumer demand for sustainable tourism products and services. On the other hand, not all companies may see investing in these types of activities as a priority, as it can be costly, not align with their business goals, or simply is not feasible for the size of the company.

Table 28: Relationship between Exchange score and %NE in Tourism industry

	1	**2**	**3**	**4**	**5**	**6**	**7**
Points	12	12	10	8	6	6	6
% NE	11%-15%	11%-15%	6%-10%	6%-10%	0%-5%	0%-5%	0%-5%

Source: own work (N=7)

In conclusion, we can say that all companies scored very similarly when it comes to this business activity that focuses on switching to new materials. A slightly higher score was achieved by the automotive industry. Furthermore, because the automotive sector is one of the most technologically advanced, companies have more incentives to engage in R&D to bring new technologies and materials to market. Though other businesses may have laws and market demand to satisfy, automobile firms may invest more extensively in these areas owing to the industry's unique peculiarities.

4.4 Analysis of managers' view of how current CBM level effects performance indicators

This question had only one statements for which each company could state what impact their current business model in terms CBM level has on the 3 performance indicators; Highly positive (hereinafter HP), Positive (hereinafter P), No effect (hereinafter NE), Negative (hereinafter N), Highly negative (HP). From questions 4 to 9 of the ReSOLVE framework which measure the level of CBM implementation we have calculated total points each

company received summed up. We named this Circular Business Model Total Points (hereinafter CBMP). Maximum possible achieved CBMP score was 130. Tables below show if there is a relationship between the two.

4.4.1 Effect on firm reputation

From the Table 29 we can see that the companies in automotive industry that have the highest scores of above 100 all stated that their firm reputation was impacted positively by their level of CBM implementation. While other companies showed no effect. Things are a little bit different for the fashion industry, two highest scoring companies have experienced positive effects while other companies did not see any effect. In pharmaceutical industry we see more impact of the company's business model on firm reputation. Maybe, this is because they rely heavily on this performance indicator to stay in business as they provide their consumers with medical assistance. All companies that scored above 90 have seen a positive impact on their firm reputation (which is especially important in this industry). When it comes to tourism industry, we can see that only two of the highest scoring companies have seen positive impact on their firm reputation. Overall, all companies that have a higher CBM level had experienced positive impact on their reputation.

*Table 29: Managers' perception on the effect of current CBM level on **firm reputation***

		1	**2**	**3**	**4**	**5**	**6**	**7**
Automotive	Answer	P	P	P	P	NE	NE	NE
	CBMP	105	105	102	95	91	88	86
Fashion	Answer	P	P	NE	NE	NE	NE	/
	CBMP	94	91	81	74	66	64	/
Pharmaceutical	Answer	P	P	P	P	NE	/	/
	CBMP	106	106	97	91	86	/	/
Tourism	Answer	P	P	NE	NE	NE	NE	NE
	CBMP	84	83	79	65	54	52	51

Source: own work (N=25)

4.4.2 Effect on costs

When it comes to costs, the firms that scored lower in the automotive industry stated that they did not experience any effect due to their current business model. From Table 30 it seems that only the highest scoring company in the fashion industry had a positive impact on their costs while others stated they have not seen any effects. The companies that had 3 highest scores in the pharmaceutical industry all experience positive impact both on their cost. When it comes to tourism industry, only two highest scoring companies saw positive impact, the other companies did not see any effect.

*Table 30: Managers' perception on the effect of current CBM level on **costs***

		1	**2**	**3**	**4**	**5**	**6**	**7**
Automotive	Answer	P	P	P	P	NE	NE	NE
	CBMP	105	105	102	95	91	88	86
Fashion	Answer	P	NE	NE	NE	NE	NE	/
	CBMP	94	91	81	74	66	64	/
Pharmaceutical	Answer	P	P	P	NE	NE	/	/
	CBMP	106	106	97	91	86	/	/
Tourism	Answer	P	P	NE	NE	NE	NE	NE
	CBMP	84	83	79	65	54	52	51

Source: own work (N=25)

4.4.3 Effect on profitability

Table 31 shows us that the company that had the lowest score of 86 points in the automotive industry admitted that their business model in terms of CBM implementation effected their profitability in a negative way. Highest scoring companies all saw positive effects on their profitability. All companies that had above 80 scored points in the fashion industry experienced positive effects on their profitability, while the others did not experience any effect. The companies that had 3 highest scores in the pharmaceutical industry all experience positive impact both on their profitability. Positive effect on profitability was seen by the 3 highest scoring companies in the tourism, pharmaceutical, and fashion industry. Other companies did not see any effect.

*Table 31: Managers' perception on the effect of current CBM level on **profitability***

		1	**2**	**3**	**4**	**5**	**6**	**7**
Automotive	Answer	P	P	P	P	P	NE	N
	CBMP	105	105	102	95	91	88	86
Fashion	Answer	P	P	P	NE	NE	N	/
	CBMP	94	91	81	74	66	64	/
Pharmaceutical	Answer	P	P	P	NE	NE	/	/
	CBMP	106	106	97	91	86	/	/
Tourism	Answer	P	P	P	NE	NE	NE	NE
	CBMP	84	83	79	65	54	52	51

Source: own work (N=25)

We can also see that in general pharmaceutical and automotive companies scored higher than the companies from other two industries. Circular business models are well suited to the products and services provided by these industries and may be adopted as a means of

reducing environmental impact, reducing waste and environmental impacts, or complying with environmental regulations and meeting consumer demand for sustainable products. Furthermore, the nature of the materials utilized in these sectors may make adopting circular business models more cost-effective. It is interesting to note that these two industries are also the ones that stated that their performance indicator were positively influenced more often than the companies from other two industries. Fashion and tourism industry scored relatively similar with tourism scoring a little lower. This is mainly due to the fact that some of the questions did not apply to the tourism industry as they do not engage in manufacturing activities. We have also seen that while there is a positive effect on all performance indicators by a higher CBM level implementation, the companies stated that they did not face a negative effect (expect only one fashion company that stated negative effect on its profitability) when their business model was not as circular.

4.5 Further analysis

In this section we will be discussing in more detail the 3 opened ended questions. For the first question we will give an explanation or a few examples of the activities the companies listed.

4.5.1 Innovations and changes the company is making for higher CBM

When companies in automotive industries were asked about the innovations and changes they are making for higher CBM they listed a number of things. First one is using more environmentally-friendly materials. This could include things like using recycled materials in the production of vehicles or switching to plant-based plastics. Next, they mentioned implementing energy-efficient manufacturing processes which could involve investing in more energy-efficient equipment and technologies, as well as implementing practices such as lean manufacturing to reduce energy waste. Improving supply chain sustainability is a change mentioned where companies can work with their suppliers to reduce the environmental impact of their operations, such as by sourcing materials from sustainable sources. They also mentioned developing electric and hybrid vehicles, offering car-sharing programs, and recycling end-of-life vehicles. Developing electric and hybrid vehicles refers to electric and hybrid vehicles that have significantly lower emissions compared to traditional gasoline-powered vehicles, and can help to reduce overall carbon emissions from the automotive industry. Offering car-sharing programs are programs that can help to reduce the overall number of vehicles on the road, as well as the environmental impact of individual car ownership. Finally, recycling end-of-life vehicles suggests that when vehicles reach the end of their useful life, it is important to properly recycle them in order to prevent waste and reduce the environmental impact of disposal.

Companies in fashion industries mentioned using more environmentally-friendly materials. This could include things like using organic cotton or recycled materials in the production

of clothing. Additionally, they suggested promoting slow fashion. Slow fashion encourages the production of high-quality, long-lasting clothing as opposed to fast fashion's focus on constantly releasing new styles. This can help to reduce waste and the overall environmental impact of the fashion industry. Another thing mentioned was implementing a transparent supply chain. By being transparent about their supply chain, fashion companies can help consumers to make more informed choices about the environmental impact of their clothing purchases.

Pharmaceutical industry mentioned implementing a recycling program. By setting up a program to recycle waste materials such as cardboard, paper, and plastics, a pharmaceutical company can reduce the amount of waste it generates and decrease its environmental impact. Next change mentioned was reducing energy consumption. Pharmaceutical companies can reduce their energy consumption and greenhouse gas emissions by investing in energy-efficient equipment and implementing energy-saving initiatives such as turning off lights and equipment when not in use. Third action listed was developing products with a longer shelf life. By developing products with a longer shelf life, a pharmaceutical company can reduce the amount of waste generated by expired products. Lastly, they also listed donating excess products. Many pharmaceutical companies have excess products that are no longer needed or have reached their expiration date. These products can be donated to organizations that distribute them to people in need, helping to reduce waste and improve access to healthcare.

In tourism industry 4 different actioned were listed. Using sustainable materials tourism companies can use sustainable materials in the construction and renovation of hotels and other tourist facilities, such as low-VOC paint, recycled materials, and energy-efficient appliances. Tourism companies can encourage their customers to choose sustainable travel options, such as using public transportation or staying in eco-friendly accommodations. By partnering with local businesses and supporting the local economy, tourism companies can help reduce the environmental impact of tourism and promote sustainability in the destination. Tourism companies can offer sustainable tourism experiences, such as eco-tours and conservation-focused activities, to educate travelers about sustainability and the importance of protecting the environment.

4.5.2 Comparison of Slovenia with other countries

All companies from all the industries that were surveyed stated that Slovenia is ahead when compared to other Balkan countries when it comes to implementing Circular Business Models (CBM). However, despite this progress, Slovenia still lags behind some of the more developed and industrialized countries in Europe such as Sweden, Germany, Switzerland, Finland and Denmark in terms of CBM implementation.

One reason for this is because Slovenia lacks robust regulatory frameworks and sustainability obligations. These countries are well-known for having robust sustainability

policies and regulations in place, which give a clear framework and an incentive for businesses to implement circular business models. Slovenia, on the other hand, may not have as rigorous a regulatory environment, making it more difficult for businesses to use CBM.

Additionally, Slovenia may not have as well-established recycling infrastructure or as developed of a circular economy as countries like Sweden, Germany, Switzerland, Finland, and Denmark. This lack of infrastructure and economic maturity can limit the feasibility and financial benefits of implementing CBM in Slovenia, as these models require a significant investment in resources and technology. Furthermore, Slovenia may not have as well-developed recycling infrastructure or a circular economy as nations such as Sweden, Germany, Switzerland, Finland, and Denmark. Because these models necessitate a large investment in resources and technology, Slovenia's lack of infrastructure and economic maturity may limit the practicality and financial rewards of implementing CBM.

Nonetheless, Slovenia is on the path of CBM implementation and has significant growth potential. And there are numerous groups and efforts in Slovenia that encourage sustainability and CBM implementation; it's just a question of time before they take root and spread. Furthermore, a focus on developing strong legislative frameworks, investing in circular economy infrastructure, and raising consumer sustainability awareness can assist Slovenia close the CBM implementation gap with countries mentioned. This constant growth is the reason why Slovenia is far ahead when compared to its neighboring Balkan countries that have not yet started prioritizing this aspect of their economy yet.

4.5.3 Relationship between CBM activities and company’s performance

All companies from all industries provided similar responses to the question, stating that their 3 performance indicators (firm performance, costs, and profitability) were positively impacted by higher levels of Circular Business Model (CBM) implementation. Furthermore, they provided additional examples of performance that was improved by higher levels of CBM that were not mentioned in this paper.

Increased innovation is one example. Companies that use circular business models must frequently consider how to design products and services that may be reused, repaired, refurbished, or recycled. As organizations seek to develop innovative answers to these difficulties, this can lead to more innovation. As a result, they are frequently able to design new products and services that are more sustainable and have a smaller environmental impact.

Reduced risk is another example. Companies that use circular business models may be better equipped to minimize risks related with scarcity of resources and environmental restrictions. Companies, for example, may be able to limit their exposure to waste disposal costs and hazardous material laws by creating goods that can be easily disassembled and repurposed.

A third example is increased employee engagement. When firms adopt circular business models, they frequently need to involve their employees in the process of identifying and implementing innovative solutions. This can lead to increased employee engagement and motivation since employees believe they are making a significant contribution to the company's sustainability goals.

Overall, we can see that the performance indicators mentioned in this paper, as well as some additional ones, have seen positive effects as a result of higher levels of CBM implementation.

5 DISCUSSION

The goal of this chapter is to obtain a better grasp of the outcomes from the previous one. To begin, the results we received from analyzing the relationship between the variables, as well as the data from further analysis will be discussed in order to provide a more complete picture of the fragmented data. Second, some practical implication for the companies will be provided, followed by the limitations of this study and future research recommendations.

5.1 Summary of main findings

The main objective of this thesis is to examine the impact of Circular Business Models (CBM) on a firm's performance in Slovenia. Results indicate a clear relationship between CBM and firms' profitability across all industries. The study found a clear correlation between the level of circular business model (CBM) implementation and the profitability of companies. The companies that performed the best, as measured by CBM points scored from the ReSOLVE framework, were those that had a net earnings percentage above the industry average. Conversely, the companies that performed the worst in terms of CBM points were those whose net earnings percentage was in line with or below the industry average. The study indicates that companies with higher CBM implementation had a positive impact on profitability. Certain differences between industries were seen but are mainly explained by the nature of their businesses. The industries that implemented CBM the most were pharmaceutical companies, while fashion companies implemented CBM the least. Automotive companies scored the highest for creating options for customers to maximize product utilization. Pharmaceutical companies scored the lowest for this action. In terms of optimization, both automotive and pharmaceutical industries scored the highest, whereas tourism industry scored the lowest. The pharmaceutical industry is the leader in closed-loop systems and virtual solutions.

According to the managers from all companies across various industries, it was found that Slovenia is more advanced compared to other Balkan countries in terms of implementing Circular Business Models (CBM). However, the country still lacks sufficient regulatory

frameworks and commitments to sustainability, as compared to other countries. Managers also stated that implementing CBM had a positive impact on all 3 performance indicators.

5.2 Discussion of results

The main purpose of this thesis is to provide a deeper understanding of how a Circular Business Model can affect a firm's general performance. It will allow companies to better understand the value behind this model and to see the comparisons between their industry and other industries. It will also provide information on how well businesses in Slovenia are doing compared to other countries, which will be an addition to the literature on CBM. This was transformed into 2 research questions: Is there a relationship between Circular Business Model and firm performance in Slovenia? What is the difference between the level of CBM implementation between the 4 industries? I tried to dig deeper and understand what state is Slovenia in compared to other countries.

When it comes to the ReSOLVE framework, we can clearly see that there is a relationship between the level of CBM and firms' profitability. This was clear for all industries. We could very clearly see that in all questions the companies that had the highest points were the ones above industry average % of net earnings. The companies that scored the lowest were the ones that had their % of net earnings in the same range as the industry average or below. Thus, we can clearly see that implementing Circular Business Models effect the company's profitability positively.

Comparing the industries inside the ReSOLVE framework the results indicate that there are differences in the level of renewable energy and materials implementation among different industries. Specifically, it seems that pharmaceutical companies are implementing these strategies the most, while fashion companies are implementing these strategies the least. On the other hand, when it comes to creating options for customers to maximize the utilization of products by sharing them among users, automotive companies score the highest overall. This is likely due to the growth in car-sharing options and the maintenance and repair services that automotive companies provide. Pharmaceutical companies scored the lowest for this business action, which may be due to the nature of the products, and their intended for single use, not being easily shared. In terms of optimization, both automotive and pharmaceutical industries scored the highest, whereas tourism industry scored the lowest, due to the absence of manufacturing facilities and the difficulty in finding ways to reuse or resell used products. We can see from the data gathered above that the pharmaceutical and automotive industries have much higher scores for closed-looped systems. Lowest scoring was tourism because they may not have a direct need for closed-loop systems, as it does not typically involve the production of physical goods. Pharmaceutical industry is the leader as all companies scored maximum points for virtual solutions that are increasingly becoming popular in these industries and their consumers what everything to be available using apps.

The lowest scores achieved tourism industry. All companies scored very similarly when it comes to switching to new materials.

We have also seen that while there is a positive effect on all performance indicators by a higher CBM level implementation, the companies stated that they did not face a negative effect (expect only one fashion company that stated negative effect on its profitability) when their business model was not as circular. We also saw that in general pharmaceutical and automotive companies scored higher than the companies from other two industries. It is interesting to note that these two industries are also the ones that stated that their performance indicator were positively influenced more often than the companies from other two industries.

All companies from all the industries stated that Slovenia is fair ahead when it comes to the Balkan countries in terms of implementing CBM. However, it still lacks strong regulatory frameworks and commitments to sustainability that have countries like Sweden, Germany, Switzerland, Finland and Denmark. They also all stated in the open-ended question that the 3 performance indicators mentioned were positively impacted by higher levels of CBM. Furthermore, they provided a few additional examples of performance that higher level of CBM improves. These examples include: Increased innovation, Reduced risk, and Improved employee engagement.

5.3 Practical implications

The research suggests that companies can benefit from implementing a Circular Business Model, specifically in terms of profitability. Practically speaking, companies can take a variety of actions to move towards a more circular business model.

One key action is to focus on increasing the use of renewable energy and materials in their operations. This can be done by incorporating renewable energy sources into the company's operations, such as using solar or wind power, and by using more sustainable materials in their products or packaging.

Another action is to find ways to maximize the utilization of products by creating options for customers to share products among users. This can be done by implementing product rental or sharing models, or by offering repair and maintenance services for products.

Additionally, companies can optimize their existing resources, such as finding ways to reuse or resell used products, in order to close the loop on their operations. This can include implementing take-back or recycling programs and finding ways to repurpose their by-products.

To optimize the industry-specific opportunity companies can also invest in virtual solutions, which are becoming more and more popular in pharmaceutical, automotive and other

industries. Companies can offer online access to their products and services, to eliminate the need for physical travel and also to provide an eco-friendly solution.

Finally, companies can also switch to new materials, such as bio-based materials, which are more sustainable than traditional materials. This can also include a focus on reducing waste in their operations and promoting sustainable manufacturing practices.

It is also important to note that, as Slovenia as continues growing in the number of groups and efforts in that encourage sustainability and CBM implementation, many more policies and frameworks will be set in place that bill both make it easier for companies to invest in these solutions and require them to improve to a certain degree.

5.4 Limitations and future research

This thesis has some limitations that should be addressed in order to draw conclusions as objectively as possible.

First of all, the only method used to gather primary data was a questionnaire. The results would have been much more reliable if the study also had interviews or focus groups in order for the results to be more reliable and for us to have much more in depth data. The number of respondents was only 25 with less than 10 companies for each industry. Much bigger research should be done with significantly more companies in order for the relationship between the variables to be even more visible and for the data to be even more reliable. Another limitation is the possibility of self-report bias. This questionnaire relied on participants to provide honest and accurate information about themselves. However, participants may not always report their true thoughts, feelings or behaviors. Majority of questions were done using a Likert scale and the provide a fixed set of response options may not accurately capture the full range of participant's thoughts, feelings or behaviors. Furthermore, we had very limited ability to probe for more in-depth information. Respondents were generally unable to ask questions or provide elaboration when they are not clear with the questions being asked. The questionnaire was done in English language which means that there might have been a language barrier. Some respondents might have not understood the question fully and thus provided us with a false answer unknowingly. When it came to them stating their % of net earnings, there was no way for us to confirm the accuracy of the respondent’s answers, which can lead to unreliable or invalid data.

Secondly, there are several limitations to using only four industries in a study. By including data from only four industries, the findings may not be representative of other industries. Therefore, it's not possible to generalize the results to other industries, thus making the research lack external validity. Additionally, it can limit the diversity of the sample, resulting in a lack of understanding of how the circular business model affects different types of businesses. The research may not be able to identify and understand the causes of these differences, which would be important in order to develop strategies to support the

implementation of the Circular Business Model in other industries. This can limit the applicability of the findings to other industries and sectors. By only studying four industries, the research may not fully capture the specific contextual factors that may be affecting the implementation of the Circular Business Model within that specific industry.

Lastly, only ReSOLVE framework was used to measure the level of CBM which has its own limitations. The framework relies on self-reported data which may be influenced by the subjectivity of the person providing the data. Additionally, may not be applicable to all types of companies or industries, as it is designed to assess the Circular Business Model in a specific context. Another limitation is that it may not provide an in-depth understanding of a company's overall performance and it may not capture all the possible indicators related to the implementation of the Circular Business Model in a company. Finally, the framework may not be able to capture the company's progress over a longer period of time, as it only focuses on a snapshot of the company's implementation of the Circular Business Model. We would have had a much deeper understanding of this topic is several ways of measuring CBM level were used and then compared.

In the future there should be few bigger studies on this topic that address the limitations mentioned. These should be a large sample, more industries with many measures used and more ways of gathering data. It would be very helpful to compare and contrast between different models of Circular Business Models and their effectiveness in different industries, to find out the most effective model. Future research could also benefit from monitoring the implementation of the Circular Business Model over a longer period of time, in order to understand how it changes or evolves in a company over time. Conducting a study across different countries or cultures can provide a more comprehensive understanding of the implementation of the Circular Business Model in Slovenia compared to other countries, and it may shine a light on any potential cultural, social, or economic factors that may influence it.

CONCLUSION

The idea of a circular economy has gained traction with policymakers all around the world (Brennan et al., 2015). Designing and implementing business models that are focused on utilizing as little resources for as long as feasible while extracting the most value from the process is necessary for a circular economy system. Reconsidering value propositions and creating value chains that deliver workable cost efficiency, production effectiveness, and commercial success are necessary for organizations that want to embrace the circular economy model (Rashid et al., 2013; Schulte, 2013). As a result, during the past five years, interest in research on business model innovation connected to the circular economy has increased (Diaz Lopez et al., 2019). The circular business model was created in order to be able to reconcile business profits with the regeneration of resources. The term builds upon

and connects two well-known notions, business models in management and circular strategies for resource efficiency.

Studies show that there are also many financial benefits to companies that implement CBM (Linder & Williander, 2017). One of the main values for businesses is that this model allows for costs reduction like decrease in buying virgin materials, significantly lower waste, and lower environmental taxes (Lehr et al., 2013) Furthermore, there are several ways that profits are increased. For example, companies generate cash from selling what would normally be waste as input for another industry, they are able to create energy for themselves also from what would normally be waste and they better their brand reputation (Chaabane et al., 2012). However, for established businesses, the transition to a circular economy poses a number of problems. In certain circumstances, it may even render their existing capabilities, networks, and business models obsolete.

In order to measure the CBM implementation, ReSOLVE framework, which consists of six actions: regenerate, share, optimize, loop, virtualize, and exchange was used. For additional information we also added open-ended questions that gave a more in depth understanding. 4 industries including automotive, fashion, pharmaceutical and tourism were included. The total of 25 respondents answered the questionnaire.

When it comes to the ReSOLVE framework, we can clearly see that there is a relationship between the level of CBM and firms' profitability. This was clear for all industries. We could very clearly see that in all questions the companies that had the highest points were the ones above industry average % of net earnings. The companies that scored the lowest were the ones that had their % of net earnings in the same range as the industry average or below. Thus, we can clearly see that implementing Circular Business Models effect the company's profitability positively. Certain differences between industries were seen but are mainly explained by the nature of their businesses. We have also seen that while there is a positive effect on all performance indicators by a higher CBM level implementation, the companies stated that they did not face a negative effect when their business model was not as circular.

We concluded that Slovenia is fair ahead when it comes to the Balkan countries in terms of implementing CBM. However, it still lacks strong regulatory frameworks and commitments to sustainability that have countries like Sweden, Germany, Switzerland, Finland and Denmark.

There were several practical implications for the business which stated that companies can benefit from implementing a Circular Business Model, specifically in terms of profitability. Several actions were named that help to move towards a more circular business model.

Several limitations were named including: methods of data collection, number of respondents, frameworks used and number of industries included. However, it is important to note that, despite these limitations, there is still a significant value in the research, as it

provides a detailed look on how Circular Business Model affects each of the specific industries studied.

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APPENDICES

Appendix 1: Povzetek (Summary in Slovene language)

Ideja o krožnem gospodarstvu je postala priljubljena pri oblikovalcih politik po vsem svetu (Brennan et al., 2015). To je vodilo do evropskega svežnja o krožnem gospodarstvu (Evropska komisija, 2015) in kitajskega zakona o spodbujanju krožnega gospodarstva (Lieder in Rashid, 2016) ter številnih drugih pobud. Veliko pozornosti je pritegnil tudi zasebni sektor (Esposito et al., 2016), kar je povzročilo številne pobude velikih podjetij, vključno z Googlom in Renaultom (Bocken et al., 2017). Z porastom objav v publikacijah in revijah, ki pokrivajo to temo v zadnjih desetih letih, se je ideja pojavila tudi kot pomembno področje akademskega preučevanja (Geissdoerfer et al., 2017). Strokovnjaki v industriji vidijo inovativnost poslovnega modela kot ključno orodje za implementacijo krožnega gospodarstva na organizacijski ravni, saj omogoča sistemski premik v temeljnih predpostavkah, na katerih temeljijo podjetja, in usklajevanje spodbud različnih skupin deležnikov (Rashid et al., 2013; Schulte, 2013). Oblikovanje in izvajanje poslovnih modelov, ki so osredotočeni na uporabo čim manj virov, kolikor dolgo je to izvedljivo, hkrati pa iz procesa izvleče največjo vrednost, je potrebni za sistem krožnega gospodarstva. Proučitev predlogov vrednosti in ustvarjanje vrednostnih verig, ki zagotavljajo izvedljivo stroškovno učinkovitost, učinkovitost proizvodnje in komercialni uspeh, so potrebni za organizacije, ki želijo sprejeti model krožnega gospodarstva (Rashid et al., 2013; Schulte, 2013). Kot rezultat tega se je v zadnjih petih letih povečalo zanimanje za raziskave inovacij poslovnih modelov, povezanih s krožnim gospodarstvom (Diaz Lopez et al., 2019).

Kljub pomenu koncepta krožnega poslovnega modela njegova teoretična konceptualizacija in mesto v ekonomski in operativni literaturi nista povsem jasna. Glede na zadnje raziskave je treba zgraditi temelje soglasja (kot so definicije) in skupni teoretični okvir za pomoč podjetjem pri načrtovanju in izvajanju krožnih poslovnih modelov ter inoviranju krožnih poslovnih modelov (Peroni et al., 2019a; Rosa et al. ., 2019). Da bi razumeli, ali lahko posebne tehnike za ponudbo vrednosti, zajemanje vrednosti, distribucijo vrednosti (kot je interakcija s strankami) in ustvarjanje vrednosti (kot je upravljanje dobavne verige) podpirajo različne krožne poslovne modele, je še posebej potreben konceptualni okvir (Rosa et al., 2019). Za zdaj se konceptualizacija krožnih poslovnih modelov in inovacije krožnih poslovnih modelov v študijah na to temo le redko obravnavajo, ker se večina osredotoča na splošno idejo krožnega gospodarstva.

Poleg tega se trenutne ocene krožnih poslovnih modelov ali inovacije krožnih poslovnih modelov osredotočajo na posebne metode ali orodja in ne na njihovo teoretično konceptualizacijo (Bocken et al., 2019; Pieroni et al., 2019a; Rosa et al., 2019). Veliko bolj trajnostno gospodarstvo zahteva gospodarsko dejavnost, ki se drži treh načel zmanjšanja, ponovne uporabe in recikliranja. (Ying & Li-Jun, 2012). Po Frishammarju in Paridi (2019, str. 8) je »krožni poslovni model tisti, v katerem osrednje podjetje skupaj s partnerji uporablja inovacije za ustvarjanje, zajemanje in zagotavljanje vrednosti za izboljšanje učinkovitosti virov s podaljšanjem življenjske dobe izdelkov in delov, s čimer dosežemo okoljskih, družbenih in gospodarskih koristi.« Osnovna logika krožnih poslovnih modelov

(CBM) temelji na uporabi ekonomske vrednosti, ki ostane v predmetih po uporabi, za ustvarjanje dodatne vrednosti (Evans et al., 2017; Linder & Williander , 2017). Vendar je za to nujno, da sprejet CBM preseže lokalne projekte in pilotne programe. Z visokimi ravnmi virov lahko industrijski sektor veliko pridobi z uporabo CBM kot osrednjo komponento svojega delovanja (Lüdeke -Freund et al., 2019). Vendar pa je sprejetji CBM v celotni panogi težko in mnoga podjetja se trudijo, da bi to storila in uresničila svoj polni potencial (Achtenhagen et al., 2013).

Glavni namen diplomske naloge je zagotoviti globlje razumevanje, kako lahko krožni poslovni model vpliva na splošno uspešnost podjetja. Podjetjem bo omogočila boljše razumevanje vrednosti tega modela in ogled primerjav med njihovo industrijo in drugimi panogami. Podala bo tudi informacije o tem, kako dobro poslujejo podjetja v Sloveniji v primerjavi z drugimi državami, kar bo dodatek k literaturi o CBM.

Cilji so :

1. Opredeliti krožni poslovni model in razumeti, kako se meri in izvaja v praksi (iz literature);
2. ugotoviti, kakšno je razmerje med CBM in uspešnostjo podjetja glede na obstoječe modele (iz literature);
3. preučiti, kako več podjetij v Sloveniji integrira CBM;
4. ugotoviti, kako različni CBM vplivajo na uspešnost podjetij in ustvarjanje vrednosti v teh podjetjih, in ugotoviti, ali obstajajo razlike med panogami;
5. raziskati ali obstajajo razlike v ugotovitvah v Sloveniji in v drugih državah .

Appendix 2: List of Abbreviations

CBM	Circular Business Model
% NE	% Of net earnings
CBMTP	Circular Business Model Total Points
HP	Highly positive
P	Positive
NE	No effect
N	Negative
HN	Highly negative

Appendix 3: Survey

I am a Master's student of International Business and University of Ljubljana. My thesis is trying to see what is the effect of Circular Business Model on performance in firms in Slovenia. I would be very grateful if you could take a few minutes of your time to provide answers to the following questions. Please make sure that the answers reflect the actual state of the company you are working for. Finally, I would like to add that the participation in this survey is voluntary and 100% anonymous. I would also like to point out that no identifying information about the company or the individual will be collected! If you have any questions, you can always contact me through my email saraprguda@gmail.com. Thank you for your time!

Q1 - What industry is your company in (Choose only one)

- ○ Pharmaceuticals
- ○ Automotive industry
- ○ Fashion
- ○ Tourism
- ○ Other:

Q2 - What is the size of your company (number of employees currently working)

- ○ 0-50 (very small)
- ○ 51-100 (small)
- ○ 101-200 (medium)
- ○ 201-500 (big)
- ○ 501+ (very big)

Q3 - How old/young is your company (number of years since founding

- ○ 0-5 years
- ○ 6-10 years
- ○ 11-20 years
- ○ 21+ years

Q4 - Business action 1. REGENERATE

Please provide an answer for each of the following statements.

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree	Does not apply to my company	Don’t know
My company uses the conversion of non-recyclable waste as part of its activities	○	○	○	○	○	○	○
My company uses renewable energy in at least one of its processes	○	○	○	○	○	○	○
My company is located in an efficient building	○	○	○	○	○	○	○
My company is located in at least one sustainable product location (localization of business activities in sustainable manufacturing locations)	○	○	○	○	○	○	○
My company leases products/services so the environmental impact is reduced	○	○	○	○	○	○	○

Q5 - Business action 2. SHARE

Please provide an answer for each of the following statements.

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree	Does not apply to my company	Don't know
In my company, we extend our products life cycle by maintenance and repair	○	○	○	○	○	○	○
My company enables shared use, access, or ownership of product between B2 C or B2B	○	○	○	○	○	○	○
We have in our commercial offer the chance to exclusively use a product/service without actually buying it	○	○	○	○	○	○	○
Our customers are allowed to return used products for a pre-established value.	○	○	○	○	○	○	○

In my company, we can replace modules or parts of our products with better quality ones	○	○	○	○	○	○	○
We are dedicated to create products/services that are liked or trusted	○	○	○	○	○	○	○
We enable customers to use their own devices to get access to our products/services	○	○	○	○	○	○	○
My company seeks to capitalize on “lifetime value gaps”	○	○	○	○	○	○	○

Q6 - Business action 3. OPTIMIZE

Please provide an answer for each of the following statements.

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree	Does not apply to my company	Don’t know
In my company, we use at	○	○	○	○	○	○	○

least one of the following asset management procedures: internal collection, reuse, refurbish, and resale of used products							
In my company, we are manufacturing mainly on demand	○	○	○	○	○	○	○
In my company, waste reduction before and during production process is important	○	○	○	○	○	○	○
For my company, more efficient use of resources through outsourcing is important	○	○	○	○	○	○	○

Q7 - Business action 4. LOOP

Please provide an answer for each of the following statements.

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree	Does not apply to my company	Don't know
In my company, we are focused on remanufacturing or product transformation by restoring a product or its components to improve quality	○	○	○	○	○	○	○
My company is dedicated to recover resources by recycling disposed products or by-products	○	○	○	○	○	○	○
In my company materials are reused and their value is upgraded	○	○	○	○	○	○	○
My company use supplies from material loops, bio based or that are fully recyclable	○	○	○	○	○	○	○

Q8 - Business action 5. VIRTUALIZE

Please provide an answer for each of the following statements.

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree	Does not apply to my company	Don't know
In my company, we are gradually shifting from physical to virtual for at least one of our processes	○	○	○	○	○	○	○
In my company, we apply innovative digital tools to so as to save resources	○	○	○	○	○	○	○

Q9 - Business action 6. EXCHANGE

Please provide an answer for each of the following statements.

	Completely disagree	Disagree	Neither agree nor disagree	Agree	Completely agree	Does not apply to my company	Don't know
My company replaces old materials with advanced	○	○	○	○	○	○	○

new materials							
In my company, we reduce resource-wasting	○	○	○	○	○	○	○
In my company, we reuse old resources	○	○	○	○	○	○	○

Q10 - Please select how did the business model your company currently has (in terms of sustainability) effect each of the indicators

Firm's reputation

– Highly negatively
– Negatively
– No effect
– Positively
– Highly positively
– Do not know

Costs

–

Revenue

–

Market Share

–

% Of net profits out to total earnings

–

Q11 - Does your company try to integrate a Circular Business Model (What specific innovations and changes is the company making to be more sustainable and reduce?) wastes)

_____

Q12 - If you are aware, please let us know what is the state of Slovenian companies (in your industry) compared to companies in other countries when it comes to implementing a Circular Business Model?

_____

Q13 - Do you think that CBM activities are related to your company's performance and in what way?

_____

Q14 - What is the average yearly % net profits out of total earnings IN YOUR INDUSTRY (in the last year)

0% -5%
6% -10%
11% -15%
16% -20%
21% -25%
26% -30%
31% -35%
36% -40%
41% -45%
46% -50%
51% -55%
56% -60%
61% -65%
66% -70%
71% +

Q15 - What is the % net profits out of total earnings IN YOUR COMPANY (in the last year)

0% -5%
6% -10%
11% -15%
16% -20%
21% -25%
26% -30%
31% -35%
36% -40%
41% -45%
46% -50%
51% -55%

56% -60%
61% -65%
66% -70%
71% +