

How to drive business model innovation for food and beverage enterprises after the pandemic: evidence from an emerging economy

Business
model
innovation

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Abstract

Purpose – This study's main goal is to explore how small and medium-sized enterprises (SMEs) in the food as well as beverage (F&B) area should evolve to survive in a hustled post-pandemic future.

Design/methodology/approach – Drawing on the knowledge-practice gap in the field of Entrepreneurial Orientation (EO) as well as Business Model Innovation (BMI), this study examines an integrated framework using the F&B sector as an empirical field of research. This study uses an empirical quantitative approach using the main information aggregated from a questionnaire administered during the study. The sample had 467 valid responses (71.08% response rate). This paper uses the Partial-Least Squares Structural Equation Model (PLS-SEM) to examine structural relationships because this technique is usually proposed for models with complex relations.

Findings – According to the research EO is directly and indirectly, correlated with BMI. The correlation is positive and significant. Simultaneously, corporate social responsibility (CSR) is partially mediated in the stated relation between EO as well as BMI, and CETA where it shows a positive moderation part in EO's influence on CSR. In particular, it elucidates how EO promotes CSR and BMI, alongside moderating part of circular economy principles adoption (CEPA).

Practical implications – These research findings suggest that SMEs in the F&B sector should transform the way they traditionally manage their businesses by applying circular economic principles into entrepreneurial orientation to promote CSR-based practices and acquire the resources obtained from internal and external stakeholders. Hence, their business can recover from post-pandemic effects and become resilient to future disruptions. Furthermore, this study suggests that adopting circular economy principles provides a key source of knowledge and insights that allows firms to sharpen their entrepreneurial orientation toward incorporating stakeholders and social environmental concerns into business models for sustainability, especially in the uncertain and drastic changing environment.

Originality/value – This study proposes a novel approach by which BMI is formed and evolved based on circular economy principles-oriented entrepreneurship and the synergies of stakeholders through undertaking corporate social responsibility practices. Drawing from the knowledge-practice gap, this research adds to the existing knowledge about EO as well as BMI with a conceptualized and operationalized empirical framework in a novel context that was not covered in current literature, especially in the context of uncertainties and disruptions experienced during COVID-19 outbreaks. The F&B sector was hit and how it should evolve to recover and build resilience is perceived as an urgent issue.

Keywords Entrepreneurial orientation, Business model innovation, Corporate social responsibility, Circular economy principles, Sustainability, Food and beverage industry, Pandemic, SMEs, Emerging economy

Paper type Research paper



1. Introduction

The COVID-19 outbreak has shocked humanity on a worldwide scale like no other (GDA, 2020). This crisis exacerbates economic and social aspects as extensively debated in the latest research (Eggers, 2020). This shock was specifically hard on SMEs operating in the F&B area

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as well as the service industry in general (Bivona and Cruz, 2021). Donthu and Gustafsson (2020) argue that numerous industries were affected by the COVID-19 crisis, meanwhile, it has created entrepreneurial opportunities as well as triggered growth in numerous industries such as agricultural food, education and food online retail, respectively, according to Rowan and Galanakis (2020), Morley and Clarke (2020), Dannenberg *et al.* (2020). Accordingly, the COVID-19 pandemic does not only bring adversities but entrepreneurial opportunities for entrepreneurs who are sensitive to environmental changes as well as the capability of embracing such entrepreneurial opportunities (Guckenbichl and Corral de Zubielqui, 2022; Davidsson *et al.*, 2021). With this respect, Business Model Innovation (BMI) is a strategic tool which helps businesses restart and recover from the post-pandemic disruption, thereby offering a new avenue for value creation in the post-pandemic period (Bivona and Cruz, 2021). According to Marinković and Lazarević (2021), consumer habits and preferences have become profoundly changed due to the pandemic. Entrepreneurially, the COVID-19 crisis has stimulated innovation acceleration of businesses, especially in the food area (Galanakis *et al.*, 2021). However, how firms innovate their business models to recover post-pandemic while building resilience to uncertainties and disruptions in the future remains underexplored in the present state of research (Ramdani *et al.*, 2019; Bivona and Cruz, 2021; Doern, 2016) (see Figure 1).

Furthermore, the existing literature stream on BMI for SMEs is insufficient. Most SMEs still perceive innovation traditionally (North and Kumta, 2018), using BMI as a tool to meet environmental demands (Colovic, 2022) and paying little attention to innovating their business models (Liao *et al.*, 2019) probably due to a lack of knowledge, capabilities as well as resources (Hock-Doepgen *et al.*, 2020). This is a serious concern in emerging economies (Kumar and Srivastava, 2020). In this context, Entrepreneurial Orientation (EO) plays a critical role in this mechanism (Ferreras-Méndez *et al.*, 2021) because EO is an enterprise's capability to solve risks caused by uncertainties in the external environment and mobilize necessary resources to continue business development. EO reflects an organization's proclivity for taking risks, being innovative, proactive, active competitive, as well as firm autonomy. Interestingly, it can help businesses identify entrepreneurial opportunities with a first-mover advantage leading to enhanced competitive advantage with the likelihood of attracting premium segments (Gao *et al.*, 2018; Yousaf and Majid, 2018). Despite the ongoing academic and managerial practices' concern in the notions of BMI as well as EO of SMEs (Zucchella *et al.*, 2018; Foss and Saebi, 2017), only a small number of research have combined

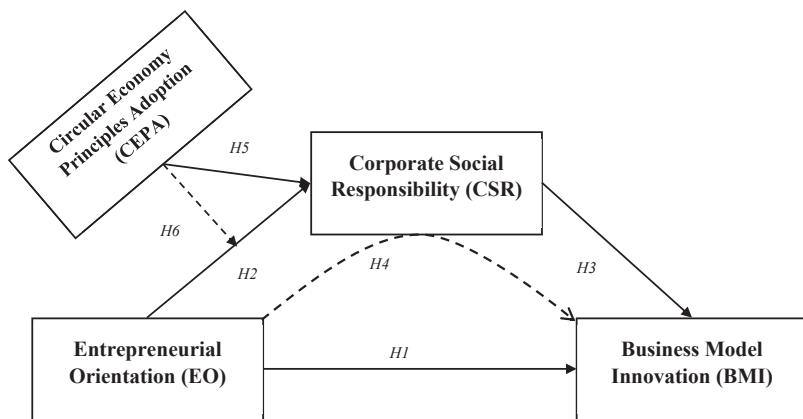


Figure 1.
Proposed
research model

Source(s): Authors' own work

the 2 research areas (Asemokha *et al.*, 2019). Additionally, within the context of increasing environmental and social issues, corporate social responsibility (CSR) practices can be an important factor that helps businesses mobilize resources from their internal as well as external stakeholders, develop the dynamic capabilities of existing resources as well as enhance the capacity to convert current resources into innovative products and services. Accordingly, CSR practices can centralize innovations to be socially as well as environmentally responsible. In the era of nations and global attempt toward the shift from a linear economy to a circular economy (CE) model, recognition of CE principles (CEPA) at the entrepreneurial level is essential for competitive advantage as well as sustainable development (Rodríguez-Espíndola *et al.*, 2022; Dey *et al.*, 2022). Within this sense, CEPA with aims at promoting the circularity of resources, enhancing resource efficiency, reducing emissions and pollution, mitigating wastes and excluding toxic substances can augment the influence of EO on CSR.

In addition to the aforementioned, current literature calls for further exploration in the field of business model changes after crises or unforeseen concussions (Amankwah-Amoah *et al.*, 2020; Corbo *et al.*, 2018). Also, it is vital to assess how perceived entrepreneurial opportunities engage in changes to a company's business model as well as how an enterprise pursues entrepreneurial advantages during a catastrophe (Thorgren and Williams, 2020). The aim of this research is to look into the given concerns about what drives BMI for SMEs in the F&B section amid this uncertain context. The objective is to provide insight into how F&B firms should evolve to survive in a future with scenarios where the world bustles after environmental shocks from the standpoint of business model innovation. This article concentrates on the F&B area because of the rapid change in the environment has changed the perception and behavior of consumers, especially in the food industry, which entails firms being constantly innovative (Resciniti *et al.*, 2020). Besides, such changes affect the orientation in which firms innovate, in turn forcing businesses to think about internal and external environmental factors in organizing their activities of innovation (Bresciani, 2017). These reasons make the topic interesting and, therefore, require an in-depth investigation. Drawing on the above argument about the potential enabling factors for driving BMI, this study undertakes the empirical examination of how EO intersects with BMI with and without the mediation effect of CSR within the setting of SMEs in the F&B area in a developing market. Moreover, the research explores how CEPA is involved in augmenting the influence of EO on CSR. Theoretically, this study adopts resource-based view (RBV) theory, stakeholder theory, dynamic capabilities and practice theory to anchor the relation between the factors in this study. More specifically, dynamic capabilities and practice theory can help explain how and why firms change their existing business model (Ramdani *et al.*, 2019). The goal of this article is to look into the mechanism by which it drives BMI in a practical context. Hence, it is predicted that this paper will complete the current division in knowledge and empirical mechanisms so that businesses can appropriately innovate their business model for an efficient restart after the pandemic. More importantly, the objective of this study also aims at elucidating the scientific knowledge and empirical evidence of the focus and pathway to BMI toward resilience from disruptions – since business environment uncertainties are unpredictable. To achieve the aforementioned aims, the following questions below are addressed in this article:

- RQ1. How does EO associate with BMI within the setting of F&B SMEs in a developing market in times of crisis?
- RQ2. Does CSR mediate the association of EO with BMI within the setting of F&B SMEs in a developing economy in times of crisis?
- RQ3. Does CEPA moderate the influence of EO on CSR within the setting of F&B SMEs in a developing market in times of crisis?

By addressing the stated objectives, there are a number of ways this paper adds to the field's existing literature: Initially, it helps with the streams of the body of knowledge on EO and BMI by providing knowledge and additional empirical evidence on the relation between EO as well as BMI, especially the direct and indirect effects of EO on BMI, which have been empirically demonstrated within the setting of SMEs in the F&B area – it is a novel contribution of this study as few existing studies combine the two factors. Furthermore, the incorporation of CSR as a mediator between EO and BMI, along with CETA as a moderator between EO and CSR, into this framework once again increases the research uniqueness since an integrated research framework has not been covered before in the current research-based. Second, this paper adds to the extension of the RBV, stakeholder, dynamic capabilities as well as practice theories as it explores the applicability of these theories in the new setting. Third, this research article offers a logic established on an empirical mechanism to promote BMI in a way that awakens the role of EO, such as risk-taking capabilities, innovativeness and proactiveness promote stakeholder-oriented CSR practices that facilitate BMI. The demonstrated moderation effect of CEPA on the association of EO with CSR shows that the implementation of CE fundamentals into operations management can augment the positive impact of EO on stakeholder-driven CSR practices. Above all, the contributions of this study contribute to closing the gap in the current literature as outlined above. The study provides the practical mechanism by which SMEs in the food and beverage area can realize BMI responsibly and sustainably. Furthermore, there is still a crisis with COVID-19 that is uncertain and unpredictable, where this paper provides insight for SMEs in the F&B area on the mechanism by which it helps them restart in the post-pandemic and build resilience to potential disruptions in the future. This research article has an originality that helps fill the division discovered in the current literature, whereby it provides timely scientific knowledge and a practical mechanism by which drives BMI to restart efficiently after a crisis. Importantly, it may help businesses lay a radical foundation so that they can proactively respond to potential fluctuations.

The following is how the paper is organized. Initially, [Section 1](#) introduces this research starting with the overview to going into depth about the research topic, research gap, objective and contribution. Second, [Section 2](#) presents a literature review that includes a discussion of the underpinning theory and related constructs. Subsequently, [Section 3](#) and [Section 4](#) focus on hypothesis development and model development, the research design as well as the methodology. Next, [Section 5](#) and [Section 6](#) interpret the outcomes as well as discuss the results. Then, [Section 7](#) proposes implications. Lastly, [Section 8](#) concludes the research article as well as limitations for subsequent studies.

2. Literature review

2.1 Underpinning theories

This paper hinges on the theoretical lens of the RBV theory ([Barney, 1991](#)), stakeholder theory ([Freeman, 1984](#)), dynamic capabilities as well as practice theory to anchor the relationship between EO and BMI using CSR as an intermediate mechanism. RBV perspective is adopted to conceptualize BMI and the dynamic capabilities and practice theories ([Teece, 2018](#)) that are used to assist in explaining questions of how enterprises make changes to their current business model. According to dynamic capabilities and practice theory, BMI is perceived as a preliminary trial that requires constant modification, adaptation as well as appropriate improvement according to the actual implementation. Theoretically, this approach is considered appropriate with the extent of this research because BMI is not a result to achieve but it is a process associated with numerous competitive capabilities of enterprises to enable business models to stay agile and adaptable in response to environmental changes. Consequently, it can help businesses enhance their resistance to adversities to overcome obstacles and stay resilient to external environment uncertainties.

From the RBV perspective, EO with a series of important features, such as risks-taking capabilities, innovativeness and proactiveness, are viewed as a source of competitive advantage and strategic assets that facilitate management practices toward internal-CSR and external-CSR, in turn facilitating BMI. Additionally, the adoption of CE principles is considered a strategic tool that can augment the impact of EO on CSR, ultimately leading to sustainably promoting environmentally socially responsible BMI. From a logical viewpoint, BMI can be achieved by combining various managerial practices. Particularly, in this research scenario, stakeholder theory is used to explain questions of how firms mobilize and leverage resources from stakeholders to create added values and undertake BMI as well as reasons why stakeholders participate in BMI and processes for creating value.

The above theories are used to predict the frameworks in the recent EO-related literature. For instance, [Ferreras-Méndez et al. \(2021\)](#) whose study used RBV and found that EO enhances BMI and new product development in the context of Spanish SMEs; [Yin et al. \(2021\)](#) whose research used RBV and demonstrated that EO positively affects resource acquisition in the Chinese new ventures settings. In addition, [Bouguerra et al. \(2023\)](#) whose study used stakeholder theory to estimate the relationship between EO and environmental collaboration in the context of multinational companies in Turkey and found that EO positively affects environmental collaboration. Further, research by [Dias et al. \(2021\)](#), through the lens of dynamic capabilities theory, found that EO positively affects firm's performance (environmental and financial) and environmental sustainability commitment. In this framework, theoretical constructs are addressed below in subsections "2.2 Entrepreneurial Orientation (EO)," "2.3 Business Model Innovation (BMI)," "2.4 Corporate Social Responsibility (CSR)" and "2.5 Circular Economy Principles Adoption (CEPA)." In light of the theories discussed in the preceding part as well as current research on this stream, EO has a critical role in forming the enterprise's strategy to be innovative, proactive and risk-taking in order to survive and grow in a sustainable way. In this respect, EO is viewed as an enabling-factor for boosting CSR and BMI. In addition to this, CEPA, according to its primary concept, is seen as a catalyst that directs EO toward sustainable practices. Therefore, it is necessary to place these constructs in the proposed order. These constructs are explained in the following subsections.

2.2 Entrepreneurial orientation (EO)

EO is a crucial notion in the sector of management and entrepreneurship ([Martin and Javalgi, 2016](#)). EO is a firm-level construct determining a firm's overall strategic posture that includes BMI ([Su et al., 2020](#); [José Ruiz-Ortega et al., 2013](#)). According to [Bouncken et al. \(2020\)](#) and [Covin et al. \(2020\)](#), EO does not simply indicate senior management's strategic direction but also the strategic stance of multi-levels of management to advertise an individual initiative as well as dispersed entrepreneurship in the organizations. According to [Javed et al. \(2018\)](#), EO encircles the aspects of SMEs to be innovative-oriented, proactive-oriented and risk-taking are critical mechanisms that explain strategy formulation. Current literature suggests that EO can enhance processes of value acquisition ([Eshima and Anderson, 2017](#)) and creation ([Keil et al., 2017](#)), forming the key theme of BMI ([Andreini et al., 2021](#)). According to [Khan et al. \(2021\)](#), EO's definition is versatile in existing literature. [Gao et al. \(2018\)](#) define EO as the entrepreneur's capabilities to address the potential risks as a result of environmental changes and management of necessary resources to strengthen the firm viability and growth. In addition, [Yousaf and Majid \(2018\)](#) argue that EO is the firm's proclivity for taking risks, being proactive, innovative, competitively aggressive, as well as autonomy.

EO variable is a multi-dimensional reflecting the firm's orientation of taking risks, being proactive, innovative, competitively aggressive, as well as autonomy. With this regard, risk-taking capability reflects the degree to which a company recognizes strategic entrepreneurial

advantages in uncertain situations (Zinn, 2019). Proactiveness pertains to the company's intention to be the first mover over competitors in relation to introducing innovative products and services in response to increasing market demand (Martin and Javalgi, 2016). Innovativeness involves the creative process, the pursuit of new business opportunities and new ideas that create new products and services. Competitive aggressiveness reflects the tendency that businesses to act promptly and drastically against the competition in the marketplace (Yousaf and Majid, 2018). In this study, EO is a six items-scale factor that was derived from Asemokha *et al.* (2019) and Khan *et al.* (2021) as well as modified to be appropriate for the study setting which are described in Table 1. Concerning BMI, EO is significant in promoting BMI in the sense that it facilitates undertaking BMI by enabling the identification of entrepreneurial opportunities to take advantage of being a first mover (Khan *et al.*, 2021). From the above discussion and argument, the recent global pandemic has resulted in countless uncertainties and has affected business operations. EO needs to be sharper and more realistic than ever to not only help businesses have the strategic posture for the post-pandemic but also help businesses enhance resistance to potential uncertainties and disruptions in the future. Additionally, the F&B industry is recognized to be significantly impacted by the pandemic (Bivona and Cruz, 2021). Moreover, it is inherently very vulnerable. Despite the COVID-19 crisis on SMEs in the F&B area is enormous and how to pursue opportunities in times of crisis remains untapped in the current literature (Thorgren and Williams, 2020). It is vital to understand that the role of EO in leading businesses to overcome the crisis is essential (see Tables 2, 3 and 4).

2.3 Business model innovation (BMI)

Molina-Castillo *et al.* (2020) state that Business Model (BM) itself constitutes viable logic to create value to achieve the organization's goals. Simply put, BM is perceived as a tool representing the way of financing business activities (Mora, 2016) that is directly linked to a firm's strategy (Broccardo *et al.*, 2022). BM should be innovative in response to environmental changes (Giacosa *et al.*, 2017). Belyaeva *et al.* (2020) state that contextual factors (economic, cultural and social) to some extent affect the motivation ground for changing current BI toward sustainable BM. BMI refers to introducing the innovations needed to create new value sources or advanced systems of novel offerings that are hard to be imitated by competitors (Foss and Saebi, 2018). BMI refers to innovating the existing BM to add a new value proposition, develop new value-creation mechanisms and structure systems to acquire value from resources through accumulating new knowledge (Beltagui, 2018). BMI plays a critical role in helping businesses achieve strategic objectives, like an increase in revenue, long-term profits as well as market share growth (Khan *et al.*, 2021). Current literature suggests that BMI can be taken in different approaches depending on the specific situation. Accordingly, BMI can be undertaken on only one component, adjusting several components simultaneously or modifying the ways in which components interact with one another in sectors of innovations such as value propositions, human capital, operational values as well as financial-related values (Ramdani *et al.*, 2019). BMI extent has a substantial impact on the enterprise's viability (Velu, 2016).

From RBV's point of view, BMI is the source of a firm's competitive advantage. Considering the increased competition, turbulent markets and socioeconomic changes, BMI is recognized as a strategic tool that is always needed to help businesses gain competitive advantages and improve resilience to fluctuations and remain viable (Donner and Vries, 2021). In the face of social and environmental uncertainties, businesses are expected to provide stakeholders with innovative BMs toward sustainability (Franceschelli *et al.*, 2018). In the "new normality" context with tremendous turbulence, BMI toward sustainability is critical to overcoming the raising challenges and staying resilient to potential disruptions (Belyaeva *et al.*, 2020). In light of the recent global pandemic, BMI considers not only the

Variables	Items	Descriptions	Sources	Business model innovation
Entrepreneurial orientation (EO)	EO1	Amid uncertainties, we accept to exploit novel and potential entrepreneurial opportunities	Khan et al. (2021) , Asemokha et al. (2019)	
	EO2	Our research and development activities are boldly oriented toward market demands		
	EO3	Our innovation strategies are driven by customer satisfaction and business resilience		
	EO4	We strongly focus on utilizing advanced technologies		
	EO5	We incline to innovate our business model whenever it is necessary to remain our business		
	EO6	We have a strong proclivity in introducing novel products and services ahead of others		
Business model innovation (BMI)	BMI1	We are able to reconfigure our existing model as necessary to improve overall value proposition to our consumers	Bivona and Cruz (2021) , Ferreras-Méndez et al. (2021) , Asemokha et al. (2019)	
	BMI2	We are able to reorganize quickly our operating processes to capture new entrepreneurial opportunities as new revenue streams		
	BMI3	We are able to reorganize our network of partners to improve our value proposition to consumers		
	BMI4	We are able to reorganize our operations management system as necessary to promote the circularity of materials		
	BMI5	We are able to redesign our products quickly to adapt to the new market demand		
	BMI6	We are able to change the elements of our business model as necessary to adapt to the fluctuations in the environment		
	BMI7	We are able to change our model aspects and our professional network as necessary to accommodate new product launches		
	BMI8	We are able to change aspects of our business model as necessary to fully exploit available resources as well as expand our professional network in response to the catastrophe		
Corporate social responsibility (CSR)	CSR1	We operate in compliance with ethical standards and social norms	Zhang (2022) , Singh and Misra (2022) , Kamran et al. (2021)	
	CSR2	We persistently integrate the interests of stakeholder groups into our business strategies		
	CSR3	We have a multi-approached training strategy for our employees to increase their sense of environmental and social responsibility and develop knowledge-based dynamic capabilities		
	CSR4	We develop systems and processes to facilitate flows of knowledge sharing, transformation and management among internal and external		
	CSR5	We have programs to involve external partners in value-creation processes		
	CSR6	We have incentive policies to promote stakeholders' engagement in innovation processes toward sustainability		
	CSR7	We make practical contributions to addressing social problems such as hunger, poverty, disease and providing employment		
	CSR8	We always respect human rights		
CE principles adoption (CEPA)	CEPA1	We persistently use renewable, recyclable or biodegradable inputs	Baah et al. (2022) , Zeng et al. (2017)	
	CEPA2	We promote reducing waste and reworks		
	CEPA3	We always maximize value creation through initiatives that promote recycling, reusing and remanufacturing to prolong the life cycle of materials as well as products in the economy		
	CEPA4	We always prioritize using resources from the economy instead of continuing to exploit nature		
	CEPA5	We are always looking for entrepreneurial opportunities in the CE		

Source(s): Authors' own work

Table 1.
Variables and items

Characteristics	n = 467	Percentage (%)
<i>Size of enterprises</i>		
Small (from 10 to 49 staffs)	295	63.17
Medium (from 50 to 249 staffs)	172	36.83
<i>Business sectors</i>		
Food manufacturing enterprises	368	78.80
Non-alcoholic beverage manufacturing enterprises	99	21.20
<i>Seniority in the F&B industry</i>		
12 – < 15	86	18.42
15 – < 20	126	26.98
20 – < 25	136	29.12
>25	119	25.48
<i>Gender of respondents</i>		
Male	236	50.54
Female	231	49.46
<i>Age of respondents</i>		
38 – < 45	95	20.34
45 – < 50	116	24.84
50 – < 55	158	33.83
>55	98	20.99
Source(s): Authors' own work		

Table 2.
Representative
characteristics

Variables	Items	Factor loading	Cronbach's alpha	Composite reliability	AVE
Entrepreneurial orientation (EO)	EO1	0.745	0.879	0.909	0.624
	EO2	0.789			
	EO3	0.802			
	EO4	0.816			
	EO5	0.776			
	EO6	0.811			
Business model innovation (BMI)	BMI1	0.837	0.932	0.944	0.678
	BMI2	0.826			
	BMI3	0.821			
	BMI4	0.783			
	BMI5	0.801			
	BMI6	0.840			
	BMI7	0.824			
	BMI8	0.853			
Corporate social responsibility (CSR)	CSR1	0.818	0.920	0.934	0.640
	CSR2	0.827			
	CSR3	0.784			
	CSR4	0.755			
	CSR5	0.791			
	CSR6	0.803			
	CSR7	0.816			
	CSR8	0.803			
CE principles adoption (CEPA)	CEPA1	0.860	0.870	0.898	0.639
	CEPA2	0.718			
	CEPA3	0.730			
	CEPA4	0.865			
	CEPA5	0.813			
Source(s): Authors' own work					

Table 3.
Illustrative values
supporting analyses of
reliability and
convergent validity

Source(s): Authors' own work

competitiveness of the business but also the resilience of the company to disruptions in the present situation and to potential fluctuations that may be yet envisioned at the present. In this respect, it reflects a profound shift in business strategies, operations management and philosophies aimed at making an institution that is much stronger to market disruption as well as generating more value as a response to a volatile and resource-scarce world (Belyaeva *et al.*, 2020). In this regard, operational efficiency is considered the core element of EO and problem addressing for stakeholders in a sustainable way rather than sole philanthropic activities (Belyaeva *et al.*, 2020).

There has been serious disturbance as a result of the recent global pandemic to society and the economy, mainly from border closures and social distancing (Gibson, 2020). Consequently, this has resulted in continuous changes in preferences and related behaviors of consumers, which put SMEs on the verge of failure (Bivona and Cruz, 2021), especially in the F&B industry. Although BMI is demonstrated as a strategic instrument to assist industries in overcoming challenges and gain competitive edges in the face of disruptive business models, what is involved in driving BMI is still underexplored (Ramdani *et al.*, 2019). Current literature in the field of BMI shows a greater focus on multinational or large enterprises, whereas it is yet without any focus on SMEs (North and Kumta, 2018). In an era where the world and countries strive to realize sustainable development goals at the corporate level, BMI should be approached in a way that facilitates shifting from traditional linear patterns to circular patterns for competitiveness and sustainability (Donner and Vries, 2021; Geissdoerfer *et al.*, 2018). BMI significantly depends on various macro and micro factors, where the connection between partners and actors involved aim at utilizing the synergies of the stakeholders and optimizing resources is paramount (Donner and Vries, 2021). Based on the literature review, in this study, BMI is an eight-item scale variable developed based on Bivona and Cruz (2021), Ferreras-Méndez *et al.* (2021) and Asemokha *et al.* (2019), which was adjusted to fit the research scope. Items are as shown in Table 1.

2.4 Corporate social responsibility (CSR)

CSR should be scrutinized part by part including each word for which CSR stands (Carroll and Brown, 2018). In this regard, “C” stands for “Corporate” which is implied to include all businesses at different scales (large, medium and small) (Carroll and Brown, 2018). Next, “S” stands for “Social” which refers to the life (humans, other living organisms such as animals, plants and the natural environment) that implied to encompass various stakeholders whose life may be affected by the decisions or actions of the businesses (Carroll and Brown, 2018). Finally, “R” stands for “Responsibility” that refers to the responsibility that businesses are held accountable for their activities and governance (Carroll and Brown, 2018). At the organizational level, CSR pertains to the dynamics of an organization embedded in its strategies, initiatives and actions that aim at mitigating the adverse impacts on the environment as well as community while addressing the interests and concerns of stakeholder groups (Le and Ferasso, 2022).

	BMI	CEPA	CSR	EO
BMI	0.823			
CEPA	0.046	0.800		
CSR	0.749	0.098	0.800	
EO	0.674	-0.137	0.719	0.790

Note(s): “Italics” values are the square root of AVE values is greater than correlations between the latent variables

Source(s): Authors' own work

Table 4.
Fornell and Larcker
criterion

Approaching from the employee's perspective, a primary stakeholder of the business, [Baima et al. \(2021\)](#) highlight that CSR can strengthen employee loyalty and collaboration cross functional units, ultimately leading to optimal orchestration of firm's tangible and intangible assets. On the other hand, considering the market perception, consumers, as one of the important stakeholders of the business, are increasingly concerned about the environment which in turn leads them to the extent by which the price and quality are not as attractive as the green product's usefulness ([Piper et al., 2021](#)).

Conceptually, CSR is a complex, multi-dimensional domain that both affects and is affected by stakeholders ([Madanaguli et al., 2022](#)). Considering value chains, stakeholder performance can influence the entire chain's CSR practices ([Khanra et al., 2022](#)). However, from a managerial point of view, CSR-related activities are critical and should be examined from a micro perspective ([Kaur et al., 2022](#)). In a dynamic world, the outcomes from business activities are not only assessed economically but also on a social and environmental level, considering the interests of stakeholders ([Le, 2022](#)). From the stakeholder perspective, business stakeholders involve staffs, consumers, associates, the environment, community, society at large, shareholders and institutions that have interrelationships with the business. In this sense, business operations can affect and be affected by stakeholders in various ways ([Freeman et al., 2020](#)). CSR-related activities essentially guide the business activities that revolve around the philosophy of responsibility and accountability toward stakeholders, in turn strengthening the relationship between the business, and its stakeholders and promoting relationships among stakeholders ([Le et al., 2021](#)).

According to [Turker and Ozmen \(2022\)](#), the benefits of proactively implementing CSR are substantial. CSR initiatives lead to enhanced organizational learning, fostering collaboration and facilitating innovation. Considering innovations, it is not feasible with the expectation of a one-size-fits-all strategy, and the drivers of innovation cannot operate in isolation. Such drivers need to collaborate and interact with each other to be efficient. A model that is considered feasible is developed based on a specific situation and for a specific context. Extrinsic factors motivate the formation of the latest value set, as a result of which are selected as well as incorporated into changes at both the strategic and operational levels ([Román et al., 2021](#)). As highlighted by [Carroll and Brown \(2018\)](#), there is no single definition or paradigm of the construct of CSR in the fields of social sciences. In this scope, CSR is an eight-item scale variable that was developed based on [Zhang \(2022\)](#), [Singh and Misra \(2022\)](#) and [Kamran et al. \(2021\)](#) and described in [Table 1](#).

2.5 Circular economy principles adoption (CEPA)

In the context of scarcity of natural resources, uncertainties in the environment and population growth, CE has emerged as a brilliant concept for sustainable development ([Donner and Vries, 2021](#)). Recently, CE became popular to address stakeholder concerns about resource constraints and planetary boundaries ([Viaggi and Zavalloni, 2021](#)). CE improves resource efficiency and reduces operational costs toward sustainable development by adopting CE principles (CEPA) ([Barros et al., 2021](#)). CE principles refer to practices revolving around the principles of "reduce, reuse, and recycle" ([Goyal et al., 2018; Zeng et al., 2017](#)) by which enterprises can improve resource efficiency through innovative initiatives in identifying entrepreneurial opportunities, processes, systems and connections, thereby increasing material circularity and mitigating waste. In this respect, CEPA as a key philosophy in strategic planning that provides enterprises with the means to identify and tackle different revenue streams ([Barros et al., 2021](#)). CEPA can help stimulate innovation, promoting steady economic, social as well as environmental advantages toward sustainability ([Rattalino, 2018](#)). However, the circular approach to EO still needs further development ([Gregorio et al., 2018](#)). In developing countries, CEPA is of little interest because

most businesses focus on how to enter the market quickly rather than sustaining a lifelong vision for sustainable growth (Ngan *et al.*, 2019). In addition, enterprises still face certain constraints in approaching circular practices (Guldmann and Huulgaard, 2020). For instance, Rodríguez-Espíndola *et al.* (2022) contend that SMEs often face resource constraints in the transition from conventional practices to sustainable practices because most of their investment focuses on resources to address business priorities. In this research, CEPA is a five-item scale variable that was developed based on Baah *et al.* (2022) and Zeng *et al.* (2017) which is presented in Table 1.

3. Hypothesis development and research model

3.1 Hypothesis development

The connection between EO and BMI is becoming more interesting to academics (Asemokha *et al.*, 2019). As an example, Ferreras-Méndez *et al.* (2021) discovered that EO impacts BMI positively and significantly concerning SMEs in Spain, a developed economy. Likewise, research by Asemokha *et al.* (2019) discovered that EO has a favorable connection with BMI in the domain of cross-industrial SMEs in Finland, an advanced economy. In addition, research by Bouncken *et al.* (2016) explored the service industry in Germany, a developed economy. They discovered that EO influences BMI, particularly in an extremely unclear context. EO is characterized by risk-taking, proactiveness, innovativeness, aggressive competition and autonomy, which may stimulate businesses to make investment in equipping necessary circumstances to facilitate BMI procedures (Collins and Reutzel, 2017). The F&B industry is perceived by its vulnerability, sensitivity to changes in the environment (Ani *et al.*, 2022; Davis *et al.*, 2021), the complexity due to involving numerous players in the value chain (Adams *et al.*, 2022), etc., which highlights the role of EO with increasing importance to render businesses strong and capable of realizing BMI.

In this research, the connection between EO as well as BMI is grounded in the RBV perspective (Barney, 1991), dynamic capabilities and practice theory (Teece, 2018). Accordingly, EO is considered a source of competitive advantages for enterprises that satisfy the criteria of RBV theory of competitive resources like inimitable as well as irreplaceable resources with a unique depending on the business-specific context (intrinsic and extrinsic environment) (Kiyabo and Isaga, 2020). In addition, from the perspective of dynamic capabilities and the practice theory (Teece, 2018), BMI is an innovative process that requires continuous improvement to adjust to environmental changes (Andreini *et al.*, 2021). Considering the COVID-19 crisis, which disrupts socioeconomic activities due to prolonged and unpredictable social distancing, the flexibility of a business model to adapt to disruptions is critical to be viable and recoverable (Clauss *et al.*, 2022). Considering this aspect, EO plays a decisive role. Drawing upon the preceding discussion, the hypothesis of the relation between EO and BMI is suggested as follows:

H1. EO positively impacts BMI.

According to Bivona and Cruz (2021), efficient innovations of SMEs depend largely on partnership collaboration and their capabilities of absorption, exchanging intrinsic and extrinsic knowledge. In this respect, the engagement of internal and external stakeholders is paramount since it enables synergy by utilizing internal and external resources to facilitate BMI (Rubio-Andrés *et al.*, 2022). Grounded from a stakeholder theory perspective (Freeman, 1984), CSR practices toward stakeholders, whether internal or external, show an organization commitment to addressing the interests and concerns of stakeholder groups (Le *et al.*, 2022), enabling businesses to collaborate in a diverse range of methods with stakeholders (Freeman *et al.*, 2020). With this regard, such synergies lead to facilitating processes that shift the existing patterns into an innovative business model which integrates economic, social and

environmental issues as well as simultaneously the interests and concerns of several stakeholders (Velter *et al.*, 2022). It is vital to combine the resources and capabilities of stakeholders in partnership networks and, at the same time, the absorptive capabilities of knowledge (Corbo *et al.*, 2020).

From the standpoint of the RBV theory, EO is regarded as a source of competitive advantage and a strategic resource that facilitates management practices toward internal-CSR and external-CSR, in turn facilitating BMI (Kiyabo and Isaga, 2020). From the viewpoint of stakeholder theory, EO is characterized by innovativeness, risk-taking and proactiveness, combined into a ground for employing more socially responsible practices toward different stakeholders and creating more values for society (Zhuang *et al.*, 2020). Entrepreneurial efforts aim at addressing the interests and concerns of various stakeholders to demonstrate entrepreneurial goodwill toward the stakeholders, in turn strengthening the relationship between business and stakeholders, motivating their engagement in the business activities, ultimately, facilitating the realization of BMI in different methods (Spieth *et al.*, 2021; Freeman *et al.*, 2020). Additionally, grounded in dynamic capabilities as well as practice theory, how businesses can change their current business model can be explanatory. In this regard, the dynamic capabilities and practice are derived from collaboration and cooperation between enterprises and stakeholders and involvement of stakeholders in the chain (Teece, 2018; Dentoni *et al.*, 2016). That results in leveraging internal and external resources and capabilities to enable innovative processes (Dentoni *et al.*, 2016). More importantly, those resources and capabilities continually grow in a way that encourages knowledge exchange, insights sharing and resources and technology sharing because it is not realistic that an organization create everything alone, particularly in the setting of uncertainties and a fast-evolving environment (Zahra *et al.*, 2022).

Drawing upon the above discussions, CSR is an effective strategy to funnel EO characterized by taking risks, being innovative, proactive and competitively aggressive as well as autonomy into practices that involve stakeholder groups in innovative processes to facilitate BMI. Therefore, the relationships between EO, CSR and BMI are hypothesized as below:

H2. EO has a beneficial relation with CSR.

H3. CSR positively impacts BMI.

H4. CSR mediates the relation between EO as well as BMI.

CEPA enables businesses to internalize CE practices and engage stakeholders in such circles through knowledge-sharing activities, integrating circular practices-related criteria into the assessment standard that ultimately facilitates transforming from traditional linear patterns to circular patterns (Barros *et al.*, 2021). With the setting of BMI, the importance of stakeholders for the feasibility of BMI is emphasized in the present research (Rubio-Andrés *et al.*, 2022). Grounded in the underpinning theories as aforementioned, the significance of CETA in the relation between EO as well as CSR can be theoretically justified. From the stakeholder theory perspective, the implementation of CE fundamentals sharpens entrepreneurial orientation to help foster sustainable management practices toward internal and external stakeholders. This, in turn, leads to attracting the interest and collaboration of different stakeholders, which stimulates embedding CE principles into their behaviors and practices that ultimately make CE principles-based BMI viable (Barros *et al.*, 2021). In the field of innovation-oriented research, the RBV theoretical lens is deemed appropriate for examining CE principles in generating competitive advantage (Jakhar *et al.*, 2019). Building upon it, incorporating CE principles into EO may strengthen the firm's competitive advantage oriented toward addressing different stakeholders' interests and concerns while stimulating different stakeholders to engage in an innovative process to

realize CE principles-based BMI (Rodríguez-Espíndola *et al.*, 2022). Taking into account of dynamic capabilities and the practice theory, adopting CE principles strengthens dynamic capabilities and managerial practices by synergizing different stakeholders oriented toward innovating business models (Teece, 2018). This results in engaging different stakeholders in an innovative process based on adopting CE principles. By doing this, businesses are perceived as socially responsible, in turn enhancing the firm's creditability to stakeholders as well as improving the firm's relation with its stakeholders, ultimately winning collaboration and cooperation from stakeholders. Given the above discussion, the association of CEPA with EO on CSR is hypothesized as below:

H5. CEPA positively affects CSR.

H6. CEPA moderates the relationship between EO as well as CSR.

3.2 Model development

Based on the previous discussions, the model was created. Figure 1 shows the relation between the factors involved in the model. Which, EO is a 6-item scale independent factor, BMI is an 8-item scale dependent factor, CSR is an 8-item scale moderation factor and CEPA is a five-item scale moderation variable. The descriptions of the variable-associated items are described in Table 1 under Section 4.2:

4. Research design and methodology

4.1 Target population and sampling

This research article focused on private SMEs operating in the F&B industry in a developing market. There are several reasons for this priority: First, the disparity of ownership structure leads to the difference in corporate governance as well as management structure between private enterprises and state-owned enterprises (Le *et al.*, 2021). Private-owned SMEs often face more pressure than state-owned enterprises because they must be self-sufficient in every respect (Le *et al.*, 2021). This pressure is even more intense in times of crisis, given the primary aim of this research article is to provide insightful knowledge as well as practical mechanisms to help businesses restart post-pandemic and become resilience to potential disruptions in the future; therefore, focusing on this specific context and audience is necessary. Second, the F&B industry is complex in the sense that global stakeholders are having more concerns regarding its social as well as environmental sustainability (Fiandrino *et al.*, 2019). Third, the F&B industry involves various stakeholders along the chain, and the "new normality" is characterized by an increasingly turbulent business environment, a high as well as unpredictable change of rate; therefore, BMI toward sustainability is critical to overcome the raising challenges and stay resilient to potential disruptions (Belyaeva *et al.*, 2020). Fourth, this industry is delicate to environmental changes, particularly the COVID-19 crisis (Le, 2022) and SMEs in the F&B and service sectors are notably hit by this crisis (Bivona and Cruz, 2021). Fifth, SMEs make up the majority of the national economy (Nguyen *et al.*, 2020). Yet, they are more severely affected by the pandemic than large enterprises (Adian *et al.*, 2020). Criteria to determine the size of enterprises were adopted by the OECD (2021). Enterprises with 10–49 staffs were categorized as small-size while companies with 50–249 staffs were categorized as medium-size.

The sample was recruited from the partners of SMEs in the F&B area. To ensure accuracy in the quality of the collected sample, radical phases were taken. Through associations, the researcher could access a list of businesses operating in the F&B industry, collecting some initial basic information about these businesses. Then, the researcher selected a list of enterprises of some seniority in the industry for more than 10 years. That is sent to them as an open letter

introducing this study as well as invited them to take part in this research article as survey respondents. The unit of analysis used in this article was the enterprise and the person holding the senior position in the business who answered the survey questions. In this regard, respondents were asked not to respond based on their subjective views but on relevant documents, reports and statements of their business. This process resulted in 657 eligible samples.

4.2 Measurement instrument

This research article applies a quantitative approach; therefore, a questionnaire was the main tool to aggregate primary data from enterprises. The questionnaire consisted of specific steps to ensure its appropriateness. Questionnaire was initially formed according to the created components. Six academics as well as experts in the industry then looked over it for the relevance of the study context. Then, the questionnaire was adjusted according to the given comments. It was translated back and forth from Vietnamese to English and vice versa by two linguists who speak both English and Vietnamese proficiently. It was once more checked by six academics and professionals to ensure clarity, coherence and accuracy. After that, 50 people from a related backdrop participated in a pilot survey. Questionnaires were finalized for the primary survey which comprised three major parts. The first part was dedicated to businesses to highlight their difficulties during the global pandemic crisis, especially during the times of social-distancing as well as border closures. The second section was dedicated to collecting information from the respondents. The third section was designed to collect primary data through questions. The question content was clear, simple and concise omitting ambiguous words such as "occasionally," "sometimes" and "somehow" to avoid confusion. The questions were developed based on the items that contribute to the quantification of the factors as described in [Table 1](#). These questions were structured on a five-point Likert scale, where one stands for "strongly oppose" or "totally no." Otherwise, five represents "strongly concur" or "totally yes." It was up to the respondents to select one in the given range that corresponds to their response to the specific questions.

4.3 Data collection and analysis

Primary information utilized for this article was from the questionnaire-based survey. In addition to careful sampling and sample eligibility assessment and the appropriateness of the questionnaire, the survey procedure was completed in compliance with the necessary steps to minimize the possibility of common method bias as well as non-response bias. Questionnaires were forwarded to the survey participants with a cover letter describing this article as well as the expected contribution to the opportunity as well as long-term growth of SMEs in the F&B area. Additionally, the purpose of the cover letter is to make the respondents understand what this research means for businesses, particularly during the pandemic as well as the unknown future to motivate survey participants to give the most accurate and sufficient answers. Business representatives participating in this survey were required to answer survey questions without being based on the subjective views of the respondents on the field but rather based on the practical status of the enterprises derived from documents and reports in use. A set of instructions was also clearly shown in the cover letter, and at the same time, the reminder was also optimized by the researcher to motivate the survey participants and maximize the response rate.

The stated efforts resulted in receiving 498 answer sheets that accounted for a 75.80% response rate. After screening to eliminate the invalid ones (incomplete answers), the obtained valid answers were 467 which accounted for a 71.08% response rate. Data derived from those valid answers were used in the analysis using the Partial-Least Square Structural Equation Model (PLS-SEM). PLS-SEM was utilized as an appropriate tool because it is advantageous in dealing with complex models ([Hair et al., 2021](#)). Based on recent studies ([Jin](#)

et al., 2020), in a framework that entails examining the interrelationships between one or more independent as well as dependent factors, SEM is strongly recommended compared with others because it consists of a series of regression analyses (Dubey *et al.*, 2020). The model in this article explored complex relationships including direct, indirect and mediation and moderation effects; therefore, PLS-SEM was considered a suitable choice as an analytical tool. The statistical results obtained from the analysis are interpreted in Section 5.

5. Results

5.1 Representativeness of the research samples

The representative characteristics of the valid samples are summarized in Table 2. Statistical results illustrate that the firm size had a significant difference between small- and medium-sized companies (74.95% versus 25.05%). Likewise, there was a significant difference between the business sectors from the representative sample (78.80% versus 21.20%), respectively, of the food and beverage sectors. Regarding seniority of the collected samples in the F&B area, the results showed that enterprises operating in this industry for 20 to under 25 years make up a relatively high proportion (29.12%), after that 15 to under 20 years (26.98%), over 25 years (25.48%) and the youngest was 12 to below 15 years (18.42%). Regarding the age of respondents as business representatives who hold senior positions, the statistical results showed that the age group from 50 to below 55 accounts for the maximum proportion (33.83%), after that the age from 45 to under 50 (24.84%), over 55 years (20.99%) and the youngest accounts the lowest from 38 to under 45 (20.34%). Given the characteristics of SMEs in Vietnam, these representative characteristics accurately serve the target population of the F&B industry.

5.2 Non-response bias and common method bias

Non-response bias was assessed by utilizing *t*-test that aimed to understand whether there was a significant difference in the characteristics of the samples across response waves. Meanwhile, common method bias was reviewed by assessing VIF (Variance Inflation Factor) values as well as adopting Harman's one-factor test. If the VIF values of items and variables are <3.3 , then the problem of common method bias does not exist (Kock, 2015). If the total variance extracted by 1 factor is $< 50\%$, then the common method bias is not problematic in the present research (Fuller *et al.*, 2016). In this article, VIF values were all <3.3 , from 1.025 to 2.070, and the total variance extracted by one factor was 41.316 ($<50\%$). Therefore, the data used in this research is not affected by common method bias.

5.3 Evaluation of the normality of the data distribution

The normality of data distribution was evaluated by inspecting Skewness and Kurtosis. According to the data collected from a total of 467 respondents, it shows that the value of absolute Skewness of the variables ranges from 0.062 to 0.765 (<3) and the Kurtosis value from 0.016 to 0.716 (<10), therefore, the data was normally distributed (Kline, 2016). These methods were also used to analyze the normality of data distribution in the research of Tandon *et al.* (2021).

5.4 Measurement model assessment

This process includes assessments of the reliability of the scale, convergent as well as discriminant validities. In these processes, reliability was evaluated using Cronbach's alpha values, composite reliability (C.R), as well as total variable correlation. Hair *et al.* (2019) state that Cronbach's alpha values that are >0.7 and a total correlation >0.3 exhibit that the scale is valid. Within this research, the entire Cronbach's alpha values as well as total correlation values were >0.7 and 0.3, respectively, so the scales were reliable. Moreover, convergent

validity was evaluated utilizing factor loading values as well as Average Variance Extract (AVE). According to Henseler *et al.* (2009), with factor loading as well as AVE values > 0.7 and 0.5, thus, convergent validity was satisfied. Discriminant validity were assessed utilizing the Fornell and Larcker criterion. Fornell and Larcker (1981) state that if the square root of AVE is > the inter-correlation values, then discriminant validity is satisfied. The following table three illustrates the illustrative values for the analyses of reliability as well as convergent validity. Meanwhile, Table 4 shows the Fornell and Larcker criterion which meets the conditions for concluding discriminant validity.

5.5 Goodness of fit

The goodness of fit assessment of the model was carried out using indices such as NFI (Hair *et al.*, 2019); SRMR (Henseler *et al.*, 2009; Hu and Bentler, 1999), R^2 (coefficient of determination), Q^2 (cross-validated redundancy test) for endogenous constructs (Falk and Miller, 1992) and GoF (Wetzels *et al.*, 2009). The results were as follows: NFI value of 0.920 (>0.9), SRMR value of 0.042 (<0.08), R^2 value of 0.597 and 0.560 (>0.1) for BMI and CSR. Q^2 values were 0.401 and 0.357 (>0.1), respectively, for BMI and CSR. GoF value was 0.64 (>0.36), indicating a large fit. The results presented for the indices were used to evaluate the model fit and show that they meet the thresholds suggested by the relevant authors. Drawing upon the above analysis, it goes without saying that the model worked out well.

5.6 Structural model assessment

Before assessing the structural model, multicollinearity problem was assessed using VIF values. Hair *et al.* (2021) mentioned that when VIF values are <3.0, multicollinearity is not problematic. The outcome indicated that VIF values were all <3.0 (from 1.025 to 2.070); thus, multicollinearity did not occur – which satisfies the condition for structural model evaluation. Structural model evaluation was carried out utilizing the analytical findings using the bootstrapping technique. Table 5 shows the relevant values used to evaluate the structural model in this article. Figures 2 and 3 highlight the results of SEM analysis sequentially with and without the bootstrapping technique:

The results shown in Table 5 demonstrate that the study hypotheses were approved. Accordingly, the connection between EO as well as BMI proved to be beneficial and significant ($\beta = 0.284$; $t = 6.242$; $p < 0.001$). Thus, H1 was approved. The outcome affirms that EO positively and substantially affected CSR ($\beta = 0.718$; $t = 29.098$; $p < 0.001$) which supports H2. CSR had a beneficial and significant relation with BMI, supported based on outcomes ($\beta = 0.544$; $t = 13.011$; $p < 0.001$). Thus, H3 was confirmed. Further, the results justify a positive and beneficial relation between CEPA as well as CSR; therefore, H5 was accepted ($\beta = 0.192$; $t = 4.370$; $p < 0.001$). Considering the mediation impact of CSR on the relation

Hypothesis	Path	Coefficient	T-statistics	p-Values	CI-2.5%	CI-97.5%	VAF (%)	Conclusion
H1	EO → BMI	0.284	6.242	0.000	0.195	0.370	n/a	Accepted
H2	EO → CSR	0.718	29.098	0.000	0.670	0.765	n/a	Accepted
H3	CSR → BMI	0.544	13.011	0.000	0.461	0.626	n/a	Accepted
H4	EO → CSR → BMI	0.391	12.475	0.000	0.328	0.456	58	Accepted
H5	CEPA → CSR	0.192	4.370	0.000	0.078	0.259	n/a	Accepted
H6	CEPA*EO → CSR	0.096	2.374	0.018	0.022	0.174	n/a	Accepted

Table 5.
Bootstrapping results

Source(s): Authors' own work

Business model innovation

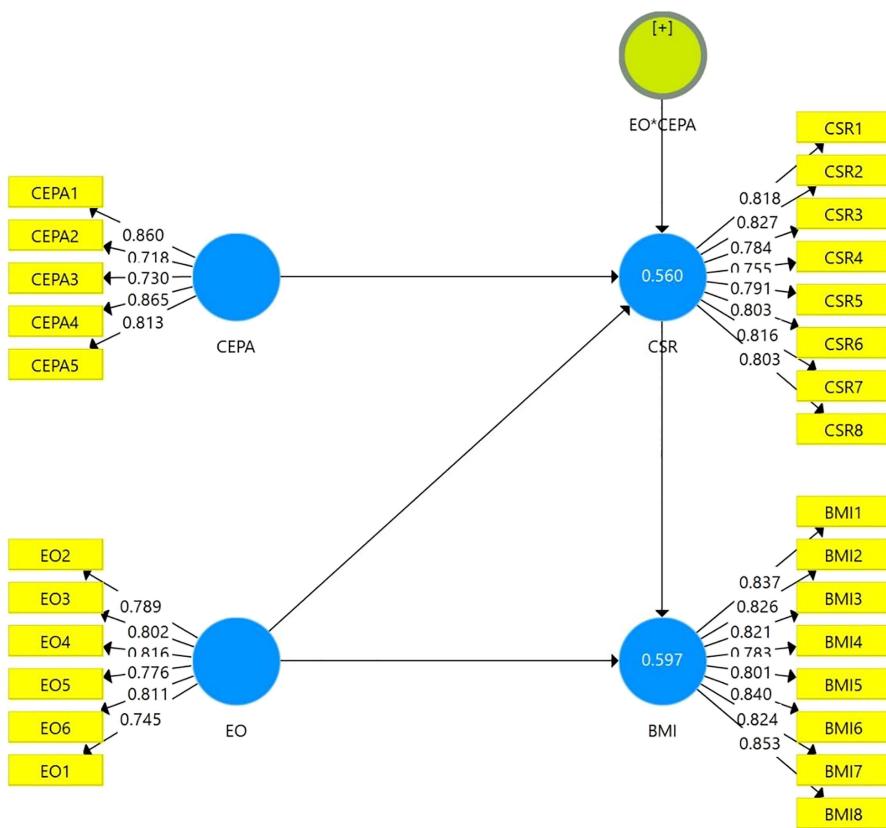


Figure 2.
SEM analysis without
using bootstrapping
technique

Source(s): Authors' own work

between EO as well as BMI, results showed that CSR partially mediated the stated relationship ($\beta = 0.192$; $t = 2.374$; $20\% \leq VAF = 58\% \leq 80\%$; $p < 0.05$). According to Hair *et al.* (2014), in which, $VAF > 80\%$ (fully mediate); $20\% \leq VAF \leq 80\%$ (partially mediate); $VAF < 20\%$ (no mediation). Therefore, H4 was supported. Considering the moderation effect of CEPA on the association between EO and CSR, the results confirmed that CEPA associated with EO impacted CSR ($\beta = 0.096$; $t = 2.374$; $p < 0.05$). The extent impact of EO on CSR varied according to the extent of CEPA.

The above findings reinforce the view, according to Khan *et al.* (2021), that EO plays an important role in driving BMI by facilitating and enabling businesses to identify entrepreneurial opportunities to take advantage of first-movers. In addition, this study further elucidates that, for EO to perform efficiently in the context of uncertainties and environmental shock, such as COVID-19 pandemic, it primarily necessitates reflecting the dynamic orientation of the business such as risk-taking capability; proactiveness; innovativeness; and competitive aggressiveness (Zinn, 2019; Yousaf and Majid, 2018; Martin and Javalgi, 2016). In addition, this study further affirms that businesses that undertake their social responsibility proactively and voluntarily will bring them very significant benefits in terms of collaboration and cooperation with stakeholders which in turn create a synthesis power that helps them realize BMI in a specific context. Further, this study

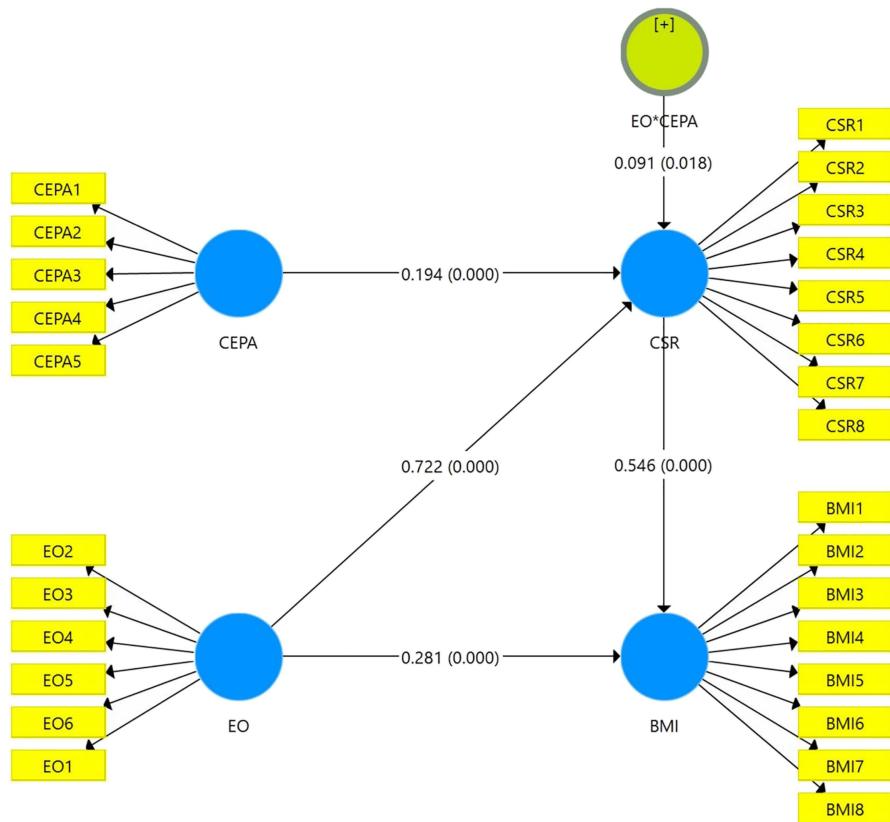


Figure 3.
SEM analysis using
bootstrapping
technique

Source(s): Authors' own work

supports the view stating that innovation should be flexible and based on the specific situation (context-base and resource-base) to be feasible and practical, not "one-size-fits-all" strategy. Moreover, through the findings of this study, the crucial role of CE practices in mitigating the impact of resource constraints and planetary boundaries is further affirmed by proving its contribution to the impact of OE and CSR ([Viaggi and Zavalloni, 2021](#)). Simultaneously, affirming that adopting CE principles facilitates BMI by providing a means to identify and capture different revenue streams, additionally, promoting circularity of materials and reducing waste.

6. Discussions

The primary result of this article was the mechanism promoting BMI for SMEs the in F&B sector in emerging economies. This finding elucidates that CSR mediates the relation between EO as well as BMI. CEPA reduces the impact of EO on CSR. Results showed that EO had a very strong impact on CSR (+0.718), followed by that CSR on BMI (+0.544). This implies that enterprises with strong EO are likely to practice good CSR that lays a foundation to promote undertaking BMI. Firmly applying CE principles augments the influence of EO on CSR and ultimately leads to great facilitation in undertaking BMI. Drawing on the obtained results, the proposed research hypotheses were interpreted as follows:

Hypothesis 1 (H1) was developed for the relation between EO as well as BMI. Within this case, this relationship was hypothesized to be positive. The results supported this hypothesis. This suggests that, by sharpening entrepreneurial orientation, firms in the F&B sector can innovate their business models toward post-pandemic recovery and build resilience to uncertainties and disruptions in the future. This finding is supported by previous studies in different contextual settings such as [Ferreras-Méndez et al. \(2021\)](#), [Asemokha et al. \(2019\)](#), [Collins and Reutzel \(2017\)](#) and [Bouncken et al. \(2016\)](#) whose research found that EO positively and significantly affected BMI, and EO was a driving factor for BMI.

Hypothesis 2 (H2) was that EO has a good relation with CSR. The results indicated that EO positively and significantly affected CSR. In this context, this relationship was proven to be the strongest compared with others. This finding suggests that by sharpening entrepreneurial orientation, F&B firms can augment their responsible management practices toward internal and external stakeholders. This finding supports previous studies in different contextual settings such as [Kiyabo and Isaga \(2020\)](#) whose arguments emphasized that EO enables firms to foster their CSR practices toward different stakeholders. [Zhuang et al. \(2020\)](#) research argued that EO with the characteristics of innovativeness, risk-taking and proactiveness will lead to more socially responsible practices and create more benefits for society.

Hypothesis 3 (H3) was developed for the relationship between CSR and BMI. This relationship was hypothesized to be positive. The results supported H3, confirming CSR has a good relation with BMI, which was proved to be the second strongest in this context. This suggests that F&B firms can foster BMI by promoting socially responsible practices toward different stakeholders. CSR fosters BMI by synergizing capabilities and knowledge gained from the collaboration and cooperation of different stakeholders. This finding supports past research in different contextual setups like [Velter et al. \(2022\)](#) and [Bivona and Cruz \(2021\)](#) whose research affirmed that the synergy of capabilities and knowledge of internal as well as external stakeholders is critical to the feasibility of BMI. This suggests that the collaboration and cooperation between firms and different stakeholders is a decisive factor for the success or failure of BMI ([Corbo et al., 2020](#)).

Hypothesis 4 (H4) was that CSR mediates the relation between EO as well as BMI. Outcomes supported H4, confirming the mediation role of CSR in the EO-BMI link. This suggests that F&B firms can innovate business models toward sustainability by sharpening EO, in turn fostering socially responsible practices toward different stakeholders. This finding supports [Kiyabo and Isaga \(2020\)](#), whose arguments highlighted that EO has a critical role in fostering management practices toward internal and external stakeholders that ultimately boost BMI. Likewise, this finding advocates the argument of [Spieth et al. \(2021\)](#); [Freeman et al. \(2020\)](#) asserting that entrepreneurial efforts toward resolving stakeholders' concerns as well as interests can strengthen the connection between firms and their stakeholders, in turn encouraging the connection of different stakeholders in the commercial activities that ultimately enable the implementation of BMI.

Hypothesis 5 (H5) was developed for the relationship between CEPA and CSR. The results confirmed H5, asserting that CEPA has a positive relationship with CSR. This suggests that adopting CE principles creates more motivation ground for firms to employ more responsible practices toward addressing different stakeholders' concerns. Adopting CE principles provides a key to the firms to survive and engage different stakeholders in the value chain toward sustainability. This finding supports [Morea et al. \(2021\)](#), whose research concluded that the three major value aspects of CSR (social, environmental and economic) can be grounded in the CE principles. [Fouquet and Hippe \(2022\)](#) argued that CE principles aim to optimize cooperation and collaboration between firms and different stakeholders to maximize economic value creation possibility while minimizing the harmful impact on the environment; therefore, adopting CE principles can further increase the bond between the business and its stakeholders through employing more responsible practices.

Hypothesis 6 (H6) was that CEPA moderates the influence of EO on CSR. The results supported H6. This suggests that in the F&B sector, vigorously adopting CE principles can sharpen entrepreneurial orientation and ultimately, foster socially responsible practices. This finding supports Barros *et al.* (2021), whose research highlighted that CEPA stimulates the internalization of CE practices within the firm and engages different stakeholders to facilitate transforming the existing business model to the circular-oriented business model. Likewise, this finding supports Rubio-Andrés *et al.* (2022), affirming that stakeholders' engagement-oriented activities are vital for the feasibility of BMI. This finding also supports Barros *et al.* (2021), asserting that CETA can sharpen EO orientation toward addressing stakeholders' interests and attracting their collaboration, in turn facilitating CE principles-based BMI (Rodríguez-Espíndola *et al.*, 2022).

Overall, the results of this research article add value to the literature stream associated with twin transitions by providing a key to decarbonizing the factors of the economy and applying the circular-oriented business model to transform value chains generated on a linear to a circular basis aiming to reduce waste and pollution while making better use of waste and ensuring environmental health. To this extent, it is in-line with recent research by Fouquet and Hippe (2022). This study, therefore, addressed its initial objectives by providing the mechanism by which firms in the F&B sector can sustainably innovate their business models. In addition, the research delivered profound knowledge and empirical evidence of how BMI can be developed for post-crisis recovery and maintain resilience to disruptions. Drawing on the findings of this study, its contribution is threefold: First, for firms in the F&B sectors, this study implies that in the changing environment and uncertainties, firms can evolve to survive by innovating their business models deriving from building entrepreneurial orientation on circular economy principles-base and undertaking CSR. This implies that in the face of scenarios of uncertainties, F&B firms should constantly innovate to survive, grow and consider internal and external factors in such innovation. This implication supports the recommendation of Resciniti *et al.* (2020) and Bresciani (2017). Second, for the readers, this study provides knowledge about why and how firms can innovate their existing business models. Third, for academia and researchers, this study provides the theoretical base and empirical evidence on the role of EO and the implementation of CE fundamentals in synergizing internal and external resources through CSR practices toward internal and external stakeholders, ultimately promoting the development of BMI.

7. Implications

7.1 Theoretical contributions

This paper provides significant value to existing articles: Initially, it adds to the literature streams for EO and BMI in the sense of combining BMI and EO into an empirical framework, which is currently scarce in existing literature (Asemokha *et al.*, 2019). Moreover, integrating CETA and CSR into an empirical framework makes it more comprehensive. In this regard, this study provides insights and empirical evidence on how F&B businesses should emerge to survive post-pandemic and build resilience to uncertainties and disruptions in the coming years. Additionally, it also aids in extending the scope of the previous work of Bivona and Cruz (2021) by providing an integrated empirical framework that operationalized in the F&B sector target population rather than a case study. Bivona and Cruz (2021) implied that BMI is a proper strategy to help businesses respond to the uncertainties and disruption caused by the pandemic. They also suggested that three processes can help businesses in effectively implementing BMI, emphasizing the importance of the capabilities to mobilize internal and external resources to optimize the synergy of resources and knowledge of different stakeholders in the networks, in turn facilitating major innovation of business models. The article is intended to broaden the scope of the research of Ferraris *et al.* (2020) by implying that the capacity to optimize internal and external resources is very important to the development process in response to environmental changes.

Moreover, this study may contribute as an extension of the scope of the study by [Belyaeva et al. \(2020\)](#) by providing additional empirical evidence of motivation grounds for BMI toward sustainability within the setting of SMEs in the F&B section in emerging markets. [Belyaeva et al. \(2020\)](#) highlighted that the motivational ground for business model transformation varies between regions, specifically, eastern European SMEs mainly are concerned with economic factors while western European are dominated by sociocultural factors. To this extent, the present study adds the twin transition-oriented elements to the motivation grounds as a means to achieve sustainability in the context of an uncertain and rapidly changing environment. Similarly, this contributes to reinforcing the suggestion of [Fiandrino et al. \(2019\)](#) that F&B firms necessitate shaping sustainable and responsible practices to achieve sustainability. Additionally, this article expands the argument of [Rubio-Andrés et al. \(2022\)](#) that BMI gains high attention in academia and practice as an alternative to product-and services-based innovation. It suggests that the BMI domain expands its border to reflect how the business is run as a whole in the context of twin transitions rather than simply innovating products and services traditionally. Furthermore, it also adds to the statement of [\(Colovic, 2022\)](#) that highlights BMI, sometimes is used as a means for firms to meet environmental demands. In this sense, this study theoretically implies that BMI is not necessarily encapsulated in environmental issues but is expanded to social and environmental concerns as a whole. [Ferreras-Méndez et al. \(2021\)](#) stated that EO plays a critical role in promoting BMI. This implies that the success or failure of BMI depends largely on EO. To this extent, the present study contributes to strengthening Ferreras-Méndez's statement by proving that EO has a crucial part in boosting BMI.

Second, this research article contributes to the expansion of RBV theory, stakeholder, dynamic capabilities as well as practice theories by exploring them in a new research context, especially post-COVID-19 crisis. In this regard, this study demonstrates the extension of these theories by validating EO, CSR practices and CEPA as resources to drive BMI within the setting of F&B SMEs in a developing economy. Besides, the application of CE principles and EO are characterized by taking risks, being innovative, proactive and aggressive in competition as well as autonomy, demonstrating efforts of entrepreneurs in response to the interests and concerns of stakeholders, in turn leveraging available resources to act rapidly to environmental changes and enable the development of dynamic capabilities through promoting knowledge sharing, transformation and absorption between internal and external resources. Also, it adds value to the existing body of knowledge by including empirical evidence on the combination of CEPA with EO & CSR to enable accomplishing BMI in the sense that such innovation is not only for the sake of increasing competitive position but also for the resilience of the business to the fluctuations of the crisis, and, importantly, for addressing interests and concerns of stakeholders toward sustainability. This rationale has not been addressed in the prior studies.

7.2 Managerial implications

First, the study provides business practitioners with a proven logic that drives BMI. The findings of this study can respond to their questions about what drives SMEs to innovate their business models in light of the global pandemic in the F&B area in emerging economies. Therefore, SME entrepreneurs are encouraged to closely examine the results of this article, before making any necessary adjustments to restart after the crisis. In addition, this research provides entrepreneurs with insightful knowledge of ways that may help businesses be resilient to potential future crises. Entrepreneurs should pay high attention to initiatives that can enhance knowledge transformation, absorption, usage and management because these capabilities are very important for undertaking BMI. Importantly, these capabilities may work beyond the scope of post-pandemic restarts, expanding to resilience to potential crises.

Second, this research article sheds light into how businesses can enhance competitive advantage amid the transition to a CE. As it is widely known, the transition to a CE is emphasized as an efficient option to the common model aimed at addressing resource scarcity and sustainable development goals. This is even more extreme in the crisis context. Therefore, it is recommended that SME entrepreneurs should profoundly understand the principles of CE and sufficiently adopt them to augment the influence of EO on CSR to mobilize synergistic dynamic capabilities and knowledge from stakeholders to ultimately facilitate the undertaking of BMI. Therefore, entrepreneurs are encouraged to engage stakeholders in innovative processes to create added value. Given the above discussion, the senior management level of SMEs is recommended to stimulate the development of initiatives toward engaging internal and external stakeholders, enabling knowledge mobilization, improving knowledge management capabilities, developing dynamic capabilities and enhancing the capacity to respond to the environment's constant shifts. It is necessary to consistently adopt CE principles into strategic orientation and practices.

Third, the executives of SMEs are recommended to develop and expand the network of affiliates and alliances because this is especially important to undertake BMI in the new context. Social distancing and border closures in times of crisis caused significant adverse impacts on areas of operations management such as distribution systems, inventory, markets and autonomy. It is challenging or impossible for a business to operate in isolation. Therefore, in this context, alliances between partners bring together synergies in a way that leverages the strengths and resources of each to find the most appropriate model solution to help them restart and stay resilient. It is recommended that SME's senior management should have aggressive strategies and strong EO to promote synergies but not dissolve their inherent competitive advantages. Given the current situation of SMEs in a developing economy like Vietnam, which is a big challenge; however, this is almost the only path for SMEs to survive and proactively respond to unpredictable crises in the future.

Regarding the perspective of stakeholders, this study implies that in order for businesses to transition to a new stage with higher expectations on strategy, operation and commitment, they need stakeholders' engagement and consensus to move toward the common goals. It is crucial that matters not only to the survival of the business alone but also interests of all stakeholders. Importantly, the existence and sustainable development of the value chain, in which the interests of enterprises and stakeholders are embedded. Therefore, this study suggests that stakeholders should closely collaborate and accompany with businesses that are socially responsible so as to jointly realize the sustainable development goals at large.

8. Conclusions and limitations for future research

8.1 Conclusions

This research article has completely addressed the research questions as defined at the beginning. In this regard, the findings of this research demonstrate how EO associates with CEPA and CSR to drive BMI within the setting of F&B SMEs in a developing market. Therefore, it addresses the critical concerns about how SMEs in the F&B sector develop their business models to recover and build their resilience to uncertainties from unpredictable shocks in the future (Amankwah-Amoah *et al.*, 2020; Corbo *et al.*, 2018). The outcome of this article indicates that within the setting of SMEs in the F&B area in an developing market, EO plays a critical role in driving sustainable responsible practices toward internal and external stakeholders, in turn fostering mobilization resources and knowledge from internal and external stakeholders for easier execution of BMI toward the twin transitions (Rubio-Andrés *et al.*, 2022; Spieth *et al.*, 2021; Kiyabo and Isaga, 2020; Teece, 2018). This study implies that F&B firms in emerging economies can evolve to survive post-pandemic, build capabilities and knowledge grounds to be resilient to uncertainties in the future by adopting CE principles

(Rodríguez-Espíndola *et al.*, 2022; Barros *et al.*, 2021). In general, the research is beneficial to bridging the knowledge-practice gap in the current research by giving insight and a proven empirical framework that is operationalized. The uniqueness of this paper lies in supplying an empirically integrated model of EO, BMI, CSR and CEPA using the F&B sector in an emerging economy as an empirical field of research that is underexplored in the published studies. Therefore, it offers a novel strategy for how SMEs in the F&B industry develop to recover and build resilience to uncertainties and disruptions in the future.

8.2 Limitations and future research

Additionally, due to numerous input of this research article as discussed above, there are a few limitations that can be taken into account for further research: First, it focused on SMEs in the F&B area because the nature as well as specifics of each industry are different; thus, the scope of replication of applying the findings of the study to other industries may not be entirely appropriate. Future research may consider other industries to maximize the applicability of the results in practice. Second, this article also concentrates on manufacturing enterprises, considering that the characteristics of operations management in different stages of the value creation chain are different; therefore, its applicability in practice may be challenging to businesses that operate in non-manufacturing segments. Future studies may consider exploring businesses in other segments such as services to maximize their application in practice according to the specificity of the field of activity. Third, this research was carried out within the setting of the waves of COVID-19 outbreak with unpredictable ups and downs. Dependent variables have an impact on the innovative process. Therefore, future research should explore further by considering extrinsic motivational factors and incorporating them into the research framework. Hence, it may ensure providing businesses access to up-to-date knowledge, novel approaches and, importantly, mechanisms on how to innovate their business models toward sustainability.

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