

## RESEARCH ARTICLE

# The critical role of procurement in the emergence of circular business models: Insights from multiple cases of Vietnamese manufacturers

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## Abstract

While recent literature acknowledges the role of procurement in circular business models (CBM), a comprehensive exploration of its potential contribution remains scarce. This study delves into the under-explored role of procurement in advancing CBMs within organizations. Employing a multiple case research design focused on four Vietnamese manufacturers, the research unveils procurement's distinctive contributions to CBM implementation. Emphasis is placed on supporting recyclability, reusability, waste reduction, and ethical standards aligned with competitive strategies. The study introduces a circular procurement framework, demonstrating its potential to drive CBM adoption. Theoretical contributions involve applying CE and CBM theories to procurement, identifying its role in CBM organization, uncovering barriers, and linking them to organizational context and financial considerations. In terms of practical implications, the research provides managerial guidance, emphasizing the pivotal link between procurement and CBM success, offering actionable insights for effectively navigating challenges, and fostering a culture of sustainable circularity within manufacturing businesses.

## KEYWORDS

circular business model, circular economy, manufacturers, procurement

## 1 | INTRODUCTION

There is a consensus among existing literature regarding the necessity of developing approaches to address economic, social, and environmental challenges, while maintaining a shift towards sustainability (Farooque et al., 2019; Wang et al., 2022; Yin et al., 2023). The recent

concept of a circular economy (CE) has arisen as one such approach to help achieve sustainability goals and promote economic growth (Farooque et al., 2019; Rainville, 2021). CE challenges the linear economic model by changing how we manage resources, produce and consume products, and then deal with waste. However, to realize the full potential of CE, strategic and operational implementation of the CE concept is necessary for businesses; it is also essential for governments and international bodies to establish consistent regulations (Neessen et al., 2021; Nguyen et al., 2023). Despite the potential benefits of CE, there needs to be more consensus about its theoretical

**Abbreviations:** B2B, business to business; B2C, business to consumer; CBM, circular business model; CE, circular economy; CSC, circular supply chain; PaaS, Product-as-a-Service; PLE, product life extension; RBV, resource-based view; RR, resource recovery; SC, supply chain.

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framework, a lack of which hinders the potential and strategic implementation of CE principles (Farooque et al., 2019; Testa et al., 2012). Therefore, there is need for a better translation of CE goals and principles into practice and more coordinated efforts among different settings and contexts of implementation.

Nguyen et al. (2023) suggest that, due to increasing competition, changing customer demands, and economic pressures, business environments are constantly evolving. Bag et al. (2020) emphasize that efficient resource management is critical to the effective management of supply chains based on CE principles, as recycling and remanufacturing can be challenging. To carry out these operations successfully, companies must manage their procurement and logistics flows effectively (Farooque et al., 2019; Kosmol et al., 2019). Additionally, procurement is increasingly seen as a critical activity for organizations to achieve their strategic goals (Neessen et al., 2021; Testa et al., 2012). The need to adopt CE both strategically and operationally means that there is demand for a fresh procurement approach that is more cooperative and comprehensive (Alhola et al., 2019; Vermunt et al., 2019). This approach would encourage purchasers to work with other business partners to develop sustainable, circular solutions in the long term. In the context of manufacturing firms, the adoption of a CE approach in procurement is crucial for several reasons. Firstly, it enables resource efficiency by minimizing waste generation and optimizing material consumption, leading to cost savings and improved operational performance (Bag et al., 2021; Dey et al., 2022). It also enhances supply chain resilience by diversifying material sources and reducing dependence on scarce resources, thus mitigating disruptions (Bao et al., 2019; Burneo et al., 2020). Moreover, it promotes environmental sustainability by reducing the ecological footprint, conserving resources, and minimizing greenhouse gas emissions (Toker & Görener, 2023).

According to Witjes and Lozano (2016) and Farooque et al. (2019), the majority of studies relating to circularity in supply chain operations concentrate on supply chain management, sustainability aspects of value chain, business models, waste management, and design. These studies identify a gap in understanding the critical role of procurement in the implementation of CE principles and circular business model (CBM). Procurement is no longer considered to have a peripheral function in organizations (Schneider & Wallenburg, 2012; Walker et al., 2012). Instead, it plays a crucial role in CE-based operations, selecting suppliers, establishing strategic supplier partnerships, obtaining sustainability standards, and adopting environmentally-friendly processes (Alhola et al., 2019; Lewandowski, 2016; Witjes & Lozano, 2016). These activities allow suppliers to support a company's sustainable development goals (Bag et al., 2020). In other words, the sustainability of a business relies on the durability of its suppliers and collaborators; thus, building sustainable supply chains is crucial for creating and managing sustainable businesses.

As the imperative of circularity takes center stage in the global sustainability discourse, businesses and supply chains are under escalating pressure to adopt sustainable practices (Murray et al., 2017; Neessen et al., 2021; Rainville, 2021; Yin et al., 2023). Amidst this paradigm shift, the critical role of procurement in effecting CBM gains

heightened significance. Scholars emphasize the necessity to delve deeper into understanding how procurement functions can actively contribute to the transition towards CBM, identifying the enabling factors facilitating this evolution, and comprehending the impediments thwarting effective implementation (Alhola et al., 2019; Bag et al., 2021; Sönnichsen & Clement, 2020; Xu et al., 2022). To truly grasp the essence of this transformative concept, it is imperative to explore the nuanced interplay between procurement and CBM, unraveling the intricacies that define their synergistic relationship within the broader sustainability framework. This exploration contributes to the emerging discourse on CE and CBM theories, shedding light on the transformative potential of procurement practices in fostering sustainability within manufacturing businesses (Al-Sinan & Bubshait, 2022; Corboş et al., 2023; Walker et al., 2012). The purpose of this research is to enhance the knowledge and comprehension of a CE in practice and the role of procurement in implementing CBM. Thus, this research aims to answer following research questions:

- RQ1. To what extent do organizations have a comprehensive understanding of circular economy (CE) principles, and how does this understanding impact their strategic procurement practices?
- RQ2. How does the procurement function contribute strategically to advancing circular economy principles and practices?
- RQ3. What are the challenges that the procurement function may experience during the implementation of CBM?

Since Vietnam is an emerging country with surging manufacturing demands, our study examines the critical role of procurement in implementing CE principles and CBMs in four manufacturing companies there. We conducted 25 in-depth interviews with senior managers and business leaders involved in these companies to provide answers to the above questions. This study fills a notable gap in the existing literature by examining the practices of the CE specifically within the context of Vietnam, where research in the area is limited. Through a thorough exploration of CE practices, our research contributes valuable insights into the role of procurement in advancing CE principles. Additionally, we have developed a robust conceptual framework that serves as a guiding tool for both academic research and practical implications. This framework aids in understanding and implementing CE practices within procurement, facilitating sustainable resource management, waste reduction, and the promotion of material reuse and recycling.

The study is divided into the following sections. The second section discusses the literature background relating to the strategic roles of procurement function and CBM. The third section outlines the research methodology, including data collection and analysis. In the fourth section, the empirical findings are presented. The fifth section discusses the empirical findings and compares them with the existing literature in order to answer the three key research questions. Finally, in the sixth section, the theoretical and practical implications of the study are discussed, as well as the limitations, and potential future research directions are recommended.

## 2 | LITERATURE REVIEW

### 2.1 | The transformation in the procurement function towards sustainability

#### 2.1.1 | Overview of procurement function

Procurement refers to the systematic process of acquiring materials and services from vendors based on specific terms and conditions outlined in an earlier agreement (Kosmol et al., 2019; Lysons & Farrington, 2016). The main objective of procurement is to ensure that the buyer receives the desired goods and services from the supplier in terms of quality, quantity, and timing, while also keeping costs low (Nguyen et al., 2022). Effective procurement decisions are vital for ensuring a smooth supply chain management process. The procurement process involves repetitive actions that continue until the final product is received (Brewer & Speh, 2000). According to Lysons and Farrington (2016), procurement and supply chain management have gained more significance because there is a greater focus on the strategic value of suppliers to businesses. Moreover, as argued by some researchers, such as Kosmol et al. (2019), Bag et al. (2020), and Rainville (2021), the role of procurement has transformed from its traditional focus of securing cost-effective and high-quality materials to adopting more strategic objectives with a mid- to long-term perspective, such as resource preservation and sustainable development.

#### 2.1.2 | Integration of sustainability in procurement practices

The idea of integrating sustainability into procurement practices is an emerging area for both public and private entities (Kristensen et al., 2021; Witjes & Lozano, 2016). The sustainability of a company is dependent on the sustainability of its suppliers, making procurement a crucial aspect of sustainable implementation (Farooque et al., 2019; Testa et al., 2012). Procurement includes sustainability and economic considerations in managing an organization's external resources. The objective is to guarantee that the provision of any goods, services, abilities, and expertise contributes not only to the advantage of the organization but also to the benefit of society and the economy in general (Leal Filho et al., 2019; Lysons & Farrington, 2016). Furthermore, incorporating sustainable procurement practices can result in enhanced operational effectiveness and openness within an organization, maintaining adherence to regulations and cost savings, as well as establishing a more efficient working environment (Qazi & Appolloni, 2022; Rainville, 2021).

Contemporary literature pertaining to supply chain management highlights the significance of incorporating sustainability into a company's core business strategy, processes, and operations (Nguyen et al., 2022; Wang et al., 2022). In this regard, procurement management plays a pivotal role. The procurement function includes two main parts, namely, sourcing and purchasing, which are critical components of sustainable procurement practices (Lăzăroiu

et al., 2020; Witjes & Lozano, 2016). By selecting suppliers that prioritize sustainability, working with product designers to create environmentally friendly products, improving supply chain management practices, and ensuring that products meet sustainability certifications and standards, sourcing and purchasing can help to develop sustainable procurement (Nguyen et al., 2022). Partnering with sustainable suppliers can ensure that procurement practices align with sustainability goals, while product design can focus on using materials that are reusable or recyclable (Ferri et al., 2016; Neessen et al., 2021). Furthermore, in order for supply chains to function effectively in the new era of CE, procurement and supply management organizations must adapt and embrace this change. Specifically, procurement has a vital role to play in expediting the adoption of the most up-to-date sustainability initiatives. Fully incorporating the concept of CE into the procurement function is essential to making sustainable procurement and supply chain a standard and important practice (Farooque et al., 2019; Fayezi et al., 2018).

### 2.2 | Resource-based view (RBV) theory and the potential role of procurement in adopting a CBM

#### 2.2.1 | RBV and the strategic role of procurement

The RBV theory is a strategic management framework that emphasizes the importance of a company's internal resources and capabilities for achieving a sustainable competitive advantage (Barney, 1991; Brandon-Jones et al., 2014; Chae et al., 2014). The emergence of the CE can be seen as the latest development in sustainability, representing a shift from a linear, take-make-dispose model of production to a circular, regenerative model (Lahane et al., 2020). While sustainability has traditionally embraced the triple-bottom-line approach, encompassing environmental, social, and economic considerations, the CE represents a distinctive paradigm that emphasizes a more interconnected and comprehensive approach (Bag et al., 2020). Unlike conventional sustainability models, which address the three pillars independently, the CE integrates these dimensions more holistically. It extends beyond the traditional linear production model, offering a regenerative system that not only prioritizes environmental concerns but also interconnects economic and social aspects (Dey et al., 2022; Geisendorf & Pietrulla, 2018). By keeping products and materials in use for as long as possible, the CE promotes resource efficiency and waste reduction, while also creating new opportunities for value creation and innovation. Moreover, it has the potential to foster more resilient and equitable economies, by promoting local production and reducing dependence on finite resources (Mangla et al., 2018; Nguyen et al., 2019). In this way, the emergence of the CE represents a significant development in the sustainability landscape, offering a more comprehensive and forward-thinking approach to addressing the complex challenges facing society and the environment.

The RBV emphasizes the significance of unique and valuable resources within an organization to gain competitive advantages (Barney, 1991; Wernerfelt, 1984). In our study, the procurement

function serves as a distinctive resource, contributing strategically to sustainability initiatives, supplier relationships, and adherence to CE practices (Fogarassy & Finger, 2020). The RBV lens allows us to dissect how the procurement function, with its specific capabilities and knowledge, enhances an organization's sustainability endeavors. By assessing the procurement function's ability to identify sustainable suppliers, consider ethical dimensions, and implement CE principles, RBV provides a lens to comprehend how these internal resources contribute to the organization's competitive position in the context of evolving environmental and sustainability landscapes (Chae et al., 2014; Conner & Prahalad, 1996). This theoretical approach enriches our understanding of how internal capabilities, specifically within procurement, drive the successful integration of CE principles, contributing to a more sustainable and CBM.

### 2.2.2 | CBMs

CBMs represent a strategic framework encompassing a set of value propositions, delivery mechanisms, creation processes, and capture strategies that businesses employ to implement CE principles (De Angelis, 2022; Hofmann, 2019). These models go beyond mere profit-making intentions, incorporating elements such as innovative value creation, sustainable product delivery, responsible resource creation, and effective value capture (Cullen & De Angelis, 2021; Geissdoerfer et al., 2020). They involve designing products and services that are durable and reusable, as well as being easy to repair and recycle. They also involve the use of renewable energy, the sharing economy, and closed-loop supply chains. CBMs can help to reduce waste and pollution, while also creating new business opportunities and reducing costs (Geisendorf & Pietrulla, 2018). By adopting CBMs, businesses can reduce their environmental impact, enhance their resilience, and create more sustainable products and services. The research by Harala et al. (2023) suggests that developing innovative approaches towards circularity involves finding new approaches to offer value to stakeholders and examine the economic value of products throughout their lifecycle to enhance resource efficiency and effectiveness. Pieroni et al. (2019) state that the implementation of CE principles through a practice-oriented business model innovation approach can lead to the concept of CBM. These models incorporate features that narrow and close resource loops, thereby reducing the number of resources entering an organization and its value network while minimizing waste and emissions (Geisendorf & Pietrulla, 2018; Pieroni et al., 2019).

### 2.2.3 | Types of CBMs

CE represents a drastic change that necessitates a new approach to conducting business (Bocken et al., 2016). It requires a significant number of organizational innovations, in addition to technological and innovative products (Harala et al., 2023). Companies today are not adequately equipped to take advantage of the opportunities presented by CE, as their approach to strategies, structure, and

operations is strongly impacted by the linear method. To capitalize on circular practices, companies must develop BMs that do not adhere to the traditional linear thinking. Furthermore, Bocken et al. (2019) argue that businesses must embrace a forward-thinking mindset that transcends the immediate supply chain requirements for their present operations in order to derive advantages from circular practices. Our selection of four CBMs emanates from the emerging CE literature (Fogarassy & Finger, 2020; Lacy et al., 2015; Pieroni et al., 2019; Poldner et al., 2022; Toker & Görener, 2023; Vermunt et al., 2019). Each CBM contributes distinct aspects to sustainable practices, addressing the multifaceted challenges of transitioning from linear thinking to circular strategies.

#### *Product-as-a-Service (PaaS)*

The first model is the PaaS, which is gaining popularity in the CE. This is a service-based approach where, instead of selling a product, a company offers access to the product as a service (Fogarassy & Finger, 2020). PaaS is a key component of the CE as it promotes the transition from a linear, "take-make-waste" model to a more sustainable and circular one. It enables companies to design products for durability and repairability, as well as implementing strategies to extend the lifespan of products (Bag et al., 2021; Lacy et al., 2015). Furthermore, it helps to reduce the amount of waste generated by products and reduces the environmental impact of manufacturing new products (Bag et al., 2021; Dey et al., 2022).

The procurement function plays a vital role in the implementation and success of the PaaS model. As PaaS involves offering products as a service, the procurement function can establish strategic partnerships with suppliers to ensure a steady supply of products and components for providing the service (Bag et al., 2021; Lacy et al., 2015). The procurement function should focus on procuring durable and high-quality products that can withstand multiple uses and fulfill customer expectations. Additionally, it needs to collaborate with the other functions to negotiate contracts with suppliers that align with the subscription-based nature of PaaS (Akhavan & Beckmann, 2017). By effectively managing the sourcing, selection, and relationship with suppliers, procurement can contribute to the profitability and customer engagement of the PaaS model.

#### *Product life extension (PLE)*

Second, the PLE model focuses on extending the useful life of products by repairing, refurbishing, and upgrading them, rather than disposing of them after their initial use (Bag et al., 2021; Milios, 2021). This approach can help to reduce the demand for new products and the extraction of raw materials, which, in turn, can reduce the environmental impact of both manufacturing and waste (Bao et al., 2019; Ntsonde & Aggeri, 2021). The PLE model can also create new business opportunities for companies that offer repair, refurbishment, and the upgrading of services (Bakker et al., 2014; Toker & Görener, 2023). To implement the PLE model, companies can design products for durability and repairability, provide repair and maintenance services, and encourage consumers to take care of their products and extend their lifespan through proper use and maintenance. Procurement is responsible for identifying and sourcing new components,

materials, and technologies required to extend the existing product line (Schneider & Wallenburg, 2012). This function needs to actively seek out suppliers who can provide the necessary resources at competitive prices while ensuring quality and reliability. Effective collaboration with suppliers and understanding market trends enables procurement to identify innovative products or technologies that align with customer demands and the organization's strategic objectives (Dey et al., 2022; Witjes & Lozano, 2016).

#### Resource recovery (RR)

Third, the RR model envisions a regenerative system, treating waste as a recoverable resource (Bao et al., 2019; Vermunt et al., 2019). This approach involves designing products and processes to minimize waste, enhance recovery, and incorporate the re-use and recycling of materials (Dey et al., 2022). RR fosters collaboration among waste management companies, recycling facilities, and manufacturers, creating an integrated circular system (Burneo et al., 2020). Procurement adopts a CE mindset to identify suppliers prioritizing sustainability (Dey et al., 2022; Kristensen et al., 2021). Partnering with environmentally conscious suppliers, procurement ensures a steady supply of recycled or recovered resources, establishing clear specifications and effective take-back programs, promoting closed-loop supply chains.

#### Circular supply chain (CSC)

Fourth, the CSC model, central to CE, aims for a regenerative system that maximizes resource use (Mangla et al., 2018; Xu et al., 2022).

Embracing a closed-loop system, CSC ensures continuous material reuse and recycling (Toker & Görener, 2023). Collaboration among stakeholders, including suppliers, manufacturers, distributors, and customers, shapes an integrated circular resource management system (Bao et al., 2019; Choi & Chen, 2021). Procurement's pivotal role involves identifying suppliers aligned with CE principles, fostering collaborative partnerships to ensure product availability for repair, remanufacture, or recycling within the CSC. Procurement actively seeks innovative suppliers, integrating sustainability criteria into selection, fostering collaboration, and implementing effective reverse logistics, contributing to a CSC that optimizes resource efficiency and minimizes environmental impact (Akhavan & Beckmann, 2017; De Giacomo et al., 2019; Dey et al., 2022; Walker et al., 2012).

PaaS, PLE, RR, and CSC all involve the efficient use of resources, which is a key aspect of the RBV theory. By developing and implementing these CE strategies, companies can improve their resource efficiency, reduce waste, and create value for customers while maintaining sustainable development (Geisendorf & Pietrulla, 2018; Xu et al., 2022). Moreover, the procurement function can also contribute to identifying and acquiring sustainable resources that align with the CE principles. This includes sourcing materials that are recyclable or made from recycled materials or collaborating with suppliers who adopt sustainable practices (Dey et al., 2022; Lahane et al., 2020). By doing so, a firm can ensure that its procurement function is contributing to the creation of a more sustainable supply chain and organization (Akhavan & Beckmann, 2017; De Giacomo et al., 2019). However, the role of procurement in CE

**TABLE 1** Circular business models.

CBM	Concepts	Potential impacts of procurement function in each model	References
PaaS model	Instead of selling a product, offers access to a product as a service	<ul style="list-style-type: none"> <li>• Procuring durable and high-quality products</li> <li>• Negotiating contracts with suppliers that align with the subscription-based nature of PaaS</li> </ul>	Lacy et al. (2015); Fogarassy and Finger (2020); Bag et al. (2021); Dey et al. (2022)
PLE model	Extending useful life of products by repairing, refurbishing, and upgrading	<ul style="list-style-type: none"> <li>• Responsible for identifying and sourcing components and materials required to extend the existing product line</li> </ul>	Bao et al. (2019); Bag et al. (2021); Milios (2021); Ntsonde and Aggeri (2021); Toker and Görener (2023)
RR model	Creates a system that reduces waste and maximizes the use of resources	<ul style="list-style-type: none"> <li>• Prioritize sustainable practices and offer environmentally friendly products</li> <li>• Ensure the availability of recycled or recovered resources for the organization</li> <li>• Implement effective take-back programs, and promote closed-loop supply chains</li> </ul>	Bao et al. (2019); Vermunt et al. (2019); Burneo et al. (2020); Dey et al. (2022)
CSC model		<ul style="list-style-type: none"> <li>• Establish partnerships with suppliers to ensure the availability of products that can be easily repaired, remanufactured, or recycled</li> <li>• Integrate sustainability criteria into supplier selection, and implement effective reverse logistics processes</li> </ul>	Mangla et al. (2018); Bao et al. (2019); Choi and Chen (2021); Xu et al. (2022); Toker and Görener (2023)

Source: Authors.

and CBMs has not been addressed properly; hence, this research aims to fill the research gap (Table 1).

### 3 | RESEARCH DESIGN, MATERIALS, AND METHODS

This study employs a deductive qualitative multiple case research design, progressing through sequential stages. Initially, four case manufacturers were purposely selected as they were aligned with the research focus and settings. Data collection involved three main stages. The Gioia et al. (2013) method was used for data collection and analysis to ensure a systematic and rigorous approach, allowing for the identification of emergent concepts and themes from qualitative data (Harley & Cornelissen, 2022). First, the research team engaged senior management to assess their interest and participation. Next, we conducted interviews and meetings with various personnel to understand procurement operations and sustainability practices, performing 25 semi-structured interviews focusing on procurement and sustainability. Thematic analysis was used for data analysis, involving transcription, coding, pattern identification, and cross-case comparisons to derive comprehensive insights into the role of procurement in CBMs. This approach facilitated a thorough exploration of the contributions of procurement function to the implementation of CBMs.

#### 3.1 | Research setting and sample

Our study is based on empirical data collected from four major manufacturers in Vietnam that indicated their intention to adopt CE principles and develop CBM. We used the RBV theoretical framework and adopted an abductive data analysis approach to extend the existing theory on procurement function and CE adoption in these enterprises. Using multiple cases yields more accurate outcomes compared to relying on a single case study (Gibbert & Ruigrok, 2010; Yin, 2017). This is because analyzing multiple cases helps to establish whether the results are unique to a specific scenario, or if they can be broadly applied, as the results are drawn from examining several cases (Gibbert & Ruigrok, 2010; Yin, 2014). The case companies had an in-house procurement function and tangible products. Our research adopts the qualitative cross case comparison and focuses on extending knowledge about how procurement function can contribute to CBM implementation, as well as how factors and challenges within different organizations are related to this involvement. For the paper, we chose four companies, based on three criteria: (i) they were manufacturing companies located in Vietnam; (ii) they handled their procurement function in-house, with a more concrete and tangible procurement function and products; and (iii) they disclosed a commitment to following sustainable development strategies. The companies we selected operated in different industries and produced different types of products. Details of each case are described in Table 2 below.

#### 3.2 | Data collection

The research team gathered valuable information about the procurement roles and knowledge of CE and CBMs in four case companies through in-depth interviews, informal conversations, and archival data. The data collection was done in multiple stages (Gibbert et al., 2008; Gioia et al., 2013) with the agreement that the identities of the companies and people providing information would remain confidential, except for their job titles. The choice of Gioia et al.'s (2013) methodology for this study was based on its robust framework for qualitative research, which facilitates the systematic exploration and development of theoretical concepts from empirical data. This method is particularly suited for capturing the dynamic and complex nature of organizational processes, such as the role of procurement function in CBMs. By using the Gioia methodology, the study ensured a structured yet flexible approach to data collection and analysis, allowing for the emergence of new insights and patterns (Gioia et al., 2013; Nguyen et al., 2023). The emphasis on conceptual reasoning aligns well with the study's aim to extend existing theories on procurement and CE adoption. Additionally, the Gioia methodology enhanced the rigor and credibility of the findings through its systematic coding process and the development of a data structure that clearly links raw data to theoretical constructs, thereby providing a comprehensive understanding of procurement's strategic contributions to CBM implementation.

The first stage involved the lead researcher assessing the interest, contribution, and participation of the senior managers of the case companies. In the next stage, the team conducted online and face-to-face meetings with managers and staff holding different roles at the case companies in order to understand their procurement operations, their own understanding of CEs, and the potential of procurement in promoting CE and CBMs. The researchers evaluated the case companies' ability to provide useful data and background information. The third stage involved conducting 25 semi-structured interviews with procurement managers and other senior managers in various company positions, with a particular focus on procurement, planning, supply chain, and sustainability aspects. To enhance the data, the researchers used a snowball sampling data collection strategy, reaching out to some of the managers and staff who played a crucial role in procurement function and the development of CE principles and CBMs, as well as other experts recommended by them. The interview data collection continued either until saturation point was reached or when there was no further information provided by the interviewees. Table 3 provides a summary of the interview details.

Our research conducted its data collection between December 2022 and March 2023, primarily using online replies and via telephone calls. The interviews lasted between 60 and 84 min each, and the informants were asked to share their perspectives and experiences freely in relation to the research objective, without being directed in any particular way. Semi-structured interviews were utilized to gather valuable insights, thoughts, and observations from the respondents. A list of inquiry topics was compiled based on

TABLE 2 Case narrative.

Cases	Number of employees	Markets	Main products	Description of business and procurement function	Description of procurement practices	Circularity efforts
A	324	B2B, B2C	Incandescent bulbs, fluorescent lamps, outdoor lighting, ceiling lights, etc.	Case A is a global provider of lighting solutions that delivers comprehensive packages to both corporate and individual customers. The organization produces a broad variety of lighting products and solutions at its own facilities.	The procurement department at A comprises managers and around 10 staff who play both administrative and decision-making roles within the company. The procurement department is responsible for the financial aspects of A's operations, with specific targets being set for inventory value and circulation. The procurement team also collaborates with other departments, including the technical division, production team, and goods reception.	Case A has implemented a recycle program for end-of-life lighting products, promoting recycling and reducing electronic waste. The procurement function actively seeks suppliers that align with circular economy principles, emphasizing the use of recycled materials in the production of lighting solutions. Case A aligns with the PaaS model, offering lighting solutions as a service rather than a traditional product. This model encourages prolonged product use and promotes sustainability.
B	397	B2B	Engines, generators, and marine controls	Case B is a manufacturer of marine engines, generators, and marine controls that combine to offer a complete solution package, including a comprehensive range of marine equipment to meet the needs of customers, such as cruise, fishing, and offshore vessels. This company is committed to achieving sustainable and profitable growth while adhering to policies focusing on health, safety, environment, and ethics.	Case B's procurement team, which consists of 20 staff, plays an active and operational role in the daily activities. The procurement function collaborates with both the production and technical departments, with an increased involvement in the supply chain and a desire to be part of the production process.	Case B demonstrates circularity efforts by integrating remanufacturing processes into its procurement practices. The procurement team collaborates with suppliers who provide components suitable for remanufacturing, contributing to resource conservation and a reduction in overall environmental impact. This aligns with the PLE model, focusing on extending the useful life of products through repair and refurbishment.
C	385	B2B, B2C	Dried and canned foods	Case C operates as a wholesaler, manufacturer, and exporter of agricultural products. Their operations involve buying produce from farmers, processing them into canned goods, and subsequently selling or exporting them to foreign markets like Japan and Europe.	The procurement function of C works in conjunction with production, customer service, distribution, and marketing teams to ensure smooth supply chain operations. The procurement function is involved in the inception of new components and products and also considers commercial factors.	In its commitment to circularity, case C's procurement function focuses on sourcing agricultural products from suppliers who follow sustainable farming practices. Additionally, the company explores packaging alternatives that align with circular economy principles, aiming to minimize waste and environmental impact. Case C aligns with the RR model,

(Continues)

TABLE 2 (Continued)

Cases	Number of employees	Markets	Main products	Description of business and procurement function	Description of procurement practices	Circularity efforts
D	402	B2B	Wooden furniture, seats, particle board, and plywood	Case D is a manufacturing company that produces wood and furniture. Its operations include the creation, processing, and preparation of wooden furniture.	The procurement function, which involves transactional and commercial activities, is overseen by the production manager and partly involves tendering. Due to the significant costs associated with raw materials, Case D recognizes the strategic importance of procurement. However, the procurement team does not collaborate much with other departments, except through the production manager. Instead, it prioritizes establishing long-term relationships with a select group of strategic business partners.	emphasizing the recovery and reuse of materials in its production processes, contributing to a more integrated and circular system for resource management.  Case D emphasizes circularity efforts by prioritizing the sourcing of wood from responsibly managed forests, ensuring sustainable harvesting practices. The procurement team actively seeks suppliers engaged in eco-friendly manufacturing processes, contributing to the overall environmental sustainability of the wooden furniture production. Case D aligns with the CSC model, aiming to create a regenerative and restorative system by continuously reusing and recycling materials in its production processes, reducing waste and promoting resource efficiency.

Source: Authors.

the interviewees' responses, which are included in Appendix A, Interview protocol.

After finishing the interviews, follow-up emails and phone conversations were conducted to obtain further valuable insights from the interviewees. With the consent of each respondent, all interviews were recorded, and notes were taken from the recordings. Besides collecting interview data, archival documents, such as presentations, published reports, and other publicly available, sources were gathered to compare and validate the interview data. This method of triangulating data permitted cross-examination and confirmation of findings from a single investigation, improving the credibility of our study (Harley & Cornelissen, 2022; Nguyen et al., 2023).

### 3.3 | Data analysis

The data collected from this study underwent a three-step process of analysis using the thematic analysis method, which is commonly employed to identify accurately the themes emerging from the case

research design (Gioia et al., 2013). Firstly, the researchers gathered and analyzed all interview transcripts and archival documents, searching for recurring phrases and concepts relating to the informants' perspectives and experiences. Secondly, the data sources were re-examined to identify patterns and connections that were used to create themes based on the initial concepts. Finally, a cross-case comparison was conducted to discover common findings across the four cases and group the themes into three overarching dimensions. To ensure a certain degree of reliability, the study employed a three-step data analysis process that involved the use of the intercoder reliability procedure (Gibbert & Ruigrok, 2010; Nguyen et al., 2023). This involved two researchers independently synthesizing, analyzing, and coding the transcripts and documents and then comparing the results of the coding process to ensure data consistency (Harley & Cornelissen, 2022). The research team also held follow-up discussions with the informants to maintain data consistency. In addition, to increase the accuracy of the findings, the initial results of the research were sent to respondents in all participating enterprises. The data structure of the research is illustrated in Figure 1.



**TABLE 3** Interview details.

No.	Interviewee's position	Experience (years)	Education	Interview time (min)
Case A				
1	Production manager	11	MA	60
2	Head of procurement	8	BA	84
3	Procurement operations manager	9	BA	72
4	Supply chain and logistics specialist	10	BA	70
5	Operations manager	12	MBA	80
Case B				
6	Supply chain director	14	BBA	60
7	Sourcing manager	15	BA	75
8	Operations manager	17	BA	60
9	Procurement consultant	15	MA	82
10	Business development manager	12	BA	77
11	Resourcing advisor	12	BA	79
Case C				
12	Senior manager—strategic procurement	12	MA	67
13	Corporate procurement lead	17	MBA	70
14	Assistant general manager	15	BA	65
15	Resource consultant	11	MA	68
16	Manufacturing manager	11	BA	72
17	Direct procurement specialist	8	BA	81
18	Supplier relationship advisor	12	BA	66
Case D				
19	Deputy general manager	26	MBA	82
20	Quality control manager	12	MA	72
21	Deputy head of procurement	12	BA	63
22	Operations manager	10	BA	65
23	Head of supply chain	15	MA	67
24	Resourcing associate	17	MA	81
25	Supply chain and logistics specialist	12	MA	78

Source: Authors.

## 4 | FINDINGS

### 4.1 | Link procurement and CE

#### 4.1.1 | Perceived benefits of CE

Most interviewees acknowledged that the main benefit of CE was similar to sustainability in terms of the cost reduction that resulted from recycling and reusing. The Sourcing Manager of Case B stressed the importance of setting strategic goals in the area of CE to facilitate its development and implementation within the company. According to this individual, there was economic potential in adopting CE practices, particularly in terms of coordinating various functions and reducing costs. Similarly, the Operations Manager of Case A noted that economic value was still the primary driver of CE adoption, while sustainability concern was considered an added bonus.

Our company has requested changes in packaging methods to reduce the number of pallets required for delivering. This results in cost savings and also has positive environmental implications by reducing the need for unpacking resources

(Operations Manager, Case A).

Elsewhere, Case D was dedicated to decreasing their use of raw materials on a regular basis and had established objectives to that end while also examining recycling. The company recognized that implementing CE initiatives could fulfill customer needs and requests, which could, in turn, result in a competitive edge, “as customers may prefer to purchase products from a company that is committed to sustainable practices” (Deputy Head of Procurement, Case D).

In the same vein, the Senior Manager of Strategic Procurement from Case C observed that customers were more interested in

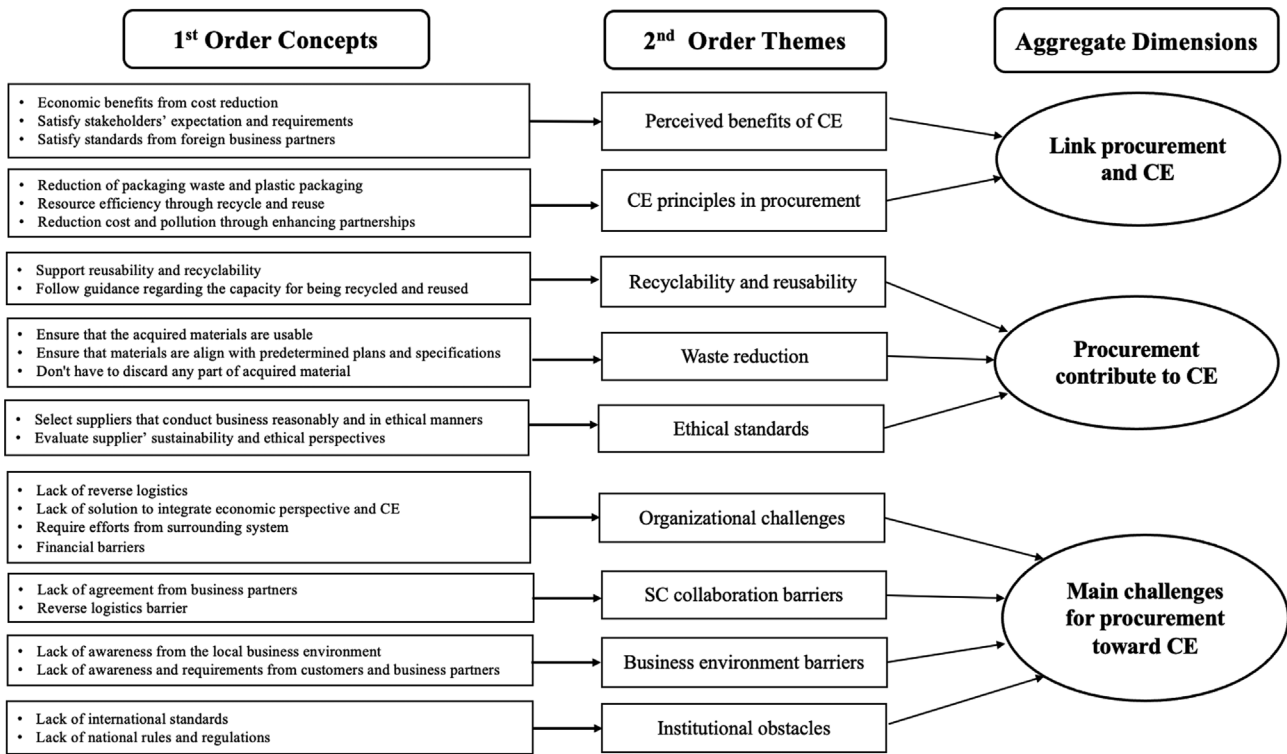


FIGURE 1 Data structure. Source: Authors.

sustainable practices and viewed adopting conscious CE efforts as a means to meeting these demands. Furthermore, he believed that demonstrating a dedication to CE principles might fulfill people's desire to work for an organization that prioritizes sustainable development:

Managers and young staff prefer to be employed by an organization that considers sustainability. I believe that younger generations are increasingly conscious of this issue compared to my generation, and this trend is likely to continue and also benefit companies that prioritize sustainability. This effect can be advantageous  
(Senior Manager - Strategic Procurement, Case C).

Another respondent suggested that global and domestic laws, policies, and attitudes surrounding sustainability were compelling advancement towards CE:

Sustainability has become an increasingly important concern in recent years, and the CE is seen as one way of addressing this issue. In other words, businesses are under pressure from domestic and foreign regulations and guidelines to make changes in the way they operate, and the shift toward circularity is one way they can meet these expectations  
(Production Manager, Case A).

The acknowledgment by interviewees of the economic potential and cost reduction associated with CE practices resonates with RBV

principles. The emphasis on strategic goals in CE development aligns with the RBV perspective that views strategic resources (Bag et al., 2020; Wernerfelt, 1984), in this case, sustainable practices, as a source of competitive advantage (Barney, 1991; Conner & Prahalad, 1996). Economic values being the primary drivers of CE adoption underscore the RBV's focus on the strategic utilization of valuable resources for sustained competitive performance.

#### 4.1.2 | CE principles in procurement

In all four cases, the relationship of procurement activities and CE initiatives was confirmed; for example, Case B had initiated various initiatives aimed at decreasing energy usage and minimizing waste across all departments. The procurement division was specifically targeting logistics, transportation, packaging, and supplier cooperation as areas within their control. The Head of Procurement of Case A noted that the procurement department's primary emphasis was on decreasing packaging waste and plastic packaging.

Besides, the Corporate Procurement Lead from Case C affirmed that his company had recently adopted a sustainability perspective regarding procurement, with a particular emphasis on reducing transportation expenses and pollution and fostering partnerships with suppliers and local partners.

The focus is also on identifying ways of reducing transportation costs and pollution. A crucial aspect of this effort is comprehending the needs and abilities of the

suppliers, and therefore, we strive to collaborate with suppliers in nearby locations. The goal is to find solutions that benefit both parties and improve overall efficiency.

Furthermore, Case B placed a strong emphasis on decreasing transportation costs and pollution. To achieve this, they had recently increased their reliance on sea transportation instead of road transportation. The company also recognized the significance of reducing waste through measures such as production cuts, recycling, and reuse.

As a manufacturer, we procure a substantial amount of metal for production purposes. We recognize that the smaller the amount of material we acquire, the lower our energy consumption will be when melting the metal. Therefore, we are mindful of this fact and strive to minimize our material purchases accordingly

(Sourcing Manager, Case B).

Additionally, the company's primary focus was on maximizing material efficiency and reusing materials through the melting process. Any metal waste that could not be melted was sent for recycling. The company also participated in innovative projects aimed at reducing the amount of material required for the production process and had transitioned to cleaner production.

The integration of CE principles into procurement activities reflects the RBV's emphasis on the strategic utilization of resources to achieve a competitive edge. Initiatives aimed at decreasing energy usage, minimizing waste, and optimizing logistics and transportation within procurement activities align with the RBV's notion that internal resources and capabilities contribute significantly to a firm's competitive advantage (Barney, 1991; Corboş et al., 2023). The commitment to sustainability in procurement, such as reducing transportation costs and pollution, corresponds with the RBV's perspective that sustainable resource deployment enhances long-term competitiveness (Bag et al., 2020; Conner & Prahalad, 1996).

## 4.2 | The contribution of the procurement function to the implementation of CBM

During the interviews, one interviewee claimed that the procurement department could aid in the adoption of CE by procuring appropriate materials and adhering to guidelines, laws, and regulations, thereby ensuring the possibility of recycling and reusing those materials.

There is a chance for us to abide by the instructions to promote CE, as we are encouraged to recycle and reuse whenever feasible. It is imperative that the materials obtained conform to regulations regarding their capacity for being recycled and reused

(Procurement Consultant, Case B).

This indicates that regulatory entities must formulate a collection of statutes and rules to steer and motivate corporations in the advancement of CE. Another respondent added that they possessed the power to prevent wastage by managing the quantity and type of materials acquired.

By making careful purchasing decisions, we can prevent waste and ensure that the materials we acquire are usable. This means that raw materials like wood and metal must be of good quality, match our specifications, and align with our plans, so that we obtain exactly what we require and do not have to discard any part of it

(Direct Procurement Specialist, Case C).

This suggests that the procurement department could play a role in implementing CE by ensuring that the quality and quantity of materials acquired were in line with requirements through appropriate procurement procedures. In addition, by ensuring recyclability, reusability, and waste reduction, another informant suggested that the procurement department played a crucial role in recognizing environmentally friendly suppliers, engaging in ethical business practices, and continually enhancing their performance:

Our goal is to collaborate with suppliers who are appropriate and operate their business in an ethical and reasonable manner. We prefer suppliers who continually improve their knowledge and performance. It is necessary to establish formal requirements for our suppliers, and if they do not meet these standards, the procurement function is responsible for finding alternative suppliers. In this way, the procurement function plays a significant role in this process

(Head of Supply Chain, Case D).

Additionally, another respondent contended that the procurement department could perform assessments of suppliers to verify their compliance with established requirements:

Our contracts contain ethical principles to which we adhere, and we expect our suppliers to follow similar value systems, not necessarily identical to ours. The procurement department plays a role in developing a shared understanding of what is necessary for a supplier to be a long-term partner

(Procurement Operations Manager, Case A).

This emphasized the significance of companies having well-defined principles, directives, and approaches towards CE. Such an approach would enable the procurement division to ensure adherence and play a role in implementing CE comprehensively. The pivotal role of procurement function in implementing CBM is intricately connected to RBV tenets. By ensuring the acquisition of materials

adhering to recycling regulations, procurement aligns strategically with regulatory requirements, emphasizing the adaptability of internal resources for competitive advantage (Al-Sinan & Bubshait, 2022; Barney, 1991). Meticulous procurement decisions aimed at waste prevention and material quality underscore the significance of internal capabilities in contributing to a firm's competitive edge, in line with RBV principles (Conner & Prahalad, 1996; Sönnichsen & Clement, 2020). Moreover, the procurement department's active involvement in ethical supplier engagement accentuates the role of ethical standards and relational resources in shaping sustainable competitive positions, consistent with the RBV theoretical lens (Bag et al., 2021; Brandon-Jones et al., 2014). In essence, these findings substantiate the RBV's assertion that the strategic deployment of internal resources, particularly within the procurement function, plays a crucial role in realizing a competitive advantage in CBM implementation.

### 4.3 | The main challenges that the procurement function may experience during the implementation of CBM

#### 4.3.1 | Organizational challenges

The Operations Manager of Case B stated that CE was in its early stages and needed further comprehension on how to execute CE initiatives (CBMs) in an initial economically manner:

We are working on solutions that are sufficiently effective and efficient to generate an ample return, then, considering the sustainability perspective.

This suggests that there was a requirement for increasing the awareness and development of CE principles, along with practical methods for a company to execute it. Meanwhile, in terms of Case D, the Deputy Head of Procurement referred to the absence of internal reverse logistics, specifically recycling-related organizational activities, as a challenge that the procurement function could face. However, this interviewee acknowledged that 'external business partners such as sub-contractors, are a solution to overcome these obstacles'.

Interviewees from case C saw the organization's strong emphasis on both costs and quality as a potential obstacle that could hinder the procurement department's efforts to implement CE:

The company's operations are centered around both cost-effectiveness and high-quality standards. The fundamental principle of the organization is to be the best in its field and not to provide products at a low cost  
(Assistant General Manager, Case C).

This suggests that the procurement department could perceive CE strategies, practices, and operations as more costly than the

existing traditional linear operations, making it difficult to switch to CBMs. Similarly, another respondent considered economic benefit to be the main concern for both senior managers and procurement managers:

If you have to select between different companies, some of them excel in the CE while others don't, but the expense gap between them is significant; it will be challenging to opt for the more expensive option  
(Head of Supply Chain, Case D).

This implies that the procurement function in our cases gave more importance to the economic perspective when evaluating CE and might not consider the potential opportunities for CE and CBM.

#### 4.3.2 | Supply chain partners

Several interviewees perceived that the main challenge was an organizational barrier emanating from *supply chain partners*:

We have collaborated with many business partners in the supply chain, and if we change the standard, for example, by following the CE principles, we need all of the partners to accept and prioritize these standards as well, otherwise, it will create a serious problem for us  
(Corporate Procurement Lead, Case C).

This meant that this company believed that their adoption of CE was linked to how their stakeholders adopted CE. Additionally, the procurement department saw difficulties in implementing reverse logistics because of the challenges in transporting components back to the business for reuse.

Another interviewee recognized the size of their organization as a hindrance to influencing the extended supply chain:

It is a complex issue. All the links in the chain need to be aligned, and as a small player, it may be challenging for us to execute CE practices  
(Procurement Operations Manager, Case A).

This suggests that the interviewee thought that, for case organizations and procurement function to adopt CE principles, the surrounding setting, including their business environment, regulators, and other stakeholders, must also facilitate this transition.

#### 4.3.3 | Business environment barriers

Respondents acknowledged that insufficient knowledge and attention towards CE in the local market was a hindrance to its implementation. However, they also noted that the concept was rapidly evolving and

expressed confidence that the market could ultimately encourage the shift towards CE:

Although the CE still has a significant distance to cover, it is currently undergoing rapid development. As our society and economy continue to grow and expand, those who are leading the way will be rewarded. Ultimately, their local business environment needs to exert a force that drives progress in this direction

(Deputy General Manager, Case D).

Furthermore, other managers saw the lack of attention from customers towards efforts relating to CE as a hindrance to implementing such initiatives:

Currently, none of our customers or partners inquire about our proficiency in the CE or sustainability practices when determining whether or not to purchase from us

(Production Manager, Case A).

This highlights the requirement for both widespread knowledge about the concept within society and customer demand for a company to implement CE.

#### 4.3.4 | Institutional barriers

According to the interviewees, the implementation of CE required consistent and globally applicable regulations, while the absence of such regulations was a hindrance to achieving this goal. Specifically, one of the interviewees drew attention to discrepancies in the health, environmental, and safety laws across nations:

The strictness of laws and regulations can be problematic as it increases costs. Additionally, discrepancies in laws and regulations across borders pose a challenge, especially when exporting and competing internationally. Difficulties can be created if other countries have different requirements. Therefore, there is a need for a more equitable distribution of regulations

(Business Development Manager, Case B).

The challenges encountered by the procurement function in implementing CBM aligned with fundamental principles of the RBV theory, emphasizing internal capabilities and external relationships for sustained competitive advantage (Barney, 1991; Brandon-Jones et al., 2014; Wernerfelt, 1984). Internally, organizational challenges, such as the need for heightened awareness and perceived conflict between cost-effectiveness and high-quality standards, underscore the intricate dynamics influencing CBM adoption within a firm. External dependencies are evident in supply chain partner challenges,

emphasizing the interconnectedness of the procurement function with external entities and the pivotal role of external relationships in CBM implementation. Business environment barriers, including a lack of local knowledge and customer demand, highlight external factors shaping a firm's capacity to adopt CBM. Additionally, institutional barriers, particularly the absence of consistent global regulations, underscore the influence of external regulatory environments on procurement decisions. In essence, these challenges affirm RBV's central proposition that a firm's sustained competitive advantage (Conner & Prahalad, 1996; Corboş et al., 2023) in navigating CBM complexities stems from the strategic management of both internal resources and external relationships.

## 5 | DISCUSSION

### 5.1 | The contemporary understanding of CE in the procurement practices of Vietnamese manufacturing firms

Our research demonstrates that Vietnamese manufacturing firms engaged in common CE activities such as reducing, reusing, and recycling materials, as well as efficiently utilizing energy and resources. Specifically, companies minimized or eliminated packaging (Case A) and waste (Case C) and reused or recycled materials (Case B). While these practices indicate a basic understanding of CE, a comprehensive grasp of CE principles remained absent, echoing findings from Bocken et al. (2019) and Poldner et al. (2022). This limited understanding of CE was also reflected in the firms' primary focus on economic benefits, such as cost savings from reduced material use and waste, aligning with the competitive advantages discussed by Fogarassy and Finger (2020) and Rainville (2021). Our empirical findings reveal that these firms engaged in sustainable practices, including reducing packaging and transportation impacts, collaborating with suppliers, and evaluating their sustainability. However, they lacked a systematic approach to implementing CE principles within their procurement functions, paralleling observations by Witjes and Lozano (2016) and Bag et al. (2020). This gap underscores the need for a more strategic integration of CE principles, suggesting that while firms recognized the strategic role of procurement function in managing supplier sustainability, they have yet to fully leverage this function to advance CE practices.

The procurement function's strategic oversight of suppliers is crucial for sustainability initiatives, highlighting the potential for procurement to facilitate CE adoption and acceleration, as also noted by Rainville (2021). Our findings corroborate the significance of sustainable procurement practices in fostering supplier relationships, consistent with previous research (Bag et al., 2020; Rainville, 2021; Witjes & Lozano, 2016). Additionally, while companies primarily perceived the economic benefits of CE, they viewed environmental benefits as secondary. This perspective aligns with the motivations described by Testa et al. (2012) and Alhola et al. (2019), who emphasize economic drivers as primary motivators for CE adoption. Furthermore, the case

organizations recognized the need for novel business models that prioritize sustainable resource use. They acknowledged that effective CE implementation requires collaboration among government entities, regulatory bodies, corporations, and the general public, a view that aligns with the broader collaborative efforts highlighted by Testa et al. (2012) and Alhola et al. (2019).

## 5.2 | The contribution of procurement function to the implementation of CE in Vietnamese manufacturers

Our empirical findings suggest that procurement function is crucial in managing relationships with suppliers and other external partners, supporting sustainability initiatives. This aligns with Fayezi et al. (2018) and Wang et al. (2022), who argue that a firm's sustainability is closely linked to that of its suppliers. Both studies highlight the strategic role procurement plays in advancing sustainability by ensuring that suppliers adhere to sustainable practices. Similarly, our research indicates that procurement function can evaluate suppliers beyond economic factors, considering ethical concerns, which supports Leal Filho et al.'s (2019) assertion that addressing environmental, social, ethical, and economic issues adds value to both the organization and society.

Our study further suggests that procurement can support the adoption of CE principles and CBM by identifying and assessing sustainable suppliers who align with an organization's ethical and value-based guidelines. This process involves evaluating suppliers to ensure a mutual understanding of long-term sustainability requirements, echoing Fayezi et al. (2018) and Qazi and Appolloni (2022), who emphasize the need for procurement to delve beyond superficial assessments to fulfill its strategic role. Establishing clear guidelines and values is crucial for procurement to effectively assess supplier compliance and advance a company's sustainability objectives.

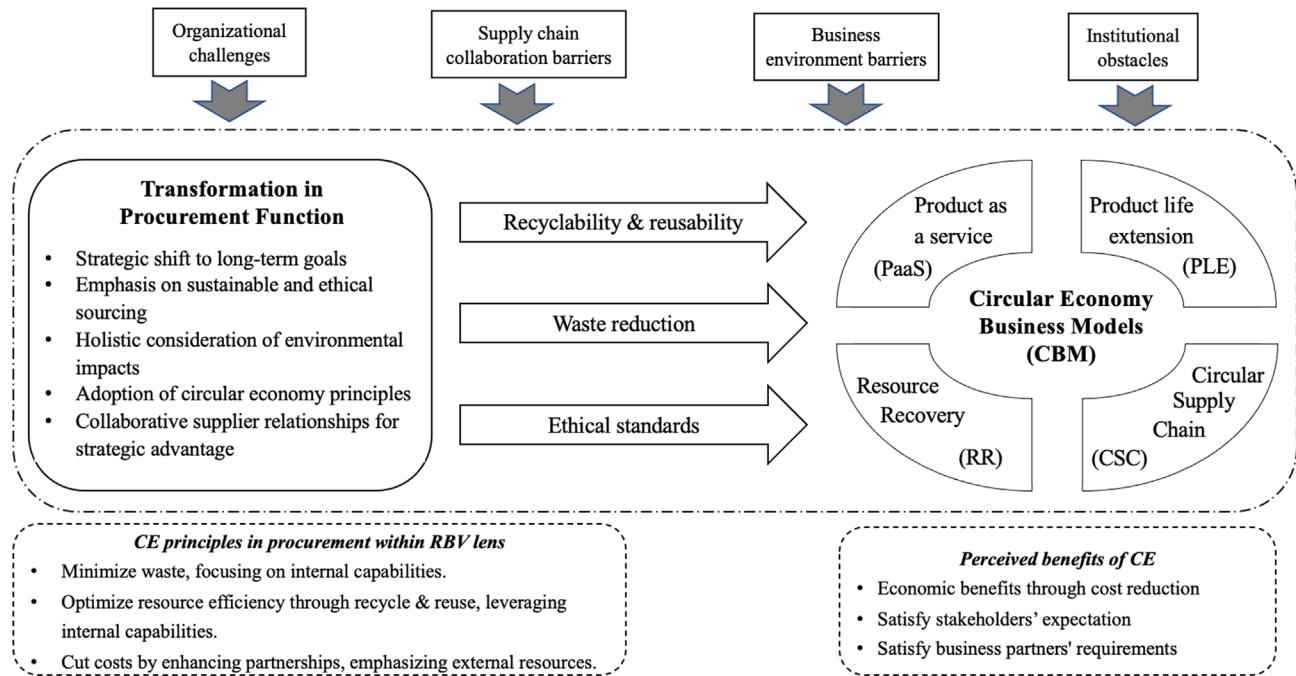
The study's results indicate that procurement contributes to CE principles such as reduction by evaluating company needs and ensuring resource availability to prevent waste. Although procurement cannot directly enhance production and consumption efficiency, it can prevent waste from inappropriate resources, contributing to eco-efficiency. This aligns with the findings of Bocken et al. (2019) and Neessen et al. (2021), who emphasize the importance of procurement in evaluating materials and providing alternatives to support reuse and recycling efforts. Our research also suggests that procurement facilitates compliance with CE and sustainability regulations and guidelines, supporting Leal Filho et al. (2019), who state that procurement enhances organizational efficiency, transparency, and regulatory compliance. However, our findings also highlight the need for governmental and regulatory bodies to create laws and regulations that facilitate the implementation of CE principles. This necessity underscores the collaborative effort required between companies and regulatory entities to achieve sustainable procurement practices effectively.

## 5.3 | The challenges that the procurement function has experienced during the implementation of CBM

Our research has shown that the biggest obstacles to implementing CBMs are organizational in nature, such as the inability to expand operations due to business size or a lack of structure or a lack of support for reverse logistics initiatives from external systems. The costs associated with building new facilities to support reverse logistics also pose a significant financial barrier. However, our findings suggest that procurement function can work with external partners to overcome some of these obstacles, although this may introduce supply chain dependency issues, which aligns with the findings of Vermunt et al. (2019) and Kosmol et al. (2019). Additionally, our research indicates that the need for greater awareness of CE principles is a major barrier to adoption. This highlights the need for a greater understanding of how CE can benefit businesses and how to realize CBM's financial contribution in practice (Qazi & Appolloni, 2022; Witjes & Lozano, 2016).

With regard to financial obstacles, our research indicates that procurement functions, which focus heavily on reducing expenses and producing high-quality products, may find it difficult to understand or justify the implementation of CBMs. This finding is consistent with the research by Guldman and Huulgaard (2020), which itself highlights that companies operating under a traditional linear business model base their decisions on financial metrics such as return on initial investments. However, according to Homrich et al. (2018), CBMs face difficulties in meeting financial obligations within the same timeframe, as they operate on a distinct timeline and financial structure. CE solutions demand a long-term perspective that may extend over many years or even more extended periods. This could be perceived as being too risky or financially uncertain for manufacturers that prioritize cost reduction. This view aligns with the assertion by Tura et al. (2019) that high economic uncertainty is one of the reasons why CE development can be ineffective, as it is challenging to define and measure its long-term advantages.

Besides, obstacles related to collaboration within the supply chain have delivered significant impacts on the perception of CBMs. Our research suggests that challenges in the supply chain primarily arise in procurement functions that rely on external business partners. Procurement functions that are interested in circularity and are parts of a larger supply chain may encounter challenges during the transition to CBMs because all parties in the chain must be involved and therefore share similar concerns (Wang et al., 2022). While a procurement department may be perceived as an internal organizational boundary, it can also function as an external impediment to the supply chain. The supply chain is regarded as a network where all actors must be engaged and possess comparable interests, and a discrepancy in capabilities can lead to unexpected hurdles. This idea is consistent with the views of both Yin et al. (2023) and Wang et al. (2022) in that it is essential to comprehend the supply chain as a system in which all participants and interested parties are engaged in the supply process. This is further supported by the work of Bocken et al. (2019), who



**FIGURE 2** Contribution of procurement function in CBM3. Source: Authors.

argue that CBMs demand an innovative viewpoint that surpasses the present production's direct supply chain and entails deliberation of networks for numerous value creation cycles. Therefore, transitioning to CBMs may require systemic changes at multiple levels and stakeholder collaboration.

Our research suggests that procurement functions may experience barriers to the adoption of CBMs due to a lack of awareness and interest from stakeholders such as society and customers. The absence of requests for circularity could also be linked to the lack of knowledge and the public's general lack of awareness of the CE concepts. These findings align with Lieder and Rashid's (2016) research, which emphasizes the importance of social awareness in the transition to CBM, as stakeholders are a crucial part of the circularity transition. However, procurement managers anticipate a rise in the need for sustainable practices and believe that CBMs can be employed to fulfill this emerging demand. In addition, if procurement functions anticipate a shift in market dynamics, engaging in CE practices early on could lead to great opportunities in the future. For instance, if new markets emerge encouraging the purchase of circular products, there is a likelihood that the demand for products or services that align with CE principles will increase. Therefore, it could be advantageous to make changes to procurement and overall business operations to manufacture products in accordance with CE principles at an early stage.

Our research suggests that a lack of consistent rules and regulations regarding CBMs is a barrier for institutions. This means that procurement functions still do not experience value in CBMs and will not engage and innovate business models unless there is a specific requirement for it. While not all companies are likely to need laws and

regulations as a prerequisite, our findings indicate that this can heavily influence companies in the manufacturing industry. This aligns with the discussion by Wang et al. (2022) and Homrich et al. (2018) on the need for better interactions among a wide range of stakeholders such as policy-makers, society, and manufacturing businesses to establish systematic regulation and policy systems. Furthermore, market barriers and demand-related issues also play a significant role. The lack of effective regulatory systems can pose significant barriers to the adoption of CE initiatives. Figure 2 summarizes our main research findings.

## 6 | CONCLUSION

The objective of this study was to enhance comprehension and knowledge by examining the ways in which procurement can support the adoption and development of CBMs. Our study can be considered as a reaction to the demand for a more thorough examination of the role of procurement function to support CBM implementation through recycling, reusing, and reducing resources. The research aim was addressed by examining (i) the contemporary understanding of CE in the procurement practices of Vietnamese manufacturing firms, (ii) the ways that procurement function can facilitate the implementation of CE, and (iii) the challenges that procurement function may experience during the implementation of CBM. To gain an understanding of these matters, a multiple-case study method was employed to explore the procurement and CE practices of four Vietnamese manufacturing businesses, thereby delivering both theoretical implications and practical contributions.

## 6.1 | Theoretical contributions

This research adds to the existing literature on CE and procurement in three significant ways. Firstly, the study makes an incremental theoretical contribution by applying the theory of CE and CBMs to the procurement context. This enhances our comprehension of how companies view CE when it comes to procurement and highlights the potential role of procurement function in implementing CE and CBMs (Geisendorf & Pietrulla, 2018; Lahane et al., 2020; Neessen et al., 2021). Secondly, the paper identifies how procurement function can contribute to the organization of CBM, as well as highlighting implementation barriers to procurement function in supporting CBM in the context of Vietnamese manufacturing firms. Thirdly, the research identifies the main barriers to the implementation of CBMs from the perspective of procurement function, thus extending the literature of Vermunt et al. (2019) and Qazi and Appoloni (2022). The study also indicates that the encountered barriers may be linked to organizational context and financial considerations, potentially explaining why the identified barriers differ from previous research (Guldmann & Huulgaard, 2020; Mangla et al., 2018). Moreover, our findings suggest that taking a wider supply chain perspective that looks beyond organizational boundaries is necessary to facilitate a systematic and comprehensive implementation of CBMs. Finally, this research significantly contributes to the RBV by bridging the gap between RBV principles and CE in procurement. The application of CE and CBMs theories within the procurement context not only enriches our understanding of how companies perceive CE but also aligns with RBV's emphasis on leveraging internal capabilities for sustained competitive advantage (Bag et al., 2020; Barney, 1991; Brandon-Jones et al., 2014; Corboş et al., 2023). The identification of procurement-related barriers to CBM implementation further emphasizes the crucial role of internal resources and capabilities in the RBV framework. By exploring these dynamics, the study extends the RBV lens to provide nuanced insights into the strategic transformation of procurement functions towards sustainability.

## 6.2 | Practical implications

This study underscores the importance of developing a comprehensive understanding of CE principles within manufacturing businesses. Managers can leverage this understanding as a foundational step to develop practical approaches and guidelines for implementing CE. By recognizing the contemporary understanding of CE and its impact on procurement practices, managers can initiate strategic shifts towards CBMs, emphasizing recyclability, reusability, and waste reduction. This knowledge could equip practitioners with the awareness needed to align procurement strategies with sustainable principles effectively.

Besides, the research highlights the strategic role of procurement function in advancing CE principles and practices. Managers could utilize insights from the study to evaluate and enhance the procurement function's strategic contributions. By identifying factors that influence procurement function's ability to support CBM implementation,

practitioners could assess their own organizational contexts and tailor procurement strategies accordingly. This understanding would enable managers to leverage procurement as a key driver in fostering sustainability and circularity within manufacturing businesses.

In addition, this research sheds light on the challenges that procurement function may encounter during the implementation of CBMs. Managers and practitioners could benefit from this insight by proactively addressing these challenges in their organizational contexts. Recognizing and understanding barriers, both internal and external, can empower senior managers to navigate complexities effectively. By considering obstacles relating to organizational background, financial perspectives, and institutional aspects, practitioners could develop targeted strategies to mitigate challenges and drive successful CBM adoption.

Moreover, this study provides valuable insights into the procurement practices of Vietnamese manufacturers, offering a glimpse into an emerging manufacturing base. Managers could use this understanding to anticipate trends and prepare for future shifts in procurement practices. Finally, the suggested conceptual framework enhances our understanding of how procurement function can facilitate CBM execution. Practitioners could leverage this framework to develop tailored procurement actions and overcome obstacles, thereby advancing procurement maturity and fostering a culture of sustainability and circularity within their organizations.

## 6.3 | Limitations and future research

While our study provides valuable insights, certain limitations warrant consideration. The limited number of manufacturing businesses surveyed, primarily from the Vietnamese context, calls for future research to expand the sample size. Employing standardized survey questions across diverse industries, company sizes, and geographical contexts would enhance the generalizability of findings. Moreover, the exclusive focus on senior managers and practitioners in Vietnamese procurement and supply chains may restrict the study's external validity. To address this, future investigations should explore the role of procurement in CBMs across various countries, fostering a more comprehensive understanding of regional and international dynamics. Additionally, extending research beyond qualitative methods to incorporate quantitative analyses could offer a more robust and nuanced perspective on the relationships between procurement, CBMs, and sustainable practices.

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**How to cite this article:** Tanveer, U., Hoang, T. G., Truong, H. Q., Ishaq, S., & Gong, Y. (J.) (2024). The critical role of procurement in the emergence of circular business models: Insights from multiple cases of Vietnamese manufacturers. *Business Strategy and the Environment*, 1–19. <https://doi.org/10.1002/bse.3888>

- ii. An examination of their perception of sustainability in a procurement context, as well as the relationship between procurement and the company's strategies and other functions;
- iii. A discussion of the role of procurement in product idea, development, and sustainability practices;
- iv. An examination of the challenges associated with implementing CE and developing CBMs within the company's procurement function, along with the benefits envisioned by the informants for their implementation;
- v. Finally, an investigation of the interviewees' thoughts on the importance of sustainable procurement actions and why they believe they are significant.

## APPENDIX A: INTERVIEW PROTOCOL

- i. The topics of inquiry including the respondents' comprehension, knowledge, and expertise in CE and CBMs, as well as the capabilities and operation of their procurement function within their organization;