TOWARDS CIRCULAR MANUFACTURING: A FRAMEWORK FOR DEVELOPING AND IMPLEMENTING A CIRCULAR TRANSITION STRATEGY

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Abstract

Circular economy is an emerging paradigm where businesses must operate under new assumptions about resource use and environmental and economic impact. These include, finite natural resources, limited capacity for the atmosphere to absorb greenhouse gases, restricted land available for resource extraction and processing, limited landfill capacity to accommodate waste, and untapped economic potential in existing resources. Additionally, companies face increasingly stringent and rapidly evolving regulatory requirements. As a result, those entrenched in the linear manufacturing paradigm—characterized by a "take-make-dispose" approach—are beginning to rethink and reevaluate their operations to align with the principles of circular economy. Despite growing interest, existing literature offers little guidance for manufacturing companies on transitioning from a linear to a circular manufacturing. To address this gap, this paper employs a case study research methodology to explore how organizations can effectively develop and implement a circular transition strategy. Findings highlight that circular transition strategy is developed by mapping actions and enablers contributing to circularity across key strategic areas, such as value proposition, product design, and supply chain design. Based on the findings, a structured framework is proposed for developing and implementing circular transition strategy. The proposed framework consists of a five-step approach to facilitate the development of a circular transition strategy: 1) companies should identify and prioritize the core assumptions and principles of the circular economy that are most relevant to their businesses; 2) based on the prioritized assumptions and principles, organizations should assess and prioritize the strategic areas that are critical for their transition. This includes product design, manufacturing, value proposition, and supply chain design; 3) companies must evaluate their current performance in the identified strategic areas concerning circularity. This assessment provides a baseline for measuring progress and identifying gaps and opportunities; 4) organizations should then identify specific actions and enablers that will drive their circularity initiatives. This may include technological innovations, partnerships, or actions that facilitate value retention and recovery; 5) finally, companies should develop a comprehensive transition strategy that maps the selected actions and enablers to the strategic areas identified earlier. Step 3-5 are performed iteratively, allowing for ongoing adjustments and refinements in the strategy as the transition progresses. This research posits that by following this structured approach, companies can achieve an incremental and continuous transition from linear to circular manufacturing.

1. Introduction and Motivation

The Circular Economy (CE) is an emerging business and sustainability paradigm driven by new assumptions about finite supply of natural resources, and the promise of economic, social, and environmental benefits [1, 2]. The Ellen MacArthur Foundation (EMF) has identified three core principles that underpin this paradigm: i) eliminate waste and pollution, ii) circulate products and materials at their highest value, and iii) regenerate nature [3]. These principles recognise the constraints of finite natural resources (e.g., critical raw materials) and degrading environmental conditions (e.g., pollution and global warming) as major drivers for companies to become circular and sustainable. Additionally, companies are also exploring new business opportunities to increase their revenues and profits by implementing Circular Manufacturing Systems (CMS) [4, 5].

This paradigm shift is also supported by different policy initiatives leading to stringent regulatory requirements that firms must comply with. For example, in Europe, the European Commission recognizes the potential of CE to mitigate

waste, address the environmental and resource constraints, and foster innovation and competitiveness. To accelerate the EU's transition to a circular economy, the European Commission adopted the new Circular Economy Action Plan (CEAP) in March 2020 [6]. This was followed by the Ecodesign for Sustainable Products Regulation (ESPR) in July 2024 to make sustainable products the norm and boost Europe's resource independence [7].

Despite the potential benefits of implementing CE, its adoption in incumbent manufacturing firms is still considered low. For example, the circular material use rate in the EU for year 2023 was only 11.8% [8], indicating the economy is mostly linear. Among other factors, one major reason for this slow progress is the lack of guidance available for manufacturing companies on how to strategically transition from a linear to a circular manufacturing. Previous research has recognized this lack of guidance as a formidable challenge for manufacturing companies (see, e.g., [9], [10], and [11]). To address this challenge, this study aims to explore how incumbent manufacturing firms are implementing circular economy and how are they managing the transition towards circular manufacturing. In doing so, this study adopts a case study research methodology to analyse the ongoing circular transitions at two Original Equipment Manufacturers (OEMs).

The paper is structured as follows: Section 2 provides the work focusing on the transition from linear to circular manufacturing, highlighting key gaps and areas for further exploration. Section 3 describes the research methodology. Section 4 presents the findings from the ongoing circular transitions at two OEMs; Section 5 provides the discussion and proposes a framework to develop a circular transition strategy. Finally, Section 6 provides the conclusions and recommendations.

2. Review of Related Work

The strategy literature suggests that firms should alternate between old and new ideas in an *incremental and continuous* manner to remain competitive [12]. This assertion is particularly important for current linear manufacturing companies looking to transition towards circular manufacturing. While they are deeply entrenched in the exploitation of linear manufacturing, many are also exploring the new circular economy ideas. Strategy and organization learning scholars recognize that achieving a balance between exploration and exploitation is essential for a firm's survival and competitive advantage [13, 14]. While there appears a disconnect between strategy and circular economy scholarships[1], many CE scholars and advocates have proposed different frameworks and road maps to support companies in transitioning toward circularity (see, e.g., [3], [11], [15], and [16]). Among these, [15] proposed a framework that introduces a taxonomy of circular strategies for manufacturing companies engaging in circular economy-oriented innovation. Similarly, [16] proposed a road map for circular business model transformation for incumbent firms. The framework consists of four phases and links them to circular economy principles and key activities that companies should implement for successful transformation. The phases include i) analysing opportunities to initiate circular business model transformation; ii) review of current business model to identify gaps; iii) design and develop a revised business model based on the design elements of circular economy, iv) validate, implement and scale-up the circular business model. While focusing on manufacturing companies, [4] proposed a framework for circular manufacturing systems that are intentionally designed to close the loop of products for reuse, maintaining their original performance, through multiple life cycles. The authors proposed a systemic approach of integrating value proposition, product design and supply chains enabled by information and communication technologies (ICT). Recently, [11] proposed a multi-level readiness framework to support transition of manufacturing companies from linear to circular economy. The authors identified four key focus areas each with five levels of progression: i) the ecosystem of external partners, ii) the customer and the business model, iii) the company's culture and internal capabilities, and iv) design and product development. The authors also identified four strategies for the successful transition to a circular economy: i) changing the mindset, ii) understanding of the circular economy concept and establishing own definition, iii) high-level planning and evaluation of scenarios, and iv) ensuring financial viability and environmental preservation.

In addition to the scholarly work, recently International Organization for Standardization (ISO) has published three circular economy standards to support companies in their transition towards circular economy. First standard ISO 59004:2024 [17] focuses on circular economy definitions and principles. Six principles of circular economy are identified: i) systems thinking; ii) value creation; iii) value sharing; iv) resource stewardship, v) resource traceability, and vi) ecosystem resilience. Second standard ISO 59010:2024 [18] provides guidance for organizations seeking to transition their value creation models and networks from linear to circular. Third standard ISO59020:2024 [19]

[1] As of January 24, 2025, no paper on the topic of the circular economy has been published in the flagship *Strategic Management Journal (SMJ)*.

provides guidance for organizations to measure and assess their circularity performance. Among these standards, the most relevant from a circular transition perspective is ISO59010 which focuses primarily on business model, also referred to as *value creation model* in the standard. This standard provides a framework to determine a *circular economy strategy* using a three-step approach: i) identifying gaps and opportunities, ii) determining a circular economy strategy based on circular economy principles, iii) addressing economic rationalization. However, the standard does not provide a definition of *circular economy strategy* and the mechanism to develop and implement a *circular transition strategy* is still not clear. The standard, however, provides a long list of actions that can contribute to circular economy. These include, *for example*, actions that contribute to value addition (i.e., design for circularity, circular sourcing and procurement, process optimization, and industrial, regional or urban symbiosis), value retention (i.e., reduce, reuse, repurpose, repair, refurbishing, remanufacturing, performance and sharing oriented approaches), and value recovery (i.e. reverse logistics, cascading of resources, recycling, waste management, material and energy recovery).

Overall, these frameworks and road maps, although helpful, are either conceptual or too vague to concretely guide manufacturing companies for achieving an *incremental and continuous transition* from linear to circular manufacturing. Also, there is lack of studies focusing on the circular transition journeys of manufacturing companies over a long period of time. This research aims to address this gap by studying the ongoing circular transitions of born-linear manufacturing companies.

3. Methodology

This research employs a case study methodology to investigate the circular transition journeys of two OEMs, aiming to understand how companies are transitioning towards circular manufacturing. The selected companies, Gorenje and Scania, operate in different industries but share a commitment to implementing CE principles. Gorenje, a key player in the white goods industry, manufactures a diverse range of household appliances, including refrigerators, freezers, washing machines, dishwashers, and ovens. However, this study focuses specifically on its laundry appliances segment. Scania, on the other hand, operates in the automotive sector, producing trucks, buses, coaches, and power solutions for various industries. This research focuses on its heavy-duty internal combustion engine (ICE) vehicle segment. To advance their transition towards circular manufacturing, both companies have implemented multiple CE projects. This research examines selected representative CE projects to analyse their underlying motivations, guiding CE principles, and the strategic areas companies prioritize to achieve circularity. Furthermore, it identifies the key enablers leveraged by both firms and the key performance indicators (KPIs) they use to assess their progress. Table 1 provides an overview of the analysed projects, and the key data examined in this study.

Table 1 Representative CE projects analysed at both companies along with types of data used for analysis

Company	CE implementation projects analysed	Type of data analysed
Gorenje	ResCoM-Resource Conservative Manufacturing [20]	Project deliverables and reports, scientific project publications, meeting minutes
	ReCiPSS project- Resource-Efficient Circular Product-Service-Systems [21]	Project deliverables and reports, scientific project publications, meeting minutes
	DiCiM- Digitalised Value Management for unlocking the potential of the Circular Manufacturing Systems with integrated digital solutions [22]	Project deliverables and reports, scientific publications resulting from the project, meeting minutes
Scania	iReGear-Feasibility study of integrating remanufactured gearboxes in production line of new trucks [23].	Project reports, Workshops with key stakeholders, meeting minutes, on−site visits
	CIRCAB- Feasibility Study on Enhancing the Circularity of Truck Cabins [24]	Workshops with key stakeholders, meeting minutes, on−site visits

The analysed data includes project deliverables, reports, scientific publications, as well as insights from workshops with key stakeholders and meeting minutes. Additionally, the authors have been actively involved in these projects in both research and management roles. The case findings presented in this paper are derived from a comprehensive analysis of project data, combined with the authors' research experience and learnings from project activities. These findings serve as the foundation for developing a structured framework guiding the transition to circular manufacturing.

4. Case studies

Gorenje

Gorenje operates in the white goods sector and is one of the leading producers of appliances in Europe. The company started its circular transition journey for laundry appliances in 2013 as part of the ResCoM project where the primary goal was to establish a clear roadmap for transitioning from linear manufacturing to circular manufacturing. As part of the ResCoM project, the company acquired valuable insights into the concept and principles of the circular economy, including circular value propositions and product design for circularity. The team explored various circular pathways such as leasing, upgrading, refurbishing, part recovery, and recycling. They identified key challenges, particularly the need for long-term service and spare parts provision to enhance market competitiveness. In response, the company focused on designing modular products with interchangeable components to reduce complexity, increase variety, and improve circularity. Economic and environmental analyses were conducted using modelling and simulations to assess the feasibility of implementing a circular business model where products undergo multiple lifecycles. These findings informed the development of another research and innovation project (ReCiPSS), where the company piloted a "pay-per-use" circular business model for 330 laundry appliances. Within the ReCiPSS project, the company enhanced product connectivity and developed and tested various logistics setups, data gathering capabilities, and subscription models, including pay-per-use, fixed monthly fees, and hybrid options. To evaluate circularity performance, the company analysed lifecycle costs, revenues, and emissions. These developments also provided deeper insights into customer behaviour, enabling improvements in product design and service offerings. Moving forward, Gorenje is concentrating on recovering critical parts from return products particularly due to new regulation for spare parts availability. In the ongoing DiCiM project, the company is developing and testing new digital solutions to enhance the responsiveness and efficiency of service, reverse logistics, and value recovery activities such as disassembly and parts recovery. Table 2 provides a summary of the key actions and enablers that Gorenje has implemented to enhance circularity within different strategic areas for laundry appliances' business.

Table 2 Summary of the key findings from the circular transition journey at Gorenje's laundry appliances business

Transition phase	Drivers of CE	Relevant CE principles	Strategic areas considered	Key actions taken by the company	Key enablers	CE KPIs
Phase 1 (Initial phase to identify the CE direction and circular pathways)	**Primary drivers**: Economic opportunities + environmental and resource constraints **Secondary driver**: regulatory compliance	• Circulate products and materials at their highest value • Eliminate waste and pollution	• Product design • Value proposition	• Development of modular products with interchangeable parts • Analysis of circular pathways such as leasing, upgrading, refurbishing, parts recovery, and recycling	•Partnership with research universities and technology companies •Sustainability reporting/ratings (e.g., EcoVadis) •CE tools and methods •Public financing/grants •Support of the top management	•Costs and revenues •GHG Emissions
Phase 2 (Testing the implementation of CMS as a pilot project)	**Primary drivers**: Economic opportunities + environmental and resource constraints **Secondary driver**: regulatory compliance	•Circulate products and materials at their highest value •Eliminate waste and pollution	•Product design •Value proposition •Supply chain design •ICT infrastructur e	•Developed IoT-enabled products •Implemented and tested a "pay-per-use" business model •Established logistics and installation processes	•Partnership with universities and technology companies •Digital technologies (IoT and sensors) •Sustainability reporting/ratings (e.g., EcoVadis) •Public financing/grants •Support of the top management	•Costs and revenues •GHG emissions
Phase 3 (developing value retention and value recovery capabilities)	**Primary drivers**: Regulatory compliance **Secondary driver**: economic opportunities + environmental and resource constraints	•Circulate products and materials at their highest value •Eliminate waste and pollution	•Value retention and recovery capability •ICT infrastructur e	•Establishment of refurbishment center •Development of IoT solutions for tracking, tracing, and condition monitoring of products and parts •Development of AI-based decision support solution for predictive maintenance, reverse logistics, and parts assessment •Development of AR-based solutions to support disassembly and parts recovery	•Partnership with research universities and technology companies •New digital technologies (IoT, Artificial Intelligence, Augmented Reality) •Sustainability reporting and ratings (e.g., EcoVadis) •Public financing and grants •Support of the top management	•Costs and revenues •GHG emissions •Material used •Waste reduction

Scania

Scania is a globally recognized leader in transport solutions. As part of its journey towards circular manufacturing of ICE heavy-duty Vehicles, the company is *initially* exploring circular opportunities in different parts of its value chain. The company is focusing on different strategic areas for ICE heavy-duty Vehicles including product design, manufacturing/assembly, supply chain, and value recovery. In 2023, Scania started exploring the possibility of integrating remanufactured components into the production of new Vehicles as part of the iReGear project. The project was carried out in partnership with a research university and a remanufacturer of gearboxes. As part of this project, the company analysed the readiness of its assembly lines, internal logistics, quality testing infrastructure, and IT systems to integrate remanufactured gearboxes in the production of new Vehicles. The assessment was also made from economic, environmental and legal perspectives. This project demonstrated that integrating remanufactured components in production of new Vehicles results in less resource consumption, lower emissions, and reduced costs, without compromising quality and compliance requirements (for more details on the results of this project, see, e.g.,

[25]). In *continuation* of this initial transition phase, in 2024, the company started exploring the possibility to refurbish and recycle some of the used components in truck cabins. This work is ongoing as part of the CIRCAB project with the aim to assess the feasibility of refurbishing truck cabin components, including reusing and recycling plastic components that are currently mostly incinerated. In partnership with different value chain actors, Scania is improving the reverse logistics to increase recycling of plastic components in truck cabins. Additionally, Scania is exploring to use easily recyclable materials in different components of truck cabins. Table 3 provides a summary of the key actions and enablers that Scania has implemented to enhance circularity within different strategic areas for ICE heavy-duty Vehicles.

Table 3 Summary of the key findings from the circular transition journey at Scania's ICE heavy vehicles business

Drivers of CE	Relevant CE principles	Strategic areas considered	Key actions taken by the company	Key Enablers	CE KPIs
Primary drivers: New economic opportunities **Secondary drivers**: Environmental and resource constraints + Regulatory compliance	• Eliminate waste and pollution • Circulate products and materials at their highest value	Product design	Exploring alternative materials to design and develop easily recyclable plastic components for truck cabins	•Partnership with research university •Partnership with suppliers of plastic parts and materials compounder •Public financing/grants	•Costs and Revenues •GHG emission •Material use
		Manufacturing / assembly	Assessed readiness of assembly line, internal logistics, quality testing, and IT system for using *remanufactured gearboxes* in the production of new Vehicles	•Partnership with research university •Partnership with auto parts remanufacturing company •Public financing/grants	•Costs and Revenues •GHG emission •Material use •Waste reduction
		Supply chain design	Analysing reverse logistics to improve recycling of plastic parts in the truck cabins	•Partnership with research university •Partnership with plastics dismantlers/recyclers •Public financing/grants	•Costs and Revenues •GHG emission •Material use
		Value retention and recovery capabilities	Testing refurbishment and reuse of different plastic parts in the truck cabins.	•Partnership with research university •Partnership with supplier of plastic parts • Public financing/grants	•Costs and Revenues •GHG emission •Material use

The findings from both cases highlight that linear manufacturing companies are experimenting with various CE-driven ideas, primarily using a bottom-up approach. They prioritize CE-focused actions and enablers across strategic areas, ensuring alignment with CE principles relevant to their business context. Economic potential and regulatory compliance emerge as key drivers of their transition strategy. For example, Gorenje has shifted its focus to value retention and recovery (e.g., maintenance, parts recovery) in response to the Ecodesign Regulation for Household Washing Machines and Washer-Dryers, effective since March 1, 2021. This regulation mandates manufacturers to provide spare parts for at least 10 years after a product's market release and ensure timely availability for professional repairers. Consequently, Gorenje has prioritized regulatory compliance and implemented CE-focused actions to enhance value retention and critical parts recovery from returned products.

The findings also reveal that companies are actively improving circularity performance across various strategic areas. Gorenje is exploring leasing and pay-per-wash business models as part of its value proposition. In product design, it has developed modular products with interchangeable parts and embedded sensors, while Scania is integrating easily

recyclable materials. Regarding manufacturing and assembly, Scania has assessed its assembly line, internal logistics, quality testing, and IT systems to incorporate remanufactured gearboxes into new vehicle production.

In supply chain design, Gorenje has optimized logistics and installation processes to support its pay-per-use and subscription-based model, while Scania is analysing reverse logistics to improve plastic parts recycling in truck cabins. Additionally, Gorenje is advancing its ICT infrastructure with digital solutions powered by IoT, AI, and AR technologies. For value retention and recovery, Gorenje has established a refurbishment center for laundry appliances, while Scania is exploring the refurbishment and reuse of plastic components in truck cabins. These examples demonstrate a broad strategic commitment to integrating circular economy principles into business operations.

Beyond these initiatives, companies leverage multiple enablers to support their transition, including partnerships with research universities, technology firms, and value chain partners, adoption of advanced digital technologies, sustainability reporting and ratings, public financing and grants, and strong top-management commitment to CE principles. They also employ key performance indicators (KPIs) such as costs and revenues, greenhouse gas (GHG) emissions, material usage, and waste reduction to measure circularity progress. For instance, as part of the ReCiPSS project, Gorenje estimated lifecycle costs, revenues, and CO_2-equivalent emissions for 100 washing machines in a subscription-based model. Similarly, under the iReGear project, Scania estimated that remanufactured gearboxes could achieve 45% lower carbon emissions and up to 82% material cost savings, mainly due to the reuse of 65% of components.

Overall, implementation of these actions, enablers, and performance indicators are helping both companies to gradually transition toward circular manufacturing.

5. Discussion and proposal of a framework for circular transition strategy

This study started with the aim to explore how incumbent manufacturing firms are implementing circular economy and how are they transitioning towards circular manufacturing. Our review showed that there is a lack of a structured approach to develop and implement a circular transition strategy. However, findings from case studies show that companies are using an iterative and incremental process to transition towards circular manufacturing where they identify and implement circular economy focused actions and enablers within the key strategic areas such as value proposition, product design and development, manufacturing, supply chain, ICT infrastructure, and value retention and recovery capabilities to contribute to circularity performance aligned with the assumptions and principles of circular economy that are relevant in their specific context. Based on these findings, a structured framework for developing a circular transition strategy is proposed. The circular transition strategy can be defined as "*a plan of CE-focused actions and enablers within the key strategic areas to achieve circular manufacturing aligned with the principles and assumptions of circular economy*". The framework incorporates the suggestion for an incremental and continuous transition towards circular manufacturing. As shown in Figure 1, the framework consists of a five-step approach to facilitate the development of a circular transition strategy.

Step 1: Understand the circular economy concept and prioritise its assumptions and principles
The CE paradigm is based on different assumptions. These include, for example, finite supply of natural resources, limited atmospheric capacity to absorb greenhouse gases leading to degrading environmental conditions, restricted availability of land for resource extraction and processing due to biodiversity loss, limited landfill capacity to accommodate waste, untapped economic potential from existing resources, and stringent regulatory requirements. To implement circular economy, companies should first identify and prioritize the assumptions that are most relevant to their specific business, environmental, and legal context. Based on the prioritized assumptions, companies can then choose to implement relevant CE principles. This, for example, might include first focusing on eliminating waste and pollution and then on circulating products and materials. Explicitly stated *prioritized assumptions and principles of CE* can help companies identify a natural and strong case for circular transitioning.

Step 2: Review and prioritize key strategic areas
Based on the prioritized assumptions and principles of CE, organizations should assess and prioritize the strategic areas that are critical for transition towards circular manufacturing. This includes, for example, value proposition, product design and development, manufacturing/assembly, supply chain design, ICT infrastructure, and value retention and recovery capabilities (repair, refurbish, remanufacture, recycle etc.). Here, to ensure the CE's fundamental character

of circulating resources at their highest value, it is recommended that companies adopt a systemic approach as proposed by [4] and [5] to implement circular manufacturing where value proposition, product design and supply chain design are considered together in an integrated way by exploiting the potential of ICT as an enabler of this integration.

Step 3: Assess the circularity performance to identify gaps and opportunities

Assessing CE performance is a challenging task. Companies may follow the recommendations provided by ISO59020:24 [19] and the Circular Transition Indicators (CTI) framework developed by the World Business Council for Sustainable Development (WBCSD) [26] to assess their current circularity performance. However, it is important to emphasise that in the presence of a plethora of circularity performance frameworks and KPIs developed over the past decade, companies may need to invest efforts in deciding on a set of relevant KPI's and design a performance framework relevant to their specific context, aligned with the CE assumptions and principles prioritized in Step 1.

It is also recommended to assess the circularity performance both at firm level and within the key strategic areas prioritized in Step 2. This assessment provides a baseline for measuring progress and identifying gaps and opportunities. For example, if the natural resources that a company uses to create and deliver value are scarce (i.e., critical raw materials) then it is relevant to measure the resource/material use (i.e. inflows and outflows) to assess the material circularity.

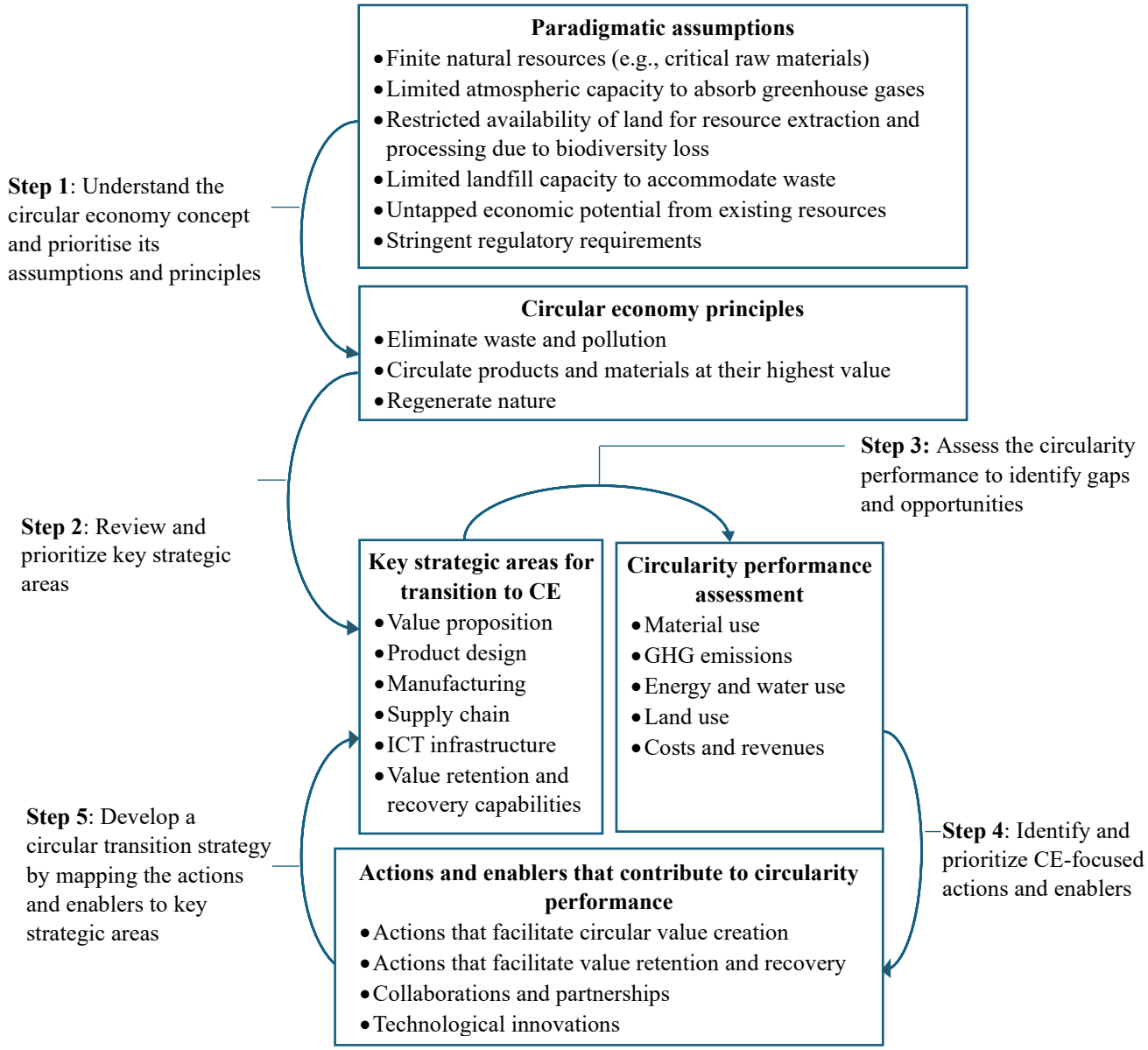

Figure 1 Framework to develop a circular transition strategy

Step 4: Identify and prioritize CE-focused actions and enablers
Based on the CE performance and the gaps and opportunities identified in Step 3, companies should then identify and prioritize specific actions and enablers that will drive their circular transition. Similar to the CE KPIs and frameworks, a significant amount of work is done in the realm of CE-focused actions and enablers which may be important sources of inspiration. For example, ISO59004 and ISO59010 provide a long list of actions that facilitate circular value creation, value retention, and value recovery. These actions can be a helpful starting point. However, once again, business context of a company may require a thorough analysis of relevant areas of internal strength which may be exploited as strong enablers. In case where critical enablers are missing, the company will have to develop these inhouse or through external collaborations (e.g., partnerships, public finance and grants etc.). In the end a set of desired actions for the transition will have to have a strong support generated through the corresponding enablers.

Step 5: Develop a circular transition strategy by mapping the CE-focused actions and enablers to key areas
Finally, companies can develop a comprehensive circular transition strategy by mapping CE-focused actions and enablers identified and prioritized in Step 4 within the key strategic areas prioritized in Step 2 to contribute to circularity performance aligned with assumptions and principles of CE prioritized in Step 1. If the CE assumptions and principles in Step 1 do not change, Step 2-5 are performed iteratively, allowing for ongoing adjustments and refinements in the circular transition strategy as the transition towards circular manufacturing progresses. This research posits that by following this structured approach, companies can achieve an incremental and continuous transition towards circular manufacturing.

6. Conclusions & Recommendations

Circular Economy has become a business imperative. To survive in this new paradigm, linear manufacturing companies must transition towards circular manufacturing. Although many CE scholars have proposed different frameworks and road maps to support manufacturing companies on their journey towards circular manufacturing, there is a lack of guidance from *strategy and management* scholars on how to *manage* this transition. This research fills this gap by studying circular transitions from a strategy and management perspective. In doing so, it analysed ongoing circular transitions at two OEMs. Based on the findings from literature and case studies, it defines the terms “circular transition” and “circular transition strategy” and proposes a structured framework to develop and implement a circular transition strategy. Circular transition strategy is defined as *a plan of CE-focused actions and enablers within the key strategic areas to achieve circular manufacturing aligned with the principles and assumptions of circular economy.* The circular transition strategy framework supports an incremental and continuous transition towards circular manufacturing by identifying and implementing circular economy focused actions and enablers within the key strategic areas such as value proposition, product design and development, manufacturing, supply chain, ICT infrastructure, and value retention and recovery capabilities to contribute to circularity performance aligned with the assumptions and principles of circular economy. To fully harness the potential of the CE, companies are advised to adopt a systemic approach. This involves integrating value proposition, product design and manufacturing, and supply chain design, while leveraging ICT as an enabler. Additionally, the selection of CE-focused actions and enablers within the key strategic areas, and KPIs should align with the assumptions and principles of the circular economy, tailored to the unique business, environmental, and legal context in which the companies operate.

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