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# A Multi-Methodological Perspective in the Manufacturing and Agri-Food Industries

**María Alejandra Reyes Parga**

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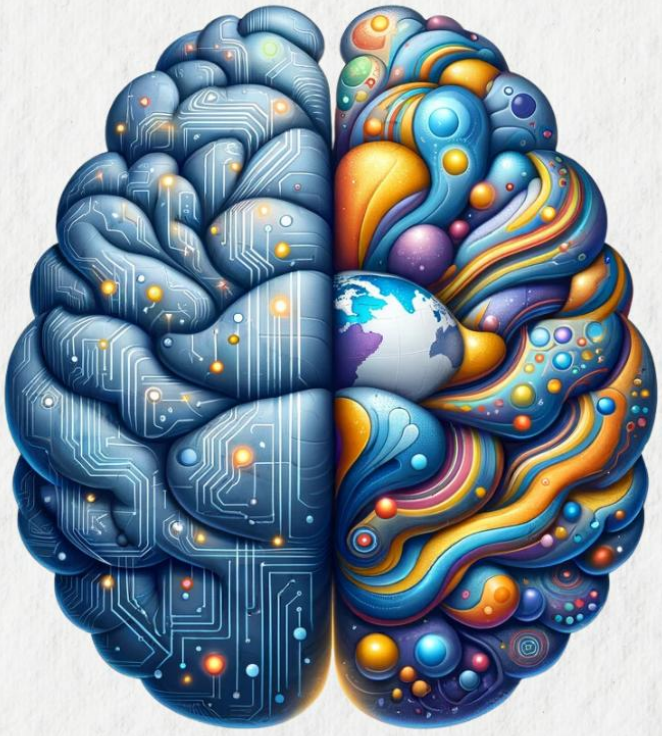

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A Multi-Methodological Perspective in the Manufacturing and Agri-Food Industries

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A Multi-Methodological Perspective in the Manufacturing and Agri-Food Industries

**Thesis**

To obtain the degree of Doctor in Entrepreneurship and Management


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May 2025

**Preface**

*In this dissertation, I present three interconnected studies developed over the last four years within the Department of Business at the Universitat Autònoma de Barcelona and the Department of Organization Management at Pontificia Universidad Javeriana Cali. These studies delve into the complex strategies employed by Born Global Firms to maintain a balance between exploration and exploitation, thereby effectively navigating the intricacies of international markets and achieving sustained growth post-internationalization.*

*The inaugural study, titled "The Effect of Exploratory, Exploitative, and Ambidextrous Innovation on Emerging Market Firms' Growth vs Profit Tension," investigates the impact of diverse innovation strategies on the growth-profit dynamics in emerging markets. Developed in collaboration with Professors Alex Rialp Criado and Julio Zuluaga, this paper was presented at the Research Seminar of the Department of Organization Management at Pontificia Universidad Javeriana Cali during the "Doctoral Research Advances in Economic Sciences" on October 18th, 2023. This chapter reproduces the article originally published in "Innovation and Development", accessible online at http://www.tandfonline.com/https://doi.org/10.1080/2157930X.2024.2413260.*

*The second study, "Organizational Ambidexterity and Born Global Firms' Post-Entry Growth: A Multi-Case Study from the Agri-Food Sector," examines the post-internationalization growth trajectories of BGFs through a qualitative multiple case study approach, analyzing strategies of 14 Latin American agri-food firms. This paper was co-authored with Professors Alex Rialp Criado and Viviana Andrea Gutiérrez Rincón. This chapter reproduces the article originally published in the special issue "Strategic Adaptation in a Dynamic Global Environment: Unleashing the Power of Dynamic Capabilities for International Organizational Performance" from the journal "Strategic Change" and is accessible online at https://doi.org/10.1002/jsc.2633. The study was also featured at the XV International Congress on Accounting, Business, Marketing, and Administrative Informatics at Universidad Michoacana de San Nicolás de Hidalgo, Mexico, in September 25th, 2024.*

*The third and conclusive study, "Leveraging Organizational Ambidexterity for Sustained Growth in Agri-Food Born Global Firms: A Strategic Foresight Approach", provides a comprehensive analysis of how BGFs utilize Organizational Ambidexterity to maintain*

*sustainable growth. Co-authored with Professors Alex Rialp Criado and Viviana Andrea Gutiérrez Rincón, this paper is currently under peer review in the journal Research Policy and was presented at the International ASCOLFA Conference 2025: Organizational Transformation and Leadership in the Digital Era, where it received first place in the "Innovation and Sustainability in Organizational Models" track.*

*Throughout this journey, I have been immensely fortunate to receive invaluable guidance and support from my advisors, Dr. Viviana Andrea Gutiérrez Rincón (Pontificia Universidad Javeriana de Cali) and Dr. Álex Rialp Criado (Universitat Autònoma de Barcelona). Your expertise and encouragement have been instrumental in shaping this research. Your unwavering support and invaluable expertise have not only shaped this research but have profoundly influenced my development as a scholar. The countless hours you have dedicated to mentoring me, your insightful advice, and the rigorous training you provided have been foundational in my journey. Your commitment to excellence and your belief in my potential have empowered me to pursue this rigorous academic path with determination and confidence. Thank you both for investing in me, challenging me, and always pushing me to excel. I am truly fortunate to have been under your guidance, and I aspire to reflect the high standards and integrity you have exemplified throughout my future career.*

*This academic endeavor has taught me more than just scholarly knowledge; it has instilled patience, frustration tolerance, resilience, persistence, confidence, and most importantly, self-belief. Pursuing a Ph.D., enhanced by the parallel journey of becoming parents and the invaluable partnership with my husband, has been both challenging and profoundly rewarding. I dedicate this work with all my love to my husband, Daniel, and my son, Gabriel; alone we are strong, but together with God, we are invincible.*

*I am also deeply thankful to my family—parents, grandmother, aunt, cousins—for their unwavering support and sacrifices, which have been crucial in completing this doctoral journey.*

*Special thanks also go to my colleagues—Guillermo Orjuela, Carolina Robledo, Ricardo Apolinar, Fabio Hincapié, and Alexa Montoya—for their indispensable advice, assistance with proofreading, and continuous support.*

*To all who have been part of this significant chapter of my life, I extend my heartfelt gratitude for your companionship, support, and belief in my capabilities.*

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# 1. Chapter 1. Introduction

## *1.1. Organizational Ambidexterity: a complex dynamic capability*

Organizational Ambidexterity (OA) refers to an organization's capacity to simultaneously pursue exploratory and exploitative activities, enabling both the development of novel capabilities and the refinement of existing ones (March, 1991). This dual capability is fundamental for long-term organizational success in dynamic and competitive environments (Raisch et al., 2009; Tushman & O'Reilly III, 1996). Exploration encompasses activities such as search, experimentation, and discovery, which are often associated with radical innovation and characterized by high levels of uncertainty and a strong potential for disruptive outcomes. Conversely, exploitation focuses on the refinement, efficiency, and optimization of current capabilities, technologies, and processes, thereby generating incremental innovation and ensuring operational efficiency (Deng et al., 2023; Jansen et al., 2006)

Tracing its origins, OA builds on the Resource-Based View (RBV), and later the dynamic capabilities perspective, as its primary intellectual antecedents. Building on antecedents in the behavioral theory of the firm (Cyert & March, 1963), organizational ecology (Hannan & Freeman, 1977), the evolutionary theory of the firm (Nelson & Winter, 1982), and organizational learning (Levinthal & March, 1993), the RBV argues that industry-level, external determinants of competitive advantage are less decisive than firm-specific, internal determinants—namely, resources and capabilities (Barney, 1991; Grant, 1991; Peteraf, 1993; Rumelt, 1984; Wernerfelt, 1984). From this perspective, scarce and idiosyncratic resources generate factor-market imperfections that yield Ricardian or monopoly rents, thereby sustaining competitive advantage (Wernerfelt, 1984; Peteraf, 1993). For resources to underpin sustained advantage, they must be valuable, rare, imperfectly imitable, and non-substitutable (VRIN) (Barney, 1991), and their returns are protected by isolating mechanisms (Rumelt, 1984; Peteraf, 1993). In practice, organizational alignment is also required to capture value (the VRIO extension; Barney, 1997).

As a conceptual extension of RBV, the dynamic capabilities framework explains firm performance in environments characterized by rapid and persistent change, with stronger emphasis on innovation and learning. Drawing on evolutionary economics (Nelson & Winter, 1982) and a Schumpeterian view of competition as innovation-driven (Schumpeter, 1934), dynamic capabilities are defined as the firm's ability to integrate, build, and reconfigure internal and external

competences to address rapidly changing environments (Teece, Pisano, & Shuen, 1997). Accordingly, VRIN resources are necessary but not sufficient: firms must be able to sense opportunities and threats, seize them, and transform (reconfigure) their asset base in a timely manner to sustain advantage (Teece, 2007). This perspective moves beyond the relatively static orientation of traditional IO/Porter frameworks and the more retrospective implementations of RBV by theorizing how firms purposefully renew and redeploy their resource base under turbulence.

From a theoretical perspective, OA is grounded in the principles of dynamic capabilities, which emphasize the need for firms to continuously adapt and reconfigure their resources and capabilities to address rapidly changing environments (Teece et al., 1997).

OA is conceptualized as a dynamic capability insofar as it encompasses a set of complex, repeatable routines and processes that enable organizations to consciously orchestrate their assets in order to manage the inherent tensions between exploratory and exploitative activities (O'Reilly III & Tushman, 2008, 2011; Teece, 2007). Its foundation lies in the capacity to mobilize, allocate, reallocate, coordinate, and integrate resources across differentiated units pursuing contradictory objectives, thereby facilitating the emergence of new capabilities and resource configurations that can yield competitive advantage (Božič & Dimovski, 2019; Jansen et al., 2009; Konlechner et al., 2018). This duality requires managers to sense, seize, and transform both current and potential resources (Maijanen & Virta, 2017), promoting the effective pursuit of both radical and incremental innovations, each demanding distinct structures, processes, strategic orientations, and technological assets (Andriopoulos & Lewis, 2009).

By integrating and recombining heterogeneous competences, OA captures how firms respond to and shape environmental opportunities through paradoxical modes of innovation (Zhang et al., 2016), while also mitigating the risks of path dependence by fostering flexibility, decentralization, differentiation, and resource orchestration (Božič & Dimovski, 2019; O'Reilly III & Tushman, 2011). In this sense, the simultaneous implementation of exploratory and exploitative innovation (Ferreira & Coelho, 2020; O'Reilly III & Tushman, 2008) serves not only as a mechanism for generating new knowledge and capabilities (Todorova & Durisin, 2007) but also as a means to construct and reconstruct organizational resources by leveraging existing markets and technologies while exploring new ones (Güttel & Kolenchner, 2009; Venkatraman et al., 2009).

Moreover, within the dynamic capabilities framework, (Winter, 2003) distinguished between first-order dynamic capabilities and higher-order dynamic capabilities, the latter being those that govern the change of first-order dynamic capabilities (Winter, 2003; Zahra et al., 2006) and operational capabilities (Collis, 1994; Zollo & Winter, 2002). Exploration and exploitation may be considered first-order dynamic capabilities, as the extension of the resource base aligns with exploration, whereas the modification of the resource base corresponds well to exploitation (Güttel & Kolenchner, 2009). In contrast, OA is conceptualized as a higher-order dynamic capability that balances exploration and exploitation as two interdependent first-order dynamic capabilities (Güttel & Kolenchner, 2009; Venkatraman et al., 2009). As a higher-order dynamic capability, OA may exert a stronger influence on firm performance than lower-order dynamic capabilities, due to its capacity to reconfigure, integrate, and govern the evolution of underlying capabilities over time (Peng & Lin, 2019).

Ambidextrous organizations exhibit higher resilience, adaptability, and innovation performance, as they simultaneously exploit existing knowledge while exploring new opportunities, thereby mitigating the risks of "success traps" and "failure traps" (March, 1991; Raisch et al., 2009). Moreover, this duality has been linked to competitive advantage, enabling organizations to achieve both short-term efficiency and long-term innovation (Raisch et al., 2009; Saleh et al., 2023).

The tension between exploration and exploitation represents a central challenge for organizations, as these activities often compete for limited resources and require distinct—and sometimes conflicting—structures, cultures, and management styles (Gupta et al., 2006; Levinthal & March, 1993). Traditionally, two primary approaches have been proposed to manage this tension: structural and sequential ambidexterity. Structural ambidexterity involves the spatial separation of exploration and exploitation into distinct organizational units, each with its own objectives and metrics (Benner & Tushman, 2003; Jansen et al., 2009). Sequential ambidexterity, on the other hand, emphasizes temporal shifts between these activities, allowing the organization to alternate its focus over time (O'Reilly III & Tushman, 2013). Recent research has highlighted the potential of blended or configurational approaches, in which structural and sequential mechanisms are combined to achieve a holistic balance, leveraging complementarities and addressing trade-offs (Sun et al., 2023). Moreover, further investigations into OA have revealed its versatile applications across diverse domains, including learning (Escandon-Barbosa et al., 2021; March, 1991),

innovation (Farzaneh et al., 2022; Jansen et al., 2006), and networking (Faroque et al., 2022; Siciliano et al., 2018).

An ambidextrous organization successfully manages the inherent trade-offs and tensions between exploration and exploitation, as both are essential for firms but compete for scarce resources (March, 1991). Consequently, ambidextrous firms efficiently manage current operations to ensure their survival while simultaneously adapting to market demands, thereby increasing their growth opportunities (Raisch & Birkinshaw, 2008). Research shows that OA can significantly benefit firm performance (Benner & Tushman, 2003; Cao et al., 2009; He & Wong, 2004; Jansen et al., 2006; March, 1991; O'Reilly III & Tushman, 2011; Tushman & O'Reilly III, 1996) and is crucial for developing effective internationalization strategies (Buyukbalci & Dulger, 2022; Hsu et al., 2013; Johanson & Vahlne, 2009).

This dissertation employs qualitative, quantitative, and mixed-method approaches to provide a fine-grained understanding of the OA framework, focusing on emerging markets and its application within two pivotal industries: agribusiness and manufacturing. Specifically, it examines the effects of OA on firm performance, with a particular emphasis on local and international business growth. The research explores how firms operating in resource-constrained environments design innovative organizational structures to manage the complexity of ambidexterity, addressing tensions between exploration and exploitation. By navigating these challenges, such firms demonstrate remarkable resilience and innovation, achieving sustainable growth despite resource scarcity. This study not only advances theoretical insights into ambidexterity and its performance implications but also provides practical guidance for firms seeking to drive growth and competitiveness in dynamic, resource-limited contexts.

### *1.2. OA and Firm Growth in Resource-Constrained Firms in Complex Environments*

Firm growth contributes greatly to economic welfare (Acs, 2006; Wiklund, 1998). Given so, determinants of growth have been largely studied, however, the phenomenon of growth still remains largely unexplained (Roper and Hart, 2013; Shepherd & Wiklund, 2009) and the literature shows generally dispersed insights (Burvill et al., 2018).

Firm growth is defined as an increase in sales, employees, incomes, exports, assets, value-added, market share, or productivity (Delmar et al., 2003). Alternatively, it represents a qualitative size increase as a developmental process (Nason & Wiklund, 2015; Penrose, 1959). While most

research focuses on quantitative aspects of growth (Gilbert et al., 2006), the process of how firms grow remains less explored (Garnsey et al., 2006; McKelvie & Wiklund, 2010).

This dissertation adopts a multifaceted approach, encompassing both quantitative and qualitative dimensions, to explore the complexities of firm growth in emerging markets. The quantitative dimension (Study 1) examines the longitudinal effects of OA on business growth, offering a data-driven perspective on its impact over time. Complementing this, the qualitative dimension (Studies 2 and 3) seeks to deepen the understanding of internal firm dynamics during growth, uncovering how organizations navigate the interplay of exploration and exploitation amidst resource constraints and market pressures. By integrating these perspectives, the research provides a comprehensive framework that not only elucidates the role of ambidexterity in fostering resilience and innovation but also underscores its critical contribution to achieving sustainable growth locally and internationally.

There is no single way to firm growth, however the growth strategy is always a combination of product and market options, so the firm could base its growth on existing products or new ones, and/or on attending its current customers or finding new ones (Kyläheiko et al., 2011). Moreover, due to its complexities, the study of firm growth requires a systemic and multidimensional vision, a methodological approach where each decision is conceptually justified, and a perspective focused on the type of company based on size, age, and ownership.

Key theoretical perspectives for understanding growth are the theory of the growth of the firm (Penrose, 1959) and its derivative, the Resource-based view (Barney, 1991; Wernerfelt, 1984). For Penrose, the firm is seen as “a collection of resources bound together in an administrative framework, the boundaries of which are determined by the area of administrative coordination’ and ‘authoritative communication” (p. 236). According to the above, firm growth depends on the amount and nature of resources and capabilities the firm possesses and utilizes for this objective (Lee & Temesgen, 2009). When a firm decides to grow, complex capabilities are necessary to achieve such a goal. Thus, firms need to sense, seize, and transform their resource base to match growth. Given the above, building dynamic capabilities is required to increase the chances of growing (Telussa et al., 2006).

As Garnsey et al. (2006) noted, growth creates problems, but the problems that accompany growth are less dangerous to a firm’s survival than the absence of growth (p. 13). The development of

dynamic capabilities, such as OA, is crucial for overcoming growing pains and inherent liabilities (Knight & Cavusgil, 2004; Sapienza et al., 2006). Research consistently demonstrates a positive correlation between OA and performance (Acevedo & Díaz-Molina, 2019; Andriopoulos & Lewis, 2009; Buccieri et al., 2020; Escorcia-Caballero et al., 2024; Gupta et al., 2006).

There is less evidence found that a single focus either on exploratory innovation or exploitative innovation will produce higher performance than ambidextrous innovation (e.g. Dew et al., 2006; Ebben & Johnson, 2005; Knott & Posen, 2005; Thornhill & White, 2007). Junni et al. (2013) tried to reconcile the past research findings in their meta-analysis of the relationship between ambidextrous innovation and performance, finding that the variability of the sign and the intensity of the results are explained to a large degree by contextual factors, coinciding with He & Wong (2004) and Lavie et al. (2010). Moreover, different studies have found diverse moderators in the relationship between ambidextrous innovation and performance (e.g. Jansen et al., 2006; Solís-Molina et al., 2018; Suzuki, 2019; Yoshikuni et al., 2018).

Despite its potential benefits, OA poses significant challenges. The integration of exploratory and exploitative activities often leads to resource conflicts and managerial tensions, necessitating sophisticated mechanisms for resource allocation and conflict resolution (Gupta et al., 2006; Saleh et al., 2023). Furthermore, organizations must navigate the paradoxical nature of these activities by fostering an overarching vision that aligns divergent goals and incentivizes collaboration (Birkinshaw & Gupta, 2013).

An additional challenge for implementing OA is being an emerging market firm. Emerging markets are defined as those low income countries experiencing rapid economic growth fueled by economic liberalization and a free market system (Arnold & Quelch, 1998; Hoskisson et al., 2000). Emerging Market Firms (EMFs) have increasing opportunities for attracting critical resources (Castrogiovanni, 2010; Zhou & Park, 2020). As a result, pursuing growth is imperative for avoiding the risk of being left behind by faster-growing firms (Chen et al., 2009). Profits are also critically important for emerging market firms, due to the underdevelopment of capital markets (Khanna et al., 2010).

Emerging markets are characterized by a highly dynamic, turbulent, and heterogeneous environment (Hoskisson et al., 2000), a high degree of competitive intensity (Kim & Atuahene-Gima, 2010) and large, diverse, and fragmented consumer populations (Dawar & Chattopadhyay,

2002). Due to the above, it is particularly important to advance in the dynamic capabilities that determine the growth and profit of EMFs in local and global markets (Teece, 2007; Teece et al., 1997).

Most of the existing research on ambidexterity focuses on developed countries, and its applicability to emerging markets remains largely unexplored (Ochie et al., 2022). While dynamic capabilities have been shown to explain long-term firm growth in various contexts, it remains unclear whether these capabilities operate effectively or account for performance under the specific uncertain and dynamic conditions faced by EMFs (Latukha et al., 2022; Ngasri & Freeman, 2018).

In the specific context of emerging countries in Latin America, the agribusiness and manufacturing sectors are two sectors where studying the relationship between dynamic capabilities and firm growth is worthwhile. On the one hand, study 1 focuses on the manufacturing sector, crucial for driving economic growth and development, contributing to job creation, technological advancement, and poverty reduction (Gereffi et al., 2005). It promotes inclusive and sustainable industrial development, reduces dependency on traditional sectors, and enables economic diversification (Szirmai et al., 2013). By studying firm growth, policymakers and stakeholders can assess the impact of interventions on manufacturing firms, such as investment incentives, technology transfer programs, and capacity-building initiatives (Gereffi et al., 2005). Additionally, examining firm growth helps evaluate factors like productivity, innovation, and integration into global value chains, identifying drivers of success and competitiveness (World Bank., 2021).

On the other hand, the second and third studies focus on a specific type of organization: the born global firm in the agribusiness sector. The globalization-driven changes, such as reduced transaction costs and advancements in postharvest and shipping technology, have facilitated the growth of exporting firms in the agribusiness sector, making their export dynamics potentially applicable to other sectors (Losilla et al., 2020). However, agribusinesses in emerging markets face challenges in developing exploratory innovations due to limited resources and skilled R&D personnel (Manogna, 2021).

Among various business models, Born Global Firms (BGFs) — enterprises that aspire to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries from inception — are particularly reliant on ambidexterity. They face the unique challenge of managing rapid internationalization while maintaining robust growth trajectories. As

BGFs navigate rapid internationalization in their post-entry phase, they encounter various challenges upon entering global markets, which test their resilience and adaptability. These challenges include managing limited resources and addressing the liabilities of smallness, newness, and foreignness, which can hinder their ability to generate essential market knowledge and maintain international competitiveness (Sepulveda & Gabrielsson, 2013; Zahra, 2005).

Despite these obstacles, BGFs possess distinctive capabilities that enable them to overcome these difficulties, which explain their higher international growth rates (Cavusgil & Knight, 2015; Zahra et al., 2018). Autio et al (2000) encapsulates these capabilities as the Learning Advantages of Newness (LAN), which refer to the unique ability of new firms to learn rapidly and adapt flexibly due to their lack of embedded routines, their organizational flexibility, and their openness to new experiences and knowledge. These advantages allow BGFs to acquire and apply new information more quickly than more established firms, facilitating their successful navigation of international markets (Meuric & Favre-Bonté, 2023). Consequently, BGFs can swiftly adjust their strategies in response to market feedback, innovate continuously to meet customer needs, and leverage new opportunities more effectively, ensuring their competitiveness and growth in diverse international contexts (Zahra et al., 2018).

These three studies seeks to answer the following overarching question: **How can resource-constrained organizations operating in complex environments effectively manage organizational ambidexterity, and what are its effects on local and global growth?**

This dissertation aligns with Sustainable Development Goal 8, which promotes sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. By exploring the mechanisms through which OA fosters growth in resource-constrained and emerging market environments, the research contributes to understanding how firms can achieve competitive resilience while addressing the challenges of innovation and internationalization.

Specifically, the focus on the manufacturing and agri-food sectors—Paper 1 analyzing a longitudinal dataset of manufacturing firms of varying sizes and internationalization patterns, and Papers 2 and 3 focusing specifically on BGFs—underscores the importance of inclusive business practices that enhance productivity and sustainability, thereby contributing to economic development at both local and global levels. This alignment reflects the broader relevance of

strategic ambidexterity in fostering innovation, creating employment opportunities, and supporting sustainable industrialization

### *1.3. Research Aims, Questions, and Contributions*

This dissertation is structured around three comprehensive scientific papers that collectively advance our understanding of how ambidexterity can be effectively harnessed to support the growth and sustainability of EMFs in the manufacturing and agri-food sector. Each paper, while distinct in focus, contributes to a cohesive narrative on the strategic use of OA, exploring different facets of its implementation and impact.

The first paper examines ambidexterity from the innovation dimension. Focusing on the manufacturing sector, the study investigates the effects of a single focus on either exploratory or exploitative innovation, as well as the impact of ambidextrous innovation, on growth and profitability. It also explores the moderating role of the breadth of knowledge sources. The research questions guiding this study are as follows: What are the effects of exploratory, exploitative, and ambidextrous innovation on the growth of EMFs in local and global settings? Which of these innovation strategies drives greater growth for EMFs in local and global markets? Which one leads to higher profitability? How does the breadth of knowledge sources moderate the relationship between these three innovation capabilities (exploratory, exploitative, and ambidextrous) and various performance outcomes?

Exploitation-focused activities offer little opportunity for long-term growth (Gedajlovic et al., 2012), given that exploitative innovation is focused on short-term performance but overlooks long-term viability (Atuahene-Gima, 2005; March, 1991). An exclusive focus on exploitative innovation is related to short-term profit due to its emphasis on efficiency (March, 1991). On the other hand, an exclusive focus on exploitative innovation does not lead to growth because focusing only on short-term returns represents a barrier to growth (Hayes & Abernathy, 1980).

Similarly, drawing only on existing knowledge can create path dependencies and avoid the exploration of growth opportunities (Nason & Wiklund, 2015). Moreover, the firm is prone to fall into the success trap (i.e. when organizations develop increasing competition in a particular activity they are profitable at in the short term and become more involved in that activity, further increasing competition and the opportunity cost of exploratory innovation) (Levinthal & March, 1993).

Additionally, the theory states that imitative firms serving local markets do not have much growth potential (Davidsson et al., 2007).

Finally, an exclusive focus on exploitative innovation does not lead to sustained growth because this capability is associated with a strategy of stability (He & Wong, 2004), given that it demands usually only incremental increases in the scope of a firm and focuses mainly on sustaining financial performance without deploying significant changes in the combination of resources (Hitt et al., 1982). All in all, firms with a focus on exploitative innovation will enjoy short-term success, but such success is short-lived given the changes in the environment (Tushman & Anderson, 1986). Thus, if the firm is not interested in growing but in profit and survival, it could be more appropriate to focus only on exploitative innovation.

The ability to constantly introduce new products is related to growth potential (Mathias, 2014; Siegel et al., 1993). Thus, exploratory capabilities are the basis for pursuing growth opportunities (Peng & Lin, 2019). However, focusing on exploratory innovation implies going for high growth starting from low profitability. This makes it exceedingly difficult being able to finance a competitive advantage while growing. Therefore, firms with a single orientation to exploratory innovation will not have improved profitability (Davidsson et al., 2009).

Differentiation through high quality and innovation is positively related to profit (Gilbert et al., 2006). Besides, growth has a complex and integrated effect over time which magnifies long-term benefits (Mass, 2005). Moreover, a growth strategy calls for innovation to strengthen a firm's competitive position in existing or new markets through the introduction of novel or improved products and processes and the increase in efficiency (Kim & Mauborgne, 1997; Zahra, 1991). These demands are consistent with the ambidextrous innovation capability. On the other hand Ambidextrous innovation is a higher-order dynamic capability, has a stronger relationship with performance than lower-order dynamic capabilities (Peng & Lin, 2019). Ambidextrous innovation also breeds a positive growth rate autocorrelation, leading to a virtuous cycle (success-breeds-success) (Coad et al., 2017). Finally, many scholars theorize that managing both exploratory and exploitative capabilities is the key to balancing current and future viability (Eisenhardt & Martin, 2000).

This first research addresses several gaps. First, this study tackles the relationship between ambidexterity and performance from the firm growth perspective. Most part of the literature which

examines the relationship between dynamic capabilities (in the form of exploratory, exploitative, and ambidextrous innovation) and performance does not contemplate the firm growth framework, and view growth just as a measure of performance and not as a multidimensional, heterogeneous and complex phenomenon (Delmar et al., 2003; Leitch et al., 2010).

Second, study 1 encompasses the tensions between profit vs growth in the relationship between different innovation capabilities and performance in an especially resource constricted environment such as an emerging market (Zhou & Park, 2020). Thus, this study addresses differentiated growth and profit outcomes of exploratory, exploitative, and ambidextrous innovation at both local and global level in emerging markets which have not been addressed. Great part of the literature examining the relationship between dynamic capabilities and performance indistinctly uses growth and profit as equivalent measures of performance. However, growth and profit are not the same (Mass, 2005). Growing firms are not necessarily profitable and profitable firms do not necessarily grow (Wiklund, 1998, p. 3). Some firms intentionally trade off long term growth in favor of short term profits (Zahra, 1991). However, it is not true that profit always must be sacrificed to grow (Mass, 2005).

Third, the moderating role of breadth of knowledge sources in the relationship between dynamic capabilities and firm growth is addressed for the first time. Internal and external sources of knowledge are considered for the measure of breadth, considering that most previous studies on knowledge sourcing have focused on the importance of external search strategies, leaving behind internal knowledge sources (Ruiz-Pava & Forero-Pineda, 2020).

Therefore, study 1 contributes to the understanding of the effects of exploratory, exploitative, and ambidextrous innovation on emerging market firms' profit and growth in local and global settings. Thus, this study helps managers and policy makers on emerging markets to decide if they should promote exploratory, exploitative, or ambidextrous innovation according to their objective, either growth (domestic or international) or profit. Also, this research enriches the literature of the determinants of firm growth. It also contributes to the understanding of the outcomes of the phenomenon of exploratory, exploitative, and ambidextrous innovation from the dynamic capabilities' framework.

Study 2 investigates how OA is employed by BGFs in the agri-food sector to manage their post-entry growth in international markets. By adopting a multidimensional and dynamic lens, this

study explores the balance between exploration and exploitation across various product/market combinations. It seeks to address several questions: How does OA influence BGFs' growth trajectories after their initial market entry? Which exploratory and exploitative strategies help BGFs overcome the challenges of international expansion? How do factors such as market conditions and dynamic capabilities shape OA implementation? Moreover, what is the role of innovation, learning, and networking in shaping ambidextrous strategies for sustainable global growth? Finally, which specific elements enable BGFs to maintain strategic agility and reduce risks through a balanced approach to exploration and exploitation?

Recent work underscores the importance of adapting ambidexterity to local market dynamics. For example, Roth & Corsi (2023) highlight that BGFs must intricately balance and recalibrate their strategies in response to regional nuances and cultural variations. This adept management of context not only leverages local knowledge for global innovation but also embeds a continuous learning process in the firm's structures, fostering sustainability and adaptability over the long term.

Focusing on the agri-food sector offers a compelling context for examining these issues, given the sector's global scope and significant influence on economic stability and development. The sector's international character underscores the need for BGFs to navigate complex market environments, harness innovation opportunities, and manage risks via strategic ambidexterity.

In this study, ambidexterity in BGFs is conceptualized through a threefold schema—innovation, learning, and networking—that acts as a key driver for coordinating exploration and exploitation on a global scale. This perspective accommodates diverse OA types, including structural, contextual, reciprocal, and cross-functional modes. Research by Sun et al. (2023) on ambidexterity configurations, for instance, suggests that combining structural and sequential approaches can effectively sustain growth in emerging markets. Their findings resonate with this study's core dimensions—innovation, learning, and networking—by showing that ambidexterity's effectiveness relies on how precisely it aligns with different organizational structures.

Complementary studies also enrich our understanding of ambidexterity. Escorcia-Caballero et al. (2024), for instance, frame ambidexterity as a dynamic capability that boosts a firm's ability to adapt its resource base. Their insights are particularly relevant here, given this thesis's examination of how BGFs can optimize resource allocation through ambidextrous practices. Likewise, Stoiber

et al. (2023) highlight the potential of ambidextrous structures to mitigate barriers to disruptive innovation, especially in emerging markets where firms must deftly balance internal and external market pressures. Bettiol et al. (2023) add that ambidextrous strategies can help SMEs weather crises by simultaneously pursuing new market opportunities and strengthening existing capabilities—a valuable approach for EMFs seeking both near-term survival and long-term resilience.

Further elaborating on resource allocation, Dodourova et al. (2023) demonstrate how project-level differentiation in knowledge sourcing—encompassing technical expertise, scope, and market potential—can strengthen both exploratory and exploitative initiatives. Such findings are directly relevant for BGFs, which often operate in resource-constrained settings yet aspire to innovate globally. Moreover, the interplay between cultural contexts and ambidexterity is vividly illustrated by Deng et al. (2023), who show that team innovation configurations vary significantly across China, India, and Singapore, highlighting the need for culturally adaptive ambidextrous strategies—an issue central to BGFs venturing into multiple international markets.

Ultimately, this research advances the literature on international entrepreneurship and dynamic capabilities by offering a nuanced look at how Latin American BGFs in the agri-food sector address liabilities of newness, smallness, and foreignness. Through identifying three strategic trajectories and seven growth pathways, the study provides practical frameworks to help BGFs' managers balance exploration and exploitation after market entry. Beyond theoretical contributions, the study delivers concrete recommendations for managerial structures and processes that foster ambidexterity. It also spotlights the role of government policies in supporting BGFs—particularly by decentralizing production and thus stimulating local economies—ultimately contributing to broader socio-economic development.

The third study aims to delineate optimal scenarios that integrate exploration and exploitation strategies to foster the sustainable growth of BGFs in the agri-food sector during their post-internationalization phase. This is achieved through the application of advanced Strategic Foresight (SF) methodologies, supported by expert consultations from business, governmental, and academic sectors. Furthermore, the study aims to provide a strategic framework that enables BGFs to address environmental uncertainty, strengthen their dynamic capabilities, and enhance their competitive positioning in international markets through adaptive and innovative practices.

The third study respond to the following research questions: How can SF methodologies optimize the integration of exploration and exploitation strategies for the sustainable growth of BGFs in the agri-food sector? What are the critical variables influencing the post-internationalization phase of BGFs, and how do these variables interact dynamically to affect strategic decision-making? How does the incorporation of SF enhance OA in navigating uncertainty and sustaining competitiveness in volatile international markets? What scenarios can be developed to guide agri-food BGFs toward achieving optimal growth and innovation through the balanced application of OA strategies?

The field of SF has gained significant traction in organizational studies as a method to navigate the increasing complexity and uncertainty of global markets (Marinković et al., 2022). While SF has traditionally focused on innovation, technology, and management (Fergnani, 2022a), its application to internationalization strategies, particularly for BGFs, remains underexplored. BGFs, characterized by their rapid international market entry, face unique challenges during the post-internationalization phase, including balancing exploration and exploitation (O'Reilly & Tushman, 2013). The concept of OA has emerged as a critical framework for addressing these dualities (March, 1991; Raisch & Birkinshaw, 2008). However, integrating OA with SF to enhance strategic adaptability in volatile environments is a novel research avenue (Rohrbeck & Schwarz, 2013). Recent studies emphasize the importance of dynamic capabilities (Haarhaus & Liening, 2020) and participatory approaches to foresight, highlighting the potential of combining SF methodologies with ambidextrous strategies to guide BGFs through sustainable growth and competitive positioning in international markets (van der Duin et al., 2024). This research contributes to filling this gap by synthesizing SF and OA, providing actionable insights for BGFs in the agri-food sector.

### *1.4. Research Design*

Study 1 was conducted in Colombia as a representative emerging market in Latin America (Hoskisson et al., 2000). Colombia reflects important emerging market characteristics such as the high intervention of government in the economy and an unstable but growing economy (Jafari-Sadeghi et al., 2021). Colombia is part of the growing attention group of countries which have recently opened their markets to foreign investments and international trade known as CIVETS (Colombia, Indonesia, Vietnam, Egypt, Turkey, and South Africa), six fast growing economies with large and predominantly young population, diversified domestic economic structure, a high

level of domestic consumption and highly developed and modern financial systems (Korkmaz et al., 2012; Petrović-Ranđelović et al., 2020).

This study follows a quantitative approach. Following Davidsson et al. (2007), the study type is longitudinal. Therefore, it allows to infer causal relationships among variables. A rich dataset of manufacturing firms during 2008-2018 was used. This research uses existing secondary panel data from the Technological Development and Innovation Survey (EDIT) and the Annual Manufacturing Survey (EAM). Both surveys collect statistical data from almost all manufacturing firms included in the database of the National Administrative Department of Statistics (DANE). These firms have more than 10 employees. It starts from a strongly balanced panel data analysis, given that the phenomenon of growth is inherently temporary (Davidsson & Wiklund, 2000). Then the hypotheses were tested with three multiple regression models.

In study 2, we followed the case study protocol outlined by Eisenhardt (1989). We adopted a process perspective for data analysis, aligning with Langley's (2007) principles and employing the Gioia methodology (Gioia et al., 2013; Magnani & Gioia, 2023). To ensure internal reliability, we applied empirical replication to identify recurring temporal patterns in the sequencing of events, typical phase sequences, divergences at branching points, and interconnections between phases and activities (Pettigrew, 1992). This approach highlights the dynamic and ongoing nature of post-entry growth in BGFs. Moreover, by selecting a diverse range of cases from various Latin American countries, we aimed to enhance the external validity of our findings, making them applicable to similar firms within the agri-food sector.

The third study employs a mixed-methods approach, leveraging advanced SF methodologies to explore and optimize the integration of exploration and exploitation strategies for the sustainable growth of BGFs in the agri-food sector. The methodology unfolds in four key stages. First, key factors influencing ambidexterity and growth in BGFs were identified through semi-structured interviews with 14 agri-food firms selected using purposive sampling. These firms, located in Colombia, Peru, Ecuador, and Honduras, were analyzed using the Gioia methodology, identifying 44 critical variables. Second, these variables were prioritized using the Fuzzy-MICMAC method, which enabled the identification of driving and dependent factors based on their systemic influence and interdependencies. Third, structural analysis employing dynamic system modeling with causal loop diagrams was conducted to uncover the relationships and feedback loops among prioritized

variables. Finally, scenario-building was performed through morphological analysis, supported by expert consultations, to develop future-oriented strategies. This participatory process involved 24 experts from academia, government, and industry, ensuring that the scenarios were both robust and actionable. The integration of these methodologies provides a comprehensive framework to address the complexities of BGFs' post-internationalization growth.

The three core studies that form the foundation of this dissertation are summarized in Table 1.1.

*Table 1—1.Overview of Studies*

| Study | Research aims | Theoretical lenses | Methods | Main contributions |
|---|---|---|---|---|
| Study 1 | This study explores the influence of exploratory, exploitative, and ambidextrous innovation on the performance of emerging market firms. | Exploratory and Exploitative innovation<br>Firm Growth | We utilize panel data regression supported with Stata 16 analysis to examine data from 1,047 Colombian manufacturing firms for the period from 2007 to 2018. | The findings reveal that ambidextrous innovation positively impacts both domestic and international growth, as well as firm profitability. Furthermore, integrating a broad range of knowledge sources significantly strengthens this effect. In contrast, firms focusing exclusively on either exploratory or exploitative innovation experience negative impacts on domestic growth. This research contributes to the existing literature by detailing the distinct impacts of strategic orientations toward innovation on firm performance within the context of resource-constrained emerging markets. It also enriches our understanding of the moderating role of knowledge diversity in this relationship. The findings suggest EMFs can gain a competitive edge through ambidextrous innovation, supported by numerous knowledge sources. |
| Study 2 | This study investigates the influence of OA on the growth of BGFs post-internationalization within the agri-food sector. | OA<br>Dynamic Capabilities<br>BGFs<br>Firm Growth | We employed a multi-case analysis (Eisenhardt, 1989) of 14 Latin American firms from Colombia, Peru, Honduras, and Ecuador. We utilized the Gioia methodology (Gioia et al., 2013) supported by Atlas.ti-9 software for data coding and analysis. Our study employed a combination of deductive and inductive reasoning and a process perspective (Langley, 2007) | We found that ambidextrous strategies not only enhance international strategic agility and market engagement but also facilitate risk diversification. We delineated seven distinct growth pathways: Resilience-Driven Innovation, Innovation/Expansion Loop, Customization, Quality, Ethical Branding, Diversification, and Ambidextrous Networking. Each pathway illustrates unique methods through which BGFs harness exploration and exploitation to drive sustainable growth. This research enriches the dynamic capabilities framework and international entrepreneurship theory, offering actionable insights for managing dual strategic focuses and underlining the role of supportive local policies. |
| Study 3 | This research aims to delineate optimal scenarios that blend exploratory and exploitative strategies to foster growth in | OA<br>SF<br>BGFs | The study employs advanced foresight methodologies grounded in expert consultations across business, governmental, and academic sectors, such | The resulting scenarios present actionable roadmaps for BGFs, emphasizing the development of export-oriented alliances, innovation-driven technological exploration to enhance product |

| Study | Research aims | Theoretical lenses | Methods | Main contributions |
|---|---|---|---|---|
| | BGFs following international market entry amid increasing environmental uncertainty. | | as fuzzy MICMAC, cluster analysis, and morphological analysis, supported by MATLAB. | offerings and operational efficiency, and strict adherence to international quality standards. Insights from this research are intended to guide managers and policymakers in supporting agri-food BGFs by aligning exploratory and exploitative strategies through informed foresight and adaptive practices, thereby strengthening their competitive positioning in international markets. |

# 2. Chapter 2. Study 1: The effect of exploratory, exploitative, and ambidextrous innovation on emerging market firms' growth vs profit tension[1]

## *2.1. Introduction*

Emerging Market Firms (EMFs) navigate uniquely challenging terrains. Fueled by rapid economic growth, emerging markets showcase dynamism, heterogeneity, and intense competition (Hoskisson et al., 2000; Ju & Gao, 2022). Yet, paradoxically, EMFs often grapple with limited access to or high costs of essential resources such as finance, human talent, and materials (Adomako et al., 2023; Shahid et al., 2023). While these conditions bring to light burgeoning opportunities for resource acquisition (Castrogiovanni, 1991; Zhou & Park, 2020), the imperatives for growth are undiminished. This urgency is particularly palpable against the backdrop of agile competitors and the evolving capital markets emphasizing profitability (Butt et al., 2021; Khanna et al., 2010). In this context, innovation emerges as a pivotal mechanism for EMFs to overcome limitations and capitalize on the inherent opportunities within their domestic and international markets. Academic literature posits that innovation not only facilitates the creation of sustainable competitive advantages but also enables firms to navigate obstacles related to resource scarcity and intense competition (Teece et al., 1997; Zollo & Winter, 2002). In this vein, the capacity to innovate is not merely reflected in the ability to generate new ideas or products but also in the adept reconfiguration of existing resources in more efficient and effective ways (Eisenhardt & Martin, 2000). At this crossroads, EMFs need to optimize their strategic orientation toward their innovation activities to achieve a competitive advantage (van Lieshout et al., 2021).

A question remains regarding which specific strategic orientation is best suited for EMFs (Batra et al., 2022). From the product innovation perspective, Exploratory Innovation (EXRI) entails the pursuit of novel knowledge and technologies for the creation of new products. Conversely, Exploitative Innovation (EXTI) involves the utilization and refinement of the firm's current knowledge base to improve its existing products (Ozer & Zhang, 2014). Ambidextrous Innovation (AMBI) is the simultaneous pursuit of EXRI and EXTI (Benner & Tushman, 2003; Jansen et al., 2006; March, 1991). The integration of internal and external knowledge sources, a core aspect of

[1] This chapter was developed in collaboration with Professors Alex Rialp Criado and Julio Zuluaga, and reproduces the article published in *Innovation and Development*, available online at https://doi.org/10.1080/2157930X.2024.2413260.

open innovation strategies, complements the firm's strategic orientations by enhancing its ability to explore and exploit (van Lieshout et al., 2021). In this context, the Breadth of Knowledge Sources (BKS) acts as a vital component of the firm's open innovation strategy, enriching its exploratory and exploitative efforts and potentially leading to a sustained competitive advantage (Ryu et al., 2022; Saleh et al., 2023).

Although the relationship between ambidexterity and firm performance has been a subject of increasing interest, including within emerging markets and transition economies (Ferreira & Coelho, 2020; Hsu et al., 2013), significant gaps persist, particularly in contexts with resource constraints (Batra et al., 2022). This study targets two underexplored realms: first, the distinct impacts of EXRI, EXTI, and AMBI separately on growth and profitability; and second, the critical role of the BKS in the interplay between innovation strategies and performance in resource-scarce environments (Laursen & Salter, 2006; Vrontis et al., 2022). This is particularly pertinent given the distinctive challenges and opportunities that characterize innovation in resource-constrained environments (Xiao et al., 2022; Zhou et al., 2020). Our study builds upon this foundation, aiming to shed light on how BKS moderates this relationship in emerging markets, a context where external knowledge can be a pivotal asset for overcoming innovation constraints (Caputo et al., 2019).

To bridge these knowledge gaps, our study revisits the ambidexterity hypothesis, which suggests that balancing or combining EXRI and EXTI leads to enhanced sales growth trajectories (He & Wong, 2004). Contextualizing this within the EMFs context, we aim to unravel the growth and profitability outcomes of EXRI, EXTI, and AMBI on EMFs. Our guiding hypothesis is that these distinct strategic orientations toward innovation exert differential effects on profitability and growth and that the BKS functions as a pivotal moderating force. We illuminate these intricate interrelationships by employing a panel data regression model, examining Colombian manufacturing firms from 2007 to 2018.

This study contributes to the literature by examining how exploratory, exploitative, and ambidextrous innovation strategies independently impact firm growth and profitability within emerging markets with resource constraints. By employing an analytical approach attentive to the temporal dynamics of innovation impacts, our research elucidates strategic innovation management in environments characterized by low innovation activities, while also introducing

the moderating role of the BKS in strengthening these strategic effects. This investigation reveals nuanced insights into how external knowledge integration can amplify the benefits of AMBI, offering a deeper understanding of strategic pathways for managerial decision-making in emerging markets. While our study delineates the independent effects of innovation strategies on growth and performance metrics separately, it refrains from delving into their direct interplay. Instead, it aims to provide a clear framework for strategic innovation that acknowledges the backdrop of emerging markets, thereby uncovering strategic innovation pathways that enhance firm performance.

The subsequent section explores the theoretical framework and presents hypotheses on innovation capabilities and performance outcomes, highlighting BKS as a moderating factor. Section 3 outlines the methodology, Section 4 presents the results, Section 5 discusses the findings, and Section 6 concludes the paper, addressing limitations and proposing future research directions.

## *2.2. Theoretical Framework*

### *2.2.1. Innovation and Firm Performance: Exploratory, Exploitative, and Ambidextrous Approaches*

Exploration, exploitation, and ambidexterity are pivotal concepts in understanding a firm's innovation strategy, viewed through various theoretical lenses, including organizational knowledge, networking, strategic orientation, competition, innovative practices, and internationalization (Luo & Rui, 2009; Popadiuk, 2012). This study adopts these concepts as strategic orientations towards a firm's innovation strategy (Jansen et al., 2006; Lee et al., 2019), particularly within the domain of product innovation.

March (1991), a pioneer in defining exploration and exploitation, describes EXTI as focusing on "refinement, choice, production, efficiency, selection, implementation, and execution", emphasizing the improvement of existing products. In contrast, EXRI diverges significantly from established paradigms, seeking to develop new products through a methodology encapsulated by "variation, risk-taking, experimentation, play, flexibility, discovery, innovation" (p. 71).

Drawing from March (1991) and further supported by subsequent research (Ozer & Zhang, 2014; Popadić et al., 2016; Roh et al., 2024), EXRI is defined here as the creation of novel products that are fundamentally different from the firm's previous offerings and are new either to the domestic market, the international market, or both.

Conversely, EXTI is conceptualized as the enhancement or significant refinement of a product already present in the national and/or the international market. This refinement may stem from employing superior components or materials, or from modifications to one of the product's technical subsystems.

Adopting the orthogonal view of ambidexterity (Junni et al., 2020; Mom et al., 2019; O'Reilly III & Tushman, 2013), we define AMBI as the firm's capability to engage in both EXRI and EXTI simultaneously (Buccieri et al., 2020; He & Wong, 2004; Jansen et al., 2006). This balanced approach underscores the essence of ambidexterity as a strategic orientation that harmonizes the dichotomy between exploration and exploitation, thereby facilitating a comprehensive innovation strategy that caters to both immediate and long-term organizational goals (Zhou et al., 2020).

The relationship between these strategic orientations and firm performance has been studied extensively (Audretsch, 2004). Some research suggests that firms pursuing both EXRI and EXTI outperform those that focus on a single strategy (Andriopoulos & Lewis, 2010; Benner & Tushman, 2003; Buccieri et al., 2020; Fourné et al., 2019; Gupta et al., 2006; Koryak et al., 2018; O'Reilly III & Tushman, 2011; Raisch et al., 2009). However, navigating the tensions between exploration and exploitation presents significant managerial challenges, with some suggesting that specialization might be a more attainable goal for many organizations (Dew et al., 2006; Ebben & Johnson, 2005; Knott & Posen, 2005; Mathias, 2014; Solís-Molina et al., 2018; Thornhill & White, 2007).

Some authors have tried to reconcile the past research findings in different literature review exercises. In a conceptual review of the organizational ambidexterity literature, O'Reilly and Tushman (2013) synthesize empirical evidence from multiple industries and contexts to examine the relationship between OA and organizational performance. Drawing on case studies, longitudinal research, and quantitative analyses, they argue that OA is consistently and positively associated with superior performance, particularly in environments characterized by technological change and market dynamism. Their review indicates that firms capable of simultaneously engaging in exploitation and exploration outperform those that adopt a singular strategic orientation, exhibiting higher growth rates, profitability, and market share. This performance advantage derives from OA's capacity to foster strategic adaptability, enabling the organization to refine and leverage existing competencies while concurrently developing new capabilities and

exploring emerging opportunities. Conceptualized as a higher-order dynamic capability, OA orchestrates and reconfigures first-order capabilities to respond effectively to environmental shifts and to sustain competitive advantage over time. Nevertheless, O'Reilly and Tushman highlight that the OA–performance relationship is contingent upon the deliberate alignment of leadership, organizational structures, and integrative processes that ensure exploration and exploitation reinforce one another rather than compete for scarce resources.

Moreover, Junni et al. (2013) performed a meta-analysis on the relationship between AMBI and performance, finding that the variability of the sign and the intensity of the results are explained to a large degree by contextual factors, coinciding with He & Wong (2004) and Lavie et al. (2010). Moreover, different studies found diverse moderating and mediating effects in the relationship between the different strategic orientations and performance (e.g. Jansen et al., 2006; Solís-Molina et al., 2018; Suzuki, 2019; Yoshikuni et al., 2018).

On the other hand, the meta-analysis conducted by Wenke et al. (2021) provides robust empirical support for a positive and significant relationship between ambidexterity and organizational performance in small and medium-sized enterprises (SMEs). Their findings indicate that the magnitude of this relationship is contingent upon both measurement approaches and contextual conditions. Specifically, the performance effects of ambidexterity are stronger when the construct is operationalized as the balanced pursuit of exploration and exploitation, and when performance is assessed using subjective measures rather than objective indicators. Moreover, the positive impact of ambidexterity is amplified in dynamic environments characterized by high levels of uncertainty and change, suggesting that the ability to integrate and reconfigure resources across exploratory and exploitative domains becomes particularly valuable under such conditions. The study also reports that both structural and contextual ambidexterity exhibit significant performance effects, although research designs incorporating an integrated approach to these forms of ambidexterity tend to reveal stronger relationships.

Although in the present chapter innovation (both incremental and radical) is considered an inherent manifestation of ambidexterity, given that exploration and exploitation translate operationally into different types of innovation, it is important to acknowledge that other scholarly traditions conceptualize innovation as an outcome of OA rather than as a constitutive element of the construct. This distinction is primarily methodological: by separating the capability (OA) from its

consequences (innovation), it becomes possible to empirically test the mediating role of innovation in the OA–performance relationship. In this regard, the recent meta-analysis by Marín-Idárraga et al. (2025) provides robust evidence that OA positively and significantly influences both incremental and radical innovation, and that each of these innovation types partially mediates the effect of OA on organizational performance. Their findings further indicate that the mediating effect of radical innovation is stronger in dynamic and uncertain environments, whereas incremental innovation plays a more salient mediating role in stable contexts. This evidence reinforces the argument that OA, as a higher-order dynamic capability, generates superior performance by enabling multiple innovation trajectories, even if innovation is treated as an outcome variable for analytical purposes.

Regarding the particular context of emerging markets, previous studies are fewer in volume compared to those of developed nations (Pereira et al., 2022), and even scarcer in less knowledge-intensive sectors (Camargo et al., 2022). Concerning the relationship between ambidexterity and performance, most studies concluded there is a positive relationship (Batra et al., 2022; Khan et al., 2022; Luo & Rui, 2009). This is largely explained because in environments where market signals are less predictable and resources may be constrained, this synergistic combination of innovation strategies enables firms to be resilient, agile, and proactive in the face of challenges. It equips firms with the versatility required to adapt to fluctuating market demands but also facilitates a culture of continuous learning and adaptation, essential for long-term success in the marketplace (Ochie et al., 2022; Peng et al., 2022).

The recognition of ambidexterity's positive impact on performance underscores the importance of various moderating factors that can enhance or constrain its effectiveness. The literature describes different moderation effects, such as the institutional quality (Xiao et al., 2022), absorptive capacity (Junni et al., 2020), international entrepreneurship culture (Buccieri et al., 2020), and entrepreneurial and adaptive agility (Stei et al., 2024). These factors highlight the complexity of implementing ambidextrous strategies and necessitate a nuanced understanding for improving performance in EMFs.

This nuanced understanding becomes particularly crucial when considering the dual objectives of firm growth and profitability, which represent distinct dimensions of business performance (Weiss et al., 2023). While both are key indicators of success, their determinants and implications for

strategic management can vary significantly. Growth, as evidenced by metrics such as size, market presence, or reach (Davidsson & Wiklund, 2000), emphasizes the firm's quantitative expansion. On the other hand, profitability is a metric of economic efficiency, reflecting the investment return rate (Ben-Hafaïedh & Hamelin, 2023). The examination of growth and profitability as distinct outcomes of firm performance in emerging markets sheds light on the multifaceted impact of innovation strategies within the strategic management framework.

### *2.2.2. The Impact of an exclusive focus on EXRI on EMFs' Performance*

Positive Relationship with Growth

EXRI, characterized by its emphasis on search, variation, risk-taking, experimentation, discovery, market intelligence, and opportunity-seeking ambitions (Tushman & O'Reilly III, 1996), is posited to drive significant domestic growth in EMFs. This strategic approach enables firms to navigate and overcome constrained internal resources (Peng et al., 2018), a common challenge in these economies. Furthermore, the dynamic and uncertain environments of emerging markets necessitate a high degree of flexibility in growth strategies (Manogna, 2021; Temouri et al., 2022). Growth opportunities in these markets are often predicated on the innovative combination and utilization of multiple resources, including products, services, capital, and knowledge (Peng et al., 2018). Such a multifaceted approach underscores the critical role of EXRI in enabling firms to adapt to, and capitalize on, rapidly changing market landscapes by leveraging new compositions of resources.

Despite the potential risks associated with high operational costs and the need for sophisticated resources that exploratory strategies entail (Delgado-Verde et al., 2011; Ibrahim et al., 2020), the decision to focus on the positive relationship between EXRI and domestic growth is supported by the overarching benefits observed when firms effectively manage these strategies. The evidence from developed nations suggests that well-managed exploratory initiatives lead to superior long-term growth compared to a narrow focus on exploitative innovation (EXTI) (Braunerhjelm & Thulin, 2023). This is attributed to the ability of EXRI to foster a more profound adaptation to new market conditions and to generate novel opportunities that EXTI, with its emphasis on refining existing capabilities, typically does not address. This perspective is particularly relevant in the context of emerging markets, where the ability to swiftly adapt to new opportunities can delineate the boundary between market leadership and obsolescence.

In the field of international expansion, EXRI uniquely positions EMFs to differentiate themselves through the introduction of innovative products or services tailored to meet global market demands. The strategic impetus for exploratory efforts, particularly those aimed at international markets, is critical for firms from emerging economies seeking to carve out a niche in the global marketplace (Buckley & Tian, 2017). The ability of EMFs to effectively leverage EXRI for international growth hinges on a nuanced comprehension of diverse market dynamics and consumer preferences, underscoring the necessity for extensive knowledge sources and strategic flexibility (Battaglia et al., 2018; Ju & Gao, 2022). This focus on innovation as a driver for international market penetration exemplifies the transformative potential of EXRI in transcending local boundaries and engaging with a global customer base.

Negative Relationship with Profitability

The pursuit of pure EXRI introduces a paradoxical dynamic concerning profitability. While the long-term benefits of exploration in terms of revenue generation are acknowledged, the immediate financial implications are characterized by a significant trade-off (AlAbri et al., 2022; Khan et al., 2022). The upfront costs and uncertainties inherent in the development and commercialization of innovative offerings challenge the short-term financial health of EMFs (Ciasullo et al., 2020; Park & Meglio, 2019). This dilemma is exacerbated in emerging markets, where initial profitability may be low, and the capacity to finance innovation-led competitive advantages is constrained (Xiao et al., 2022). The narrative is further complicated by the recognition that an exclusive emphasis on exploration, at the expense of exploitation, may lead to a "failure trap" (Levinthal & March, 1993), inundating firms with innovation knowledge and associated search costs that exceed their information processing capabilities, thus impairing innovation efficiency and potentially leading to innovation failure (Zhou et al., 2020).

Based on the points mentioned above, the following hypotheses are proposed:

H1: Pure EXRI is a) positively related to domestic growth; b) positively related to international growth, and c) negatively related to profitability, in EMFs.

### *2.2.3. The Impact of an exclusive focus on EXTI on EMFs' Performance*

Negative Relationship with Growth

An EXTI focus, while optimizing operational efficiencies and potentially enhancing customer satisfaction within established markets, faces limitations in fostering significant growth. The critical reasoning behind this is twofold. Firstly, the incremental nature of EXTI may not sufficiently address rapidly changing consumer demands or technological advancements in dynamic emerging markets (Zhang & Luo, 2019). Secondly, by concentrating on current capabilities and markets, firms may overlook new, untapped opportunities essential for substantive growth (He & Wong, 2004). Thus, the reliance on existing resources and competencies, although less resource-intensive than EXRI, (Wang et al., 2023) may inadvertently constrain the firm's growth trajectory and create path dependences by fostering a myopic focus on current market segments (Levinthal & March, 1993; Nason & Wiklund, 2015).

Imitation strategies may increase short-term margins by enabling firms to offer trendy products at a lower price to reach more customers (Hasan & Jha, 2018). However, they may limit long-term growth due to the eventual discovery of low-quality products (Peng et al., 2018).

While potentially less transformative than EXRI, EXTI can contribute to steady growth by strengthening the firm's competitive position through improvements in quality, cost efficiency, and customer service . These innovations enable them to address local challenges, cater to price-sensitive consumers, and achieve high profitability by optimizing resources (Adomako et al., 2023; López-Sánchez & Santos-Vijande, 2022). However, the scope for long-term results associated with significant domestic growth through EXTI may be limited by the incremental nature of the innovations (Gedajlovic et al., 2012; He & Wong, 2004), given that they do not tap into underserved customer necessities as exploration does (Davidsson et al., 2009). This dynamic, in turn, escalates the risk of obsolescence as the firm's ability to adapt and respond to rapid market shifts and evolving consumer preferences diminishes (Kyriakopoulos & Moorman, 2004).

Furthermore, the organization is susceptible to encountering the "success trap", a phenomenon where firms intensify their focus on a specific, currently profitable activity. This increased focus enhances short-term competitiveness but simultaneously elevates the opportunity costs associated with EXRI. As a result, organizations may inadvertently prioritize immediate profitability at the expense of long-term innovation and growth potential (Levinthal & March, 1993).

Regarding international expansion, the strategy of pure EXTI may limit a firm's ability to differentiate itself in new and diverse global markets. While EXTI can aid EMFs in adapting and

improving existing products for international markets (Zhang & Luo, 2019), this approach often lacks the radical innovation needed to capture new market segments or meet unique consumer needs across different cultures and regulatory environments. The preference for EXTI over EXRI might also restrict a firm's agility and responsiveness to international market dynamics (Audretsch & Belitski, 2021). Consequently, although EXTI might facilitate a lower-risk and lower-investment entry into new markets compared to EXRI, its potential to drive sustainable international growth is circumscribed by its incremental and often inward-looking focus, which may not align with the requisites of diverse and volatile international markets.

While Audretsch & Belitski (2021) advocate for a predominance of exploratory strategies in navigating the challenges of international markets, the empirical success of emerging nations such as China in leveraging EXTI for global expansion invites a reevaluation of a one-size-fits-all approach. China's remarkable journey on the international stage, underscored by its technological prowess and economies of scale, suggests that EXTI can indeed serve as a viable pathway to internationalization for EMFs endowed with robust technological resources and manufacturing capabilities (Zhang et al., 2023).

However, countries with relatively limited technological resources and smaller domestic markets might find the EXRI strategic orientation more conducive to carving out a niche in the international arena. The reliance on EXRI in such contexts is driven by the need to compensate for internal limitations and to capture unique opportunities in global markets through differentiation and innovation.

While EXTI might offer a pathway to international growth for resource-rich EMFs (Wang et al., 2023; Zhang et al., 2023), firms from resource-constrained environments may need to pivot towards EXRI or AMBI to navigate the global expansion successfully.

Positive Relationship with Profitability

The positive impact of EXTI on profitability is underscored by its emphasis on immediate efficiency gains and cost optimization (March, 1991; Zhang et al., 2023). This focus often involves frugal innovation (Hossain et al., 2022; Hossain & Sarkar, 2021; Shahid et al., 2023), and legal and illegal imitation strategies, particularly attractive in cost-sensitive segments of emerging markets with underdeveloped institutions (Hasan & Jha, 2018; Peng et al., 2018).

Moreover, EXTI demands fewer complex resources than EXRI, suggesting a lower risk profile for firms engaging in EXTI (Wang et al., 2023). This significantly lowers the financial and operational risks associated with innovation efforts. In emerging markets where resource constraints are prevalent, and the tolerance for risk may be lower, this aspect of EXTI becomes particularly salient (Zhou & Park, 2020). Thus, firms can pursue EXTI if they are interested in mitigating the risks of market rejection or project failure that are more common in radical, exploratory ventures.

The focus on operational efficiency inherent in EXTI directly contributes to enhanced short-term performance (March, 1991), reflected in immediate financial benefits, such as increased profit margins and cash flow stability, which are critical for sustaining operations and fueling further innovation activities within the firm (Xiao et al., 2022). The emphasis on leveraging and optimizing existing resources and capabilities ensures that investments in innovation are closely aligned with the firm's current market position and customer base, further enhancing the likelihood of short-term success (He & Wong, 2004).

Based on the previous theoretical arguments, we proposed the following hypotheses:

H2: Pure EXTI is a) negatively related to domestic growth; b) negatively related to international growth, and c) positively related to profitability, in EMFs.

#### *2.2.4. The Impact of AMBI on EMFs' Performance*

Positive Relationship with Growth

AMBI is crucial for EMFs navigating the dynamic and uncertain environments of emerging markets. This dual approach not only facilitates overcoming resource constraints and institutional weaknesses but also enables firms to seize new opportunities while optimizing existing operations (March, 1991; Peng et al., 2018; Tushman & O'Reilly III, 1996). The synthesis of compositional processes and frugal innovations underpins domestic growth by enhancing firms' adaptive capabilities and competitive positions in both existing and new market segments (Kim & Mauborgne, 1997; Shahid et al., 2023). Furthermore, the integration of diverse and specialized partnerships required for EXRI underscores the importance of leveraging a wide array of resources for sustained growth in these markets (Agnihotri, 2015), without undermining the importance of cost efficiency.

On the other hand, AMBI is instrumental in addressing the varied demands of international consumers and navigating global market dynamics (Battaglia et al., 2018). The agility afforded by AMBI allows firms to respond quickly to new information and shifts in market trends, regulatory changes, and technological advancements, enhancing growth potential on the international stage (Ciasullo et al., 2020).

The dual focus of AMBI fosters a strategic flexibility that is imperative for EMFs aiming to penetrate and expand within foreign markets (Prange & Verdier, 2011). This flexibility ensures that firms are not only capable of leveraging existing resources and capabilities to improve efficiency and exploit current market positions but are also adept at exploring new opportunities, technologies, and business models required for successful internationalization (Xiao et al., 2022).

Moreover, engaging in both exploitative and exploratory activities, EMFs can better understand and navigate the institutional and cultural complexities of foreign markets, thereby reducing the barriers to entry and expansion (Luo & Rui, 2009). Empirical evidence further supports that a balanced application of AMBI significantly aids EMFs' expansion into foreign markets (Park & Meglio, 2019).

Positive Relationship with Profitability

AMBI enhances the financial resilience of EMFs by enabling a swift response to market disruptions and shifts in consumer preferences (Ochie et al., 2022). Exploration creates avenues for future growth, while exploitation ensures current financial stability. This adaptability not only assists EMFs in maintaining stable cash flows but also facilitates investment in high-potential growth opportunities, positively influencing long-term profitability (Xiao et al., 2022). By concurrently engaging in exploratory and exploitative activities, EMFs diversify their innovation portfolio, mitigating risks associated with reliance on a singular innovation approach (Batra et al., 2022).

This risk diversification not only bolsters financial stability but also contributes to a more balanced profitability profile, protecting against market volatilities and ensuring a steadier revenue stream (He & Wong, 2004). This approach is particularly pertinent in the context of emerging markets, where firms are often challenged by rapid environmental changes and limited resources, making the balanced execution of AMBI a critical strategy for sustaining growth and ensuring financial health (Roh et al., 2024).

Based on the previous theoretical arguments, we proposed the following hypotheses:

H3: AMBI is a) positively related to domestic growth; b) positively related to international growth, and c) positively related to profitability, in EMFs.

### *2.2.5. The Moderating Role of the BKS*

Firms utilize different knowledge sources based on their resources, environmental opportunities, turbulence, and competitors' search activities. Previous research on the nature of these search strategies has focused on the dimensions of breadth and depth (Katila & Gautam, 2002; Laursen & Salter, 2006). The BKS refers to the number of internal and external sources firms use to enhance products, processes, or organizational systems (Leiponen & Helfat, 2010).

BKS may play a critical role in explaining how innovation encourages profitability and growth (Caldas et al., 2021). Acquiring knowledge from many sources facilitates the firm's agile exploration of new opportunities (Vrontis et al., 2022), affording them a first-mover advantage, which is a valuable source of competitive advantage for EMFs to fend off competition from foreign products in their home country and abroad.

On the other hand, a wider BKS allows the acquisition of apt resources to exploit specific opportunities, which are scarcer in emerging markets than in more developed countries. This could further allow EMFs to be agile and efficient in foreign markets and adapt to the domestic context (Nguyen, 2022). Moreover, getting knowledge from multiple sources allows the development of products and services aligned with the target market and its institutional context, thus boosting performance.

In the same way, involving different and varied stakeholders and knowledge sources in the business processes can be effective in successfully penetrating new markets, both foreign and domestic, as well as expanding in current ones (Vrontis et al., 2022). This is because having a wide range of knowledge sources facilitates and increases the search for and acquisition of information which will be transformed into knowledge that will help EMFs grow and internationalize faster and earlier through the development of both radical and incremental innovations (Knight & Cavusgil, 2004). According to the above, we proposed the following moderation effect:

H4a: A wider BKS positively moderates the effect of EXRI on a) domestic growth, b) international growth, and c) profitability, in EMFs.

H4b: A wider BKS positively moderates the effect of EXTI on a) domestic growth, b) international growth, and c) profitability, in EMFs.

H4c: A wider BKS positively moderates the effect of AMBI on a) domestic growth, b) international growth, and c) profitability, in EMFs.

Figure 2-1 shows the proposed relationships with their respective hypotheses.

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Figure 2-1

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## 2.3. Materials and methods

### *2.3.1. Data*

To rigorously examine the impact of diverse innovation strategies on the growth and profitability of manufacturing firms in Colombia—a representative Latin American emerging market (Hoskisson et al., 2000)—this study utilizes a comprehensive dataset derived from two pivotal sources: the Annual Manufacturing Survey (EAM) and the Technological Development and Innovation Survey (EDIT). Administered annually, the EAM focuses on industrial establishments employing ten or more individuals or generating significant production values, with data adjustments made based on the Producer Price Index for the industrial sector. This survey plays a crucial role in gathering data on key performance indicators pertinent to the manufacturing sector, thereby providing the essential information necessary for analyzing the dependent variables.

The Technological Development and Innovation Survey (EDIT), conducted biennially, targets firms listed in the EAM database and spans a broad spectrum of 55 sub-sectors, as classified by the International Standard Industrial Classification of all Economic Activities. It focuses on exploring the innovation dynamics within the country's manufacturing firms, adhering to the methodological standards of the Oslo Manual—a guideline for collecting and interpreting innovation data. This makes the EDIT a foundational element in significant innovation studies (e.g. Costamagna et al., 2022; Henao-García & Cardona, 2023). The EDIT recommends that individuals directly involved in a firm's innovation efforts respond to queries about innovations and their sources, ensuring the accuracy of the innovation landscape depicted. This survey

provided essential data for the independent variables, moderating variable, and control variables in our study, facilitating a comprehensive analysis of innovation strategies' impact.

For this research, data from six editions of the Technological Development and Innovation Survey (EDIT)—spanning 2007-2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, and 2017-2018—were analyzed. This specific timeframe was chosen due to a significant redesign of the EDIT in 2007, which aimed to improve the survey's data collection instrument and marked a substantial shift in its application since its inception in 2003. The dataset encompasses a wide range of industrial firms, with participation growing from 7,683 to 9,137 companies across the editions, resulting in a comprehensive dataset indicative of the sector's innovation activities. Despite the survey's enhancements and modifications over the years, these changes have impacted the variables of interest only superficially, not substantively, ensuring the data's analytical consistency and value.

A unified database was developed by merging data from the Annual Manufacturing Survey (EAM) and the Technological Development and Innovation Survey (EDIT). Given the EAM's annual collection and the EDIT's biennial schedule, data were harmonized over biennial intervals spanning from 2007 to 2018. This integration employed an additive approach, whereby data from the EAM were aggregated into biennial periods. This process included the compilation of national and international sales, along with profitability metrics, for the following intervals: 2007-2008, 2009-2010, 2011-2012, 2013-2014, 2015-2016, and 2017-2018.

The merging process utilized unique identifiers for each company, culminating in a comprehensive and balanced panel dataset of 6,282 observations for 1,047 firms. These firms are represented in both the EAM and the EDIT surveys across all six periods and have provided complete data on the dependent variables being investigated.

To validate the robustness of our sample size against the EDIT's peak participation of 9,137 firms, we recalculated the necessary sample size to achieve a 95% confidence level with a 5% margin of error, which indicated a requirement for approximately 369 firms. Our study's panel dataset, encompassing 6,282 observations from 1,047 firms, far surpasses this threshold. Despite the substantial size of our panel, we cannot assume that firms which dropped out form a distinct group with unique characteristics without further investigation. To address this, a factorial ANOVA was conducted to examine whether there are statistically significant differences in key performance

metrics—local growth, global growth, and profitability—between firms that persisted in the panel and those that did not. Missing values for the dropped firms were addressed using multiple imputation. The ANOVA results revealed significant effects for the main factors of innovation type and panel group, confirming that both factors considerably impact performance outcomes. However, interaction effects between innovation type and panel type were generally not significant, suggesting that the fundamental impact of innovation type on performance metrics does not vary dramatically between balanced and unbalanced panels. This consistency indicates that, although there may be variations in performance across different panels, the type of innovation applied exerts a consistent effect across these groups. For a detailed presentation of the results from the factorial ANOVA tests, see Annex 2-1.

### *2.3.2. Variables Description*

#### *2.3.2.1. Dependent Variables*

We measured domestic and international growth using the logarithmic differences in sales and exports (Coad & Tamvada, 2012) and assessed profitability via gross margin, adjusting all variables for inflation.

#### *2.3.2.2. Independent variables*

In our study, EXRI and EXTI were conceptualized as binary variables. EXRI is assigned a value of 1 if firms affirmatively answer one or both of the following questions: whether the product is new to the national market and/or whether it is new to the international market. Otherwise, a value of 0 is assigned. The EDIT survey defines a new good or service as a product that significantly diverges in its fundamental characteristics, such as technical specifications, components and materials, embedded software, or intended uses, from the company's previous product offerings.

EXTI is designated as 1 for firms that report significant enhancements to existing goods or services—those already present in the national and/or international market—within the relevant period. It defaults to 0 if this is not the case. Enhanced goods or services are described in the survey as products whose performance has been substantially improved or refined, possibly through the use of higher-performing components or materials, or by modifications to one of the technical subsystems of a complex product.

Pure EXRI is identified when a firm exclusively engages in introducing new products or services, without improvements to existing offerings. This condition is quantitatively defined as 1 when EXRI equals 1 (indicating the introduction of new goods or services for national and/or international markets) and EXTI equals 0 (indicating no enhancement of existing products for the firm), with a value of 0 assigned in all other conditions.

Conversely, Pure EXTI is determined when a firm solely focuses on enhancing existing products or services for the firm, without introducing new ones to national and/or international markets. This condition is met and set to 1 when EXRI is 0 and EXTI is 1, with a value of 0 assigned in all other scenarios.

Thus, AMBI is identified in firms that simultaneously engage in both EXRI and EXTI activities. AMBI is valued at 1 when both EXRI and EXTI are valued at 1, reflecting a firm's involvement in both introducing new products and enhancing existing ones. In all other instances, AMBI is marked as 0.

#### *2.3.2.3. Moderating Variable*

*BKS:* The EDIT survey investigates the variety of internal and external knowledge sources that firms utilize for innovation development. Internal sources encompass in-house R&D departments, production, sales and marketing departments, other organizational departments, specific interdisciplinary groups, corporate executives, other employees, companies within conglomerates, and foreign parent companies. External sources include competitors or other businesses within the sector (excluding R&D departments), suppliers, companies from other sectors, technological development centers, independent research centers, universities, consultants or experts, business incubators, training centers, and technoparks, both nationally and internationally. For our study, this variable is quantified by counting the diverse sources a firm engages with for innovation purposes (Leiponen & Helfat, 2010; Ruiz-Pava & Forero-Pineda, 2020).

The EDIT also acknowledges secondary sources as potential knowledge sources. The decision to exclude secondary sources from our BKS variable construction aligns with our objective to concentrate on primary knowledge sources that directly influence a firm's innovation processes. Secondary sources, while informative, tend to offer more generalized, less immediately applicable knowledge that may not directly impact innovation outcomes within the study's specified timeframe. Focusing on primary sources allows us to identify the most significant and direct

influences on a firm's innovation capacity, thus improving the precision and relevance of our analysis.

#### *2.3.2.4. Controls*

*Postgraduate Education:* Indicates the proportion of staff members with master's or Ph.D. degrees, which is linked to enhanced growth (Rypestøl & Aarstad, 2018).

*Firm Size:* Categorized into small, medium, and large firms to control for growth capacity (Coad, 2007).

*Industry:* Based on NACE codes, classified into four categories: Science-based, Specialized suppliers, Scale and information-intensive, and Supplier-dominated industries (Pavitt, 1984).

*Financial Restriction:* Assesses the level of regulatory constraints on companies, affecting their innovation capacity. It is categorized into high, medium, and null levels.

### *2.3.3. Estimation Technique*

We estimated three fixed-effects panel data regressions, employing the following form:

$$P(y_{i,t}) = v_i + \eta_i + \beta_0 + \beta_1 Eri_{i,t-1} + \beta_2 Evi_{i,t-1} + \beta_3 Ai_{i,t-1} + \beta_4 BKS_{i,t-1} + \beta_5 Eri_{i,t-1}\times BKS_{i,t-1} + \beta_6 Evi_{i,t-1}\times BKS_{i,t-1} + \beta_7 Ai_{i,t-1}\times BKS_{i,t-1} + \beta_8 C_{i,t-1} + u_{it} \text{ (model 1)}$$

$$Q(y_{i,t}) = v_i + \eta_i + \beta_0 + \beta_1 Eri_{i,t-1} + \beta_2 Evi_{i,t-1} + \beta_3 Ai_{i,t-1} + \beta_4 BKS_{i,t-1} + \beta_5 Eri_{i,t-1}\times BKS_{i,t-1} + \beta_6 Evi_{i,t-1}\times BKS_{i,t-1} + \beta_7 Ai_{i,t-1}\times BKS_{i,t-1} + \beta_8 C_{i,t-1} + u_{it-1} \text{ (model 2)}$$

$$R(y_{i,t}) = v_i + \eta_i + \beta_0 + \beta_1 Eri_{i,t-1} + \beta_2 Evi_{i,t-1} + \beta_3 Ai_{i,t-1} + \beta_4 BKS_{i,t-1} + \beta_5 Eri_{i,t-1}\times BKS_{i,t-1} + \beta_6 Evi_{i,t-1}\times BKS_{i,t-1} + \beta_7 Ai_{i,t-1}\times BKS_{i,t-1} + \beta_8 C_{i,t-1} + u_{it-1} \text{ (model 3)}$$

Where $P(y_{i,t})$, $Q(y_{i,t})$, and $R(y_{i,t})$ are the dependent variables (where i = firm and t = time). $P(y_{i,t})$ refers to domestic growth, $Q(y_{i,t})$, refers to international growth, and $R(y_{i,t})$ refers to profitability. The vector $v_i$ is a collection of dichotomic variables for each entity, introduced through the technique of dichotomic variables of intersection differential. This technique enables the fixed-effects estimation method to capture the unique characteristics of each firm by allowing the intercept to vary for each one.

The vector $\eta_i$ represents dichotomous variables for each period within the dataset. These variables allowed us to account for events that affected all firms during specific years. The results of the F-

test indicated that the collective impact of the dichotomous time-period variables on explaining variability in the outcome variable is significant. $\beta_0$ denotes the intercept.

As for the independent variables, $Eri_{i,t-1}$ refers to EXRI, $Evi_{i,t-1}$ refers to EXTI, and $Ai_{i,t-1}$ refers to AMBI. $\beta_4 BKS_{i,t-1}$ is the BKS. We included interactions between the innovation capabilities and the BKS as $\beta_5 Eri_{i,t-1} \times BKS_{i,t-1} + \beta_6 Evi_{i,t-1} \times BKS_{i,t-1} + \beta_7 Ai_{i,t-1} \times BKS_{i,t-1}$, respectively in each model. The vector $C_{i,t-1}$ compresses the control variables. $\beta_1$ to $\beta_8$ represent the coefficients of each independent and control variable. Finally, $u_{it}$ represents the error term of the firm.

Acknowledging the temporal dynamics inherent in the innovation process and its subsequent impact on firm growth and profitability, we opted to introduce one-period lags for our independent and control variables of interest. This methodological decision allows us to capture the lagged effects of innovation more accurately on firm performance.

There is no evidence of multicollinearity among the predictor variables in the regression models (average VIF value = 1.73). We employed Panel-Corrected Standard Errors (Beck et al., 1995) using STATA software to address the autocorrelation and heteroskedasticity issues.

### *2.4. Results*

Table 2-1 presents the frequency distribution of the four possible innovation statuses of the sample companies from 2007 to 2018: Pure EXRI, Pure EXTI, AMBI, and No Innovation. The data revealed a declining trend in the number of firms engaging in innovation. Among those that do innovate, there is a notable lean towards EXTI, whereas EXRI is on the decline. Thus, our empirical observations, aligned with Wasti *et al.* (2022), elucidate a prevailing inclination among firms in volatile emerging markets towards EXTI. AMBI has demonstrated a fluctuating pattern, peaking at 193 companies in 2016 and dropping to 142 in 2010.

There is a nuanced view of the persistence of ambidextrous, exploitative, and exploratory innovations across the sampled firms. Results are consistent with previous research (Juliao-Rossi & Pineda, 2019) in that the persistence in innovation is low in Colombia. Regarding AMBI, a substantial proportion of firms (38.4%) did not engage in AMBI over any of the periods assessed. Yet, 31.8% of firms pursued AMBI in one period, while nearly 30% did so across multiple periods, indicating a pattern of intermittent adoption. Similarly, 25% of firms did not engage in EXRI

during any of the periods assessed. Approximately 50% did so for one or two periods, and the remaining 25% for three or more periods.

In contrast, EXTI shows greater consistency over time, with only 8.2% of firms not engaging in such activities in any assessed period. Conversely, a majority of firms demonstrated commitment to EXTI, with 25.1% engaging in one period and an additional 65.6% engaging over two or more periods. This indicates a strong and sustained focus on refinement and efficiency within the sampled firms, potentially reflecting a strategic orientation toward leveraging existing capabilities and resources to enhance competitiveness in the market.

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Table 2-1

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As shown in Table 2-2, all three models exhibit statistical significance ($p < 0.001$). The results did not support H1. Pure EXRI has a significant negative effect on domestic growth. Although its influence on international growth and profitability is negative, it is not statistically significant. For H2, we observed partial support: we confirmed H2a with a significant negative impact of Pure EXTI on domestic growth. However, we rejected H2b due to its non-significant impact on international growth. Its significant negative effect on profitability further leads to the rejection of H2c.

In models 1-3, AMBI consistently demonstrates a positive and significant influence on both national and international firm growth, as well as profitability, lending support to H3. These results align with the ambidexterity hypothesis (He & Wong, 2004), suggesting that firms adopting an AMBI approach achieve superior performance metrics.

In addressing Hypotheses H4a and H4b, our findings indicate that BKS does not significantly moderate the effects of EXRI or EXTI on growth or profitability. Turning to Hypothesis H4c, there is a discernible positive moderation by BKS on the relationship between AMBI and both domestic and international growth. However, the moderation effect is more pronounced for international growth compared to its relatively subdued influence on domestic growth. Additionally, while BKS does influence the relationship between AMBI and profitability, the magnitude of this effect is modest, especially when compared to its influence on international growth. This suggests that the

combined effect of BKS and AMBI is potent in driving firm growth in international markets, but its impact on domestic growth and profitability, though statistically significant, may hold lesser practical relevance when compared to international growth outcomes.

The temporal dimension of this analysis is facilitated by the use of lagged independent variables and the panel data structure, enabling an investigation into the causal impact of firms' strategic orientations toward innovation on subsequent performance metrics. By introducing a one-period lag, the study effectively accounts for the inherent delay between the adoption of innovation strategies and their measurable effects on firm growth and profitability. This methodological decision is particularly pertinent in the context of EMFs, where the benefits of innovation strategies may not be immediate but tend to materialize gradually over time (Shi et al., 2023).

On the other hand, the analysis of yearly coefficients reveals significant temporal fluctuations in firm performance, attributable to both internal strategic decisions and external environmental factors. For instance, the coefficients for the years 2009-2010 through 2017-2018 highlight varying degrees of influence on domestic growth, international growth, and profitability, underscoring the sensitivity of firm performance to temporal dynamics. These fluctuations are indicative of the broader economic, regulatory, and competitive landscapes, which can significantly impact the effectiveness and outcomes of innovation strategies.

Notably, the year-specific coefficients underscore the nuanced nature of innovation's impact on firm performance over time. The negative coefficient for 2009-2010 suggests a challenging period for domestic growth, potentially reflecting the adverse effects of the global financial crisis during that time. Conversely, the positive and significant coefficients in later years, particularly for international growth and profitability, signal a recovery and growth phase, where firms possibly reaped the benefits of prior innovation investments.

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Table 2-2

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*Supplementary Analyses for Robustness Checks*

To enhance the robustness of our findings, we conducted supplementary analyses. Recognizing the complex nature of firm performance, we expanded our metrics beyond traditional measures. This diversification allowed us to capture the nuanced effects of innovation strategies across various performance dimensions, providing a holistic understanding of their impact. Employee growth served as a proxy for domestic expansion, reflecting growth within the local market. The increase in export shares represented international growth, capturing the firm's success in foreign markets. ROI, a critical financial efficiency measure, offered insights into the financial returns of innovation strategies.

Appendix 2-1 presents the robustness tests with these altered dependent variables. Additionally, we extended our analysis to include companies not initially present in our primary dataset, employing the Multivariate Imputation by Chained Equations (MICE) technique to address missing data challenges. This rigorous imputation method, based on observed dataset relationships, allowed for a more comprehensive analysis by creating multiple imputations, thus maintaining our dataset's integrity and ensuring our findings' reliability and representativeness.

Moreover, our investigation was segmented into six smaller time periods to assess the temporal stability of the relationships between innovation strategies and firm performance metrics (2007-2008; 2009-2010; 2011-2012; 2013-2014; 2015-2016; and 2017-2018). As an example, Appendix 2-2 shows the time period 2015-2016 and imputation techniques, expanding the sample to 7,984 firms.

Throughout these supplementary checks, the direction and statistical significance of our coefficients remained consistent, albeit with minor fluctuations in significance for some variables. These primarily serve to underscore the solid foundation of our initial findings.

Our robustness checks revealed nuanced adjustments in the significance levels of Pure EXRI and Pure EXTI. Despite a slight decrease in statistical significance in the context of employee growth, these variables maintained a consistent, albeit slightly moderated, negative influence on this performance aspect. On the other hand, AMBI also diminished its significance level for employee growth and ROI but maintained its significance on export share. Finally, the interaction between BKS and AMBI remains constant in both robustness checks.

### *2.5. Discussions*

In the context of manufacturing firms operating in an emerging market, our research demonstrates a clear advantage for those firms that adopt AMBI. This finding substantiates the ambidexterity hypothesis, suggesting that firms embracing both exploratory and exploitative innovations are better positioned to achieve superior performance metrics. In contrast, an exclusive emphasis on either EXRI or EXTI yields inferior results, specifically in the context of domestic growth. This inclination toward AMBI aligns with findings from studies by Han and Celly (2008), Liu *et al.* (2019), and Zhang *et al.* (2020).

Our findings show that innovation dynamics significantly influence not only advanced areas but also emerging regions, as found by Luo & Rui (2009). AMBI emerges not just as an innovation capability but is possibly shaped by resource constraints that, instead of hindering, may actually mold it. Supporting this, Keupp and Gassmann (2013) suggest that excessive resources can limit the development of new capabilities, keeping firms tied to current technologies. Thus, resource scarcity might drive the adoption of innovative approaches like AMBI, fostering the pursuit of new knowledge and its application. Consequently, as Luger *et al.* (2018), Iborra *et al.* (2020), and Trieu *et al.* (2023) concur, the pivot for EMFs to internalize ambidexterity may emerge not merely as a strategic maneuver but also as a resilience-building imperative.

Our study also elucidates that when EMFs adopt an AMBI approach during their international expansion, they can more effectively balance their short- and long-term objectives. This is essential as it aids firms in navigating the institutionally challenging terrains often found in foreign markets, allowing them to both leverage firm-specific advantages at home and procure new resources abroad—a perspective supported by Luo and Rui (2009), Vahlne and Jonsson (2017), Battaglia *et al.* (2018), Friesenbichler and Hoelzl (2022), Ju and Gao (2022), and Batra *et al.* (2022).

Our research also shows that leveraging multiple knowledge sources significantly enhances the effectiveness of AMBI strategies, leading to notable growth and profitability. This approach provides EMFs with a strategic method to overcome financial limitations. Notably, the interaction between BKS and AMBI plays a crucial role in driving international growth, positioning firms with high levels of both for enhanced global market competitiveness, as observed by Ryu et al. (2022). This concept gains particular relevance during the internationalization of EMFs, where an

in-depth understanding of markets, competitors, and institutional frameworks is vital, as highlighted by Vahlne & Jonsson (2017).

The temporal dynamics between innovation and firm performance, which support empirical evidence that the impact of innovation on growth and profitability might not be immediate (Shi et al., 2023), may suggest that firms might need to be patient and maintain their innovation strategies over time to see tangible growth and profitability outcomes. This insight is crucial for strategic planning and resource allocation, emphasizing the need for sustained innovation efforts rather than expecting immediate returns. This also implies the importance of policy recommendations that stress the importance of supporting long-term innovation strategies.

Our quantitative evidence that AMBI outperforms single-focus strategies, and that this effect strengthens with broader knowledge sourcing, aligns with formal models showing that ambidextrous organizations, while incurring higher coordination costs in the short run, can surpass focused firms when two conditions hold: extended time frames and active enactment of synergies. Specifically, Van Looy *et al.* (2005) demonstrate that sustainability of ambidexterity hinges on: i) the ability to reallocate resources from declining to growing activities, ii) deliberate cross-fertilization that accelerates growth and tempers decline, and iii) actions that expand the attainable market size. Our panel results in an emerging-market context are consistent with these mechanisms: BKS operates as an interface-management enabler for cross-fertilization, while the positive growth and profitability effects we observe for ambidextrous firms are precisely the outcomes predicted when such synergies are enacted over longer horizons.

On the other hand, patterns of innovation persistence are critical to our understanding of how firms in emerging markets balance the pressures of immediate performance against the imperatives of long-term growth and adaptability. The variability in the persistence of AMBI, in particular, calls for a deeper examination of the conditions under which firms might shift between exploitative and exploratory behaviors and the implications of these shifts for their strategic outcomes. The evidence points to a potential strategic flexibility that allows firms to respond to changing market conditions and internal capabilities, aligning with the concept of ambidextrous behavior as a dynamic and contextually responsive strategy.

## *2.6. Conclusions*

This study aimed to provide insights into how EXRI, EXTI, and AMBI impact firm growth and profitability on EMFs. Our empirical panel data analysis confirmed that adopting an AMBI approach gives EMFs a distinct advantage in profitability and growth. This outcome stands in contrast to the less favorable results in domestic growth observed in firms focusing solely on either EXRI or EXTI.

Beyond its role as a strategic orientation toward innovation, AMBI represents a resilience mechanism for EMFs. Our findings echo previous studies, emphasizing that resource constraints, rather than hindering growth, can spur firms to innovate. Moreover, this research indicates that the moderating effect of BKS on the relationship between AMBI and growth is most pronounced during international expansion. This suggests that EMFs, equipped with a comprehensive array of knowledge sources and able to leverage AMBI strategies, possess a competitive edge in global markets.

Our research elucidates the critical importance of leveraging a broad array of knowledge sources for managers of EMFs, suggesting that the development of AMBI through the assimilation of both internal and external knowledge is imperative, even amidst resource limitations. This proposition extends the scholarly discourse by providing actionable insights for EMFs managers to optimize their innovation strategies within the constraints of emerging markets.

Furthermore, our findings offer a substantive basis for policy formulation aimed at facilitating EMFs growth. We advocate for policies that not only encourage radical and frugal innovations but also emphasize quality enhancement and cost optimization. Importantly, such policies should expand beyond traditional support frameworks to emphasize the facilitation of access to, and assimilation of, external knowledge and technologies. This recommendation resonates with the argument put forth by Braunerhjelm & Thulin (2023), stressing the need for an ecosystem that nurtures experimentation and accommodates the potential for failure, with adequate support mechanisms for recovery and iterative improvement.

Additionally, the examination of the temporal dynamics of innovation strategies sheds light on the relationship between the immediacy of innovation benefits and the necessity for a sustained commitment to innovative practices. As highlighted by Shi et al. (2023), the impacts of innovation on firm growth and profitability may not be immediate, underscoring the need for persistence in

innovation efforts. Our analysis further distinguishes the differential persistence of AMBI and EXRI orientations in contrast to the relatively stable nature of EXTI. This distinction underscores a critical insight: while the pursuit of short-term growth and profitability is understandable, adopting a long-term perspective that encompasses a diverse set of innovation strategies may offer more substantial and enduring benefits.

The research's limitations include the unaccounted age of firms due to data limitations; a focus on only Colombian manufacturing firms; an unexplored depth of knowledge sources; no differentiation in the impact of specific knowledge sources; and the preference for dichotomous measures over continuous measures for independent variables, constrained by data availability. Moreover, we suggested that resource scarcity could drive firms toward adopting AMBI. However, the nature and extent of this relationship were not fully explored, nor was the direct interaction between profitability and growth. Finally, this study's primary focus on product innovation means it does not address other significant types of innovation, such as process innovations, organizational restructuring, and business model updates.

Future research directions could fruitfully explore several key areas: First, identifying the tipping point at which constraints begin to significantly hinder innovation and growth. Second, assessing the differential impacts of specific knowledge sources on the performance outcomes of adopting AMBI strategies. Third, investigating variations in structural, cyclical, and cross-functional ambidexterity. Lastly, broadening the scope to include diverse types of innovation and firms across various sectors and regions

APPENDICES

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Appendix 2-1

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Appendix 2-2

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ANNEXES

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Annex 2-1

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*Table 2—1. Frequency of Innovation Capabilities Over the Years*

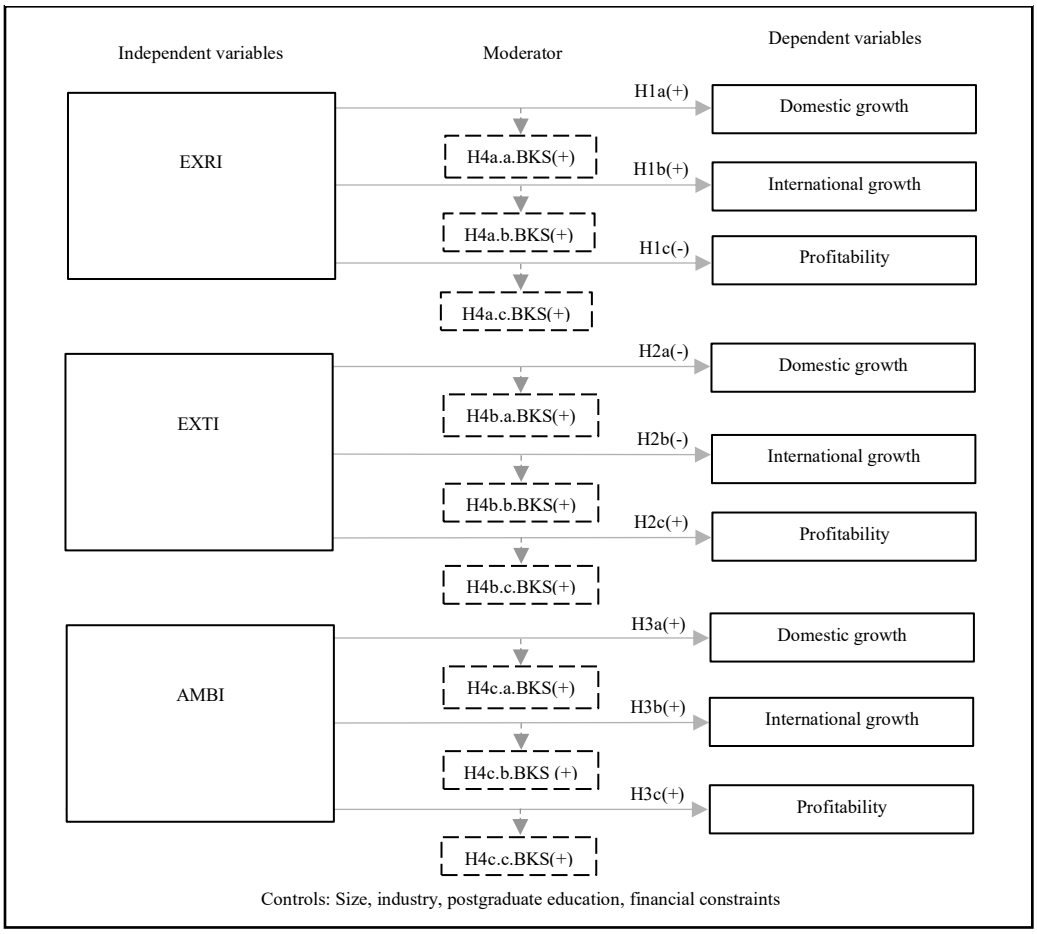
| Year | No innovation | EXPI | EXTI | AMBI | Total |
|---|---|---|---|---|---|
| 2007- 2008 | 339 | 258 | 56 | 394 | 1,047 |
| 2009 - 2010 | 446 | 370 | 89 | 142 | 1,047 |
| 2011 - 2012 | 569 | 221 | 78 | 179 | 1,047 |
| 2013 - 2014 | 622 | 182 | 95 | 148 | 1,047 |
| 2015 - 2016 | 591 | 180 | 83 | 193 | 1,047 |
| 2017 - 2018 | 616 | 140 | 136 | 155 | 1,047 |
| Total | 3,183 | 1,351 | 537 | 1,211 | 6,282 |

*Table2—2. Results of PCSE Fixed-effect Regression Analysis*

| | Model 1 Domestic growth $R^2 = 0.79$ $\chi^2=0.0000$ | Model 2 International growth $R^2 = 0.63$ $\chi^2=0.0000$ | Model 3 Profitability $R^2 = 0.76$ $\chi^2=0.0000$ |
|---|---|---|---|
| Pure EXRI | -0.07** | -0.29 | -0.02 |
| | (0.03) | (0.19) | (0.01) |
| Pure EXTI | -0.13** | 0.28 | -0.11** |
| | (0.04) | (0.21) | (0.05) |
| AMBI | 0.04** | 0.46** | 0.08** |
| | (0.03) | (0.20) | (0.01) |
| BKS | 0.63** | 0.11** | -0.01 |
| | (0.01) | (0.10) | (0.01) |
| BKS × EXRI | 0.02 | 0.31 | 0.01 |
| | (0.03) | (0.19) | (0.01) |
| BKS × EXTI | -0.03 | 0.04 | 0.05 |
| | (0.06) | (0.22) | (0.05) |
| BKS × AMBI | 0.02** | 0.13** | 0.01** |
| | (0.04) | (0.18) | (0.01) |
| Postgraduate employees | -0.00 | 0.24** | 0.09 |
| | (0.01) | (0.09) | (0.07) |
| Specialized suppliers industries | -0.08*** | -0.12 | -0.02 |
| | (0.02) | (0.22) | (0.03) |
| Scale and information-intensive industries | 0.04 | -0.33 | 0.02 |
| | (0.04) | (0.24) | (0.03) |
| Supplier dominated industries | -0.07 | -0.65** | 0.00 |
| | (0.03) | (0.19) | (0.03) |
| Medium-size firm | 0.19*** | 0.64** | -0.00 |
| | (0.05) | (0.26) | (0.01) |
| Big-size firm | 0.32*** | 1.18** | -0.02 |
| | (0.09) | (0.39) | (0.03) |
| Null financial constraint | 0.07** | 0.48** | 0.04** |
| | (0.03) | (0.22) | (0.01) |
| Medium financial constraint | 0.04 | 0.15 | 0.01 |
| | (0.03) | (0.14) | (0.01) |
| Year 2009-2010 | -0.04*** | -0.07 | 0.09*** |
| | (0.01) | (0.05) | (0.00) |
| Year 2011-2012 | 0.09*** | -0.26*** | 0.13*** |
| | (0.01) | (0.05) | (0.00) |
| Year 2013-2014 | 0.14*** | 1.43*** | 0.10 |
| | (0.00) | (0.082) | (0.04) |
| Year 2015-2016 | 0.30*** | 0.19** | 0.16*** |
| | (0.01) | (0.06) | (0.00) |
| Year 2017-2018 | 0.31 | 0.59*** | 0.19*** |
| | (0.01) | (0.07) | (0.01) |
| Intercept | 16.87*** | 8.21*** | 0.26*** |
| | ( 0.19) | (1.55) | (0.06) |

*p<0.1; **p<0.05; ***p<0.001

*Figure 2-1. Conceptual Model*




*Appendix 2-1: Robustness Tests with Altered Measures for Dependent Variables*

| | **Model 1: Employee Growth** | **Model 2: Export Share Increase** | **Model 3: ROI** |
|---|---|---|---|
| Pure EXRI | -0.06* (0.02) | -0.25 (0.18) | -0.03 (0.02) |
| Pure EXTI | -0.12* (0.03) | 0.25 (0.20) | -0.10** (0.04) |
| AMBI | 0.05* (0.02) | 0.43** (0.19) | 0.07* (0.02) |
| BKS | 0.60* (0.02) | 0.15* (0.09) | -0.02 (0.02) |
| BKS × EXRI | 0.03 (0.02) | 0.30 (0.18) | 0.02 (0.02) |
| BKS × EXTI | -0.02 (0.05) | 0.06 (0.21) | 0.04 (0.04) |
| BKS × AMBI | 0.03* (0.03) | 0.12** (0.17) | 0.02** (0.02) |
| Postgraduate employees | -0.00 (0.01) | 0.24* (0.09) | 0.09 (0.07) |

| | **Model 1: Employee Growth** | **Model 2: Export Share Increase** | **Model 3: ROI** |
|---|---|---|---|
| Specialized suppliers industries | -0.08 (0.02) | -0.12 (0.22) | -0.02 (0.03) |
| Scale and information-intensive industries | 0.04 (0.04) | -0.33 (0.24) | 0.02 (0.03) |
| Supplier dominated industries | -0.07 (0.03) | -0.65** (0.19) | 0.00 (0.03) |
| Medium-size firm | 0.19* (0.05) | 0.64** (0.26) | -0.00 (0.01) |
| Big-size firm | 0.32** (0.09) | 1.18** (0.39) | -0.02 (0.03) |
| Null financial constraint | 0.07** (0.03) | 0.48** (0.22) | 0.04** (0.01) |
| Medium financial constraint | 0.04 (0.03) | 0.15 (0.14) | 0.01 (0.01) |
| Intercept | 5.83** (0.07) | 28.21*** (0.55) | 3.16 (0.16) |
| R-squared | 0.65 | 0.60 | 0.58 |
| Observations | 6,282 | 6,282 | 6,282 |
| Periods Covered | 2007-2018 | 2007-2018 | 2007-2018 |

Note: †p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001. Standard errors are in parentheses.

*Appendix 2-2. Robustness test incorporating a Reduced Sample and Imputation Techniques*

| | **Domestic growth** | **International growth** | **Profitability** |
|---|---|---|---|
| Pure EXRI | -0.07** (0.03) | -0.29 (0.19) | -0.02 (0.01) |
| Pure EXTI | -0.13** (0.04) | 0.28 (0.21) | -0.11** (0.05) |
| AMBI | 0.04** (0.03) | 0.46** (0.20) | 0.08** (0.01) |
| BKS | 0.63* (0.01) | 0.11** (0.10) | -0.01 (0.01) |
| BKS × EXRI | 0.02 (0.03) | 0.31 (0.19) | 0.01 (0.01) |
| BKS × EXTI | -0.03 (0.06) | 0.04 (0.22) | 0.05 (0.05) |
| BKS × AMBI | 0.02** (0.04) | 0.13** (0.18) | 0.01** (0.01) |
| Postgraduate employees | -0.00 (0.01) | 0.24** (0.09) | 0.09 (0.07) |
| Specialized suppliers industries | -0.08** (0.02) | -0.12 (0.22) | -0.02 (0.03) |
| Scale and information-intensive industries | 0.04 (0.04) | -0.33 (0.24) | 0.02 (0.03) |

| | **Domestic growth** | **International growth** | **Profitability** |
|---|---|---|---|
| Supplier dominated industries | -0.07 (0.03) | -0.65* (0.19) | 0.00 (0.03) |
| Medium-size firm | 0.19 (0.05) | 0.64** (0.26) | -0.00 (0.01) |
| Big-size firm | 0.32** (0.09) | 1.18** (0.39) | -0.02 (0.03) |
| Null financial constraint | 0.07** (0.03) | 0.48** (0.22) | 0.04** (0.01) |
| Medium financial constraint | 0.04 (0.03) | 0.15 (0.14) | 0.01 (0.01) |
| Intercept | 18.07** (0.09) | 8.00** (0.30) | 4.92 (1.77) |
| R-squared | 0.23 | 0.59 | 0.42 |
| Observations | 7,948 | 7,948 | 7,948 |
| Periods Covered | 2015-2016 | 2015-2016 | 2015-2016 |

Note: †p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001. Standard errors are in parentheses.

*Annex 2-1. Factorial ANOVA Results*

Factorial ANOVA Results for Domestic Growth

| Source of Variation | F-ratio | p-value |
|---|---|---|
| Innovation Type | 6.82 | < 0.01 |
| Group (Balanced vs. Unbalanced) | 4.47 | 0.035 |
| Interaction (Type x Group) | 2.13 | 0.144 |

Factorial ANOVA Results for International Growth

| Source of Variation | F-ratio | p-value |
|---|---|---|
| Innovation Type | 7.19 | < 0.01 |
| Group (Balanced vs. Unbalanced) | 5.01 | 0.025 |
| Interaction (Type x Group) | 1.88 | 0.172 |

Factorial ANOVA Results for Profitability

| Source of Variation | F-ratio | p-value |
|---|---|---|
| Innovation Type | 8.04 | < 0.001 |
| Group (Balanced vs. Unbalanced) | 3.92 | 0.048 |
| Interaction (Type x Group) | 2.56 | 0.11 |

# 3. Chapter 3. Organizational Ambidexterity and Born Global Firms' Post-Internationalization Growth. A Multi-Case Study from the Agri-Food Sector[2]

## *3.1. Introduction*

The internationalization of agri-food firms substantially influences economic growth and global food security. By diversifying into multiple markets, these firms contribute to stabilizing global food supplies and mitigating local shortages (Ramírez-Gómez & Turner, 2023; Serrano et al., 2018). Despite frequent coverage of incremental internationalization and export strategies (Serrano et al., 2023), early internationalization remains notably underexplored in this sector. To the best of our knowledge, while some studies mention early internationalizing firms in the agri-food sector within broader research (e.g., Barros & Almeida, 2024; Losilla et al., 2020; Martos-Martinez & Munoz-Guarasa, 2023; Senik et al., 2016), none specifically analyze their growth dynamics.

Born Global Firms (BGFs) in the agri-food sector, known for their rapid international market entry, strive to secure competitive advantages essential for job creation and economic expansion from the outset (Cavusgil & Knight, 2015; Knight & Cavusgil, 2004). Most existing research, such as that reviewed by Freixanet & Federo (2022), has extensively documented the initial stages of BGFs' internationalization. Although there has been increasing interest in the post-internationalization phase, current literature falls short of exploring the complexities and strategic adaptations necessary for sustaining growth beyond initial market entries (Breuillot et al., 2022; Romanello & Chiarvesio, 2017).

Each phase in the life cycle of a BGF necessitates a distinct configuration of organizational resources (Johanson & Martín, 2015). However, how strategic resources evolve over time and influence the internationalization phases of BGFs remains underexplored (Breuillot et al., 2022). The dynamic capabilities perspective provides a robust framework for examining the growth dynamics of BGFs by incorporating the essential temporal dimension of their development (Ibeh et al., 2018).

[2] This chapter was developed in collaboration with Professors Alex Rialp Criado and Viviana Andrea Gutiérrez Rincón, and reproduces the article published in *Strategic Change*, accessible online at https://doi.org/10.1002/jsc.2633.

Dynamic capabilities are defined as "the ability of an organization and its management to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece, 2007, p. 516) and to influence market dynamics (Eisenhardt & Martin, 2000; Teece, 2014).

Within this context, Organizational Ambidexterity (OA) emerges as a pivotal dynamic capability (O'Reilly III & Tushman, 2008; Vahlne & Jonsson, 2017). Defined as the simultaneous pursuit of exploring new opportunities and exploiting existing competencies (March, 1991; Ochie et al., 2022; Tushman & O'Reilly III, 1996), OA empowers firms to sense, seize, and reconfigure their resource base throughout the various phases of internationalization (Teece et al., 2016). It provides the requisite flexibility and adaptability for BGFs to navigate global market expansion successfully (Figueiredo et al., 2024; Zhou et al., 2020). However, the specific mechanisms by which OA contributes to growth and strategic adaptation during the critical post-internationalization phase remain insufficiently explored in the literature (Presutti et al., 2024).

Despite the international engagement and remarkable initial performance of BGFs, their prospects for sustained growth remain uncertain (Puig et al., 2018). In the post-internationalization phase, BGFs must not only maintain and stabilize their strategic resources but also revitalize and upgrade their capabilities (Breuillot et al., 2022). Consequently, cultivating resources that facilitate the evolution of BGFs' growth strategies over time becomes imperative (Nason & Wiklund, 2018).

We posit that OA is the dynamic capability upon which BGFs must focus to achieve maturity. It enables firms to capitalize on organizational learning and experience garnered from demanding global markets (Gabrielsson et al., 2008). By concurrently stabilizing strategic resources, renewing existing capabilities, and seizing diverse growth opportunities (Øyna & Alon, 2018), OA enhances their prospects for sustained growth.

Building on this premise, the objective of this study is to explore how BGFs utilize OA to manage and sustain growth after international entry. To achieve this, we conducted a qualitative multiple case study. Our approach includes comprehensive data collection through semi-structured interviews, press articles, and corporate documents, providing deep insights into the strategic maneuvers that underpin successful internationalization in the agri-

food sector. Specifically, we aim to understand the exploratory and exploitative strategies that BGFs employ to navigate the complexities of post-internationalization growth. We investigate how these firms integrate these strategies and the outcomes resulting from their strategic decisions. Furthermore, we examine how internal and external triggers influence the strategic choices and growth trajectories of BGFs during their post-internationalization phase.

The findings not only illustrate how dynamic capabilities like OA are operationalized to achieve strategic flexibility and adaptability but also provide actionable strategies for practitioners, emphasizing the importance of supportive policies for fostering sustainable economic development. This study contributes to the international entrepreneurship and strategic management literature by exploring the underexplored sequential development of strategic resources in early internationalizing firms (Breuillot et al., 2022). Our study offers a robust theoretical framework and rich empirical evidence that could guide future research and practice in managing dynamic capabilities effectively in the landscape of early internationalizing firms.

The structure of our paper is organized systematically into six main sections. Section 2 develops the theoretical framework, laying the foundation for our study by detailing the existing literature and key concepts critical to our analysis. Section 3 outlines the methodology, describing our research design, data collection methods, and analytical procedures. Section 4 presents the findings of the study. Section 5 discusses these findings, focusing on their relevance and contribution to the field. Finally, Section 6 concludes the paper with a summary of the conclusions, a detailed discussion of theoretical and practical implications, limitations of the study, and proposed avenues for future research.

### *3.2. Theoretical background*

#### *3.2.1. BGFs' Post-Internationalization Phase*

The literature on international entrepreneurship distinguishes a specific category of early internationalizing entities known as BGFs. These firms are characterized by their rapid expansion into foreign markets, exhibiting international business expertise and superior performance from their inception (Knight & Cavusgil, 2004, p. 124). Departing from the traditional incremental approach to internationalization, BGFs enter multiple foreign markets

shortly after establishment, without significant prior experience and regardless of physical or psychological distances involved (Rialp et al., 2005).

BGFs progress through distinct phases: (i) pre-start-up, (ii) pre-internationalization, and (iii) post-internationalization, which encompasses development and growth following entry into international markets (Gabrielsson et al., 2008; Rialp-criado et al., 2010; Romanello & Chiarvesio, 2017). Scholarly interest in the post-internationalization growth of BGFs is increasing (see Freixanet & Federo, 2022, for a review). By this stage, with a strong presence established in numerous international markets, BGFs experience growth predominantly propelled by international sales (Breuillot et al., 2022; Coviello & Munro, 1997). The focus in the post-entry phase is on sustaining growth and building a long-term market presence (Efrat & Asseraf, 2024; Sleuwaegen & Onkelinx, 2014). This includes strategic moves such as mergers and acquisitions, strategic alliances, or organic growth through innovation and market development (Agustí et al., 2023).

However, the path to sustained growth is fraught with uncertainties. Research indicates that while early internationalization boosts sales growth and export intensity, these benefits can diminish over time, potentially leading to stagnation (Agustí et al., 2023; Breuillot et al., 2022). BGFs in the post-entry phase confront multiple challenges: scaling operations in foreign markets necessitates increased resources (Freixanet & Federo, 2022); the pace of internationalization may slow as firms consolidate market presence and enhance internal operations to support sustainable growth (Romanello & Chiarvesio, 2017); there is often a diminished capacity to innovate and adapt to local market conditions (Buccieri & Park, 2022; Hallbäck & Gabrielsson, 2013); and expanding international networks becomes more complex (Donbesuur et al., 2022). Moreover, the rapidly changing nature of international markets, characterized by shifting consumer preferences and competitive pressures, demands agile adaptation (Buccieri & Park, 2022). For firms from emerging countries, these challenges are exacerbated by institutional barriers like complex regulatory environments and varying standards, which can undermine trust and customer loyalty in foreign markets (Buccieri & Park, 2022).

These conditions necessitate continuous adjustments in their strategic resource base, requiring a high level of market sensing and responsiveness (Ibeh et al., 2018). Breuillot et

al. (2022) emphasize the necessity of understanding how strategic resources such as technological assets, strategic partnerships, and knowledge management evolve from entry to post-entry phases, significantly affecting a firm's ability to stabilize and expand internationally. This evolution marks a shift from mobilizing resources in the pre-entry phase to a more intense demand for and reconfiguration of these resources as businesses expand and face the need for local adaptations (Agustí et al., 2023).

In response to these circumstances, recent literature emphasizes the pivotal role of dynamic capabilities in enhancing BGF performance during the post-entry phase (Puig et al., 2018), particularly through renewing or transforming the firm's resource base (Khan & Lew, 2018) and addressing growth-related challenges and inherent risks faced by BGFs (Knight & Cavusgil, 2004; Sapienza et al., 2006).

Dynamic capabilities are competencies involving the sensing, seizing, and transformation of a resource base to create value and respond to environmental demands (Eisenhardt & Martin, 2000; Teece, 2018; Teece et al., 1997). These capabilities enable an organization to integrate, build, and reconfigure both internal and external competencies, allowing it to address rapidly changing environments and influence market dynamics effectively (Teece, 2007, 2014). Dynamic capabilities, crucial for adapting to environmental changes and sustaining a competitive advantage, allow BGFs to quickly sense, seize, and reconfigure resources in alignment with international market dynamics (Ibeh et al., 2018; Teece et al., 2016).

Dynamic capabilities provide BGFs with the flexibility and responsiveness necessary to navigate international market dynamics and opportunities (Weerawardena et al., 2007). Beyond mere adaptation, these capabilities foster innovation, enabling BGFs to design and offer products that meet the diverse and evolving needs of customers across various countries (Figueiredo et al., 2024). Moreover, in the post-entry phase, dynamic capabilities facilitate strategic resource allocation within BGFs by enabling efficient deployment of resources to optimize operations and maximize return on investment in new markets (Romanello & Chiarvesio, 2019).

The literature identifies specific capabilities essential for effective resource allocation, including resource reconfiguration, resource renewal, international market observation & evaluation, international market resource acquisition (Jie et al., 2023), absorptive capacity

(Kahiya & Warwood, 2022), cognition, decision-making logic, effectuation, bricolage, and network capabilities (Vuorio & Torkkeli, 2023).

Within the framework of dynamic capabilities in the internationalization of BGFs, OA emerges as a crucial capability that enables BGFs to effectively navigate the complexities of international markets (Figueiredo et al., 2024; Kahiya & Warwood, 2022; Presutti et al., 2024). OA represents a unique form of dynamic capability, characterized by an organization's ability to simultaneously explore and exploit (O'Reilly III & Tushman, 2013, p. 324). Exploration involves the pursuit of new ideas, directions, and relationships, culminating in the creation of new products, services, markets, technologies, processes, and organizational structures. Conversely, exploitation focuses on enhancing existing resources and capabilities to generate value for current customers (Monferrer et al., 2015). This dual focus empowers firms to sense emerging opportunities, seize them efficiently, and reconfigure their resource bases to adapt to evolving market conditions (Teece et al., 2016).

An ambidextrous organization effectively navigates the inherent trade-offs and tensions between exploration and exploitation; both elements are crucial yet compete for limited resources (March, 1991). As a result, ambidextrous firms adeptly balance their current operations to secure their viability while concurrently adapting to market demands, thus enhancing their potential for growth (Raisch & Birkinshaw, 2008).

Within the field of international entrepreneurship, research consistently indicates a positive correlation between OA and the performance of BGFs (e.g., Buccieri et al., 2020; Han & Celly, 2008; Mathew Hughes et al., 2010; Shuwaikh et al., 2022; Vaillant & Lafuente, 2019) Crucial for the survival and expansion of BGFs, OA facilitates the simultaneous exploration of new products and market opportunities overseas, alongside the exploitation and recombination of existing resources to maximize these opportunities (Buccieri et al., 2020; Monferrer et al., 2015). By effectively managing exploratory and exploitative activities, BGFs can innovate more successfully and achieve deeper and more sustainable market penetration (Figueiredo et al., 2024). This dual focus enables BGFs to continually refresh their product offerings while strengthening their foothold in established markets.

Vuorio & Torkkeli (2023) suggest that the effectiveness of dynamic capabilities in internationalization depends not solely on the presence of individual capabilities but on how

these capabilities combine and interact. OA may act as an overarching capability, enabling BGFs to effectively renew and reconfigure these capacities in the post-entry phase through its dual focus on exploration and exploitation. OA is thus considered the definitive dynamic capability, essential for not only managing post-entry challenges but also addressing shifting market demands and proactively adapting organizational resources. Extending beyond mere survival, OA supports the continuous growth of BGFs throughout the post-international entry phase, equipping firms to capitalize on emerging opportunities and manage risks strategically. The enduring importance of OA for sustaining growth and fostering organizational maturity in a competitive global environment—particularly in the post-internationalization phase—is further examined in the following section.

### *3.2.2. The Role of OA in the Post-Internationalization Growth of BGFs*

By concurrently stabilizing strategic resources, renewing capabilities, and seizing diverse growth opportunities (Øyna & Alon, 2018), OA ensures a balance between maintaining current competencies and pursuing innovation and adaptation. This equilibrium allows BGFs to maintain continuity in their international growth trajectories, thereby enhancing their prospects for long-term success in the global marketplace.

What distinguishes the application of OA across different phases of a BGF's lifecycle? While certain mechanisms are consistent throughout, the strategic applications of OA during the post-entry phase are notably more complex and carry higher stakes. In this phase, BGFs are tasked not merely with maintaining the competitive advantage secured during their market entry but also with expanding it. This requires a nuanced balance of leveraging existing strengths while continuously integrating new capabilities to respond to evolving market demands and competitive pressures.

In the pre-entry phase of internationalization, BGFs must strategically decide how to allocate resources between exploring new international opportunities and exploiting their current capabilities (Gripsrud et al., 2023). OA enables these firms to balance the internal competencies needed for international preparedness with the exploration of potential external market. This balance is crucial, as the speed at which BGFs enter international markets can significantly affect their survival and performance, highlighting the importance of precise timing and strategic coordination in their expansion efforts (Wu & Zhou, 2018).

Pre-entry, BGFs engage extensively in exploratory activities such as comprehensive market research and strategic planning (Agustí et al., 2023). This involves identifying potential markets, understanding diverse consumer behaviors, analyzing competitors, and evaluating market entry barriers. Knowledge accumulation during the pre-entry and entry phases focuses on gaining broad market understanding and identifying entry points. Firms gather general market data and potential customer insights to formulate effective entry strategies (Prashantham & Young, 2011). They assess risks and opportunities without committing substantial resources, allowing them to sense and learn about market needs, technological trends, customer preferences, and regulatory environments (Donbesuur et al., 2022).

Establishing initial contacts and building social capital is crucial during these phases, as forming new relationships and networks supports market entry and initial business operations (Prashantham & Young, 2011). These relationships facilitate access to valuable information and resources, enhancing the firm's ability to navigate new markets effectively.

Simultaneously, BGFs focus on exploitative activities by leveraging and optimizing their existing resources and capabilities to prepare for planned internationalization strategies (Agustí et al., 2023). This includes strengthening their technological base, refining product offerings, and adapting business models to ensure they are robust and suitable for new international markets. Branding strategies during the early stages of internationalization are focused on creating visibility and differentiation in new markets. Firms may employ aggressive marketing and promotional efforts to build market share and establish their brand (Efrat & Asseraf, 2024). Securing financial capital, human resources, and technological capabilities is essential to support future international activities (Khan & Lew, 2018). Thus, exploitation at this stage solidifies the firm's foundational strategies and resources, making them resilient enough to support international operations.

OA during the pre-entry phase is about building the groundwork for successful internationalization by balancing exploration and exploitation (Donbesuur et al., 2022). Firms employ SF to anticipate market demands and potential barriers, setting the stage for a smooth transition into international markets. By effectively managing this balance, BGFs can better sense opportunities, build essential networks, and prepare their internal capabilities, positioning themselves advantageously for entry into foreign markets.

In the entry phase, the focus shifts to effectively exploiting new market opportunities while continuing to explore additional international markets. Strategic flexibility becomes crucial at this stage, enabling the firm to adjust its strategies based on initial market responses and to continue innovating in product or service offerings (Gripsrud et al., 2023; Wu & Zhou, 2018). The transition from the pre-entry to the entry phase signifies a shift from planning to execution, where strategies are implemented and continuously refined based on operational insights and market feedback (Agustí et al., 2023). Firms put their strategies into practice, but they must remain adaptable, adjusting their approaches as they gather real-time information from the market. This flexibility allows them to capitalize on emerging opportunities and respond effectively to challenges, ensuring sustained progress in their international expansion efforts.

In the post-internationalization phase, BGFs face unique challenges that require a distinct application of OA. While OA is critical across all stages of internationalization, its features in the post-entry phase are idiosyncratic and differ from those in earlier stages. OA can significantly enhance the growth prospects of BGFs during this phase through various mechanisms, enabling firms to adapt dynamically to complex and evolving international market conditions.

### *3.2.3. OA and Innovation in the Post-Entry Phase*

From an innovation standpoint, OA is crucial because BGFs rely extensively on developing new and enhanced products to penetrate both established and emerging local and global markets (Buccieri et al., 2020). By integrating exploratory and exploitative innovation activities, BGFs sustain their competitiveness and viability across domestic and international markets (Freixanet & Renart, 2020). This involves retaining customers through incremental updates (exploitation) and fostering future growth by introducing disruptive innovations (exploration) that generate new demand in foreign markets and broaden the existing product portfolio (Prange & Verdier, 2011). Additionally, as BGFs expand internationally, they increasingly target more niche markets, indicating a shift towards even more specialized products (Knight & Liesch, 2016).

Post-entry, BGFs often face more direct competition (Buccieri & Park, 2022). The strategic focus shifts towards outmaneuvering competitors, which may involve innovations, improved

customer service, and more aggressive marketing tactics. By fostering both innovative (explorative) and efficient (exploitative) behaviors, OA helps BGFs sustain their competitive advantage in foreign markets despite resource constraints and perceptual challenges (Buccieri & Park, 2022).

In the post-entry phase, the application of OA becomes more dynamic as firms adaptively manage ongoing operations and strategically expand within the market. Enhanced sensing and learning are critical, involving deeper market integration and sensing subtle shifts in consumer behavior, technological advancements, and competitive moves. This requires a nuanced and responsive approach to gathering and processing market intelligence (Donbesuur et al., 2022).

Innovative product development leverages insights gained from deeper market integration to develop or adapt products that meet specific local needs, often involving rapid prototyping and continuous feedback loops with local consumers. Exploitation focuses on strategic consolidation, deepening market penetration, and maximizing operational efficiency. This includes scaling successful models, optimizing supply chains for local conditions, and strengthening market presence through targeted marketing and customer engagement strategies. Resource optimization involves not just maintaining but enhancing resource utility based on real-time market feedback, including reallocating resources to the most profitable segments or innovations that have shown success in the market (Khan & Lew, 2018).

### *3.2.4. OA and Learning in the Post-Entry Phase*

In the post-entry stage, the speed of expansion into new markets and the increase in export shares become critical (Gripsrud et al., 2023). OA plays a vital role in managing the rapid shifts from exploring new markets to efficiently exploiting existing ones to maximize survival and growth in foreign markets. Firms must carefully balance the pace of expansion—both geographically and product-wise—by managing the tension between quickly capitalizing on new opportunities (exploration) and deepening their engagement in existing markets to build scale and efficiency (exploitation).

From a learning perspective, OA provides BGFs with an essential mix of flexibility and efficiency during the post-internationalization phase, allowing them to adjust to the rapidly evolving institutional environments typical of contemporary international markets (Cavusgil

& Knight, 2015; Freixanet & Renart, 2020). The receptiveness of BGFs to learning and the absence of rigid routines enhance this flexibility, promoting further adaptation and growth under varied market conditions (Monferrer et al., 2015). Firms adjust their strategies based on real-time market feedback and operational experiences. Moreover, post-entry, learning from the market and adapting business models accordingly are critical. This continuous learning helps refine strategies and operations to better align with market needs and dynamics (Agustí et al., 2023).

Exploration post-entry shifts to real-time market sensing and adaptation, involving rapid responses to market feedback, adjusting products or services to fit local tastes, and continually searching for new market segments within the entered markets. Exploitation focuses on deepening market penetration and maximizing returns from established operations and networks, including optimizing supply chains, scaling successful operations, and enhancing customer engagement strategies based on accumulated market insights (Donbesuur et al., 2022).

Effective OA allows BGFs to balance the need for exploring new opportunities, such as entering new market segments or adapting products to local tastes, with exploiting existing capabilities and resources. This balance is crucial in dynamic markets where conditions change rapidly and unpredictably. Thus, OA may leverage the BGFs' LAN with the ability to quickly adapt their strategies and operations in response to market feedback and emerging trends, essential for overcoming institutional barriers and aligning with local market expectations (Buccieri & Park, 2022). This adaptability reduces the liability of foreignness and builds resilience against market volatility and competition (Sleuwaegen & Onkelinx, 2014).

### *3.2.5. OA and Networking in the Post-Entry Phase*

In the networking domain, OA emerges as a critical strategy for BGFs, bolstering their growth by sustaining strong existing networks and forging new, diverse connections. Ambidextrous networking strategies effectively counteract the resource-intensive demands of OA and the inherent resource limitations of BGFs (Faroque et al., 2022; Siciliano et al., 2018). Through ambidextrous networking within the supply chain, BGFs secure essential resources crucial for their dual innovation initiatives and accumulate experiential knowledge across various

international markets, augmenting the firms' capabilities via both established and new partnerships (Buccieri et al., 2020; Rialp et al., 2005).

Trust and commitment are critical relational mechanisms that facilitate the sharing of tacit knowledge and support sustained cooperative interactions. For BGFs, trust within domestic and international partnerships can reduce the perceived risks associated with exploring new markets while reinforcing the commitment to exploit existing resources effectively. Trust in relationships helps firms share more openly and engage in joint problem-solving, which is vital when navigating the uncertainties of foreign markets post-entry (Zahoor et al., 2023)

Network Embeddedness—the degree to which a firm is integrated into a network with strong relational ties—can influence its ability to be ambidextrous. Embeddedness enhances information flow and resource access, crucial for exploring new opportunities. Simultaneously, it solidifies the firm's base for exploiting these opportunities by facilitating quicker and more reliable access to critical market and operational insights that directly affect post-entry growth (Zahoor & Al-Tabbaa, 2021).

After entry, the ability to deepen market presence becomes a priority, and relational mechanisms play a critical role. Strong local partnerships and networks facilitate better market understanding, quicker adaptation to local consumer preferences, and more effective risk management. Firms with leaders who can effectively engage and leverage local networks can accelerate the integration process, gaining essential insights into local market dynamics and consumer behavior (Qin et al., 2022).

### *3.2.6. The Role of Environmental Triggers*

The level of competitiveness or hostility in both domestic and international markets can significantly influence how OA is utilized. In more hostile environments, the pressure to adapt quickly is higher, prompting BGFs to leverage their ambidextrous nature not just for survival but also for proactive growth. The relational strategies developed through OA can be specifically tailored to navigate these challenging environments by prioritizing either exploration or exploitation, depending on which offers the most strategic advantage at a given time (Zahoor & Al-Tabbaa, 2021).

Regulatory frameworks and cultural differences also impact how OA influences growth, as they define the operational and strategic boundaries within which firms must operate. BGFs

need to actively explore these frameworks and cultural nuances to adaptively exploit their existing capabilities. Understanding regulatory and cultural constraints through robust market knowledge can guide the strategic use of OA, enhancing both the efficiency and effectiveness of post-entry expansion (Zahoor & Al-Tabbaa, 2021).

Reflecting on the foregoing discussion, the varied dimensions and forms in which OA manifests underscore its adaptability and pivotal role in empowering organizations to dynamically adapt to complex and evolving market conditions. OA allows firms to continually realign their resources and capabilities in response to changing international market conditions. Moreover, rapid internationalization supported by ambidextrous strategies enables firms to achieve first-mover advantages in emerging markets and swiftly adapt to technological and market changes, thereby enhancing their growth prospects.

OA not only supports diverse strategic orientations but also enhances a firm's adaptability and resilience in the post-entry phase, leading to sustained growth and higher survival chances in international markets. This complements and extends existing literature on international entrepreneurship by providing a nuanced view of how strategic flexibility, enabled by ambidexterity, plays a crucial role in the success of BGFs during their critical post-entry phase.

By integrating OA into their strategies, BGFs can maintain a delicate balance between sustaining their competitive edge through exploitation and adapting to new market realities through exploration. This dual focus allows BGFs to dynamically adjust their strategies in response to market feedback, regulatory changes, and competitive dynamics. OA thus becomes not just a strategic advantage but a necessary condition for survival and growth in the complex, fast-evolving international markets in which BGFs operate.

### *3.3. Methodology*

We employed a qualitative multiple-case study approach (Eisenhardt, 1989; Yin, 2017). Our analysis also adopted a process perspective (Langley, 2007) to understand the dynamic evolution of strategies over time. We utilized the Gioia methodology (Gioia et al., 2013) supported by Atlas.ti-9 software for data coding and analysis. The Gioia methodology was selected for its systematic approach to inductively derive theoretical insights from qualitative data, ensuring rigor and enhancing the reliability and validity of our findings (Magnani &

Gioia, 2023). Consistent with methodological approaches in qualitative research (Appiah et al., 2023; Brannen, 2022), our study employed a combination of deductive and inductive reasoning. Our approach was partly deductive, drawing on existing theories (OA, exploration, and exploitation). This theory-driven aspect allowed us to align our analysis with established conceptual understandings in the field. Concurrently, we adopted an inductive stance, permitting themes and patterns to emerge organically from the data without being constrained by pre-existing theoretical models.

The significance of this combined approach lies in its ability to facilitate the development of novel insights from the data while acknowledging and building upon prior concepts (Welch et al., 2011). By integrating both deductive and inductive reasoning, we were able to generate fresh perspectives on how BGFs employ OA strategies during post-internationalization growth, without denying or needing to reinvent existing theoretical constructs. This combined approach was instrumental in identifying the seven distinct growth pathways that BGFs utilize, which were not fully captured by existing theories alone.

### *3.3.1. Context and Rationale for Case Selection*

The Latin American agri-food sector provides a rich context for examining BGFs due to a notable trend of firms with a clear international orientation from inception. This trend is driven by globalization, increased internet connectivity, and the unique qualities of local agricultural products highly valued in foreign markets (FAO, 2020). These firms often balance international exploration with home market exploitation and align closely with the BGF concept, being technologically intensive across the supply chain and pioneers in technological advancements (Annosi et al., 2022). They typically focus on niche markets, emphasizing sustainable environmental practices and fair trade (Martos-Pedrero et al., 2023).

### *3.3.2. Sampling Strategy and Firm Selection*

We employed purposive sampling (Patton, 2015), deliberately selecting firms that possess characteristics pertinent to our research questions. In this thesis, the operational definition of BGFs follows Knight and Cavusgil's (2004) characterization of firms that, from or near inception, seek significant competitive advantage through proactive international orientation and the sale of products or services in multiple foreign markets, regardless of whether their reach is global in the literal sense. In empirical terms, we follow Choquette et al. (2017) in

identifying firms that achieve at least 25% of their sales from exports within three years of founding. This approach acknowledges that, as Andersson et al., (2013) note, relatively few firms attain substantial business presence spanning at least two continents; many instead exhibit rapid internationalization within a single continent or region, while still overcoming considerable institutional, cultural, and market barriers. This view is consistent with Rialp et al., (2005), who argue that neither geographic nor cultural distance necessarily constrains accelerated internationalization when firms possess distinctive capabilities, networks, and entrepreneurial orientation.

The born global phenomenon is thus better understood as a spectrum of early and rapid internationalizers, ranging from regional to truly global, whose competitive advantage derives from leveraging unique resources, knowledge, and relational assets to exploit opportunities abroad (Knight & Cavusgil, 2004; Moen & Servais, 2002). In this thesis, the selected cases meet both the temporal and export-intensity criteria for BGFs, with geographic scopes ranging from multi-country regional coverage to intercontinental presence, thereby reflecting the heterogeneity and complexity of born global internationalization patterns.

We specifically targeted firms operating in the agri-food sector within the product categories of coffee, cocoa, fruits, and spices and herbs—significant contributors to Latin America's export basket (Trade Map, 2022). We selected firms from Colombia, Peru, Ecuador, and Honduras due to their prominence in agri-food exports and high business turnover in these sectors (Trade Map, 2022). These countries are representative of the region's diversity in terms of economic development, cultural contexts, and regulatory environments, which can influence internationalization strategies.

We refrained from imposing additional criteria to maintain diversity in growth trajectories and management strategies related to exploration and exploitation. This approach enhances the study's ability to capture heterogeneity and its implications for theory and practice.

From the Trade Map database, we identified 210 firms meeting these criteria. We reached out to all 210 firms via institutional emails and LinkedIn. Fourteen firms agreed to participate. Appendix 3-1 includes a detailed table of firm demographics, including descriptions, countries, approximate sales, percentage of sales generated abroad, entry modes, international scope, key informants, and data sources. The firms vary in size, with the number

of fixed employees ranging from 11 to 330 and annual sales from approximately USD 1.43 million to USD 144.47 million. They export to diverse markets across North America, Europe, Asia, and within Latin America, reflecting a wide international scope.

Annex 3-1 shows that, in the broader dataset of 210 companies, the average revenue is approximately USD 17.09 million, with a median revenue around USD 2.53 million. The standard deviation of revenue is USD 50.27 million, indicating significant variability among firms. We acknowledge that diverse revenue sizes could lead to different resource availabilities, strategic choices, and capabilities among the firms. However, the inclusion of firms with varying revenues and sizes captures a wide range of experiences and strategies related to OA and post-internationalization growth. This diversity enhances the richness of the data and allows for a more comprehensive understanding of the phenomena under study. While this variability could introduce complexity, it also reflects the real-world diversity of BGFs in the agri-food sector.

### *3.3.3. Data Collection*

Data collection occurred from February 2023 to March 2024 and involved multiple sources to ensure data triangulation. We conducted semi-structured interviews with two executives from each firm—founders, CEOs, or functional managers with at least five years of tenure—to gain in-depth insights and a temporal perspective on their strategies and experiences. This criterion ensured that informants had sufficient knowledge of the firm's evolution. Interviews were conducted via video conferencing tools due to geographical dispersion. They ranged from 1 hour and 20 minutes to over 3 hours. Appendix 3-2 shows the interview guide, covering topics related to OA practices, internationalization processes, growth trajectories, change triggers, strategic decisions, and outcomes.

We collected extensive secondary data, including company websites, press articles, videos, social media posts (LinkedIn, Instagram), and corporate documents. This multimodal data collection provided additional context, allowed for data triangulation, and helped mitigate potential biases from self-reported data. We used Atlas.ti-9 software to organize and code the data systematically.

### *3.3.4. Data Analysis*

#### *3.3.4.1. Coding Process*

The coding process was conducted independently by the three authors to enhance reliability and minimize individual bias. The detailed data structure resulting from our coding process is presented in Appendix 3-3. Each researcher separately engaged in open coding of the interview transcripts and secondary data using Atlas.ti-9 software. This initial phase involved identifying participant-centric terms and phrases, allowing us to capture the informants' authentic voices and perspectives (Strauss & Corbin, 1990). Thus, we identified emerging concepts and themes directly from the data through inductive coding.

After the initial coding, we convened to compare and discuss our individual coding schemes. Through this collaborative discussion, we identified commonalities and reconciled discrepancies in our interpretations. This iterative process ensured that the codes were consistently applied and accurately reflected the data. In the second round of coding, we collectively refined the codes into more abstract second-order themes. This involved grouping similar first-order codes into broader categories that align with existing theoretical concepts of OA, particularly in the dimensions of innovation, learning, and networking. By working together, we were able to challenge each other's assumptions, deepen our understanding of the data, and enhance the validity of our thematic analysis (Leavy, 2020).

#### *3.3.4.2. Data Saturation*

Data saturation was achieved after analyzing the first ten interviews. Consistent themes emerged across these interviews, and no new codes were identified in the subsequent four interviews. The initial ten transcripts generated approximately 95% of the total codes used in this study. Additional coding provided only nuanced variations of existing themes, indicating that sufficient depth and breadth of data had been reached (Guest et al., 2006).

#### *3.3.4.3. Cross-Case Analysis and Theory Development*

Following thematic coding, second-order themes were synthesized into aggregate dimensions, leading to the development of an integrative theory model. This model depicted the complex relationships between BGFs' adoption of exploration and exploitation strategies and their impact on post-entry growth. We used Atlas.ti's network view, co-occurrence tables, code co-occurrence explorer, and Sankey diagrams to visualize connections and enhance our

understanding of the data. patterns, differences, and similarities both within and between cases (Eisenhardt, 1989). This involved comparing the themes that emerged from each firm to uncover how different combinations of exploration and exploitation strategies influenced their post-entry growth trajectories.

To substantiate and refine these relationships while mitigating biases from self-reported data and confirmation bias, we undertook an extensive triangulation process at this stage. We extensively collected and analyzed secondary data, including company websites, press articles, social media posts (LinkedIn, Instagram, Youtube), and financial reports. Financial reports and corporate documents provided objective data on firm performance. Press articles were systematically examined to identify patterns and trends in internationalization strategies and corporate social responsibility initiatives, aligning media representations with the firms' operational narratives. Videos supplemented the qualitative data from interviews by providing visual and narrative contexts, enhancing our understanding of the firms' activities and strategies. The analysis of Instagram accounts offered insights into consumer engagement and brand identity, reflecting consumer perceptions and market trends. LinkedIn profiles helped elucidate the firms' professional networks and business development strategies. Official websites provided additional data on corporate information, product offerings, and strategic messaging. When discrepancies arose between interview data and secondary sources, they prompted follow-up inquiries and consultations with additional sources to resolve inconsistencies and ensure data integrity.

Finally, we conducted a cross-case analysis, employing an iterative process of comparison among multiple case pairs. As the analysis progressed, we incorporated additional cases to develop more comprehensive theoretical concepts and causal relationships (Naeem et al., 2023).

During our thematic coding and analysis, we recognized that overlapping themes and categories were prevalent across different dimensions of OA. This occurrence is common in qualitative research due to the complexity of organizational behaviors, especially in the context of BGFs navigating multifaceted international markets. The intricate nature of OA means that certain strategies and actions undertaken by firms contribute to multiple dimensions simultaneously. To address these overlaps, we adopted a nuanced categorization

approach during our data analysis. Instead of forcing themes into mutually exclusive categories, we allowed them to exist across multiple dimensions when appropriate. This approach acknowledges that BGFs often implement interconnected strategies that cannot be neatly compartmentalized into single dimensions of exploration or exploitation. By embracing the overlapping nature of these themes, we were able to capture the richness and complexity of the firms' strategic behaviors. We illustrated these overlaps in our theoretical model (see Figure 6), which visually represents the interplay between different dimensions and types of ambidexterity. In our findings, we discussed specific examples where firms exhibited characteristics of multiple ambidexterity types, demonstrating the multifaceted application of OA in practice.

*3.3.4.4. Validity and Reliability Enhancements*

To enhance the validity and reliability of our study, we implemented several strategies. We used multiple data sources, including interviews, press articles, company documents, and social media content, to corroborate our findings and provide a more comprehensive understanding of each case (Fusch et al., 2018). By independently coding the data and then reconciling our coding schemes through collaborative discussions, we increased the reliability of our analysis and ensured consistent application of codes (Campbell et al., 2013). We maintained detailed documentation of our data collection and analysis procedures, including coding manuals, memos, and meeting notes. This transparency allows for replication and enhances the credibility of our research (Lincoln & Guba, 1985). Regular meetings among the authors served as peer debriefing sessions, where we critically examined the data, challenged interpretations, and explored alternative explanations. This process helped to minimize individual biases and strengthen the trustworthiness of our findings (Fusch & Ness, 2015).

To ensure the reliability and validity of the growth pathways reported by the firms during the interviews, we cross-validated their claims with financial data obtained from the EMIS database. Detailed supporting quotations and examples are provided in Appendix 3-6. This database provides comprehensive financial and industry information on companies, allowing us to corroborate self-reported growth with objective financial indicators. By triangulating the qualitative insights from the interviews with quantitative financial data, we enhance the robustness of our findings and mitigate potential biases inherent in self-reported information.

### *3.4. Results*

This section outlines three growth trajectories—exploration-only, exploitation-only, and ambidextrous—observed in born-global agri-food firms post-internationalization, analyzed across innovation, learning, and networking dimensions. Each dimension reveals distinct growth pathways leading to unique outcomes. Table 3-1 summarizes the key characteristics, firms involved, types of ambidexterity, and outcomes associated with each trajectory and pathway, providing a framework for the detailed discussions that follow.

Our analysis revealed three growth trajectories—exploration-only, exploitation-only, and ambidextrous—observed in born-global agri-food firms post-internationalization. Each trajectory is analyzed across innovation, learning, and networking dimensions, revealing distinct growth pathways leading to unique outcomes (see Appendices 3-3 and 3-6 for detailed supporting quotations and examples). Appendices 3-4 and 3-5 provide a classification of the types of ambidexterity implemented by each firm and supporting quotations, respectively. Appendix 4 presents the diverse ambidexterity approaches adopted by each firm across the innovation, learning, and networking dimensions. For example, Firms A, B, and N employed reciprocal ambidexterity in the innovation dimension, facilitating collaboration between departments for new product development. Supporting quotations illustrating these ambidexterity types are provided in Appendix 3-5.

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Table 3-1

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#### *3.4.1. The Exploration-Only Trajectory: Trade-offs of Continuous Search*

In the post-entry phase, Firm F experienced unsustainable growth driven predominantly by an exploratory strategy. This strategy, characterized by an emphasis on market intelligence, channel diversification, new product development, international market exploration, and the exploration of social and relational capital, led to a reduction in international strategic agility and commercial intensity. Ultimately, this resulted in downsizing, as illustrated in Figure 3-1. As detailed in Appendix 3-3 (see supporting quotations), Firm F's initial focus on an exploratory strategy led to challenges that hindered sustainable growth. A representative from Firm F described their experience:

*"We opened nearly 600 stores, including supermarkets and chains. But we learned that such growth can be overwhelming for a small company because we did not have enough resources to compete effectively. […] After that initial explosion, we experienced a setback because we began to lose some of those stores, unable to sustain the product in those markets, especially in so many places at once; it was an unhealthy type of growth. When the pandemic hit, it was a very hard blow because we lost everything at once, almost, as we were struggling to support the products in all those markets with limited resources."*

Learning from these outcomes, Firm F decided to adopt a different strategic approach, shifting towards ambidexterity. In the innovation dimension, they pursued largely unexplored markets, such as the Caribbean islands, while implementing product exploitation strategies. Ambidexterity also manifested in the learning and networking dimensions through actions like contract manufacturing, leveraging the local market, channel diversification, participation in trade fairs, and enhancing recognition within the value chain. A representative from Firm F explained their new approach:

*"At the beginning, when we started to enter the Honduran market more aggressively, there was very strong growth again... the market was already saturated, so we had to look for other opportunities in other countries […] this year we are opening in Guatemala and Belize, and we are also entering three more countries through Duty Frees, which are Grand Turk, Saint Kitts, and Saint Martin. By the second half of this year, we will enter three more Caribbean countries—Jamaica, Grenada, and one more I cannot remember. So, we are controlling growth at this stage more than before because we learned that explosive growth is not sustainable."*

By shifting to an ambidextrous strategy, Firm F aims to balance exploration and exploitation to achieve sustainable growth and enhance resilience against external shocks. This strategic adjustment demonstrates the importance of flexibility and learning in navigating the complexities of post-internationalization growth for BGFs in the agri-food sector.

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Figure 3-1

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### *3.4.2. The Exploitation-Only Trajectory: Efficiency at a Strategic Cost*

Firm J was the only firm that adopted an exploitation-focused strategy during the post-growth phase. This exclusive emphasis on optimizing existing resources and capabilities led to a stable yet moderate growth trajectory. However, unlike other firms that employed ambidextrous strategies, Firm J did not report positive variable growth following the immersion phase. Instead, its growth has been characterized by continuous, albeit restrained, expansion. A representative from Firm J shared their experience:

*"Up until 2009 we were like a roller coaster, there was growth some years, but there were years when the company did not do so well, and we even experienced losses. From 2017, […] there has been a breakthrough, a trend to continuous growth, although not much pronounced. […] During this period, the firm indicated that while certain factors have not halted its growth, they have slowed its growth rate. […] More than setbacks that have not allowed us to grow beyond what we would like."*

By prioritizing the optimization of existing resources and capabilities, Firm J achieved an enhanced quality and efficiency. However, this approach inherently limits the firm's responsiveness to dynamic market conditions, resulting in reduced international strategic agility. Resources within Firm J have become rigidly embedded in established processes, constraining the ability to swiftly reconfigure them in response to changing market demands.

Moreover, Firm J's exploitation-focused strategy has fostered a cautious, risk-averse approach. This conservatism has inadvertently slowed the firm's growth rate and curtailed its engagement with new market opportunities. As a result, Firm J's international commercial intensity—defined as the extent of a firm's engagement in international markets—has been impacted. The minimal exploration of new markets and reluctance to innovate beyond existing product lines have confined the firm's market activities, preventing it from capturing emergent international opportunities.

Firm J's exclusive focus on exploitation strategies has led to what March (1991) identifies as the "Success Trap." This phenomenon occurs when continuous improvement in quality and efficiency, while vital for short-term operational stabilization, hampers a firm's ability to adapt to new market opportunities and pursue necessary innovations. Figure 3-2 illustrates this pathway.

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Figure 3-2

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### *3.4.3. OA Trajectory: Harmonizing Dual Imperatives*

In innovation, learning, and networking, strategic ambidextrous actions lead to key outcomes including enhanced strategic agility—defined by Meuric & Favre-Bonté (2023) as "the firm's ability to swiftly adjust resources or competencies in response to market changes" (p. 48). Additionally, there is an increase in international commercial intensity, described by Hilmersson & Johanson (2016) as the growth proportion from overseas operations. Furthermore, risk diversification is achieved, spreading risks across geographic locations, product lines, and market channels. This approach ensures sustained growth, which may be variable in rate but is consistently positive. Appendix 3-7 illustrates the magnitude of exploratory and exploitative endeavors on growth in each ambidextrous firm.

#### *3.4.3.1. The Growth Pathways in the Innovation Dimension*

Figure 3-3 shows the three identified pathways in the innovation dimension: the resilience-driven innovation, the innovation/expansion loop, and the customization pathways (see Appendices 3-3 and 3-6 for detailed quotations and examples supporting each pathway).

##### *3.4.3.1.1. The Resilience-driven Innovation Pathway*

The resilience-driven innovation pathway involves firms leveraging external environmental forces to drive both exploratory and exploitative innovations (see Appendices 3-3 and 3-6 for supporting quotations from Firms D and M).

Organizational resilience is a critical mechanism that enables BGFs in the agri-food sector to leverage external environmental forces—such as climate change, political instability, and social crises—as well as internal factors like a strong focus on social responsibility and the innovative mindset of management. These factors act as triggers for both exploratory and exploitative learning strategies, enhancing the firms' international strategic agility.

The impacts of climate change on harvesting and post-harvesting practices, along with socio-political crises like the pandemic and security issues, have not caused setbacks but have instead spurred BGFs to engage in innovative actions within the exploitation dimension,

contributing positively to their growth. Specifically, climate change has acted as a catalyst in the post-entry phase for exploring new technologies and incrementally improving processes. Firm D exemplifies this resilience-driven innovation. A representative from the firm noted:

*"Climate change led us to create a technological innovation that has reduced losses in harvest exponentially and has helped us to better plan and adapt. Our harvest planning device won an important award for best new product. This tool was designed with coffee growers and climate change in mind."*

By merging technological development efforts with an exploitative organizational bricolage approach, Firm D works closely with producers to implement small but impactful changes:

*"Often, we encounter producers who want to work with us, and with small changes like in drying. If they used to dry for about 5 days and now have the infrastructure or the capacity to extend to 10-12 days of drying, the quality and consistency will improve. They can implement these improvements at that moment without necessarily needing a monumental investment—it can be done with the available infrastructure. Therefore, the program has a very personalized approach because what I need as a producer may be very different from what you need as a producer."*

Through resilience to external factors, Firm D has focused on both exploratory and exploitative innovations in technologies and processes within the learning dimension. This focus has enhanced business quality, efficiency, and capabilities in logistics and exportable production. Such improvements increase the firm's agility in responding to client requirements in terms of volume and quality, as well as adapting to environmental changes. Similarly, security crises have been pivotal in driving process and technological improvements, as demonstrated by Firm M in Ecuador. A representative explained:

*"We focus heavily on the security of the logistics chain because importers are very fearful of receiving a contaminated container, and this does happen. Therefore, we made a significant investment in securing the logistics chain, maintaining absolute control from the moment the container is handed over by the shipping line until it is returned. We have light sensors, and a security company that disassembles the containers, reassembles them, and applies a security seal to each part. This was a plus to make customers feel more attracted. Technological improvements have helped us to ensure efficiency for our clients."*

By proactively responding to security challenges, Firm M has enhanced client trust and operational efficiency, illustrating how resilience-driven innovation supports sustainable growth. These firms demonstrate that resilience to external factors can be a focal point for both exploratory and exploitative innovation, leading to improved quality, efficiency, and adaptability in the global marketplace.

*3.4.3.1.2. The Innovation/Expansion Loop*

We identified a growth loop driven by the dynamic interplay between international market exploration and the exploitation of technological and process advancements. As firms explore and enter new markets, they are compelled to innovate technologically to meet diverse client demands concerning volume, quality, packaging, and presentation. These innovations not only boost international market exploration but also play a crucial role in reducing production costs. This cost optimization is part of an exploitation strategy that ensures business profitability and supports market expansion, thereby fueling positive growth. The experiences of Firm C, Firm K, and Firm B exemplify this symbiotic relationship, where innovation and market expansion reinforce each other, creating a self-sustaining cycle of growth. A representative from Firm C explained:

*"Our new device not only eliminates the use of plastic bags and their waste but also promotes the development of new ventures with savings in labor, transport space, and hauling. Growth feeds growth in a cycle. Our market grows, so we needed a brand new technology plant for exporting. Once we got it, our market continues growing as a result."*

Similarly, Firm K is investing in technological improvements to better satisfy clients:

*"We are in the process of acquiring machinery for more efficient disinfection and rails for dragging crates because that is going to allow us to satisfy our clients better, current and future."*

Firm B highlights the impact of process innovations on market opportunities:

*"Initially, we used to work with just one machine, and we dried the product in the sun. Now, we have moved on to using fans. We disinfect the water with ozonation to reduce the use of disinfectants like chlorine. This has opened new market opportunities and has increased our margins, as we can add new organic certifications and efficiencies to our process."*

Each iteration of innovation not only catalyzes further market expansion but also solidifies the organization's competitive edge in the global marketplace. This illustrates a potent model of sustainable growth predicated on continuous technological and market-driven advancements.

*3.4.3.1.3. The Customization Pathway*

Strategic adaptation to diverse international markets is crucial for BGFs, especially in navigating cultural diversity and customer preferences. This approach demands a dynamic and nuanced understanding of local markets, which is fundamental for effective customization and market penetration. By tailoring offerings to meet specific regional demands, firms enhance their competitive advantage and foster international commercial intensity, positioning themselves for sustained growth and market presence.

Exploring culturally diverse markets compels firms to customize their products according to local preferences. Robust market intelligence is critical for profiling consumers in each country in terms of flavor preferences, consumption habits, and product expectations. This customization encompasses developing new or enhanced products with unique characteristics, as well as adapting packaging and presentation to meet market demands. Adhering to international client specifications and being willing to meet these demands lead to repeat purchases, enriching the international client portfolio and expanding market reach. As a manager from Firm C observed:

*"Since the surge of specialty coffee, I have seen growth that might not be exponential. I understand that exponential growth is mostly for technology companies... We have always been growing, seeing more and more."*

Similarly, Firm D highlighted the importance of tailoring products:

*"The coffee profiles we send to Asia differ from those we send to the United States or Europe. This variation is due to differences in quality grading and varietals, which are tailored to what consumers in each region prefer. For example, in Asia, coffees with more floral and fruity flavors are very popular... In the United States, consumers generally prefer sweet, chocolatey flavors and consistency... This difference in consumer preferences dictates how we operate and has been a decisive factor in the company's global expansion project."*

While firms may not always engage in entirely new product development, they diversify their portfolios to offer clients a range of options based on their desires. This requires significant ongoing market intelligence, understanding the local language and culture of host markets, and staying attuned to the shifting needs of current and potential clients. As Firm K emphasized:

*"Our growth has always occurred in correlation with what the customer has demanded or even conditioned in order to achieve, accept, or shape a market."*

Firm H provided an illustrative example:

*"For example, the Chilean consumer prefers individual coffee. So, we have these small sachets—a tiny square where we sell two grams of coffee, equivalent to a serving for your cup of coffee—and they buy that more... It's not just that we say the coffee is tasty. If I go to Ecuador to sell coffee, can I? Yes, but what type? What format? How? In which channel? Traditional, modern, or institutional channel."*

Customization enables firms to rapidly adjust their operations and offerings to meet localized demands, thus accelerating international commercial responsiveness and reinforcing their competitive stance within the global agri-food industry. By meticulously aligning operational strategies with diverse cultural preferences and market requirements, firms effectively utilize customization to enhance their competitive position in the international market. This strategic approach not only broadens market access but also reinforces the firm's reputation as a responsive and culturally competent entity in global trade.

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Figure 3-3

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*3.4.3.2. The Growth Pathways in the Learning Dimension*

Figure 4 shows the three identified pathways in the learning dimension: The diversification, the ethical branding, and the customization pathways, described in detail as follows:

*3.4.3.2.1. The Diversification Pathway*

The diversification pathway involves firms adopting strategies such as geographic diversification, product line expansion, and vertical integration to mitigate risks and sustain

growth (see Appendices 3-3 and 3-6 for supporting quotations and examples from Firms A, D, and E).

The endemic political and social crises characteristic of Latin American countries—such as political instability, logistical disruptions, and internal armed conflicts—have prompted BGFs in the agri-food sector to adopt diversification strategies to mitigate risks and sustain growth. Rather than hindering corporate development, these challenges have spurred BGFs to engage in counter-cyclical behaviors, diversifying their production geographically and across product lines.

By sourcing production from various communities across different municipalities or countries, firms mitigate the risk of logistical and production crises. As Firm E explained:

*"We are not only working with Colombia, but also with Peru, Ecuador, Mexico, and Panama as our sources, meaning we get things from five different places... Colombia, I think, is regressing in many ways; it seems to me that security could easily become a thing of the past, so I'm scared, and that's also why it seems so important to have different origins, because we have also learned that Peru can go into crisis, that Panama can go into crisis..."*

Geographic diversification not only safeguards against disruptions but also increases the volume of exportable production, enhancing international commercial intensity. This expansion necessitates more personnel in each new area, fostering employment growth and having a positive social impact by curbing rural-to-urban migration. By demonstrating viable futures in rural areas, firms provide opportunities to vulnerable populations such as youth, female heads of households, and individuals displaced by violence.

Due to the social benefits of these actions, various public and private entities support the firms' expansion through resources and strategic alliances. Firm A highlighted this synergy:

*"Highly renowned companies were impressed by our commitment to farmers. After forming an alliance with a retail company, they purchase 60% of our total production. This posed a significant challenge as we had to substantially expand our production capacity, expanding to other lands... We have significantly increased the number of producers, as they finance their cultivation, and we purchase from them. This has helped us respond to international demands... The concept of responsible chocolate has opened many doors for us*

*internationally and has greatly increased our production level... We are generating more and more employment..."*

Similarly, Firm B emphasized the social and economic benefits:

*"We help to stop rural-to-urban migrants. Creating communities around organic production that are sustainable over time. If they feel they can sell their products and have a guaranteed market with a company like us, they feel their life is stable over time and they no longer have so much uncertainty. This approach not only supports social stability but also aids in spreading risk and fostering our growth in international markets, given that they highly appreciate fair trade."*

This holistic approach underscores the vital interconnections between corporate social responsibility, strategic partnerships, and operational scalability. Ethical practices intertwined with strategic business decisions lead to sustainable growth and significant positive impacts on both the economy and the community.

Firms also diversify by expanding their product lines, triggered by a managerial mindset characterized by entrepreneurial agility and an intrinsic drive to innovate and adapt. Firm E illustrated this expansion:

*"And we are no longer just with fresh fruit... so we have thousands of frozen products, we have slices of plantain, frozen, both ripe and green, we have peeled green banana, which has a specific market for the Dominican Republic, we have frozen fruit pulps, we have fresh fruit pulps, we have nectars, and on Monday I have a meeting to start with fish..."*

Strategic diversification of sales channels has proven effective in response to external shocks like the COVID-19 pandemic. Companies adopted exploratory approaches by expanding into new channels such as airports and online platforms like Amazon. Concurrently, they enhanced their processes and technologies to meet changed market conditions. Firm D shared their experience:

*"It was spectacular after the pandemic; that forced us to try new methodologies, new technologies, and to redefine some points of the process—the creation of value for the clients and also for the producers... The strategy at that time and currently includes other projects*

*aimed at diversification of channels. For example, we became partners in a cafeteria in Bogotá."*

Similarly, Firm F noted significant growth from such diversification:

*"Thanks to the pandemic, we also diversified our channels. We now have Amazon, online sales, and a partnership with a large duty-free company. Our sales volume has grown a lot since then."*

These strategic shifts not only cushioned firms against immediate impacts but also positioned them to capture new growth opportunities, demonstrating that agile and adaptive channel management substantially bolsters resilience and market reach.

Vertical integration—either forward or backward—is another strategy employed to diversify risk by gaining control over supply chain elements. Firm E elaborated on this approach:

*"I had to go from not having trucks to owning trucks, and today I have a logistics line in my company because if I had not done that, I would have been overwhelmed here. You have to, not just because I want to grow, but because you are forced to do it. Usually, the margins are very small, the risks are very high, and to really be a company that endures, a company that is stable over time, you have to start looking for ways to become solid. It's not even about increasing the margin but about minimizing the risk... Well, I have to have a logistics line now."*

By securing logistics and distribution channels, firms like Firm E safeguard operational continuity and position themselves to capitalize on market opportunities with greater agility and reduced dependency on external entities.

These exploratory initiatives, driven by founders' innovative mindsets and responses to social and political crises, lead to diversification in products and markets. They are systematically supported by exploitative strategies that optimize existing resources and capabilities to meet new product and market needs. Geographic diversification expands market reach and involves enhancing production processes and leveraging existing certifications and quality standards to meet international demands.

This dual strategy framework enables firms to maintain a stable growth trajectory, even in the face of external adversities such as political instability or economic downturns. By

balancing exploration and exploitation, BGFs effectively navigate challenges, sustain growth, and contribute positively to both the global marketplace and local communities.

*3.4.3.2.2. The Quality Pathway*

All born-global agri-food firms have demonstrated a strategic focus on niche markets that demand high quality in both products and processes, substantiated by relevant certifications. This orientation facilitates accelerated international market entry, as possessing pre-approved certifications expedites access to countries mandating such standards.

Furthermore, these firms invest significantly in continuous employee training, specifically in harvesting and post-harvesting processes. This ongoing training not only elevates product quality but also enhances productivity and efficiency within operational processes. Systematic improvements in quality and efficiency meet higher regulatory and market standards while improving competitive edge by optimizing resource utilization and reducing waste.

The cultivation of high standards and operational efficiencies translates into recognized value along the entire supply chain. This recognition boosts the firms' reputational capital, enhancing their international commercial agility and export intensity. Moreover, certifications act as powerful facilitators for market entry, reducing barriers and enabling smoother transitions into new markets. Firm K highlighted the impact of certifications on growth:

*"The number of containers has increased along with the number of customers at the level of certifications. Each time we have acquired a certification, we have grown; we have expanded markets. We are becoming increasingly well-known in the business, and all of this has led us to have strong financial muscle."*

Similarly, Firm D emphasized the importance of quality and training:

*"As the quality improves, the model recognizes this. Producers have different qualities, and through our training program for producers, we are more capable of responding to the customer's needs with the product they need, in the form they need, and when they need it. This is why people around the world are increasingly seeking us out to move their coffee."*

By focusing on quality and continuous improvement, these firms effectively leverage their strengths to enter new markets and sustain growth. The strategic emphasis on quality not only meets market demands but also builds a strong reputation, enabling firms to navigate the complexities of international trade successfully.

*3.4.3.2.3. The Ethical Branding Pathway*

The exploratory learning strategy of cultural and ethical branding aims to increase international commercial intensity by targeting consumers who value fair trade practices and appreciate knowing the origins of the products they consume. This approach synergizes with an exploitative learning strategy focused on traceability. Additionally, these strategies are linked to incremental improvements in product packaging. Collectively, they enhance brand visibility across the value chain, elevating the proportion of revenue growth attributed to global operations. As Firm A explained:

*"The strategy of highlighting the farmers' portraits is also aimed at the domestic market, yet the principal focus is on exports to Europe, Asia, and the USA, where the labor of a farmer is greatly esteemed. Since we began to publicize this approach, the volume of exports has grown exponentially."*

Similarly, Firm F emphasized cultural adaptation in branding:

*"We adapted the brand names to the local market of each country so that it would be a name that touches the fibers of the cultural identity of each country and a name with which they can identify. This has aided us in gaining swift attention from local consumers when entering new markets, ensuring that even as a foreign company, our products are purchased promptly."*

By integrating cultural and ethical branding with traceability and packaging enhancements, firms effectively augment their brand visibility and resonance in international markets. This strategic combination not only appeals to consumers' values but also builds trust and loyalty, leading to increased export volumes and sustained growth in global operations.

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Figure 3-4

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*3.4.3.3.The Growth Pathways in the Networking Dimension*

Figure 5 depicts the ambidextrous networking pathway adopted by Firms A, D, F, K, M, and N, showcasing their use of existing networks to deepen market engagement and explore new relationships in uncharted markets in the following description:

*3.4.3.3.1. The Ambidextrous Networking Pathway*

The ambidextrous networking pathway illustrates how BGFs in the agri-food sector strategically utilize Social Relational Capital (SRC) through both exploitation and exploration to sustain and expand their international presence. By leveraging existing relationships and networks (exploitation), firms deepen their market engagement, while exploring new SRC opportunities fosters the creation of new ties, leading to expansion into previously unexplored markets.

Participation in international trade shows plays a critical role in this process, serving as both a catalyst for network expansion and a platform for increasing international commercial visibility. This strategic interplay underscores the firms' ability not only to maintain but also to dynamically extend their international market footprint, highlighting the critical role of ambidextrous networking strategies in sustaining global growth and competitive advantage in the volatile agri-food industry. Firm D exemplifies this dual approach:

*"The different offices, although they have their own independences, are also very connected in seeking new clients. So, in London especially, they have highly developed the desire for the rest of Europe to hold coffee fairs, to conduct tasting tests with current clients so they can try new products, and with potential new clients so they can also learn about the products that can be managed through various acquisition techniques. They are also constantly seeking new clients."*

Additionally, Firm D emphasizes the importance of forward contracts in strengthening relationships and providing security:

*"I also believe that setting up forward contracts is crucial [...] Even if the market price drops, I can still purchase the coffee because I already have a contract with a roaster that backs me. [...] The more contracts and commitments we can secure from roasters, the more security we*

*can offer to coffee farmers [...] Factors like these have helped and influenced our growth and also relate significantly to the growth and adaptation of our model."*

Firm K highlights the impact of trade shows on expanding their client base and market reach:

*"When we started, we exported 1-2 containers per week, but today we ship 3-5 containers per week thanks to being recognized abroad because we have already shipped to others and because we have stands at the main fairs in Europe [...] It sometimes captures around 30 new clients, and that's opening up a bit more market towards the European side."*

Similarly, Firm M leverages trade associations and international fairs to enhance growth and reputation:

*"We also have access to trade associations; we joined the exporters' guild, which helped us participate in fairs. We ventured into international fairs, attending Fruit Attraction in Madrid, as well as fairs in Germany and Chile [...] This has allowed us to grow increasingly both in sales and in recognition and reputation [...] These fairs help us to showcase what sets us apart. After all, we continue to sell commodities, but there are many things that make our product and our company different from the others."*

Furthermore, Firm M utilizes forward contracts to secure supply and stabilize relationships with producers:

*"In Ecuador, what we did was make contracts with producers, to whom we committed to buy a fixed quantity at a fixed price, which gives them stability and ensures us the fruit, and another variable percentage that moves according to the market."*

Through these ambidextrous networking strategies, firms effectively manage and expand their networks by balancing the exploitation of existing relationships with the exploration of new connections. This dual approach enables BGFs to sustain growth and maintain a competitive advantage in international markets, dynamically extending their global footprint in the volatile agri-food sector.

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Figure 3-5

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### *3.4.4. Integrated model of OA in the post-internationalization phase of BGFs*

Figure 3-6 illustrates the integrated model of entrepreneurial actions involving exploration and/or exploitation, and their impact on the growth of BGFs during the post-internationalization phase. The underlying data and supporting quotations for this model are detailed in Appendices 3-3, 3-6, and 3-7. Positioned at the core decision-making nexus, this figure delineates three strategic trajectories emanating from entrepreneurial actions: exploration-only, exploitation-only , and OA . These strategies, influenced by internal and external forces, steer decision-makers toward distinct growth outcomes. This cyclical process highlights the dynamic nature of strategic decision-making in BGFs, continually adjusting the balance between exploration and exploitation in response to evolving business environments.

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Figure 3-6

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## *3.5. Discussions and Propositions*

Our findings show that simultaneously pursuing exploratory and exploitative strategies across various dimensions not only enhances international commercial intensity and strategic agility but also diversifies risks, contributing to sustained positive growth. This supports existing studies that praise the benefits of ambidexterity for BGFs, including improved efficiency, innovation, adaptability, and long-term viability (Hughes et al., 2021; Monferrer et al., 2021; Monferrer et al., 2019).

Our findings further reveal that firms exhibited different types of ambidexterity (see Appendix 3-4). For example, in the innovation dimension, Firms A, B, and N employed reciprocal ambidexterity, where departments such as New Products and Operations worked together closely to develop new offerings while maintaining quality standards (see supporting quotations in Appendix 3-5).

Conversely, firms that concentrated exclusively on either exploration or exploitation often faced stagnation or decreased in size and agility, highlighting the drawbacks of a single-

strategy focus and underscoring the value of a balanced, ambidextrous approach for optimal growth and adaptability.

Building upon the conceptual framework proposed by Vuorio & Torkkeli (2023), our research acknowledges that different portfolios of dynamic managerial capabilities are associated with varying patterns of internationalization. Certain combinations effectively predict early and rapid internationalization, while others are linked to more sustained and gradual international growth. This predictive nature of capability portfolios underscores the importance of tailoring strategic approaches to align with a firm's desired internationalization trajectory.

Expanding on the work of Breuillot et al. (2022), our study elucidates the transition from individual to organizational resources as firms navigate from entry to post-entry phases. Breuillot et al. emphasize the necessity of understanding how strategic resources are developed and deployed over time, especially during the critical post-entry phase. By focusing on OA, our research extends this framework by demonstrating how BGFs in the agri-food sector employ ambidexterity to effectively manage resource transitions and address the complexities inherent in global market environments. This adds a new dimension to the understanding of resource management in BGFs, suggesting that the capability to dynamically balance exploration and exploitation is essential for post-entry success.

Moreover, the insights provided by Gripsrud et al. (2023) regarding the speed of internationalization and its impact on firm survival post-entry reinforce our findings. They suggest that rapid internationalization, while beneficial for market coverage and early revenue streams, requires robust mechanisms for balancing inherent risks and opportunities. Our study corroborates these insights by showing that OA not only supports rapid internationalization but also enhances a firm's ability to adapt and thrive in the competitive dynamics of international markets post-entry. This underscores the importance of strategic flexibility and the ability to swiftly adjust to new information and market conditions, which are central to OA.

Our analysis also reveals that ambidextrous strategies yield benefits in environments characterized by high uncertainty and dynamic market conditions. For instance, firms operating in regions prone to socio-political instability or environmental fluctuations, such

as those experiencing climate change impacts, find ambidextrous strategies essential for balancing the need to exploit existing capabilities while exploring new opportunities to mitigate risks and sustain growth. Additionally, the availability of sufficient resources and managerial expertise significantly enhances the effectiveness of ambidexterity. Firms with robust financial resources and strong leadership are better positioned to allocate efforts towards both exploration and exploitation without compromising operational efficiency.

Furthermore, the stage of internationalization plays a critical role in determining the utility of ambidextrous strategies. During the post-entry phase, firms must navigate market landscapes that require both the optimization of current operations and the pursuit of innovative growth avenues. Our findings indicate that ambidextrous strategies are particularly effective for firms seeking to enhance strategic agility and diversify risks through multiple growth pathways, as demonstrated by the sustained positive growth trajectories of Firms A, D, F, K, M, and N.

Moreover, to maximize growth and resilience, BGFs in the agri-food sector should adopt the diverse ambidextrous pathways outlined for their post-internationalization phase. This approach not only advances growth trajectories but also combines vertical integration, geographic diversification, quality enhancements, new product development, customization, cultural adaptation, and stakeholder engagement into a cohesive strategy. Employing these strategies simultaneously allows BGFs to optimize resource use, adapt to market changes, and sustain growth in competitive markets, underscoring the critical role of ambidexterity in evolving dynamic capabilities through both exploration and exploitation, as highlighted by Figueiredo et al. (2024).

The diversification of business lines, driven by entrepreneurial agility and strategic networking, underscores the importance of an ambidextrous approach in navigating resource constraints and developing innovative business models, as discussed in Liu (2017) and Weerawardena et al. (2007).

This duality of exploration and exploitation in the post-internationalization phase enables BGFs to adapt their business models to globally changing contexts characterized by paradoxical objectives and tensions—such as balancing profitability and growth, navigating political, economic, and social crises, and responding to commodity price volatility (Bell et

al., 2003; Crick et al., 2023; Schweizer & Vahlne, 2022). While renewing resources and capabilities through exploration is costly, the benefits of these investments can be counter-cyclical, providing positive outcomes during economic downturns or adverse market conditions. Simultaneously, exploiting existing networks, implementing exploitative product strategies, and leveraging organizational bricolage help to balance these costs by maximizing the value derived from current resources and capabilities. This combination of exploration and exploitation underscores how OA acts as a strategic counter-cyclical response to such challenges, aligning with research that connects entrepreneurial orientation with specific internationalization triggers and stages (Rialp-criado et al., 2010; Romanello & Chiarvesio, 2017).

Moreover, we found that participation in international trade shows acts as catalysts for network expansion and platforms to enhance international commercial visibility, underscoring the critical role of ambidextrous networking strategies in promoting global growth and competitive advantage while reducing internationalization costs (Sousa & De Fátima, 2023). In line with previous research, our findings reinforce the view that trade shows are powerful enablers of network development. Gerschewski et al. (2020) show that participation in these events facilitates the formation and strengthening of both formal and informal international network ties, thereby enhancing export performance through increased market knowledge and trust-building with foreign partners. Similarly, Evers & Knight (2008) emphasize that trade shows provide not only transactional opportunities but also relational benefits, embedding firms within international business networks, accelerating market entry, and fostering long-term partnerships. Our evidence aligns with these perspectives, illustrating how trade shows function as key areas for opportunity recognition, resource mobilization, and the cultivation of enduring cross-border relationships that underpin the accelerated internationalization of BGFs.

This underlines the importance of relational networks for BGFs, providing unique resources and capabilities, including OA, which are not attainable through internal means alone (Figueiredo et al., 2024). Based on these insights, we propose the following:

Proposition 1: *Implementing OA in innovation, learning, and networking dynamically interacts with market conditions and internal capabilities, fostering sustained growth through strategic adaptations in volatile environments.*

Proposition 2: *An exclusive focus on exploitation during the post-internationalization phase limits growth speed and intensity, necessitating periodic exploratory activities to enhance strategic flexibility in volatile environments.*

Proposition 3: *An exclusive focus on exploration can lead to rapid but unstable expansion, requiring balancing exploitation strategies to stabilize and sustain growth in volatile environments.*

Recent research highlights international strategic agility as a micro-foundation of dynamic capabilities, enabling firms to swiftly adapt to international market dynamics (Meuric & Favre-Bonté, 2023). Our empirical study further suggests that strategic agility is not merely a foundational element, but an outcome of implementing an ambidextrous approach across multiple dimensions as an incubator for dynamic capabilities within BGFs. This supports Teece's (2016) view that strong dynamic capabilities are vital for navigating significant uncertainties.

Results reveal that firms exhibiting high levels of OA can pivot quickly in response to changing market conditions, such as entering new markets or adjusting their product lines in response to shifts in consumer demand. For instance, iterative improvements in technology and process management have directly enhanced the capability of BGFs to expand into new international markets and respond to their endemic needs, such as packaging, presentations, and flavors, facilitating sustained organizational growth and adaptability. Similarly, resilience to external factors like climate change and socio-political crises has been a focal point, allowing BGFs to rapidly respond to these uncertainties with exploratory and exploitative innovation in technologies and processes. These innovations, in turn, have leveraged the quality focus of businesses, enhanced efficiency, and expanded logistical and export capabilities. Thus, the dimensions of innovation, learning, and networking intertwine in a complex mechanism where not only can the outputs of one dimension affect another, but individual elements within a dimension can also influence other elements in the same or different dimensions. Based on these insights, we propose:

Proposition 4: *OA serves as a mechanism through which international strategic agility is developed.*

Moreover, the insights provided by Gripsrud et al. (2023) regarding the speed of internationalization and its impact on firm survival post-entry reinforce our findings. They suggest that rapid internationalization, while beneficial for market coverage and early revenue streams, requires robust mechanisms for balancing inherent risks and opportunities. Our study corroborates these insights by showing that OA not only supports rapid internationalization but also enhances a firm's ability to adapt and thrive in the competitive dynamics of international markets post-entry. This underscores the importance of strategic flexibility and the ability to swiftly adjust to new information and market conditions, which are central to OA.

Additionally, Wu and Zhou (2018) discuss the impact of early internationalization on geographic diversity and its influence on a firm's strategic orientation post-entry. Their study highlights that early internationalization leads to greater geographic diversity, necessitating more sophisticated strategies for managing diverse market demands. Our research extends this perspective by demonstrating how OA facilitates the strategic management of such diversity. Specifically, we illustrate how BGFs leverage ambidexterity to continuously align their strategic initiatives with evolving market conditions, enabling sustained growth and robust market presence across various geographies.

On the other hand, while BGFs often focus on developing their presence in foreign markets due to their global orientation, our findings reveal that the home market still plays a crucial role in supporting their international growth. Our research demonstrates that leveraging local resources through strategies such as contract manufacturing and utilizing non-exportable products can significantly enhance BGFs' international commercial intensity and overall growth. This local exploitation is effectively paired with the continuous exploration of international markets and new sales channels.

Current discussions on BGF growth emphasize the rapid international expansion and its dimensions—resource commitment abroad, international commercial intensity, and market breadth (Casillas & Acedo, 2012). However, our study suggests that for born-global agri-food firms, diversifying production into home markets not only mitigates risks associated

with international market fluctuations but also fosters both local and international growth. Geographic diversification in home markets serves as a catalyst for growth, allowing BGFs to stabilize and expand their operations. This strategy enhances local strengths to bolster international efforts, improving the firms' ability to respond to international demand and manage supply chain uncertainties. Based on these insights, we propose:

*Proposition 5: Home country's spread in the post-internationalization phase of BGFs leverages international commercial intensity and strategic agility, diversifies risks, and increases overall growth.*

Our model delineates dynamic pathways that illustrate how BGFs integrate exploratory and exploitative actions to foster growth and develop OA. This strategic balance, essential for adapting to environmental shifts, is central to recent ambidexterity debates, emphasizing the need for BGFs to align with long-term objectives and evolving market demands (Khan et al., 2022; Luger et al., 2018; Zhou et al., 2020). For example, Firms C and D employ cross-functional ambidexterity within the innovation dimension. Despite not expanding their product portfolios, they have introduced significant innovations, including new devices, technologies, and training programs based on experimental farms and genetic improvement. These advancements involve the development and integration of sophisticated software and technologies that enhance operational efficiency and product quality. Over time, these initiatives could evolve to include the commercialization of these innovations as services to other companies, shifting towards reciprocal ambidexterity. This progression exemplifies the firms' ability to leverage initial internal innovations to create new products that transcend traditional agro-industrial boundaries, incorporating devices, technologies, and software that enhance productivity and establish traceability in agricultural processes. This strategic realignment echoes Autio's (2000) concept of unlearning established routines as part of adaptation and growth strategies prevents over-reliance on a single strategy, promoting sustainable organizational growth.

The seven ambidextrous growth pathways we identify operationalize the synergy mechanisms posited by Van Looy et al. (2005). The Innovation/Expansion loop and Diversification pathways instantiate resource reallocation toward emerging opportunities; the Learning, Quality/Customization, and Ambidextrous Networking pathways realize cross-

fertilization across internal and external knowledge domains; and the Resilience-Driven and Ethical Branding pathways contribute to market-size expansion as firms unlock new segments and geographies. In combination, these micro-processes explain how ambidextrous firms convert short-term complexity costs into superior longer-term performance in turbulent agri-food markets.

### *3.6. Conclusions*

This study underscores the pivotal role of OA in driving the post-internationalization growth of BGFs within the agri-food sector. By harmonizing exploratory and exploitative strategies across innovation, learning, and networking dimensions, BGFs achieve enhanced operational flexibility and a broader market reach. Our research delineates three strategic trajectories and identifies nine growth pathways, illustrating the crucial balance between exploration and exploitation necessary for sustained positive growth. These findings affirm that OA is essential for the long-term success and resilience of BGFs in fluctuating markets.

This study contributes to the evolving understanding of the internationalization process, particularly within the context of BGFs. Given the evolutionary nature of the internationalization process (Romanello & Chiarvesio, 2017), our research highlights the importance of both internal factors, such as managerial decisions, and external factors, including changes in demand, technological advancements, raw material availability, and government policies. Future research should explore how selection events influenced by these internal and external factors impact the current trajectories of BGFs. Additionally, the interaction between niche orientation and network resources through learning orientation offers a fertile ground for investigating how BGFs can leverage their dual capabilities to adapt niche strategies based on emerging market insights.

Our findings also bridge gaps identified in the literature regarding the development of strategic resources and their impact on various internationalization phases (Breuillot et al., 2022; Romanello & Chiarvesio, 2017). Future studies could further examine the mechanisms through which OA facilitates the transition from individual to organizational resources, enabling BGFs to reconfigure existing capabilities and rejuvenate their resource base (Khan & Lew, 2018). Investigating the longitudinal effects of OA on strategic agility and dynamic capabilities would provide deeper insights into sustained growth and adaptability in global

markets. Additionally, the strategic use of OA in managing the speed of internationalization is crucial not only for survival but also for sustained growth in the global market. Balancing explorative ventures into new markets with exploitative optimization in existing ones allows firms to navigate global expansion while maintaining competitive resilience.

For practitioners, our findings offer actionable strategies to enhance the growth and resilience of BGFs in the agri-food sector. Leveraging organizational capacity to reconfigure resources in the post-entry stage is essential for renewing or transforming existing capabilities, thereby supporting long-term growth and performance (Teece et al., 1997; Khan & Lew, 2018). Developing strategic agility through OA enables BGFs to swiftly adapt to changing market conditions, such as entering new markets or adjusting product lines in response to shifts in consumer demand. This agility is supported by dynamic capabilities that facilitate continuous learning and adaptation (Meuric & Favre-Bonté, 2023; Figueiredo et al., 2024). Achieving a balance between global integration and local responsiveness is critical, as BGFs must leverage their global presence to achieve economies of scale while adapting their offerings to meet local tastes and regulatory requirements (Figueiredo, 2024). Participation in international trade shows and the development of strong emotional branding are vital for expanding networks and enhancing international commercial visibility. These efforts should be supported by financial assistance programs or logistical support to ensure effective engagement, particularly for smaller BGFs (Efrat & Asseraf, 2024; Sousa & De Fátima Ferreiro, 2023). Encouraging sustainable practices and continuous innovation through co-funded grants and tax incentives can help BGFs maintain operational efficiency and product quality, thereby fostering long-term viability and competitiveness.

Looking ahead, the strategic integration of OA should be further explored within diverse industrial contexts to validate its applicability and effectiveness beyond the agri-food sector. Investigating the role of digital transformation in enhancing OA could provide new avenues for BGFs to achieve greater strategic agility and market adaptability. As global markets continue to evolve, understanding how OA interacts with emerging trends such as digitalization, sustainability, and socio-political changes will be crucial for developing comprehensive strategies that ensure sustained growth and resilience. Furthermore, our research demonstrates that leveraging local resources through strategies such as contract manufacturing and utilizing non-exportable products can significantly enhance BGFs'

international commercial intensity and overall growth. This local exploitation, effectively paired with the continuous exploration of international markets and new sales channels, suggests that geographic diversification not only mitigates risks associated with international market fluctuations but also fosters both local and international growth.

In conclusion, this study not only reinforces the significance of OA in the internationalization and growth of BGFs but also paves the way for future research and practical applications that can further enhance the strategic capabilities and competitive advantage of firms operating in dynamic global environments. By addressing the gaps in the literature and offering forward-looking insights, our research contributes to a deeper understanding of how BGFs can navigate the international expansion while maintaining sustained growth and resilience.

**Implications**

**Theory:** This study significantly enriches the fields of international entrepreneurship and dynamic capabilities. It clarifies the mechanisms through which BGFs utilize OA to navigate post-internationalization challenges. Specifically, it reveals that the integration of exploratory and exploitative strategies across innovation, learning, and networking is essential for maintaining growth in unpredictable global markets. Furthermore, this research positions OA as a foundational element of international strategic agility, thereby broadening the dynamic capabilities framework. It also calls for a reassessment of growth strategies post-internationalization, emphasizing the need for a multifaceted and dynamic approach. The study underscores the critical role of ambidextrous strategies in fostering long-term growth and organizational resilience.

**Managers:** We recommend that managers of BGFs develop OA to enhance strategic agility in the post-internationalization phase. This strategic approach is critical for effectively responding to global market demands and navigating challenges such as newness, smallness, and foreignness. Strategic agility extends beyond rapid responses to market changes; it encompasses the capacity to foresee and prepare for future demands and challenges, which is crucial for thriving in the post-international entry phase. This expanded understanding of agility suggests it as a composite of anticipatory and reactive capabilities, fostering sustainability and resilience against external volatilities like economic downturns or sociopolitical crises.

The implementation of ambidextrous strategies enables a rapid and constant reconfiguration of resources in response to market dynamics. This strategic maneuvering not only increases international commercial intensity but also maintains a competitive edge, ensuring that firms can adapt swiftly and effectively. Geographic and product diversification strategies are essential for mitigating risks associated with socio-political instability and logistical upheavals. By diversifying, firms not only stabilize their growth but also expand their social and economic impact across various regions. This strategic utilization of diverse resources aligns with the tenets of the resource-based view, enhancing firm resilience and market positioning.

Robust networking and relationship-building are paramount, as these elements are crucial for both deepening market engagement and exploring new territories. Effective networking, achieved through participation in international trade fairs and forming strategic alliances, significantly boosts a firm's market visibility and operational reach. Maintaining quality and striving for continuous improvement are foundational for building long-term customer relationships and establishing market credibility. These practices emphasize the importance of continuous training and improvement to achieve operational excellence and compliance with international standards.

In response to the global market's increasing sensitivity to ethical practices and cultural variations, managers should prioritize ethical branding and product customization. This strategy caters to diverse consumer preferences, fosters brand loyalty, and facilitates market expansion, reinforcing the firm’s adaptability and responsiveness to international consumer dynamics.

While international expansion is a priority for BGFs, leveraging the strategic potential of the home market is equally crucial. Local resources and markets provide a robust foundation that supports international activities, enabling firms to enhance their global commercial intensity and strategic agility effectively. This dual focus is essential for maintaining balance and ensuring sustained growth in both local and international arenas.

These managerial insights underscore the critical importance of integrating exploration and exploitation strategies through an ambidextrous approach. This integration is fundamental to

developing and sustaining dynamic capabilities that facilitate adaptive and resilient growth trajectories in the volatile agri-food sector.

**Policymakers:** We advocate for policy support for BGFs in their post-internationalization phase, particularly through fostering collaboration across institutional, political, and financial sectors to follow the outlined ambidextrous pathways for supporting firm growth and mitigating failure risks. Additionally, decentralizing production to rural areas can stimulate local development and provide socio-economic benefits such as increased local employment and reduced urban overcrowding. Incentives for BGFs to move their production facilities to these rural regions could include tax breaks, subsidies for technology transfers, and grants for sustainable practices. Policies should encourage synergies among government agencies, educational institutions, and financial entities to provide a cohesive support system that enhances the innovation, learning, and networking capacities of BGFs. For instance, the introduction of co-funded innovation grants or tax incentives for firms investing simultaneously in both exploratory and exploitative strategies could significantly enhance their strategic agility and market adaptability. Policies that foster networking opportunities through trade fairs, international business summits, and digital platforms can help BGFs build the necessary connections to thrive in global markets. Furthermore, supporting participation in these networking events through financial assistance programs or logistical support can be particularly beneficial for smaller BGFs that might lack the resources to engage on these platforms effectively.

**Contextual heterogeneity by country and implications for transferability**

The enactment of post-entry growth among the agri-food BGFs in our sample is shaped by country-specific contexts that condition both the prevalence of the pathways identified and the sequencing of ambidextrous pathways. Drawing on the profiles and sources reported in Appendix 3-1 and Annex 3-1, we compare Colombia, Peru, Ecuador, and Honduras along five dimensions (regulatory and quality regimes, logistics reliability, agro-ecological calendars and climate exposure, density of sectoral networks, and policy support) and relate these to the observed pathways of Innovation/Expansion, Resilience-Driven Innovation, Customization, Quality, Ethical Branding, Diversification, and Ambidextrous Networking.

In Colombia, stable access to certifiers and buyer technical teams elevates Quality and Ethical Branding early in the post-entry phase. Firms frequently activate the quality-anchored pathway *Quality Focus → Certifications → Channel Diversification → International Commercial Intensity (Export Intensity) → Geographic Diversification of Production → Quality Focus*, securing legitimacy with demanding retailers and broadening routes to market. Logistics frictions (inland transport variability, cost) are buffered through alliances with distributors, targeted Process Exploration and Technological Exploration (monitoring/automation), and Improvements in Packaging, linking Quality to the process-anchored pathway *Process Exploration → Technological Exploration → Sustaining Current Products → Process Exploration*. Dense participation in trade fairs and export-promotion platforms lowers partner search costs and strengthens Ambidextrous Networking, supporting rapid adjustments during shocks.

In Peru, a mature export orientation and stringent buyer specifications make process standardization and third-party verification central to consolidation after entry. Quality typically anchors early growth, while firms combine Innovation/Expansion (new variants and incremental technological upgrades) with Resilience-Driven Innovation in response to climate or logistics disruptions. Given the availability of capable partners, the alliance-anchored pathway *Strategic Alliances → International Commercial Intensity (Export Intensity) → Geographic Diversification of Production → Strategic Alliances* tends to close quickly, supporting scale-up and risk diversification.

In Ecuador, strict sanitary/quality controls and the salience of traceability and sustainability signaling bolster Ethical Branding alongside Quality. Retailer audits and certifier interfaces provide codified knowledge that firms translate into routine refinement. Exposure to port timing and cold-chain constraints pushes firms to emphasize Process Exploration and Technological Exploration to stabilize current product lines; accordingly, the process-anchored pathway *Process Exploration → Technological Exploration → Sustaining Current Products → Process Exploration* often precedes wider Channel Diversification, after which Strategic Alliances are leveraged to expand export intensity and production geography.

In Honduras, thinner local intermediation for certifications and a more fragmented support ecosystem increase the value of cross-border learning and export-oriented Strategic Alliances

to access compliance know-how and market entry. Logistics volatility and climate exposure make Resilience-Driven Innovation comparatively more prominent—firms experiment rapidly with process tweaks, packaging changes, and market approaches while maintaining exploitation to stabilize operations. The alliance-anchored pathway *Strategic Alliances → International Commercial Intensity (Export Intensity) → Geographic Diversification of Production → Strategic Alliances* remains valid but tends to activate after an initial phase focused on the process-anchored pathway *Process Exploration → Technological Exploration → Sustaining Current Products → Process Exploration* and baseline certifications; Ambidextrous Networking bridges firms to capable partners and channels abroad.

These comparisons support analytical generalization: the mechanisms (pathways) travel across contexts, but their relative emphasis and order of activation adapt to country-specific conditions. Where certification ecosystems and buyer technical interfaces are readily accessible (as in several Colombian and Peruvian cases), prioritizing the quality-anchored pathway early is advantageous. Where logistics reliability is the binding constraint (as in multiple Ecuadorian and Honduran cases), firms first gain traction by reinforcing the process-anchored pathway before scaling channels and alliances. Where market intermediation is thinner, Ambidextrous Networking and export-oriented Strategic Alliances become the primary enablers to close the alliance-anchored pathway. In sum, post-entry growth is ambidextrous but context-configured: the same set of pathways is present across countries, while knowledge-base breadth determines which pathway is reinforced first and with what intensity.

**Limitations and Future Research**

Our study acknowledges several limitations that should be considered when interpreting the findings. Firstly, the final sample was influenced by the willingness of firms to participate, introducing an element of convenience sampling. To address this, we employed a purposive approach to ensure that all firms met specific criteria relevant to our research questions, thereby enhancing theoretical sampling adequacy (Glaser & Strauss, 1967). However, the significant variability in firm revenues, as indicated by a high standard deviation, suggests differences in resource availability, strategic choices, and capabilities among the firms. Although our sample predominantly included larger firms, as evidenced by a higher median

revenue, we identified consistent patterns and themes related to OA across firms of varying sizes through cross-case analyses. Nevertheless, the disparity in median revenues may limit the generalizability of our findings to smaller firms. Future research should include a broader range of firm sizes to validate and extend these findings.

Additionally, our study is confined to Latin American firms, meaning that regional factors such as cultural, economic, and regulatory environments may have influenced the results. The reliance on interviews with firm executives could also introduce biases related to social desirability or retrospective rationalization. To mitigate these biases, we conducted interviews with two informants per firm and triangulated the data with secondary sources. Despite these efforts, the potential for response bias remains, as participants might present their strategies and outcomes more favorably to align with perceived social or organizational norms.

The qualitative nature of our analysis, based on 14 firms, may limit the applicability of our findings across different sectors or regions due to distinct market dynamics, regulatory environments, and cultural factors. Our research specifically addresses the unique challenges and opportunities within the agri-food sector, such as commodity price volatility, stringent food safety regulations, and evolving consumer preferences toward sustainability. Consequently, the findings may not be directly transferable to sectors like technology or manufacturing, where the pace of innovation and international competition dynamics differ significantly.

Finally, for some of the companies analyzed, there was limited information available on the internet and social media platforms. This lack of accessible data restricted the depth of the profiles presented in Appendix 3-1 and may have affected the consistency of detail across the different firms.

Future research could focus on more homogeneous samples or employ quantitative methods to control for firm size and revenue, thereby isolating the effects of OA on post-internationalization growth. Exploring the application of OA in other sectors, such as technology or manufacturing, would allow for comparisons of how different industries leverage OA for strategic growth. Additionally, conducting comparative studies across various geographical regions, including Southeast Asia or Africa, could examine how

economic, cultural, and institutional contexts influence the strategic use of OA in global market expansion. Longitudinal studies examining the long-term effects of strategic choices on firm performance across different sectors, while considering external factors like market dynamics and technological advancements, would also be valuable. Complementing our qualitative insights with quantitative methods could further test the generalizability of our findings, enabling statistical verification of the relationships between OA practices and firm performance indicators across multiple sectors and regions.

*Figure 3-1. The Unbounded Exploration Pathway*

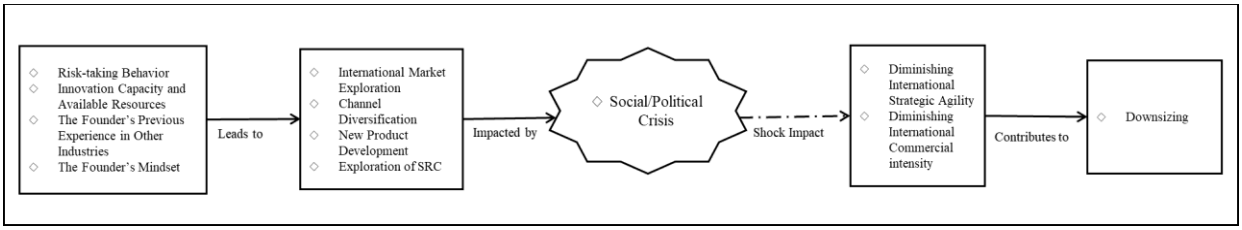



*Figure 3-2. The Success Trap Pathway*

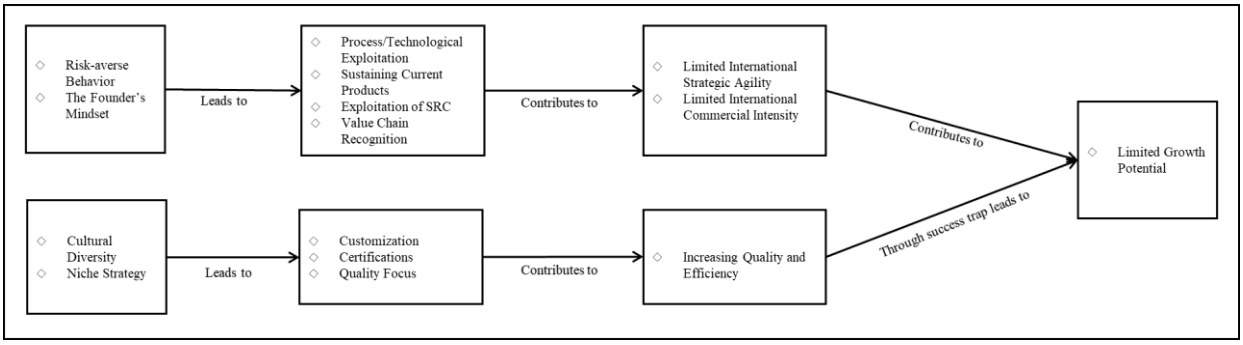


*Figure 3-3. The Innovation Pathways*

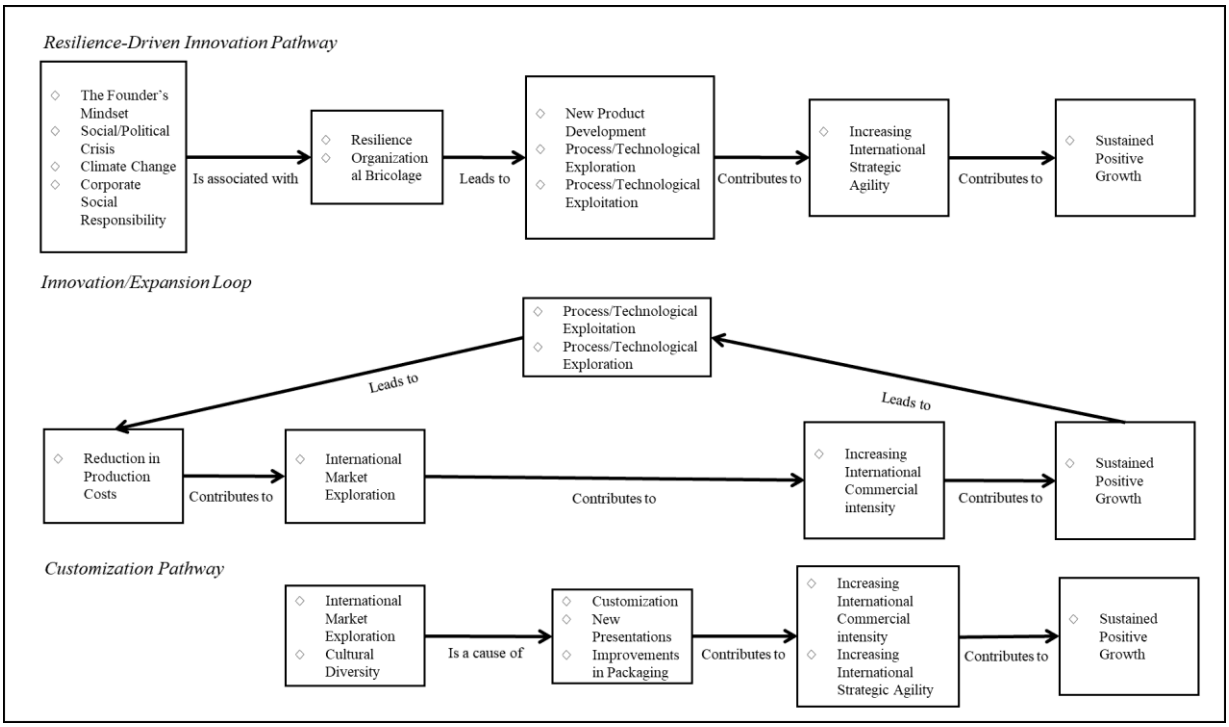



*Figure 3-4. The Learning Pathways*

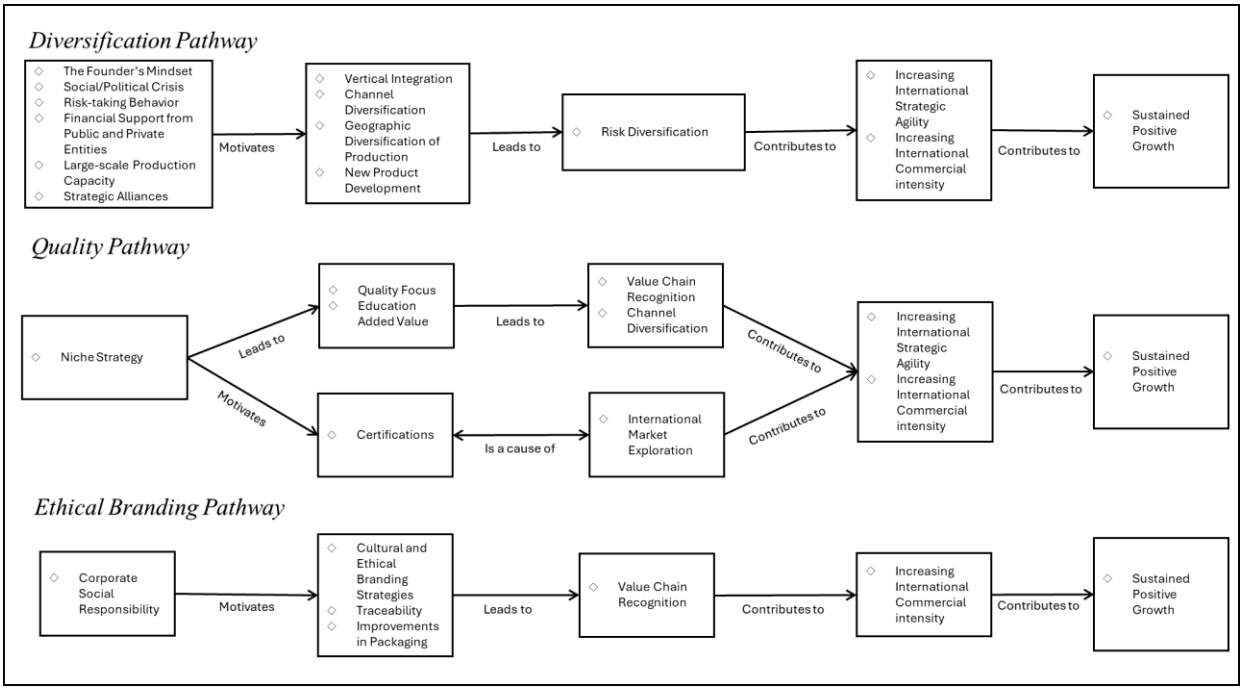


*Figure 3-5. The Networking Pathway*

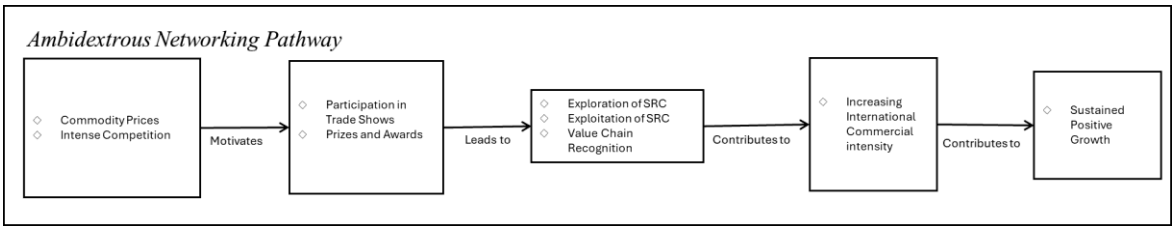



*Figure 3-6. Integrated Model of post-international entry growth in BGFs in the agri-food sector*

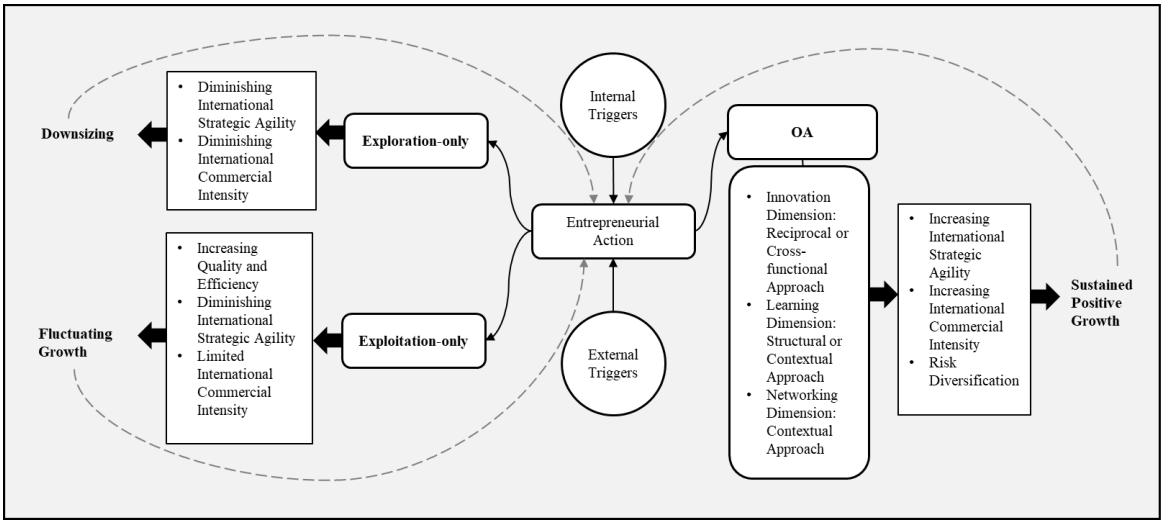


*Table 3—1 Summary of Growth Trajectories and Pathways in Born-Global Agri-Food Firms*

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Trajectories | Exploration-Only | · Emphasis on continuous exploration without sufficient exploitation<br>· Driven by shareholder pressure and need for resources<br>· Focus on market intelligence, channel diversification, new product development, leveraging social and relational capital | · Unsustainable growth<br>· Vulnerability to external shocks<br>· Decline in strategic agility and commercial intensity<br>· Resulted in downsizing and loss of market presence | Firm F |
| | Exploitation-Only | · Focus on exploiting existing resources and capabilities<br>· Emphasis on operational efficiency and long-term customer relationships<br>· Conservative approach with limited innovation and market exploration<br>Entrapment in Success Trap | · Stable but modest growth<br>· Limited international strategic agility<br>· Restricted market engagement<br>· Competitive disadvantage compared to ambidextrous firms | Firm J |
| | Ambidextrous | · Balanced approach combining exploration and exploitation<br>· Utilizes various approaches of OA<br>· Adapts to market changes with strategic flexibility and agility | · Enhanced strategic agility<br>· Increased international commercial intensity<br>· Achieved risk diversification<br>· Sustained positive growth | Firms A, B, C, D, E, G, H, I, K, L, M, N |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| | | | · Improved innovation, learning, and networking capabilities | |
| | Resilience-Driven Innovation | · Utilizes external forces like climate change and socio-political crises<br>· Leverages internal factors like social responsibility and innovative management | · Positive growth through exploratory and exploitative innovations enhancing operational efficiency and export capabilities | Firms C, D, F, G, H, I, K, L, and M (Cross-functional approach - combined product exploitation with market exploration) Firms A, B, L, E, and N (Reciprocal approach, initially developing new products in dedicated units to penetrate new markets. Revenue from these ventures funded subsequent phases of focused exploitation, allowing efficient resource management across various market and product development stages) |
| Pathways in the Innovation Dimension | Innovation/Expansion Loop | · Growth loop driven by interplay between market exploration and technological/process innovations<br>· Innovations meet client demands and reduce production costs, supporting expansion | · Symbiotic relationship where innovation and market expansion reinforce each other, creating a self-sustaining growth cycle | |
| | | | · Enhanced market responsiveness and client retention | |
| | Customization | · Strategic adaptation to diverse international markets<br>· Focus on aligning products and marketing strategies with local consumer preferences and cultural nuances | · Strengthened reputations as culturally competent players<br>· Boosted international commercial intensity | |
| Pathways in the Learning Dimension | Diversification | · Driven by political and social crises in Latin America<br>· Geographic diversification of production to mitigate risks and enhance international market reach | · Leveraged large-scale production and risk-taking to secure production and deliver social benefits<br>Supported sustainable | Firms A, B, C, D, E, L, M, N (Structural approach) Firms F, G, H, I, and K (Contextual approach) |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| | | | growth and community development | |
| | Quality | · Focus on high-quality products and processes targeting niche markets<br>· Continuous employee training, especially in harvesting and post-harvesting processes | · Elevated entire supply chain, augmenting reputational capital and optimizing channel diversification<br>· Expedited international market entry | |
| | Ethical Branding | · Emphasizes ethical and sustainable practices<br>· Leverages environmental stewardship as a strategic differentiator in markets that value sustainability | · Enhanced stakeholder trust and bolstered international market reputation | |
| Pathways in the Networking Dimension | Ambidextrous Networking | · Crucial international trade shows serve as a catalyst for network expansion<br>· Increases international visibility, enhancing market exploration and exploitation | · Dynamically grew international presence and increased export volumes | Firms A, D, F, K, M, and N |

*Appendix 3-1. Companies Profiles and Data Sources*

| Firm | Description | Country | Approximate Sales (Last Year) USD | % of Sales Generated Abroad/Entry Mode/ International Scope | Key Informants/Tenure Interview Duration (Hrs:Min) | Secondary Sources |
|---|---|---|---|---|---|---|
| FIRM A | Harvest, processing, and trade of Cocoa and related products (Chocolate couverture, drinking chocolate, chocolate bars).<br>Year founded: 2014<br>First internationalization year: 2015<br>Number of fixed employees (last year): 21 | Colombia | 5,500,000 | 43%/Export/New Zealand, United Kingdom, Canada, France, Switzerland, Chile, Colombia | 1. Co-Founder and CEO/ Since the firm's foundation<br>2. Co-Founder and Financial and Administrative Manager/ Since the firm's foundation<br>1:48 | Press: 3 articles on international activities; 1 on local activities; 6 on social responsibility; 2 on international certifications, prizes, and awards; 2 presenting the founder's history.<br>Videos: 4 interviews with the entrepreneur about his story; 2 on financing by government entities; 2 on international events and awards; 6 with producers; 1 on chocolate tasting; 1 on the production process.<br>Others: Official Website, LinkedIn page, 1,133 Instagram posts. |
| FIRM B | Production and trade of Dehydrated fruits.<br>Year founded: 2002<br>First internationalization year: 2022<br>Number of fixed employees (last year): 65 | Colombia | 1,436,929. | 96%/Subsidiary/ Switzerland, European Union, Canada, United States, Chile Singapore, Colombia | 1. Co-Founder and Product Manager/ Since the firm's foundation<br>2. Co-Founder and Business Manager/ Since the firm's foundation<br>2:35 | Press: 5 articles on international activities; 2 on local activities; 4 on international certifications, prizes, and awards.<br>Videos: 15 on the production process; 4 on points of sale; 3 interviews with the entrepreneur about the firm's story; 2 on financing by government entities; 14 with producers; 4 on international certifications, prizes, and awards; 3 on products; 3 on the business model of development through fair trade and organic production.<br>Others: Official Website, LinkedIn page, 423 Instagram posts. |
| FIRM C | Harvest, processing, and trade of specialty coffees.<br>Year founded: 1983<br>First internationalization year: 1983<br>Number of fixed employees (last year): 145 | Honduras | 144,465,000 | 95%/Subsidiary/United States, Germany, France, Japan, South Korea, the United Kingdom, Canada, Spain, Australia, and the Netherlands, Honduras | 1. Industrial Relations Manager/26 years<br>2. Sales Manager/15 years<br>2:48 | Press: 6 articles on international activities; 6 on social responsibility; 2 on international certifications, prizes, and awards.<br>Videos: 6 on strategic alliances for social responsibility; 1 award ceremony for producers of specialty coffees; 1 on international activities; 3 on prizes and certifications; 3 on technology; 3 on the production process.<br>Others: Official Website, LinkedIn page, 293 Instagram posts. |
| FIRM D | Harvest, processing, and trade of specialty coffees.<br>Year founded: 2000<br>First internationalization year: 2000<br>Number of fixed employees (last year): 225 | Colombia | 27,888,267 | 70%/Subsidiary/Australia, United Kingdom United States Taiwan, Latin America, Europe, Africa | 1. Marketing Manager/5 years<br>2. Data Analyst/5 years<br>2:02 | Press: 4 articles on social responsibility; 1 on research & development.<br>Videos: 7 on the production process; 13 interviews with producers from multiple countries; 3 on certifications; 1 on costs of production; 9 on the product; 2 on innovation; 1 on market trends; 8 on social responsibility; 2 on educational programs.<br>Others: Official Website, LinkedIn page, 3,070 Instagram posts. |
| FIRM E | Harvest, processing, and trade of organic fruits, their derivatives, honey, and fish.<br>Packaging, certification, storage, and transportation services.<br>Year founded: 2018 | Colombia | 1,430,750 | 90%/Subsidiary/ Netherlands, United States, Panama, Mexico, Peru, Dominican Republic, Arab Emirates, Spain, Colombia | 1. Founder and CEO/ Since the firm's foundation<br>2. Logistics Manager/ Since the firm's foundation<br>3:25 | Press: 2 articles on international activities.<br>Videos: 3 on the company profile.<br>Others: Official Website, LinkedIn page, 186 Instagram posts. |

| Firm | Description | Country | Approximate Sales (Last Year) USD | % of Sales Generated Abroad/Entry Mode/ International Scope | Key Informants/Tenure Interview Duration (Hrs:Min) | Secondary Sources |
|---|---|---|---|---|---|---|
| | First internationalization year: 2018<br>Number of fixed employees (last year): 85 | | | | | |
| FIRM F | Processing and trade Cocoa and related products (Chocolate couverture, drinking chocolate, chocolate bars).<br>Year founded: 2012<br>First internationalization year: 2012<br>Number of fixed employees (last year): 15 | Honduras | 20,464,000 | 25%/Export/United States, Canada, Nicaragua Guatemala, Honduras, Belize, Jamaica | 1. Founder and CEO/ Since the firm's foundation<br>2. General Manager/ Since the firm's foundation<br>2:20 | Press: 4 articles on international activities.<br>Videos: 1 on the production process; 1 on the company profile; 1 on awards and certifications; 1 on financial support.<br>Others: Official Website, LinkedIn page, 756 Instagram posts. |
| FIRM G | Harvest, processing, and trade of specialty coffees.<br>Year founded: 2002<br>First internationalization year: 2002<br>Number of fixed employees (last year): 60 | Honduras | 5,197,000 | 90%/Export/Europe, Southeast Asia, Latin America, Australia | 1. Quality Control Manager/5 years<br>2. Sales Manager/7 years<br>2:48 | Press: 1 article on quality; 2 on social responsibility.<br>Videos: 3 on social responsibility; 1 on the productive process.<br>Others: Official Website, LinkedIn page, 107 Instagram posts. |
| FIRM H | Harvest, processing, and trade of specialty coffees.<br>Year founded: 2020<br>First internationalization year: 2020<br>Number of fixed employees (last year): 330 | Peru | 33,603,158 | 25%/Export/Chile, Ecuador, Mexico, United States, Peru | 1. Chief Operating Officer/ Since the firm's foundation<br>2. HR Talent and Development Analyst/ Since the firm's foundation<br>2:34 | Press: 1 article on the entrepreneur's story; 2 enhancing quality; 4 on social responsibility; 1 on international activities.<br>Videos: 1 interview with the entrepreneur about his story; 2 on the company profile; 1 on the organizational structure.<br>Others: Official Website, LinkedIn page, 504 Instagram posts. |
| FIRM I | Harvest and trade of fresh organic herbs.<br>Year founded: 2018<br>First internationalization year: 2018<br>Number of fixed employees (last year) 50 | Peru | 67,973,684 | 100%/Export/Germany, Canada, United States | 1. Co-Founder and General Manager /Since the firm's foundation<br>2. Co-Founder and Commercial Manager/ Since the firm's foundation<br>1:37 | Press: 3 articles on international activities.<br>Others: LinkedIn page. |
| FIRM J | Harvest, processing and trade of Mango and Avocado (fresh, frozen, and dried). | Peru | 48,000,000 | 95%/Export/China, Japan, New Zealand, Canada, | 1. Administration and Finance Manager/7 years | Press: 2 articles on international activities; 2 on the production process; 1 on the entrepreneur's story. |

| Firm | Description | Country | Approximate Sales (Last Year) USD | % of Sales Generated Abroad/Entry Mode/ International Scope | Key Informants/Tenure Interview Duration (Hrs:Min) | Secondary Sources |
|---|---|---|---|---|---|---|
| | Year founded: 1996<br>First internationalization year: 1996<br>Number of fixed employees (last year): 200 | | | United States, Western Europe, Chile, Mexico Guadeloupe | 2. Logistics Manager/19 years<br>1:30 | Videos: 1 interview with the entrepreneur about his story; 6 on the production process.<br>Others: LinkedIn page, Official Website. |
| FIRM K | Harvest, and trade of ginger, turmeric, and annatto.<br>Year founded: 2019<br>First internationalization year: 2019<br>Number of fixed employees (last year): 33 | Peru | 2,300,000 | 96%/Export/Canada, United States, Western Europe, China | 1. Sales Manager/6 years<br>2. Certifications Chief/5 years<br>1:23 | Press: 9 articles on exports growth; 1 on internationalization activities.<br>Videos: 1 on the production process; 3 on exports growth.<br>Others: LinkedIn page, Official Website, 42 Instagram posts. |
| FIRM L | Harvest and trade of grapes and onions.<br>Year founded: 2015<br>First internationalization year: 2015<br>Number of fixed employees (last year): 50 | Ecuador | 2,980,000 | 95%/Export/Canada, United States, Western Europe, China, South Korea | 1. Plant and Export Logistics Manager/6 years<br>2. Environmental Manager/5 years<br>1:20 | Press: 1 article on the production process; 1 on the entrepreneur's story.<br>Videos: 1 interview with the entrepreneur about his story; 1 on the production process; 3 on awards.<br>Others: LinkedIn page, Official Website, 69 Instagram posts. |
| FIRM M | Trade of bananas.<br>Year founded: 2020<br>First internationalization year: 2020<br>Number of fixed employees (last year): 11 | Ecuador | 6,000,000 | 95%/Export/Ukraine, Russia, Kazakhstan, Uzbekistan, Belarus, Saudi Arabia, Slovenia, China, Greece, Germany, Chile, Uruguay | 1. Co-Founder and President/ Since the firm's foundation<br>2. Operations Chief/ Since the firm's foundation<br>2:05 | Press: 1 article on internationalization activities; 1 on the company profile; 1 interview with the founder.<br>Videos: 1 on the company profile; 1 on the production process.<br>Others: LinkedIn page, Official Website, 158 Instagram posts. |
| FIRM N | Processing and trade of cocoa and related products (Chocolate couverture, drinking chocolate, chocolate bars).<br>Year founded: 2007<br>First internationalization year: 2007<br>Number of fixed employees (last year): 78 | Ecuador | 13,000,000 | 85%/Subsidiary/European Union, Asia, Canada, Dominican Republic, United States, Panama, Peru, Colombia Mexico, Ecuador | 1. General Manager/5 years<br>2. I&D Chief/6 years<br>2:04 | Press: 4 articles about prizes and certifications; 3 about new products; 8 on internationalization activities; 2 on social responsibility.<br>Videos: 23 on the production process; 24 on social responsibility; 53 on the product; 3 on cocoa tasting events; 5 on internationalization activities; 5 on prizes and certifications.<br>Others: LinkedIn page, Official Website, 2686 Instagram posts. |

*Appendix 3-2. Semi structured interview protocol*

Name:

Position:

Firm:

Year of foundation:

Percentage of sales abroad:

Number of employees:

Approximate incomes:

**I. Introduction**

1. What have been the main keys to your company's success?

2. Describe your company's operations 5 years ago and compare them to today's. How have they changed to generate additional business?'

**II. The process of firm growth**

When the company started its activities,

4. What sectors were your products aimed at?
5. Which countries were your products aimed at?
6. What products did you offer?

Currently,

7. What sectors are your products aimed at?
8. Which countries are your products aimed at?
9. What products do you offer?

10. Please describe your firm's experience with international expansion

11. What challenges did you face during the post-internationalization growth stage?

12. How did your firm overcome these challenges?

13. How would you describe your firm's growth process after entering global markets?

14. What have been the internal and external triggers of the setbacks/growth surges/stability?

**III. The role of OA in Post-internationalization growth**

After entering the global market,

15. How have you managed innovation? In which areas does your organization innovate? This could include process, packaging, product, technology, organizational structure, or business model innovation. Are these innovations new or improvements on existing solutions?

16. What is the role of new and existent networks on the growth of the firm?

17. Is the firm willing to maintain existing markets and/or sectors?

18. Is the firm willing to get into new markets and/or sectors?

19. What is the role of efficiency and quality on the growth of the firm?

**IV. Added questions for second interviewee**

20. Organizational Structure: Could you describe the organizational structure of your company? How is it designed to facilitate your operations and strategic goals?

21. Impact of the Pandemic: How has the COVID-19 pandemic affected your organization? Please detail any operational, financial, or market changes that occurred as a result.

22. Participation in Trade Shows: Which trade fairs has your organization participated in? Can you discuss the impact of these shows on your business, including any benefits or challenges encountered?

23. Resources for Participation in Trade Fairs: What resources did your organization utilize to participate in these fairs? This may include financial, human, or other types of resources.

24. Funding Sources for Growth: Who has financed your growth, and how have you secured funding for expansion? Please discuss both internal and external sources of funding.

25. Relationship with foundations that promote social entrepreneurship: Can you elaborate on your relationship with foundations that promote social entrepreneurship? How has this relationship influenced your overall growth strategy? How has this relationship influenced your social and environmental impact

26. Customer Acquisition: How does your organization acquire new customers? Please discuss any strategies or methods you employ.

26. Growth Aspirations: What are your organization's growth aspirations? Up to what extent do you plan to expand your operations, market presence, or product/service offerings?

28. Securing Investment: How did your organization secure investment for growth or innovation? Please detail the process and any key milestones.

29. Establishment of Corporate Governance: How and when did your organization establish its corporate governance structure? Please describe the process and the impact it has had on your organization.

*Appendix 3-3. Data Structure*

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Trajectories | Exploration-Only | · Emphasis on continuous exploration without sufficient exploitation<br>· Driven by shareholder pressure and need for resources<br>· Focus on market intelligence, channel diversification, new product development, leveraging social and relational capital | · Unsustainable growth<br>· Vulnerability to external shocks<br>· Decline in strategic agility and commercial intensity<br>· Resulted in downsizing and loss of market presence | Firm F |
| | Exploitation-Only | · Focus on exploiting existing resources and capabilities<br>· Emphasis on operational efficiency and long-term customer relationships<br>· Conservative approach with limited innovation and market exploration<br>Entrapment in Success Trap | · Stable but modest growth<br>· Limited international strategic agility<br>· Restricted market engagement<br>· Competitive disadvantage compared to ambidextrous firms | Firm J |
| | Ambidextrous | · Balanced approach combining exploration and exploitation<br>· Utilizes various approaches of OA<br>· Adapts to market changes with strategic flexibility and agility | · Enhanced strategic agility<br>· Increased international commercial intensity<br>· Achieved risk diversification<br>· Sustained positive growth<br>· Improved innovation, learning, and networking capabilities | Firms A, B, C, D, E, G, H, I, K, L, M, N |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Pathways in the Innovation Dimension | Resilience-Driven Innovation | · Utilizes external forces like climate change and socio-political crises<br>· Leverages internal factors like social responsibility and innovative management | · Positive growth through exploratory and exploitative innovations enhancing operational efficiency and export capabilities | Firms C, D, F, G, H, I, K, L, and M (Cross-functional approach - combined product exploitation with market exploration)<br>Firms A, B, L, E, and N (Reciprocal approach, initially developing new products in dedicated units to penetrate new markets. Revenue from these ventures funded subsequent phases of focused exploitation, allowing efficient resource management across various market and product development stages) |
| | Innovation/Expansion Loop | · Growth loop driven by interplay between market exploration and technological/process innovations<br>· Innovations meet client demands and reduce production costs, supporting expansion | · Symbiotic relationship where innovation and market expansion reinforce each other, creating a self-sustaining growth cycle | |
| | Customization | · Strategic adaptation to diverse international markets<br>· Focus on aligning products and marketing strategies with local consumer preferences and cultural nuances | · Enhanced market responsiveness and client retention<br>· Strengthened reputations as culturally competent players<br>· Boosted international commercial intensity | |
| Pathways in the Learning Dimension | Diversification | · Driven by political and social crises in Latin America<br>· Geographic diversification of production to mitigate risks and enhance international market reach | · Leveraged large-scale production and risk-taking to secure production and deliver social benefits<br>Supported sustainable growth and community development | Firms A, B, C, D, E, L, M, N (Structural approach)<br>Firms F, G, H, I, and K (Contextual approach) |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Pathways in the Networking Dimension | Quality | · Focus on high-quality products and processes targeting niche markets<br>· Continuous employee training, especially in harvesting and post-harvesting processes | · Elevated entire supply chain, augmenting reputational capital and optimizing channel diversification<br>· Expedited international market entry | Firms A, D, F, K, M, and N |
| | Ethical Branding | · Emphasizes ethical and sustainable practices<br>· Leverages environmental stewardship as a strategic differentiator in markets that value sustainability | · Enhanced stakeholder trust and bolstered international market reputation | |
| | Ambidextrous Networking | · Crucial international trade shows serve as a catalyst for network expansion<br>· Increases international visibility, enhancing market exploration and exploitation | · Dynamically grew international presence and increased export volumes | |

*Appendix 3-4. Ambidexterity Approaches by Firm*

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Trajectories | Exploration-Only | · Emphasis on continuous exploration without sufficient exploitation<br>· Driven by shareholder pressure and need for resources<br>· Focus on market intelligence, channel diversification, new | · Unsustainable growth<br>· Vulnerability to external shocks<br>· Decline in strategic agility and commercial intensity | Firm F |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| | | product development, leveraging social and relational capital | · Resulted in downsizing and loss of market presence | |
| | Exploitation-Only | · Focus on exploiting existing resources and capabilities<br>· Emphasis on operational efficiency and long-term customer relationships<br>· Conservative approach with limited innovation and market exploration<br>Entrapment in Success Trap | · Stable but modest growth<br>· Limited international strategic agility<br>· Restricted market engagement<br>· Competitive disadvantage compared to ambidextrous firms | Firm J |
| | Ambidextrous | · Balanced approach combining exploration and exploitation<br>· Utilizes various approaches of OA<br>· Adapts to market changes with strategic flexibility and agility | · Enhanced strategic agility<br>· Increased international commercial intensity<br>· Achieved risk diversification<br>· Sustained positive growth<br>· Improved innovation, learning, and networking capabilities | Firms A, B, C, D, E, G, H, I, K, L, M, N |
| Pathways in the Innovation Dimension | Resilience-Driven Innovation | · Utilizes external forces like climate change and socio-political crises<br>· Leverages internal factors like social responsibility and innovative management | · Positive growth through exploratory and exploitative innovations enhancing operational efficiency and export capabilities | Firms C, D, F, G, H, I, K, L, and M (Cross-functional approach - combined product exploitation with market exploration) |
| | Innovation/Expansion Loop | · Growth loop driven by interplay between market exploration and technological/process innovations | · Symbiotic relationship where innovation and market expansion reinforce each other, | Firms A, B, L, E, and N (Reciprocal approach, initially developing new products in dedicated units to penetrate new markets. Revenue from these ventures funded subsequent phases of focused exploitation, allowing efficient |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| | | · Innovations meet client demands and reduce production costs, supporting expansion | creating a self-sustaining growth cycle | resource management across various market and product development stages) |
| | Customization | · Strategic adaptation to diverse international markets<br>· Focus on aligning products and marketing strategies with local consumer preferences and cultural nuances | · Enhanced market responsiveness and client retention<br>· Strengthened reputations as culturally competent players<br>· Boosted international commercial intensity | |
| | Diversification | · Driven by political and social crises in Latin America<br>· Geographic diversification of production to mitigate risks and enhance international market reach | · Leveraged large-scale production and risk-taking to secure production and deliver social benefits<br>Supported sustainable growth and community development | |
| Pathways in the Learning Dimension | Quality | · Focus on high-quality products and processes targeting niche markets<br>· Continuous employee training, especially in harvesting and post-harvesting processes | · Elevated entire supply chain, augmenting reputational capital and optimizing channel diversification<br>· Expedited international market entry | Firms A, B, C, D, E, L, M, N (Structural approach)<br>Firms F, G, H, I, and K (Contextual approach) |
| | Ethical Branding | · Emphasizes ethical and sustainable practices<br>· Leverages environmental stewardship as a strategic differentiator in markets that value sustainability | · Enhanced stakeholder trust and bolstered international market reputation | |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Pathways in the Networking Dimension | Ambidextrous Networking | · Crucial international trade shows serve as a catalyst for network expansion<br>· Increases international visibility, enhancing market exploration and exploitation | · Dynamically grew international presence and increased export volumes | Firms A, D, F, K, M, and N |

*Appendix 3-5. Quotations Justifying the Type of Ambidexterity*

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Trajectories | Exploration-Only | · Emphasis on continuous exploration without sufficient exploitation<br>· Driven by shareholder pressure and need for resources<br>· Focus on market intelligence, channel diversification, new product development, leveraging social and relational capital | · Unsustainable growth<br>· Vulnerability to external shocks<br>· Decline in strategic agility and commercial intensity<br>· Resulted in downsizing and loss of market presence | Firm F |
| | Exploitation-Only | · Focus on exploiting existing resources and capabilities<br>· Emphasis on operational efficiency and long-term customer relationships<br>· Conservative approach with limited innovation and market exploration<br>Entrapment in Success Trap | · Stable but modest growth<br>· Limited international strategic agility<br>· Restricted market engagement<br>· Competitive disadvantage compared to ambidextrous firms | Firm J |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Pathways in the Innovation Dimension | Ambidextrous | · Balanced approach combining exploration and exploitation<br>· Utilizes various approaches of OA<br>· Adapts to market changes with strategic flexibility and agility | · Enhanced strategic agility<br>· Increased international commercial intensity<br>· Achieved risk diversification<br>· Sustained positive growth<br>· Improved innovation, learning, and networking capabilities | Firms A, B, C, D, E, G, H, I, K, L, M, N |
| | Resilience-Driven Innovation | · Utilizes external forces like climate change and socio-political crises<br>· Leverages internal factors like social responsibility and innovative management | · Positive growth through exploratory and exploitative innovations enhancing operational efficiency and export capabilities | Firms C, D, F, G, H, I, K, L, and M (Cross-functional approach - combined product exploitation with market exploration) Firms A, B, L, E, and N (Reciprocal approach, initially developing new products in dedicated units to penetrate new markets. Revenue from these ventures funded subsequent phases of focused exploitation, allowing efficient resource management across various market and product development stages) |
| | Innovation/Expansion Loop | · Growth loop driven by interplay between market exploration and technological/process innovations<br>· Innovations meet client demands and reduce production costs, supporting expansion | · Symbiotic relationship where innovation and market expansion reinforce each other, creating a self-sustaining growth cycle | |
| | Customization | · Strategic adaptation to diverse international markets<br>· Focus on aligning products and marketing strategies with local consumer preferences and cultural nuances | · Enhanced market responsiveness and client retention<br>· Strengthened reputations as culturally competent players<br>· Boosted international commercial intensity | |

| Category | Trajectory/Pathway | Characteristics | Results | Firm |
|---|---|---|---|---|
| Pathways in the Learning Dimension | Diversification | · Driven by political and social crises in Latin America<br>· Geographic diversification of production to mitigate risks and enhance international market reach | · Leveraged large-scale production and risk-taking to secure production and deliver social benefits<br>Supported sustainable growth and community development | Firms A, B, C, D, E, L, M, N (Structural approach)<br>Firms F, G, H, I, and K (Contextual approach) |
| | Quality | · Focus on high-quality products and processes targeting niche markets<br>· Continuous employee training, especially in harvesting and post-harvesting processes | · Elevated entire supply chain, augmenting reputational capital and optimizing channel diversification<br>· Expedited international market entry | |
| | Ethical Branding | · Emphasizes ethical and sustainable practices<br>· Leverages environmental stewardship as a strategic differentiator in markets that value sustainability | · Enhanced stakeholder trust and bolstered international market reputation | |
| Pathways in the Networking Dimension | Ambidextrous Networking | · Crucial international trade shows serve as a catalyst for network expansion<br>· Increases international visibility, enhancing market exploration and exploitation | · Dynamically grew international presence and increased export volumes | Firms A, D, F, K, M, and N |

*Appendix 3-6. Quotations Supporting the Growth Pathways*

This appendix presents a compilation of quotations from interviews and examples from secondary data that support the various growth pathways identified in our study. We have included insights based on information collected from secondary sources such as press articles, company websites, and social media profiles. To corroborate the self-reported growth with objective financial indicators, we cross-validated this information with financial data obtained from the EMIS database.

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| The Innovation/ Expansion Loop | Innovation | Firm B<br>Firm C<br>Firm K<br>Firm D | *"We have had to make many adaptations in the plant to increase our operating capacity as we have grown. This costs money. That is why we have looked for new ways to do things so that on one hand we can save money and on the other, we can contribute to the environment. In 2021, our firm's dry mill and warehouse facility in Armenia, Colombia, implemented two energy efficiency and optimization projects. Both initiatives were designed to lower operating energy costs and improve energy efficiency at the facility" (Firm D). We are in the process of acquiring machinery for more efficient disinfection and rails for dragging crates, because that is going to make us to satisfy better out clients, current and future."(Firm K).* | Facing increasing volatility and uncertainty, Firm D has leveraged adaptive tools to strengthen relationships and sustain value across the coffee supply chain, expanding its market reach to a growing list of countries. The firm's commitment to organic, sustainable practices enables it to meet international standards and tap into emerging markets through innovative practices that fulfill evolving global demand. (Firm D's corporate website). Investments in innovation projects have been integral to Firm C's expansion. According to information gathered from their official communications, these initiatives include programs to recover coffee plantations affected by diseases, training producers in advanced agronomic practices, and developing eco-friendly technologies like a biodegradable system for cultivating coffee plants that reduces plastic use and optimizes transportation and root development (Firm C's corporate website and social media profiles). |

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| The Customization Pathway | Innovation | Firm C<br>Firm D<br>Firm H<br>Firm K<br>Firm M | *"For example, the Chilean consumer prefers individual coffee. So, we have these small sachets, a tiny square where we sell two grams of coffee, which is equivalent to a serving for your cup of coffee, and they buy that more… It's not just that we say the coffee is tasty, let's say in Ecuador, I go to Ecuador to sell coffee, no? Can you go to Ecuador to sell coffee? Yes, what type? What format? How? In which channel? Current, modern, or institutional channel" (Firm H). "Our growth has always occurred in correlation with what the customer has demanded or even conditioned in order to achieve, accept, or shape a market" (Firm K). "There are certain markets that have a demand during other times, so Russia has a demand between September, October, and December. Italy has a demand around November, December, January, and February. Eastern Rome should have a need, let us say, in April, May, and June. We have Uruguay, which has a need in July and August. We are looking to enter these different markets in order to have a bit more stability in terms of demand" (Firm M).* | Firm H sources high-quality coffee beans from specific regions to ensure a natural product of exceptional quality. The company's brand emphasizes purity and adheres to strict production standards, from bean selection to final roasting. Each batch is carefully controlled to meet the evolving tastes and expectations of a diverse clientele (Firm H's corporate website and social media profiles). Similarly, Firm K is dedicated to delivering a coffee experience that exceeds standard quality. Through meticulous quality control processes and strict traceability protocols, they ensure that every product meets high standards, fostering trust across the supply chain and providing consumers with a delightful and responsibly sourced cup (Firm K's corporate website) |
| The Resilience-Driven Innovation Pathway | Innovation | Firm A<br>Firm D<br>Firm E<br>Firm G<br>Firm H<br>Firm L | *"By extending our distribution to Amazon on an international scale, we have greatly improved the efficiency of our supply chain, resulting in a substantial increase in sales. This expansion has also allowed us to provide employment opportunities, a timely outcome given the job losses experienced by many during the pandemic" (Firm A). "Colombia has been bringing bananas to the United States for 100 years, which is a long time [...] but it turns out that people bring green bananas, and I realize that green bananas sell for $33 a box, but ripe bananas sell for $58, and to do that there's a process* | After returning from studying abroad, the founder of Firm A discovered an abandoned family farm affected by regional conflict. Determined to make cacao cultivation profitable and improve local farmers' livelihoods, the company was established. Within five years, it gained international recognition for both product quality and social impact, exporting to multiple countries. Strategic alliances, such as with major retail groups, have required substantial expansion of production capacity and |

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| | | Firm M | *that takes one day, eh well, guess what I'm involved in now among my products, in ripening bananas [...] I do not invent very complicated things, but I do create new things" (Firm E). "As a result of what happened with the pandemic, we started to guarantee our customers improvements with what we already have, in terms of quality and in terms of improvement processes that we are exploiting with our existing customers, in order to then reach more new customers." (Firm G). "Freeze-drying is a technological practice that preserves the benefits of coffee, including the aroma, flavor, caffeine content, and antioxidants. Freeze-drying is quite effective technology for maintaining the characteristics of a good coffee from a quality green bean. In contrast, the powder form, which uses spray drying technology, tends to lose some of the aroma and intensity. Therefore, you need to be very adept at matching the type of coffee and the characteristics of the green bean to the specific customer and packaging, whether it be glass, flexible packaging, or in large volume. This has been successfully managed, enabling the company to compete with major global corporations abroad" (Firm H). "Therefore, we have endeavored to seek improvements such as covers, roofs, lighting, and greenhouses to mitigate the impact on production. […] This allows us to reduce the risk of failing to meet our clients' expectations, and since we are reliable, they continue to prefer us and even recommend us" (Firm L).* | increased the number of participating farming families. The company ensures farmers receive significantly higher earnings, positively impacting their lives despite initial skepticism. Firm A emphasizes its commitment to social responsibility and its goal of helping small farmers escape poverty through high-quality chocolate (Firm A's press articles). |

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| The Diversification Pathway | Learning | Firm A<br>Firm B<br>Firm C<br>Firm D<br>Firm E<br>Firm F<br>Firm I<br>Firm M | *"We help to stop rural-to-urban migrants. Creating communities around organic production are sustainable over time. If they feel they can sell their products and have a guaranteed market with a company like us, they feel their life is stable over time and they no longer have so much uncertainty. This approach not only supports social stability but also aids in spreading risk and fostering our growth in international markets, given that they highly appreciate fair trade." (Firm B). "Through our strategic alliance with USAID, we are expanding our training catalog to create new job opportunities and help prevent irregular migration. This initiative not only addresses social challenges but also supports our expansion by stabilizing our workforce in various regions, which in turn helps mitigate risks associated with reliance on a single labor pool" (Firm C). "Diversification extends across different regions such as Cauca, Huila, and Nariño, showcasing the variety in coffee qualities. This diversity is mirrored in our portfolio, which varies not only in quality but also in presentation. Initially developed and applied in Colombia, this approach is increasingly being implemented in other countries including Nicaragua, Ecuador, and Peru, maintaining our consistent global expansion strategy" (Firm D). "In our U.S. example, we handle the entire import and delivery process to the roaster. The roaster places an order for their pre-contracted coffee, which is then delivered directly to their warehouse or facility. Previously, we used to export the coffee from the country of origin, place it in the port, and from there, we had no further control. Now, we maintain control over the process, so to speak. We now have this level of control in all these locations. Additionally, our growth and* | Firm F diversified its sales channels during the pandemic, expanding into online platforms and partnerships with duty-free retailers, resulting in significant sales growth (Firm F's social media profiles). Firm B has broadened its product range by developing new organic offerings like fruit bites and jams, collaborating closely with clients to innovate and unlock the potential of their fruits. They work with over 350 farming families across multiple regions in their country, supporting small farmers and diversifying their sourcing to mitigate risks associated with relying on a single region or product. By exporting to countries in North America, Europe, and Asia, Firm B has diversified its markets, reducing dependency on any single market and enhancing resilience against market fluctuations. Strategic alliances with organizations like a prominent national foundation have enabled them to strengthen their value chain, improve crop quality, and certify products as organic. This allows them to sell at fairer prices, contributing to economic growth and environmental stewardship in rural communities. Firm B has developed a diverse range of high-quality coffee brands and products, sourced from various coffee-growing regions and utilizing different processing methods such as washed, semi-washed, and extended fermentation. This diversification has allowed the company to adapt to different market preferences and offer coffees with unique flavor profiles (Firm B's |

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| | | | *diversification have given us the opportunity to bring in all these coffees that are already contracted and have an owner. However, if we want to expand our market share in a specific state or country, the company imports a quantity of coffee that does not yet have an owner. It is already purchased, paid for, exported, imported, and stored—essentially, it is on the spot in the warehouse. If someone, perhaps a last-minute roaster, needs a coffee from Colombia scoring 84 points, we have it and can send a sample. This is part of our sales strategy. This coffee will have a higher price because I have already financed it from the farm to a warehouse in New York, thus it will be priced much higher than coffee contracted 7 or 8 months in advance" (Firm D). "The business issue ends up being like this: you have to, not just because I want to grow, but because you are forced to do it. Usually, the margins are very small, the risks are very high, and in order to really be a company that endures, a company that is stable over time, you have to start looking for ways to become solid. It is not even about increasing the margin, but about minimizing the risk. Because then the truck does not fail you because it is yours and it was not taken away by your competition, and then you are left with a service there or idle capacity in a truck and you think, what do I do now? Well, I have to have a logistics line now" (Firm E). "Thanks to the pandemic, we also diversified our channels. We now have Amazon, online sales, and a partnership with a large duty-free company. Our sales volume has grown a lot since then" (Firm F). "Market diversification also allowed us to manage the risk. For example, Ukraine was our client, handling about 15% of our sales* | corporate website). Recognizing early on that local producers could not consistently meet the stringent quality requirements of international clients, Firm I made the strategic decision to control the entire production process. By becoming both the producer and exporter, the company ensures that its products meet rigorous safety and quality certifications, which are considered the backbone of its operations. These certifications not only facilitate access to international markets but also establish trust with clients who associate the firm's name with exceptional quality (Firm I's social media profiles). |

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| | | | *with them, and when the war with Ukraine broke out, which was sudden for us, we were left with containers, two shipments, that is, about ten containers that we could not unload. However, the fact that we had diversified allowed us to withstand the impact of the war in Ukraine" (Firm M).* | |
| The Quality Pathway | Learning | Firm A<br>Firm B<br>Firm C<br>Firm D<br>Firm E<br>Firm F<br>Firm G<br>Firm H<br>Firm I<br>Firm K<br>Firm L<br>Firm M<br>Firm N | *"We recognize full traceability and the highest quality as levers for our growth towards our ultimate goal of creating quality of life and a better future for communities living in extreme poverty but cultivating the best cocoa genetics in the world, reaching more and more international destinations." (Firm A). "Quality is the foundation of our growth, and the basis of our quality is our human talent training programs. This is what enables us to respond to the market with what it needs, when it needs it." (Firm B). "[...] That is why the company really ventures into certifications, as they help us not only to improve, but undoubtedly to maintain ourselves, which is the hardest part, I believe. I mean, anyone can achieve a certification. The issue is maintaining those practices, the good practices as they call them. They normally verify if we have good practices from the beginning of the production and the entire process, and above all, respect for the laws, not just national but also international, right? They endorse that indeed our firm complies with all the requirements that any company or client might have." (Firm C). "We provide the export market with what it demands: whole fruits, free of bruises or imperfections, healthy, free from pest and disease attacks, with a shiny appearance, without stems—in other words, beautiful. Completely clean, free of insects, dirt, dust,* | Through continuous improvement in quality and process innovation, Firm K expands its market reach, making products available year-round in multiple countries. A professional team manages every production stage to guarantee timely delivery and consistent quality across borders. (Firm K's official website). Similarly, Firm D emphasizes that as quality improves, their model recognizes and rewards it, enabling them to respond to customer needs effectively (Firm D's social media profile). Firm M leverages its ability to deliver high-quality products reliably, allowing it to compete in markets where inconsistency is common among suppliers. By challenging quality standards daily, these firms build strong reputations that sell well in international markets, supported by talent and commitment to meeting global demand (Firm M's press articles). Firm B emphasizes delivering high-quality, organic products by adhering to rigorous processing methods and maintaining strict quality standards. They have obtained certifications such as organic and fair trade, ensuring compliance with international norms and building trust with global clients. |

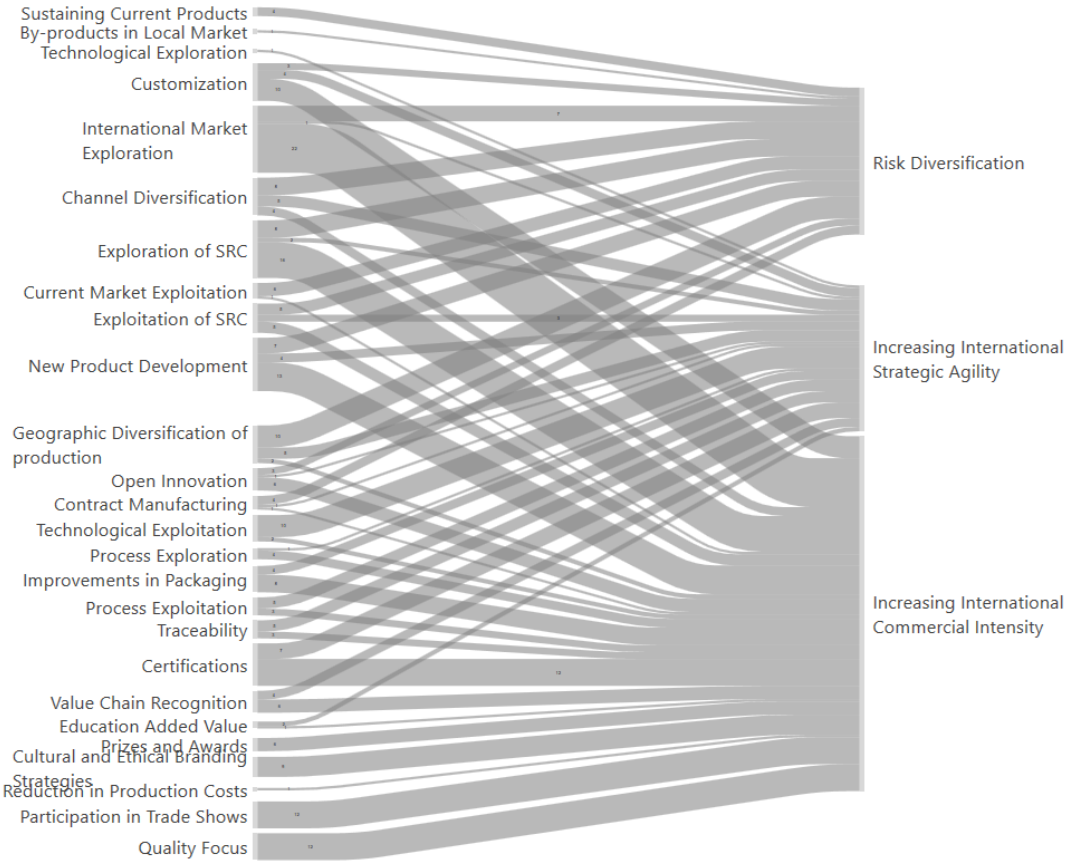
| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| | | | *and chemical residues. Free from any moisture, odor, taste, and abnormal humidity caused during handling and transport. And this is not achieved easily: we must train fruit producers to provide what we need, and ensure they deliver it on time." (Firm E). "With our quality, we don't need to develop new products; we only need to process them here and abroad. [...] In the last couple of years, this strategy has made us grow exponentially." "Practically every year, our main goal is to expand even further, enter new markets, leveraged by the quality of our coffees and their organic nature" (Firm G). "The national and international distributors sought us out. In other words, we didn't have to find markets to sell to; people were already seeking out our brand because they knew about our product and our quality." (Firm H). "We are always looking for new ways to increase the quality of our products, to provide them with precise traceability so that the customer knows what they are consuming. The target countries like this, and that's why we have made a name for ourselves and continue to grow. I challenge the quality every day just as I challenge myself." (Firm I). "Yes, we hold international certifications, and depending on the client's requirements, we can also obtain specifications for the secondary market. When we target a new market, we look at what certifications they require, and we work tirelessly until we obtain them. The certifications provide our clients with assurance that we comply with both internal regulations within our country and external regulations specific to the countries where we export. This ensures our credibility in the market and portrays us as a company* | By investing in solar energy and sustainable practices, they enhance product quality and environmental sustainability. The company also focuses on training farmers and processing staff, including employing women and supporting heads of households, to maintain excellence in production. Their commitment to quality has allowed them to establish a strong presence in international markets, exporting to countries across North America, Europe, and Asia, and meeting the growing demand for healthy, organic products. The company has obtained certifications in good practices and cargo security. This achievement has enabled them to simplify customs processes, reduce costs and transit times, and enhance their competitiveness in international trade (Firm B's official website and press articles). |

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| | | | *committed to continuous improvement. Each certification reflects our potential to adhere to various standards and to enter new countries, improving our chances of entering countries that also value the certifications we acquire" (Firm L). "Bananas are a product where there are often multiple errors or instability from suppliers to clients regarding quality. We knew how to do it right, so we took advantage of that capability. We started with very few boxes and now we can reach up to two containers. Two containers of bananas is quite a high number, and it is a product that sells well. These smaller products have a higher profitability when delivered with quality." (Firm M). "We are one of the best chocolates in the world, backed by our certifications and origin. That reputation sells, and it sells very well in the international market, and we have the talent to meet that demand." (Firm N).* | |
| The Cultural/Ethical Branding Pathway | Learning | Firm A<br>Firm D<br>Firm F | *"By showcasing the faces of our farmers, we are not just reaching out to our domestic market; our main aim is to tap into the export markets of Europe, Asia, and the United States. In these regions, there is a deep respect for the effort and dedication of farmers. This respect aligns well with our ethical and cultural branding strategies, enabling us to significantly increase our sales. We meet the consumers' expectations in these markets, who value transparency and authenticity, driving a stronger connection and demand for our products" (Firm A). "The Federation sets, and within our model, if the coffee scores 83 points, 84-85 it will receive a quality premium to give you an example: if a coffee scores 83, it is 20% above the market price; if it scores 84, it is 40% above the market price; and* | Firm D has consistently pursued long-term direct relationships, quality, education, transparency, and traceability as foundational principles. By challenging the status quo and reflecting on their impact, the company strives for more sustainable growth, inspiring others in the industry (Firm D'S official website). Similarly, Firm A's concept of "Responsible Chocolate" is more than a label; it's a movement to uplift farmers and create lasting change. By bridging the gap between consumers and producers, the company enhances brand visibility and drives growth both globally and nationally, as people feel part of something greater. These firms effectively |

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| | | | *subsequently, if you reach a coffee of 86-88 points, you would be receiving approximately 100 to 200% above the market price" (Firm D).* | integrate cultural and ethical branding with operational strategies, appealing to consumer values and building trust, leading to increased demand and sustained growth in international operations (Firm A's social media profiles). |
| The Ambidextrous Networking Pathway | Networking | Firm A<br>Firm C<br>Firm D<br>Firm F<br>Firm K<br>Firm M<br>Firm N | *"We have had incredible experiences at chocolate festivals and trade shows worldwide, including Salon du Chocolat in Paris, National Cocoa Festivals, the Specialty Cocoa Festival in Oregon, the Manchester Cocoa Festival, Expo Dubai, and other events. These gatherings allow us to share expertise and knowledge of the specialty coffee industry, supporting our premium chocolate industry to ensure higher prices for farmers, better quality for consumers, and more consumers of our chocolate in more and more countries" (Firm A). "Participating in the International Festival of Artisan Chocolate opened new doors for us in the international market. Exporting has helped us to self-recommend to new customers and continue growing" (Firm F). "We actively participate in fairs related to duty-free shops, covering all aspects of airports, and so on" (Firm N).* | In 2022, Firm D's sales grew by strengthening existing relationships and forming new partnerships across various regions. By learning and innovating with each partnership, the firm secures a stable and growing international presence (Firm D's official website). Similarly, Firm A's participation in prestigious chocolate awards and festivals has validated its superior quality and opened doors in markets where such recognition is highly valued. These experiences enhance brand visibility and foster new connections, supporting continued growth (Firm A's press articles). Firm N leverages participation in specialized fairs to showcase its unique offerings, leading to increased recognition and expansion into new markets, sustaining growth and competitive advantage in international markets (Firm N's official website). By actively participating in international collaborations and forming strategic alliances with organizations such as development agencies and sustainability programs, Firm C enhances its ability to innovate and adapt to different market demands. For example, it has partnered with programs funded by international agencies to provide |

| Pathway | Dimension | Firms | Examples of Supporting Quotations from interviews | Examples of Supporting Insights from Secondary Data |
|---|---|---|---|---|
| | | | | specialized training to coffee producers, focusing on quality improvement, sustainable practices, and economic development in coffee-growing communities. These collaborations strengthen relationships with local producers, enhance the firm's reputation, and increase credibility in international markets. The firm regularly engages in global industry events, summits, and trade fairs, which serve as platforms for sharing expertise, learning about industry trends, and establishing new business connections. Participation in sustainability summits and coffee expos allows the company to showcase its innovations, such as eco-friendly cultivation technologies that reduce environmental impact and improve efficiency (Firm C's official website). |

*Appendix 3-7. Relationships Among Exploratory and Exploitative Endeavors and Outcomes in Ambidextrous Firms*




**Note:** The relationships among exploratory and exploitative endeavors and outcomes presented in Appendix 7 were derived using co-occurrence analysis via Atlas.ti software. This method allowed us to systematically identify patterns and connections based on the frequency and context of coded data segments. Specifically, the Sankey Diagram illustrates the flow and strength of relationships between different strategic actions and their associated outcomes across cases. The identified relationships were empirically validated through a combination of primary and secondary data sources. Semi-structured interviews provided the foundational qualitative data, while secondary data, including financial reports and corporate documents, were used for triangulation. Additionally, iterative coding by multiple researchers ensured consistency and reliability, enhancing the robustness of the identified relationships.

*Annex 3-1. Comparative Table of the Sample and Broader Dataset*

| Parameter | Sample (n = 14) | Broader Dataset (n = 210) |
|---|---|---|
| Number of Companies | 14 | 210 |
| Average Revenue (USD) | $27,159,913 | $17,094,830 |
| Standard Deviation of Revenue (USD) | $39,300,789 | $50,265,693 |
| Median Revenue (USD) | $9,500,000 | $2,525,000 |
| Range of Employees | 11 - 330 | 8 - 520 |
| Maximum Revenue (USD) | $144,465,000 | $463,937,360 |
| Minimum Revenue (USD) | $1,430,750 | $3,614 |

# 4. Chapter 4: Leveraging Organizational Ambidexterity for Sustained Growth in Agri-Food Born Global Firms: A Strategic Foresight Approach[3]

## *4.1. Introduction*

The rapid internationalization of the agri-food sector marks a significant stride toward global economic development and enhanced food security (Serrano et al., 2018). At the forefront of this dynamic are BGFs, which differentiate themselves by their swift expansion across international markets from their inception (Oviatt & McDougall, 1994). These firms are pivotal in stabilizing global food supply chains, advancing innovative agricultural technologies, and adeptly navigating complex global markets (Losilla et al., 2020). However, the post-entry growth phase presents unique challenges for BGFs (Khan & Lew, 2018). These challenges are primarily driven by the need to balance swift international expansion with sustainable operational practices amid escalating environmental uncertainties (Freixanet & Federo, 2022). These uncertainties are often compounded by a prevailing emphasis on short-term goals over long-term strategic planning (Amsteus, 2014; McCormick & Somaya, 2020). Furthermore, the liabilities associated with smallness and newness intensify these challenges, as BGFs may lack the requisite scale and experience necessary to effectively compete with established local and international competitors (Mudambi & Zahra, 2007). This is compounded by the manifestation of global issues such as climate change and socio-political instability (Riccardo Vecchiato, 2012).

There is a need for innovative approaches to navigate these multifaceted challenges. Strategic Foresight (SF) has become increasingly crucial in organizational strategy to mitigate uncertainty (Riccardo Vecchiato, 2012). Despite the evident focus of SF on core themes such as innovation, management, technology, and future-oriented methodologies, a notable gap exists in the literature concerning internationalization. This lack of emphasis highlights a critical area that requires further scholarly attention. Conversely, dynamic capabilities have recently emerged as a trending topic within SF research. This convergence presents an opportunity for future studies to explore how SF, underpinned by dynamic capabilities, can be effectively applied to support international expansion efforts.

[3] This chapter was developed in collaboration with Professors Alex Rialp Criado and Viviana Andrea Gutiérrez Rincón.

This paper proposes a dual-theoretical approach aimed at enhancing the growth potential of BGFs in their critical post-growth phase. The first theoretical pillar underpinning this study is Organizational Ambidexterity (OA), defined as the capability to simultaneously explore new opportunities while exploiting existing capabilities. OA is recognized as essential for efficiently managing the demands of international expansion, helping BGFs to navigate and adapt to rapidly changing market conditions (O'Reilly III & Tushman, 2013). This dual capability is crucial for developing effective internationalization strategies and for BGFs to flourish in diverse and often volatile environments (Han & Celly, 2007; Hsu et al., 2013; Johanson & Vahlne, 2009). The second pillar is SF, which SF involves a series of activities designed to help decision-makers develop strategic pathways by identifying and analyzing transformative agents within a firm's external environment (Ruff, 2015). These activities are not aimed at predicting the future but are focused on preparing the organization to navigate future uncertainties effectively (Slaughter, 1995; Tsoukas & Shepherd, 2004). SF enables firms to address the inherent tension between short-term and long-term objectives (Sarpong & Maclean, 2016), facilitating a balance between current requirements and future possibilities (van der Duin et al., 2024). This approach not only enhances decision-making but also may strategically align ambidextrous practices within firms, thereby augmenting their capacity to leverage growth opportunities while maintaining operational stability (Coates et al., 2010).

Building on identified gaps and theoretical foundations, the overarching aim of this study is to delineate scenarios that optimally blend exploration and exploitation for the future growth of BGFs during their post-entry phase. To achieve this, we seek to identify the key variables, establish the relationships between these variables, define potential future states, and determine which scenarios maximize outcomes. The study employs a variety of foresight methodologies, including Fuzzy-MICMAC, Structural Analysis, Morphological Analysis, and Scenario Planning, all grounded in expert consultations across business, governmental, and academic sectors.

The research introduces SF as a novel component in analyzing BGFs and dynamic capabilities, providing a comprehensive framework for agri-food firms aimed at sustained growth and effective uncertainty navigation. It underscores the importance of reconciling short-term and long-term objectives, allowing BGFs to leverage OA for continuous growth

and innovation. Furthermore, this study offers a theoretical synthesis that demonstrates the effective integration of SF with ambidextrous strategies in BGFs, clarifying how they can sustain competitive advantages through adaptive and strategic renewal. Recommendations from this study support policy developments for agri-food BGFs, enhancing their capabilities and strategic positioning in the global market through foresight and adaptable strategies.

The subsequent sections of this paper are organized as follows: Chapter 2 provides a comprehensive review of the literature, examining key studies on Strategic Foresight, Born Global Firms, and Organizational Ambidexterity, highlighting the critical intersections and gaps within the existing research. Chapter 3 details the methodology, describing the processual and systemic approach to SF and the various methods implemented to achieve the research objectives. Chapter 4 presents the results of our empirical investigation, outlining the most promising scenarios and providing a strategic roadmap for BGFs to effectively navigate their complex environments. Chapter 5 discusses these findings in depth, elucidating their implications for the growth strategies of BGFs. Finally, Chapter 6 concludes with a summary of the findings, discussing their theoretical and practical implications, the limitations of the current study, and suggesting directions for future research in the field.

### *4.2. Theoretical Framework*

#### *4.2.1. Strategic Foresight: Beyond a Methodological Framework*

SF has emerged as a critical approach among scholars and practitioners in response to the increasing complexity and unpredictability of organizational environments. Recognized for its capacity to mitigate uncertainty across various sectors, SF has seen a significant rise in academic engagement and scholarly publications, underscoring its importance in contemporary research (Gordon, 2020; Maertins, 2016; Singh et al., 2020). Despite this growing interest, the field remains fragmented, lacking a cohesive conceptual framework (Marinković et al., 2022).

SF draws upon diverse research domains such as strategic management, decision-making, organizational learning, and futures studies, shaping its foundational elements, principal activities, and key influences (Fergnani, 2022b). A critical issue in the literature is the prevailing instrumental perspective that overemphasizes methods like environmental scanning and scenario planning, primarily used for identifying environmental discontinuities

and crafting organizational strategies. This narrow focus has historically constrained the broader understanding and application of SF's potential (Fergnani, 2022a). Martín-Barbero's (1984) perspective on losing the object to gain the process highlights the shift from viewing techniques as mere tools to embracing them as forms of mediation, further enriching the SF discourse.

Strategic, organizational, and SF are terms frequently used interchangeably to denote future-oriented research activities within corporations (Coates, 2010; Liebl & Schwarz, 2010; Martin, 2010; Vecchiato & Roveda, 2010). Historically, the evolution of SF can be delineated into four distinct phases: (1) its inception in the 1950s, (2) the age of scenarios from the 1960s to the 1970s, (3) its professionalization during the 1980s and 1990s, and (4) organizational integration commencing in the 2000s (Rohrbeck et al., 2015). Initially, SF was shaped by two seminal schools of thought: the French 'prospective school' led by Gaston Berger, which emphasized collaborative systems thinking and critical decision-making, and the U.S. RAND Corporation, which established the foundations for anticipatory methods in foresight with a focus on a narrower, more predictive approach (Coates et al., 2010; Rohrbeck & Schwarz, 2013).

During the 1960s and 1970s, known as the age of scenarios, SF adopted scenario analysis as a central technique in strategic planning. This period was marked by Ansoff's (1965) influential work, integrating foresight into strategic management by identifying weak signals and emerging trends, thus enabling proactive strategic decisions that extended beyond traditional long-range forecasting (Martinet, 2010). The professionalization phase that followed saw Michael Porter further developing these concepts within industry analysis under conditions of uncertainty, using cross-impact matrices to construct various scenarios. This approach significantly deepened the strategic dimension of business modeling and competitive analysis (Porter, 1980).

Until the early 1990s, SF predominantly employed quantitative methods focused on predictive analytics, adhering to the forecasting techniques characteristic of the American school of foresight (Rohrbeck et al., 2015). In 1995, Richard Slaughter introduced a paradigm shift, advocating a comprehensive approach that synthesizes the strengths of both the French and American schools. He argued that SF should transcend mere future prediction to

emphasize evaluating options, considering potential actions, and crafting possible futures to support decision-making processes (Slaughter, 1995). This interpretation expands SF's role, enabling the identification of potential disruptions and opportunities that influence strategic direction, and establishing it as a dynamic framework for exploring various future prospects and guiding organizational decisions (Amsteus, 2014; van der Duin et al., 2024).

The organizational integration phase of SF began in the 2000s, marking a significant evolution in how foresight is embedded within corporate structures. This phase is characterized by the development of agile and adaptive organizations that are better equipped to respond dynamically to emerging challenges. By deeply integrating SF within organizational processes, companies ensure that foresight activities have a substantial influence on both policymaking and operational strategies. This deep integration enables organizations to not only anticipate future trends but also actively shape them, thereby fostering a culture of resilience and innovation (Gordon, 2020; Marinković et al., 2022).

Effective integration during this phase occurs when the SF framework promotes connections among various inter- and intra-organizational actors, thereby enhancing the insights gained from foresight activities and effectively shaping organizational responses (Purwanto et al., 2023). The modern anticipation of the future within companies now involves deploying a diverse array of tools at various hierarchical levels, which addresses future challenges more effectively (Rohrbeck & Kum, 2018). This adaptability of contemporary SF practices is evident in their application across different domains, including product development, innovation management, and organizational change, highlighting their versatility and significant impact on promoting proactive organizational environments (Marinković et al., 2022).

In this research, we adopt Slaughter's integrative methodology, incorporating elements from the American school to enhance long-term strategic insights (Keenan et al., 2003), while embracing the proactive philosophy of the French prospective school, which views the future as a construct shaped by strategic endeavors and active participation (Rohrbeck & Schwarz, 2013). This approach allows us not only to visualize future scenarios by analyzing emerging trends but also to encourage active engagement in shaping these futures. This evolution involves participatory approaches that draw on a wide array of contributors—from

researchers to policymakers and industry experts—facilitating consensus-building and the integration of diverse perspectives (Cuhls, 2003; Godet, 1986). Thus, we align with the insights of Godet (2010), advocating for a synergistic use of foresight and *la prospective*, arguing that these elements are complementary within the strategic management spectrum, enriching the processes involved in understanding and formulating future possibilities. From this perspective, SF redefines the future as a continuum of multiple potential realities, moving away from traditional linear predictions to embrace a spectrum of possible outcomes (Mojica, 2010).

Recent scholarly emphasis, especially from French perspectives, has highlighted that the potential of SF is significantly enhanced when it is integrated with broader management research streams, improving organizational responsiveness and innovation (Coates, 2010; René Rohrbeck & Schwarz, 2013). This collective research underscores the critical importance of foresight in corporate settings, advocating for deeper engagement with foresight practices not only to anticipate but to actively shape corporate futures. Integrating SF within strategic management is not merely beneficial—it is crucial for organizations seeking to effectively navigate the modern business landscape.

The evolution of SF in the business domain is moving toward a consensus on its definition, enhanced organizational integration, and increased cross-fertilization with other business and management streams, particularly aligned with the resource-based view and dynamic capabilities. This alignment underscores the role of SF as a vital component of strategic management, emphasizing its importance in leveraging internal resources and capabilities to sustain competitive advantage and adapt to changing market conditions.

The resource-based view suggests that firms gain a competitive edge through a unique configuration of resources, including human skills, processes, and practices, each offering distinct advantages over competitors (Penrose, 1959). In dynamic markets, the ability to continually refresh and adapt these resource bundles is essential—an ability defined in strategic management as dynamic capabilities. These capabilities allow firms to effectively navigate and respond to rapid market changes. SF serves as a catalyst within this framework, facilitating the essential processes of resource identification, selection, adoption, and implementation, thereby enhancing a firm's adaptability and competitive stance (Helfat et al.,

2010; Rohrbeck & Schwarz, 2013). When integrated into strategic management processes, SF empowers organizations not just to react to changes but also to thrive, becoming more resilient and adaptive. This integration is crucial for sustaining growth and maintaining competitiveness in evolving market conditions (Marinković et al., 2022).

Building upon this foundation, Fergnani (2022b) argues that SF is fundamental to strategy and management for several reasons: it expands the dynamic capabilities framework by incorporating previously underexplored future-oriented capabilities; aligns with contingency theory to reflect organizational phenomena; enhances key organizational outcomes such as learning and innovation; and introduces new avenues for competitive advantage that remain largely untapped in management scholarship. This integration of foresight significantly influences strategic management, propelling both theoretical and practical advancements toward more nuanced and effective frameworks.

Consequently, organizations that effectively engage in SF are well-positioned to identify potential external disruptions, such as emerging technological innovations, and assess their potential impacts. This proactive approach enables companies to prepare for various potential future scenarios, thereby enhancing their strategic agility (Voigt et al., 2015). SF thus goes beyond mere forecasting; it significantly improves organizational flexibility and responsiveness, which are crucial for addressing potential disruptions and adapting to changing environments (Rohrbeck & Kum, 2018).

Moreover, SF is increasingly recognized not merely as an anticipatory activity but as a core organizational capability. It entails interpreting changes in the business environment, envisioning plausible futures based on these changes, and leveraging this foresight to maintain competitive advantages (Fergnani, 2022b)The sophistication of SF as an integral component of organizational strategy is now more deeply understood through the lens of dynamic capabilities. This perspective allows researchers to view SF as a capability that permeates all organizational levels, thereby enhancing the firm's overall responsiveness and strategic acumen (Gordon et al., 2019; Semke & Tiberius, 2020; Yoon et al., 2018).

From this vantage point, SF is not merely a set of isolated activities but a series of interconnected micro-activities that drive an organization toward future readiness. These activities involve continuous interaction among all members of the firm, embedding foresight

into daily operations and strategic planning. This integration extends beyond top-level management, permeating various organizational levels and ensuring that foresight becomes a core component of the organizational culture. Such a participatory approach embeds foresight deeply within the organization, making it a pervasive element of the strategic framework (Fergnani, 2022a; Marinković et al., 2022).

Therefore, SF transcends its role as merely a toolkit or a collection of techniques. It represents a comprehensive approach that necessitates integration into the very fabric of organizational culture and processes. This integration significantly enhances an organization's responsiveness to external changes and uncertainties, tailoring SF methods to fit the unique context and strategic goals of each organization (Sarpong & Hartman, 2018). By customizing these methods, foresight activities are effectively aligned with strategic objectives, enhancing their relevance and impact, and ensuring they contribute meaningfully to the organization's long-term success (Iden et al., 2017).

In essence, SF embodies a theoretical perspective that conceptualizes the future in relation to current practices, serving as a beacon that illuminates the present with insights from envisioned futures and encourages action and engagement. This approach is deeply linked to human agency—it is processual and systemic, offering a comprehensive view of strategic management (Heger & Rohrbeck, 2012).

To investigate how the perspective of SF has been addressed in business literature during the phase of organizational integration, the subsequent section provides a systematic literature review on SF in Business Studies. By methodically reviewing existing research, this review aims to identify and synthesize how SF is conceptualized and applied within the realm of business studies. This effort is crucial not only for summarizing current knowledge and trends but also for uncovering the diverse applications and theoretical alignments that have emerged across various contexts and industries.

### *4.2.2. Systematic Literature Review on SF in Business Studies*

To assess the incorporation of SF in business studies, we conducted a systematic literature review, focusing on scholarly articles indexed in the Web of Science database. We used the search terms "Strategic Foresight" "Corporate Foresight," "Organizational Foresight," and “La Prospective,” reflecting their interchangeable use in the literature (Gordon et al., 2020;

Liebl & Schwarz, 2010). The scope was restricted to empirical and review articles within the Business Economics category, written in English. From an initial pool of 246 articles, we applied criteria to include only those published in journals ranked within the top three quartiles of the Journal Citation Reports (JCR) by Clarivate. After a manual examination of titles and abstracts, we narrowed the selection to 109 articles that explicitly utilized SF within their theoretical frameworks. The analysis of the bibliometric data was conducted using the Biblioshiny extension of the Bibliometrix package in R Studio. Details of the search expressions are provided in Appendix 4.1.

*4.2.2.1. Publication Dynamics*

The analysis reveals that the average annual growth rate of publications on SF is 10.47%, indicating a robust expansion of the field and its growing importance in tackling modern business challenges. Since 2014, there has been a marked increase in research activity. "Technological Forecasting and Social Change" emerges as the leading journal in this domain with 29 articles, playing a pivotal role in fostering discussions at the nexus of technology and societal development. It is followed by "Futures," which has contributed 15 articles. Other significant publications include "Technology Analysis & Strategic Management" and "Foresight." The field's reach extends into more specialized areas as well, with journals such as "European Journal of Futures Research," "Academy of Management Perspectives," and "International Journal of Sustainable Construction Engineering and Technology" each adding unique insights into strategic foresight. This spread highlights the interdisciplinary nature of SF and points to these journals as key venues for advancing research in the area.

René Rohrbeck emerges as the most prolific author in the field of SF, notably as both a sole author and a co-author of several highly cited papers (Rohrbeck et al., 2015; Rohrbeck & Gemünden, 2011; Rohrbeck & Schwarz, 2013). The work of Vecchiato & Roveda (2010) is also among the most frequently cited in the literature. Geographically, the United Kingdom leads in scientific output with 61 publications, closely followed by the United States with 51, and Germany with 44, highlighting a significant focus within Europe and North America. Australia and Denmark each contribute 21 articles, underscoring their active research engagement. Other notable contributions come from Italy with 15 publications, France with 12, and Iran with 11. The discipline's global reach is further evidenced by emerging research from Brazil, Russia, and South Korea, each presenting 10 publications. Additionally,

countries such as China, Colombia, Malaysia, Canada, Finland, Indonesia, Morocco, India, and Singapore, although contributing smaller numbers, demonstrate the wide geographical spread and increasing interest in SF across varied cultural and economic contexts.

*4.2.2.2. Thematic Analysis*

Research trends identified in the literature on SF are illustrated in Appendix 4.2. Notably, the emergence of terms such as "dynamic capabilities" and "decision-making" in recent years highlights an increasing focus on how organizations can adapt their strategies to succeed in unpredictable environments. The association of SF with dynamic capabilities points to an in-depth examination of how foresight practices can be integrated into organizational processes, enhancing long-term resilience and agility. Additionally, the significant emphasis on "scenarios" reflects a strong engagement with scenario planning techniques. These techniques are essential for envisioning multiple future pathways and assisting organizations in preparing for various potential outcomes.

Furthermore, terms like "challenges" and "framework" suggest a critical reflection on the practical obstacles in implementing SF and the development of theoretical frameworks to guide its application. The prevalence of the term "experiences" signals a move towards empirical research, focusing on the real-world application and impact of SF in business settings. This empirical approach is vital for validating the effectiveness of foresight practices and providing tangible examples of how SF can enhance strategic decision-making.

The co-occurrence network depicted in Figure 4.1 illustrates the complex relationships and thematic clusters within SF research in business, showing how key concepts interconnect and contribute to the broader discourse. At the center of the network, nodes such as "management," "knowledge," and "future" form crucial junctions, linking various sub-themes and underscoring their pivotal role in the SF literature. These central nodes act as conduits, bridging theoretical concepts with practical implementations, emphasizing that effective management of future uncertainties hinges significantly on leveraging knowledge and understanding emerging trends. Peripheral nodes like "dynamic capabilities," "decision-making," and "corporate foresight," though more specialized, are densely connected to central themes like "innovation" and "technology." This placement reflects focused areas of

study within SF, aimed at enhancing organizational agility and refining strategic decision processes.

The thematic analysis of SF literature reveals several clusters, each focusing on different aspects of foresight and its applications. The Red Cluster emphasizes the evaluative dimensions of foresight, featuring key terms such as "future," "impact," and "risk." This cluster highlights the importance of assessing potential impacts and associated risks, underscoring the need for foresight in managing future-related challenges. The linkage to "management" within this cluster indicates the critical role of integrating foresight into strategic management, enabling organizations to effectively address and navigate uncertainties.

The Green Cluster focuses on methodological aspects, with terms like "futures," "policy," and "scenario thinking" predominating. This cluster is essential for developing structured approaches to explore various future scenarios, which are often utilized to inform policy-making and strategic planning processes. The emphasis on methodology ensures that decision-makers have robust frameworks to guide them through complex future landscapes.

The Blue Cluster centers on the organizational implementation of foresight, incorporating terms such as "organizations," "corporate foresight," and "leadership." It explores how foresight practices are embedded within corporate structures and leadership strategies, guiding organizations toward long-term success. This cluster demonstrates how foresight is operationalized at different levels within companies, influencing leadership practices and strategic directions.

The Purple Cluster connects directly to the operational outcomes of SF, dominated by "innovation," "technology," and "performance." It illustrates how foresight supports the enhancement of innovation capacities and technological advancements, which in turn boost organizational performance. This cluster shows the practical applications of foresight in driving business growth and adaptation, making it a vital tool in today’s rapidly evolving business environments.

Each cluster not only outlines a distinct focus area within the field of SF but also shows how these areas are interconnected, reflecting the comprehensive and multi-dimensional nature of

foresight as it spans theoretical discussions to practical implementations across various organizational contexts.

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Figure 4.1.

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*4.2.2.3. Research Streams*

Upon detailed examination of the 109 papers that satisfied our inclusion criteria, we constructed a comprehensive matrix database. This database encapsulates essential information for each article, including: 1) Article title, author(s), and publication year; 2) Author's affiliation country; 3) Journal name; 4) Research objective; 5) Country studied; 6) Theoretical framework utilized; 7) Methodological approach; and 8) Key findings. From this systematic literature review, we identified four distinct research streams within the realm of strategic foresight. These streams reflect varying focal areas and approaches within the field, illustrating the depth and diversity of research conducted. A detailed table in Appendix 4.3 lists the studies categorized under each research stream, providing a structured overview of the scholarly landscape and facilitating easier navigation through the major thematic areas identified.

*4.2.2.3.1. Studies Integrating SF with Other Theoretical Frameworks*

The studies in this branch aim to propose new integrative theoretical frameworks by incorporating SF with other theoretical frameworks, such as Key Account Management, (Lautenschlager & Tzempelikos, 2024), OA (van der Duin et al., 2024), reuse components (Grumbach, 2023), Business Models (Hall et al., 2022), design thinking (Gordon et al., 2019; Schwarz et al., 2023), Open Innovation (Li et al., 2022; Liu & Hansen, 2022), and Knowledge Management.(Nascimento et al., 2021).

*4.2.2.3.2. Studies Evaluating the Relationship of SF with Other Variables*

This research stream delves into the dynamics between SF and various influencing factors. For instance, Moqaddamerad & Ali (2024) examine the impact of SF on Business Model Innovation, including the mediating roles of sensemaking and learning. Purwanto et al. (2023) investigate the value derived from implementing SF within the automotive industry.

Similarly, Hijazin et al. (2023)analyze how business intelligence influences SF. Peterson & Wu (2021) focus on the effects of experiential learning across projects on an entrepreneur's foresight capabilities.

Further studies include Haarhaus & Liening (2020), who explore the relationship between SF and strategic flexibility and decision rationality, with a particular focus on how environmental uncertainty moderates these effects. Li & Sullivan (2022) investigate the link between managerial hubris and SF. Rohrbeck & Kum (2018) assess the impact of SF on profitability and market capitalization growth. Yoon et al. (2018) study whether organizational learning, mediated by integrative capabilities, affects the indirect impact of SF on innovativeness.

Moreover, Hojland & Rohrbeck (2018)examine the role of SF in facilitating market entry into the Bottom of the Pyramid markets, presenting three case studies. Earlier works by Heger & Rohrbeck, (2012) and Rohrbeck & Schwarz (2013) evaluate the tangible and potential value creation from SF activities within firms. Rohrbeck & Gemünden (2011) focus on the role of SF in enhancing a firm's innovation capacity.

Overall, the outcomes of engaging in SF practices include improved strategic flexibility, enhanced preparedness for external disruptions, and a more robust competitive advantage. Notably, factors such as organizational structure, culture, and the external environment play significant roles in moderating the effectiveness of SF practices, as highlighted by Marinković et al. (2022).

*4.2.2.3.3. SF Applications in Organizations*

This research stream focuses on the application of SF exercises to envision preferred long-term futures and apply SF methods across diverse organizational contexts. Examples include safety and health at work (Héry & Malenfer, 2020; Streit et al., 2021), home healthcare (Burt & Nair, 2020), drug policy (Unlu et al., 2024), crowd logistics (Michel et al., 2023), and sectors ranging from financial institutions (Idoko & MacKay, 2021) to telecommunications (Battistella, 2014), the personal computer industry (Hung et al., 2013), innovation development agencies (Coelho et al., 2012), and public administration (De Vito & Taffoni, 2023).

The array of SF methods employed in these studies is broad and varied, converging most frequently around techniques such as scenario planning, benchmarking, horizon scanning, expert panels, and the analysis of wild cards and weak signals. Other commonly used methods include MICMAC (Matrice d'Impacts Croisés Multiplication Appliquée à un Classement) analysis, SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis, backcasting, scope analysis, trend analysis, archival document analysis, PESTEL (Political, Economic, Social, Technological, Environmental, and Legal) analysis, importance/uncertainty matrix, wind tunneling, technology roadmapping, and Delphi studies (Abdoli et al., 2018; Burt & Nair, 2020; Calof et al., 2020; Demneh et al., 2023; Förster & von der Gracht, 2014; Gershman et al., 2016; Westphal et al., 2023).

These methods are complemented by the integration of advanced technologies such as machine learning and data analytics, which enhance the effectiveness of SF tools, providing improved foresight and strategic planning capabilities. Technology not only serves as a tool but also as an outcome within SF processes, essential for maintaining strategic benefits and conducting effective technological forecasts. The application of technology roadmapping is particularly noted for its ability to align organizational goals with technological capabilities (Marinković et al., 2022).

The review highlights the diversity of methods and the need for greater methodological rigor and innovation in the application of these techniques within strategic management practices, suggesting a continuous evolution and refinement of SF methodologies (Iden et al., 2017).

*4.2.2.3.4. Literature Reviews and Academic Reflections on the Nature of Strategic Foresight*

Significant reviews have profoundly shaped our understanding of SF within business and strategic management spheres. René Rohrbeck and colleagues (Rohrbeck et al., 2015) performed a detailed literature review that identified the evolutionary phases of CF—from its nascent stages in the 1950s through its organizational integration in the 2000s. They advocate for the continued evolution of SF beyond traditional boundaries, suggesting its establishment as a distinct research stream enriched by diverse theoretical foundations from general management.

Iden et al. (2017) performed a systematic literature review that highlighted the fragmented and theoretically underdeveloped nature of SF research; however, since then, there has been

substantial progress. The field has moved towards more explanatory research, advancing the conceptual understanding of SF and linking foresight activities to various organizational variables. This shift is fostering a more coherent theoretical foundation for SF, enhancing its applicability and significance in strategic management discourse.

The extensive review conducted by Gordon et al. (2020) explores the evolution of corporate and organizational foresight over five decades, highlighting the pivotal role of foresight in enhancing organizational agility and preparing for future uncertainties, especially through the integration of emerging technologies like AI and big data.

On the other hand, Semke & Tiberius (2020) examined how SF aligns with and bolsters the dynamic capabilities framework, particularly during the sensing phase, where organizations scan and interpret environmental signals. Their insights reveal that while SF does not directly impact the seizing and transforming phases, it significantly enhances strategic responsiveness and decision-making capabilities, thus supporting the organization's ability to adapt and renew its competitive edge.

In a similar vein, Marinković et al. (2022) provided a comprehensive overview of SF, underscoring its critical role in enabling organizations to navigate increasing environmental complexities. Their findings emphasize the necessity for SF to integrate with dynamic capabilities and leverage technological advancements to stay competitive and sustainable.

This academic discourse includes significant debate, notably between Fergnani (2022a, 2022b) and Wenzel (2022), over the conceptualization of SF as a dynamic capability within firms. Fergnani (2022a, 2022b) argues that SF should be viewed as a dynamic capability that enhances a firm's ability to systematically evaluate and respond to future scenarios, emphasizing preparedness over mere prediction. This perspective posits that SF can serve as a strategic asset, fostering organizational resilience and adaptability by integrating a future-oriented approach into the dynamic capabilities framework.

In contrast, Wenzel (2022) critiques this framing of SF as a dynamic capability, suggesting that it overstates the ability of organizations to manage the future, potentially leading to unrealistic expectations and ineffective policymaking. Wenzel advocates for a "future-making" approach where foresight is seen as a practice-based process, emphasizing the active

engagement with future possibilities through practical, everyday actions within organizations.

Further enriching the discussion, other scholars such as Sokolova & Vishnevskiy (2023) have developed comprehensive evaluation criteria that encapsulate the accrued experiential knowledge necessary for successful foresight projects. These criteria assist in assessing the effectiveness and strategic impact of foresight practices, guiding future research and practical applications. On the other hand, Zhao et al. (2023) proposed a systematic framework that enhances methodologies for capturing and interpreting early signs of change, building on the classical three-dimensional space model of weak signals.

The exploration of SF through literature reviews and academic reflections has underscored its multifaceted nature and transformative potential within strategic management. As illustrated by the foundational works and ongoing debates within the field, SF is not merely a predictive tool, but a dynamic capability that integrates deeply with organizational strategies and processes. This discourse is crucial as it challenges traditional perceptions and encourages a more nuanced understanding of how foresight can be pragmatically applied to enhance organizational resilience and adaptability in an increasingly uncertain world.

*Conclusions from the Systematic Literature Review*

This systematic literature review has highlighted several key developments within the domain of SF in business studies. It reveals a significant shift towards organizational integration, characterized by the increased adoption of SF techniques such as scenario planning and horizon scanning. These methodologies are crucial for guiding organizations as they navigate future uncertainties and align their strategic objectives with emerging trends in their environments. This phase of integration closely aligns with a voluntarist approach, emphasizing proactive engagement with the future rather than passive adaptation to changing conditions.

The review also indicates a prevalent use of the term "strategic foresight" over "la prospective," suggesting a growing preference for conceptualizing foresight within a strategic management framework, especially in business and economic contexts. SF is increasingly recognized as a critical component in building and sustaining dynamic capabilities, enabling organizations to not only anticipate but actively shape future market

landscapes. This capability is particularly relevant for addressing uncertainties in business operations, enhancing policy resilience, identifying emerging threats, and seizing new opportunities, thereby establishing foresight as a core organizational capability.

Another crucial insight from the thematic analysis is the recurrent emphasis on dynamic capabilities. This emphasis underscores the growing academic interest in how SF can be harnessed to develop, integrate, and reconfigure both internal and external competencies in response to rapidly changing environments. Additionally, themes such as risk-taking for long-term growth and the intersection of SF with OA enrich the discourse, offering fertile ground for future research. These themes highlight the potential of SF to contribute to strategic resilience and adaptive organizational behavior in complex scenarios.

Despite the significant advances in the application of SF, there remains a notable gap in the literature concerning its role in internationalization. While considerable focus has been placed on innovation, knowledge management, and organizational strategies, relatively few studies have examined the application of SF in global expansion contexts, particularly for BGFs. The limited number of studies addressing SF within internationalization contexts underscores an urgent need for further exploration. As global market dynamics become increasingly complex, there is a pressing demand for research that bridges SF with the strategic imperatives of internationalization, especially for BGFs that operate in turbulent environments. This gap is particularly significant in light of the increasing global interconnectedness and the imperative for firms to navigate international markets and geopolitical dynamics effectively.

While some studies have addressed the practical applications of SF in multinational settings, such as the work by Alsan (2008) in Turkey and Reid & Zyglidopoulos (2004) in China, these studies do not fully capture the nuances of SF in the context of BGFs. Reid & Zyglidopoulos (2004) discuss the absence of SF in multinational enterprises as they entered the Chinese market. They elaborate on how failures to understand and anticipate market dynamics, cultural differences, and local competition led to suboptimal outcomes for these companies. While their analysis addresses SF, it primarily focuses on multinational corporations more broadly, rather than specifically on BGFs. Similarly, Alsan (2008) explores the implementation of SF in a regional subsidiary of Siemens in Turkey, highlighting the broader

application of SF in a multinational company's subsidiary within an emerging market. This study identifies key factors and challenges in implementing foresight practices and proposes a framework (Knowledge–People–System–Organisation, KPSO) to manage these processes effectively in multinational corporations operating in emerging markets.

Furthermore, the literature has not fully explored the role of foresight competencies in enhancing international entrepreneurship, a gap highlighted by Jafari-Sadeghi et al. (2020). The study discusses how foresight competencies, bolstered by education and knowledge, impact international entrepreneurship. The authors argue that these competencies enable entrepreneurs to effectively identify international market opportunities and prepare for future market challenges, thereby facilitating business creation and internationalization. This research connects the concepts of human capital—specifically foresight competencies—and international entrepreneurship, illustrating its relevance to the SF in BGFs. Although the study does not specifically focus on BGFs, it broadly addresses the role of foresight competencies and the level of education in enhancing entrepreneurs' abilities to operate and succeed internationally, underscoring the importance of foresight in navigating global markets.

In conclusion, SF has emerged as a crucial strategic capability for organizations, yet its full potential in shaping international business strategies, especially for BGFs, remains largely untapped. The findings from this review highlight an urgent need for further research to deepen the theoretical foundations of SF, integrate it more effectively into internationalization strategies, and broaden its application across various organizational contexts. Future research in these areas will be critical to advancing our understanding of how SF can secure a sustained competitive advantage in a complex and interconnected global marketplace.

*4.2.3. The Necessity of SF in BGFs*

BGFs face multifaceted challenges in international markets characterized by increasing environmental uncertainty. Deploying SF is pivotal for these firms, as it enables them to anticipate and shape future business landscapes while enhancing strategic agility—capabilities crucial for thriving in dynamic environments.

SF is integral to developing dynamic capabilities within BGFs, allowing them to respond flexibly and effectively to uncertainty. Haarhaus & Liening (2020) demonstrate that SF acts as a critical antecedent to dynamic capabilities such as strategic flexibility and decision rationality. Their mixed-methods study involving interviews and surveys reveals that SF significantly enhances these capabilities, particularly under heightened environmental uncertainty. As uncertainty increases, the positive impact of SF on strategic flexibility intensifies, underscoring that it is not merely an adaptive tool but a strategic imperative for BGFs.

Moreover, the process of 'unlearning' plays a crucial role in effective SF implementation. Burt & Nair (2020) elucidate how unlearning—the relaxation of outdated assumptions and beliefs—can foster the emergence of strategic foresight. This phenomenon is particularly relevant for BGFs, where the 'liabilities of newness' paradoxically confer 'learning advantages.' The agility and adaptability of BGFs make them ideal candidates for embracing unlearning, thereby enhancing their capacity for foresight activities. By discarding obsolete knowledge, BGFs can better anticipate and adapt to changes in global markets.

Integrating unlearning with SF offers a novel perspective on how BGFs can leverage their inherent newness for competitive advantage. This synergistic approach aids in continuously adapting to emerging market dynamics and proactively shaping them through strategic maneuvers. By adopting SF, BGFs cultivate a forward-looking perspective, preparing them not just to react to future challenges but to actively construct their desired futures.

The necessity of SF in BGFs is thus highlighted by its profound impact on enhancing strategic flexibility and decision-making under uncertainty. The innovative integration of unlearning processes further augments this impact, providing BGFs with a distinctive capability to navigate and shape global markets. Future research should focus on refining SF methodologies within the unique context of BGFs, ensuring these firms can capitalize on their learning advantages and strategic agility to maintain competitiveness and sustainability internationally. This calls for a deeper exploration of how SF can be systematically cultivated within BGFs, emphasizing unlearning as a dynamic process that complements foresight activities.

In the agri-food sector, BGFs particularly benefit from a robust institutional framework. Drawing from North's (1990) conceptualization of institutions as the "rules of the game," BGFs operate under formal and informal constraints that shape their strategies across international markets. The institutional approach provides a lens to understand the interaction between these firms and their operational environments, emphasizing how legal, regulatory, and normative frameworks influence entrepreneurial activities and market entry strategies.

The Triple Helix model, conceptualizing the integration of enterprise, university, and state, plays a crucial role in supporting BGFs. This model highlights the synergy achieved when universities contribute cutting-edge research and innovation, businesses apply these innovations in market contexts, and governments support these activities through favorable policies and funding mechanisms (Etzkowitz & Leydesdorff, 2000). Such collaborative efforts are particularly pertinent for agri-food BGFs, where rapid innovation and adaptation to market demands are essential for success.

Participatory foresight methods involving stakeholders from academia, industry, and government are essential for BGFs. Techniques such as the Delphi method and environmental scanning facilitate broad-based engagement, enhancing the SF of these firms. By incorporating diverse perspectives, BGFs can better anticipate and prepare for future challenges, aligning their exploratory and exploitative strategies with both immediate and long-term market dynamics. This proactive engagement helps navigate global markets, enabling BGFs to adapt effectively to emerging trends and disruptions.

The economic implications of a supportive institutional environment are significant. BGFs stimulate entrepreneurship, create employment, and promote economic growth, particularly in regions where the agri-food sector plays a critical economic role. By driving innovation, these firms diversify economic activities and introduce products and services that meet global standards, enhancing their competitiveness in international markets.

Moreover, the specific context of agri-food BGFs underscores the necessity for effective alignment between these firms and their institutional environments. Given the global nature of food supply chains and critical issues like food security and sustainable agricultural practices, institutional support becomes even more crucial. Effective collaboration between enterprises, universities, and governments ensures that innovations in sustainable production

and agricultural technologies are rapidly advanced and appropriately scaled, addressing global challenges of food security and environmental sustainability.

*4.2.4. Leveraging OA through SF for Sustained Growth in BGFs*

While the traditional internationalization literature, such as the Uppsala model, advocates a staged, incremental approach to foreign market entry based on accumulating market knowledge and resources (Johanson & Vahlne, 1977; Romanello & Chiarvesio, 2017), modern global markets, characterized by rapid evolution and increased interconnectedness, challenge the practicality of this cautious approach. Critics like Oviatt & McDougall (2005) and Reid (1983) argue that such models, with their deterministic and risk-averse frameworks, do not suitably address the needs of firms operating in today's dynamic environments.

In stark contrast, BGFs bypass traditional models by adopting a rapid internationalization strategy from inception, often entering multiple markets simultaneously and dismissing the gradual, stepwise expansion (Choquette et al., 2017; Rialp et al., 2005). This approach exposes BGFs to unique post-entry challenges as they scale up operations, including the need for increased resources which can strain their limited initial capacities, and heightened uncertainties in unfamiliar cultural and regulatory settings (Freixanet & Renart, 2020; Khan & Lew, 2018).

Addressing these challenges, BGFs benefit significantly from the Learning Advantages of Newness (LAN), which afford them the agility to quickly assimilate and apply new market intelligence, enabling rapid strategic adjustments and fostering innovation (Autio, 2000; Khatua et al., 2024). This agility is particularly beneficial as BGFs are less encumbered by established routines and can navigate international markets with more flexibility than more established counterparts.

OA then becomes a crucial strategic capability for BGFs in their post-internationalization phase. OA, which involves balancing exploitative activities to enhance existing resources and exploratory activities to foster innovation, is vital for managing the dualities of maintaining operational efficiency and pursuing growth opportunities in new markets (March, 1991; O'Reilly III & Tushman, 2013). Effective management of this balance allows BGFs to not only consolidate their market presence but also to expand their market reach through innovation.

Empirical research supports the assertion that OA improves firm performance and is pivotal in formulating internationalization strategies that respond adeptly to the dynamic challenges faced by BGFs (Cao et al., 2009; Han & Celly, 2008; Jansen et al., 2006). For instance, by harmonizing their exploratory and exploitative activities, BGFs can simultaneously cater to existing market demands while innovating for future growth, thus enhancing their competitive stance and market viability (Freixanet & Renart, 2020; Zander et al., 2015).

The balancing act between rapid growth and the need for stable, integrated operations presents a paradoxical challenge, requiring BGFs to adeptly manage growth dynamics while ensuring operational stability (Romanello & Chiarvesio, 2017). This interplay of expansion opportunities and idiosyncratic challenges and strengths underscores the ongoing strategic challenges faced by BGFs as they navigate the post-internationalization landscape, and the necessity for unique capabilities that enable a harmonious balance between present and future demands.

Following their initial internationalization, OA is posed here as a dynamic capability that may assist BGFs in adjusting their resource allocation and aligning their business models more closely with both current and future market demands (Cavusgil & Knight, 2015; Freixanet & Federo, 2022; Zahra et al., 2018). OA involves balancing exploitative and exploratory activities, and is crucial for managing the inherent dualities of maintaining operational efficiency while pursuing innovative growth opportunities (O'Reilly III & Tushman, 2013). Exploration involves the discovery and implementation of innovative ideas, avenues, and connections, resulting in the creation of new products, services, markets, technologies, processes, and organizational models. On the other hand, exploitation enhances the firm's existing resources and capabilities to maximize value for its current markets (March, 1991; Tushman & O'Reilly III, 1996).

Organizations that exhibit ambidexterity skillfully manage the inherent conflicts between exploration and exploitation, both of which are critical for organizational success yet compete for finite resources (March, 1991; Monferrer et al., 2015). Ambidextrous organizations strike a balance between efficiently conducting day-to-day operations to ensure survival and adapting to evolving market conditions to expand growth opportunities (O'Reilly III & Tushman, 2013; Raisch & Birkinshaw, 2008). Research has demonstrated that OA can

markedly improve firm performance and is essential for developing robust internationalization strategies (Hsu et al., 2013; Ochie et al., 2022).

OA may contribute to the growth of BGFs during their post-entry phase through different mechanisms. In terms of learning, OA provides BGFs with the necessary flexibility and efficiency to adapt to the rapidly changing institutional environments typical of today's international markets. This adaptability is facilitated by the firms' openness to learning and their minimal entrenched routines, which together support continuous growth and adaptation in diverse market conditions (Freixanet & Renart, 2020; Zander et al., 2015). On the other hand, by harmonizing exploratory and exploitative innovation activities, BGFs enhance their competitiveness and viability by retaining customers through incremental updates and fostering future growth through the introduction of disruptive innovations that generate new demand in foreign markets and broaden the existing product portfolio (Prange & Verdier, 2011). Networking is another critical area where OA contributes to the growth and international expansion of BGFs. By fostering robust existing networks and actively seeking new international connections, BGFs can access a dynamic pool of resources crucial for their survival and long-term growth. Such networks not only support the resource-intensive demands of OA but also enable BGFs to engage in beneficial partnerships and coopetition, which are vital for their dual innovation efforts. These networks further help in accumulating experiential knowledge from various global markets, thus enhancing the firms' capabilities through both existing and new partnerships (Buccieri et al., 2020; Rialp et al., 2005).

However, to fully capitalize on the potential of OA, we state that SF provides a structured approach to anticipate, prepare, and leverage for potential uncertainty. This integration not only empowers BGFs to navigate present challenges with agility but also positions them to proactively shape their future. By embracing SF, BGFs can identify and exploit long-term opportunities while mitigating risks associated with rapid international expansion and market volatility. Thus, the synthesis of OA and SF forms a comprehensive strategic framework that not only addresses immediate operational needs but also aligns with long-term strategic objectives, ensuring sustained competitiveness and growth in a continually evolving global marketplace.

SF is pivotal in enhancing the capabilities of OA within BGFs as they navigate the complex and volatile phases of post-internationalization growth. This integration is essential because it not only prepares BGFs to respond proactively to immediate market dynamics but also positions them to anticipate and shape future market trends and disruptions.

Van der Duin et al. (2024) provide crucial insights into how SF can amplify the effectiveness of OA. Firstly, SF plays a critical role in detecting and evaluating forthcoming trends and disruptions. This anticipatory function is instrumental in enabling BGFs to align their explorative and exploitative activities with long-term strategic goals, ensuring that their innovative efforts (exploration) and their focus on optimizing current capabilities and market presence (exploitation) are informed by foresight into future market demands and potential disruptions.

Secondly, SF aids in synchronizing an organization's long-term strategic aims with its immediate operational goals. This synchronization facilitates ambidexterity by ensuring that strategic planning and day-to-day operations are not isolated processes but are interconnected, allowing BGFs to adapt their strategies dynamically as they receive new foresight information. This aspect is critical in managing the balance between exploiting existing markets and exploring new opportunities without overstretching resources or missing out on potential markets.

Lastly, SF acts as a conduit for linking various organizational divisions, fostering cooperation and the exchange of knowledge across departments. This integration is crucial for BGFs as it encourages a holistic approach to ambidexterity, where insights from diverse organizational areas are harmonized, ensuring that both explorative innovations and exploitative efficiencies are pursued with a coherent strategy. This cooperation enhances the firm’s capability to implement changes quickly and effectively across its global operations.

Integrating SF with OA allows BGFs to leverage their unique position of newness and agility. By anticipating future challenges and opportunities, BGFs can better navigate the uncertainties of international markets and align their innovative and operational activities with the predicted changes in the business environment. This foresight-driven approach to managing ambidexterity not only enhances the firm’s resilience but also its capacity for

sustained competitive advantage, making it possible to maintain growth momentum during and after the post-internationalization phase.

Moreover, the proactive stance facilitated by SF helps BGFs in mitigating risks associated with rapid international expansion and market volatility. By identifying potential threats and opportunities in advance, BGFs can devise strategies that allow them to remain flexible and responsive to changes, ensuring that their growth is both sustainable and adaptable to global market dynamics.

In conclusion, the synthesis of OA and SF provides BGFs with a robust framework for sustained growth and competitiveness in a continually evolving global marketplace. This strategic integration ensures that BGFs are not only reacting to current market conditions but are also proactively shaping their future, thus effectively leveraging their OA for long-term success.

*4.2.5. The SF Methodology*

The SF process is inherently dynamic and iterative, comprising several structured stages that guide organizations through systematically anticipating and navigating complex future landscapes. By conceptualizing SF as a cyclical, stage-based approach, organizations can integrate various analytical methods at each phase, enhancing informed strategic decision-making and proactive adaptation to emerging trends and uncertainties.

The process begins with the scoping and definition phase, where clear objectives and boundaries for the foresight initiative are established. This includes defining focal issues, setting time horizons, and identifying specific uncertainties that will guide the process. During this phase, technological surveillance, or technology watch, is crucial for identifying key technological areas that may impact the organization's future. By systematically gathering and analyzing information on technological advancements and trends, organizations align their strategic objectives with potential technological trajectories (Porter, 1980). This method supports the knowledge-based view of the firm, suggesting that proactively acquiring technological knowledge is essential for competitive advantage (Nascimento et al., 2021).

Following the initial phase, the information gathering and horizon scanning stage involves collecting data to identify weak signals, emerging trends, and driving forces that could

influence future scenarios. This comprehensive data collection builds a foundation for analyzing potential factors impacting the future. The MICMAC method (Matrice d'Impacts Croisés Multiplication Appliquée à un Classement) is employed here to analyze the mutual influence and driving power of identified factors within a complex system (Wijaya et al., 2020). Rooted in systems theory, MICMAC assists in understanding how variables reciprocally influence each other, revealing critical leverage points that could dictate the system's future state. By decomposing complex interdependencies, organizations gain a nuanced view of systemic interactions shaping potential futures.

The analysis and synthesis phase follows, involving the employment of analytical tools to decipher complex data sets and identify potential developments and their implications (Voros, 2009). Organizations rigorously examine how identified trends could evolve under different conditions. Morphological analysis offers a framework for exploring all possible solutions to a multi-dimensional, non-quantified problem complex (Godet, 2010). It involves identifying and investigating relationships between critical variables in the problem space. Grounded in configurational analysis, this method encourages exhaustive consideration of possible states and fosters understanding of interdependencies within systems. By breaking down complex scenarios into manageable parts, organizations systematically explore interactions and potential outcomes.

In the projection and modeling stage, organizations craft detailed and plausible visions of the future, enabling visualization of various outcomes and assessment of potential impacts through coherent narratives (Ringland, 2010). Scenario building utilizes the outputs from morphological analysis to create distinct narratives that describe possible futures. This method helps organizations understand not only what could happen but also how and why things might change (Bezold, 2010). By simulating various future environments under different conditions, stakeholders can visualize possible outcomes and assess the impacts of different strategies, preparing effectively for uncertainties.

The strategic development and implementation phase translates insights from previous stages into actionable strategies, shifting focus from theoretical analysis to practical application (Wilkinson, 2016). Organizations determine steps to align with desirable futures or mitigate risks. Relevance trees, also known as relevance mapping, involve creating hierarchical

diagrams that map out relationships between objectives and means to achieve them (Marinković et al., 2022). Starting with broad objectives derived from the scenarios, they are broken down into necessary sub-goals or actions. This method helps prioritize actions and allocate resources efficiently, ensuring tactical steps are aligned with strategic objectives and efforts are concentrated where most needed. It operationalizes scenarios by linking theoretical outcomes to practical, actionable strategies (Mojica, 2010).

Finally, the monitoring and review stage ensures the foresight process remains dynamic, continuously updated to adapt to new information and evolving conditions (Mojica, 2005). Ongoing technological surveillance is essential here to monitor changes in technological trends that may impact the organization's strategic plans. By maintaining up-to-date information, organizations can adjust strategies in response to new developments, supporting sustained strategic alignment and adaptability. Continual horizon scanning complements technological surveillance by monitoring broader societal, economic, environmental, and political trends (Zhao et al., 2023). This helps in detecting emerging issues and weak signals that may necessitate strategic adjustments.

Each method contributes to multiple stages, creating a cohesive and comprehensive SF process. Technological surveillance informs both the scoping phase and the monitoring stage, ensuring that the organization remains aware of technological advancements throughout the foresight process. MICMAC analysis aids in information gathering and analysis, providing a structured understanding of the interrelationships among variables. Morphological analysis and scenario building work in tandem during the analysis and projection phases, transforming complex data into coherent narratives.

### *4.3. Methodology*

#### *4.3.1. First stage: Factor Identification*

The set of 44 key factors used in this research was originally derived from study 2, as reported in Reyes-Parga et al. (2025). Factor identification was performed through a set of interviews conducted to identify a set of important variables related to ambidexterity and growth in born global agri-food firms. We employed purposive sampling (Patton, 2015) to select agri-food firms that had experienced early internationalization. We examined firms listed in the Trade

Map database from Colombia, Peru, Ecuador, and Honduras, specifically within the tariff codes for coffee, cocoa, fruits, and spices and herbs, which are significant contributors to regional exports (Trade Map, 2022). We identified firms meeting the BGF criteria of achieving at least 25% of their sales from exports within three years of founding (Choquette et al., 2017). Out of 210 firms meeting these criteria, 14 agreed to participate in our study. Utilizing the Gioia Methodology (Gioia et al., 2013; Magnani & Gioia, 2023), and supported by ATLAS.ti software for qualitative data analysis, 44 key factors were identified.

*4.3.2. Second Stage: Variable Prioritization Through the Fuzzy-MICMAC Method*

Once the key factors were identified, it became necessary to prioritize the most important ones. To do so, we followed the MICMAC method, which facilitates the establishment of a "context-oriented relationship among the factors" (Sharma et al., 2022). It is recognized as a "very simple but powerful analysis to determine the driving power and dependence of different elements" (Majumdar & Sinha, 2019, p. 185). We decided to apply a Fuzzy-MICMAC approach to better capture and process uncertainties in the interactions and influences among variables, using MATLAB software to support the computational requirements of this analysis. In recent literature, several studies have adopted this approach (e.g. Sindhu & Mor, 2022; Singh & Agrawal, 2022). The same 14 experts were involved in two panel sessions to rate the MICMAC matrix, ensuring consistency and depth in understanding the relationships among identified factors. This approach not only leveraged their contextual knowledge but also ensured that the interpretations of interdependencies were informed by practical experiences, aligning with the methodological rigor required for such analytical processes. The use of expert-based methods offers a distinct advantage in exploring complex qualitative phenomena, especially when quantitative analysis is constrained by limited sample sizes, such as when working with high-level experts like international managers. These methods are particularly valuable in scenarios where traditional statistical approaches are impractical or insufficient to capture nuanced insights (Jafari-Sadeghi et al., 2021).

*4.3.2.1. The Direct Relationships Matrix*

Following the principles of complexity theory, which posits that in a systemic view of the world, a variable exists only through its relationships with others (Morin, 1990), the first step

was to define the Direct Relationships Matrix. This involved performing pairwise comparisons among all previously identified factors related to ambidexterity and growth in born global agri-food firms. A matrix-based questionnaire was designed to evaluate the relationship between every two factors. The variables identified in the first phase were interrelated in a double-entry table, where experts rated the impact of one variable on another as follows: 0: No influence; 1: Weak; 2: Moderate; 3: Strong; 4: Potential. Appendix 4.4 displays the rating instrument completed by the experts, which had been previously shared to provide context about each term (Appendix 4.5).

*4.3.2.2. Fuzzification of the Direct Relationships Matrix*

The second step involved converting the scores in the direct relationships matrix into a fuzzy scale. Fuzzy-MICMAC employs fuzzy logic principles to handle uncertainties and varying degrees of influence rather than just binary or fixed scalar values. Direct and indirect relationships in complex systems are often ambiguous and not precisely quantifiable. Fuzzifying the data means that the analysis considers degrees of influence and dependence rather than strict, deterministic relationships. This approach is particularly useful in scenarios where interactions are not fully known or are too complex to describe precisely. This required applying a linear transformation to translate the scores (0-4) into a range that better represents degrees of possibility or influence:

$$D_{\text{fuzzy}} = \frac{D}{\max\big(D(:)\big)}$$

Where $D$ is the original matrix and $\max\big(D(:)\big)$ is the maximum value across the entire matrix. This method proves effective for uniform scales and when the maximum values represent "complete influence" in fuzzy terms.

*4.3.2.3. The Matrix of Fuzzy Indirect Relationships*

This step considers the potential cascading effects of one variable on another through intermediate variables. These are not directly measured but are inferred through matrix operations. To calculate the fuzzy indirect relationships, we utilized the Matrix Stabilization by Successive Powers method. This process involves raising the matrix to successive powers until changes between one iteration and the next are minimal or until the matrix shows no significant change, indicating stabilization. This method effectively identifies the indirect

relationships derived from the chain of influences one variable may exert on another through various intermediaries:

$$D^{(k)} = D^{(k-1)} \cdot D_{\text{fuzzy}}, \quad \text{for } k = 2,3, \ldots, \text{until stabilization}$$

In each iteration $k$, $D^{(k)}$ is calculated by multiplying the matrix obtained from the previous iteration $D^{(k-1)}$ by the initial fuzzified matrix $D_{\text{fuzzy}}$. This process is repeated until the difference between the current matrix and the matrix from the previous iteration is less than a predefined threshold, indicating stabilization. To verify stabilization, we used the Frobenius norm criterion, which ensures that changes between consecutive iterations are below a predetermined threshold:

$$\text{if } |D^{(k)} - D^{(k-1)}|_{\text{Fro}} < \epsilon, \text{ then stop}$$

If the Frobenius norm of the difference between $D^{(k)}$ and $D^{(k-1)}$ falls below a predetermined threshold $\epsilon$, it indicates that successive iterations are no longer yielding significant changes.

*4.3.2.4. The Power and Dependence Map*

We examined the stabilized matrix to calculate the power and dependence for each variable. Power was calculated as the sum of each row in the stabilized matrix, indicating how much a variable influences others. Dependence was calculated as the sum of each column, showing how much a variable is dependent on others. Subsequently, we applied the Scaling Method for defuzzification, as conventional scores are easier to interpret and use for decision-making. Defuzzification translates these fuzzy values back into a scale that can be easily interpreted and directly utilized for prioritizing variables or making strategic decisions. The resulting matrix after applying fuzzy logic and subsequent defuzzification reflects an interpretation of how variables might influence others through multiple paths and intermediate connections, offering a more detailed and nuanced view of relationships. These include interpretations of how influences can vary in intensity, not just presence or absence.

*4.3.3. Third Stage: Structural Analysis*

We employed Dynamic System Modeling with Causal Loop Diagrams to identify and understand the relationships among the key variables influencing BGFs in the agri-food sector. In recent literature, various studies have adopted this approach (e.g. Dhirasasna & Sahin, 2019; Leon-Romero et al., 2024).This methodology allowed us to establish detailed,

visual, and mathematically grounded representations of variable interconnections, which are particularly critical for designing strategic interventions in such complex systems. The approach provided both structural and dynamic insights through causal loops, thus enabling a holistic understanding of the system.

To derive the weighted influence matrix from the Fuzzy-MICMAC analysis, we first quantified the influence scores between pairs of variables by assessing their mutual interdependencies through fuzzy set theory. Initially, each variable's influence on another was assigned a value ranging from 0 to 1, where 0 indicated no influence and values closer to 1 indicated a higher level of influence. This initial assessment was conducted by experts using linguistic variables, which were then converted into numerical values via a fuzzy scoring mechanism.

After generating the initial fuzzified influence matrix, we applied a normalization process to transform the values to a range of -1 to 1. This transformation allowed us to classify the influences as either reinforcing (positive) or balancing (negative), effectively centering the influence scores where negative values represented dampening effects and positive values represented amplifying effects. Relationships with scores close to -1 indicated strong balancing influences, whereas scores near +1 indicated strong reinforcing behaviors.

We subsequently analyzed the normalized values through linear transformation to categorize each influence as either amplifying or dampening. To represent the strength of these causal effects, we retained the magnitude of the normalized values, enabling us to quantify the level of reinforcement or stabilization each variable exerted on another. Finally, using the weighted influence matrix, we constructed the causal relationships by representing each variable as a node, with directed edges representing the influences, weighted by the magnitude of the effect. This enabled us to systematically capture the direction, type, and strength of the relationships within the system, ultimately leading to a comprehensive causal loop diagram that highlighted both the reinforcing and balancing dynamics among the variables. Using the weighted influence data, we generated a causal loop diagram to illustrate the dynamic relationships between variables. This diagram was created using Python's Matplotlib and NetworkX libraries, with modifications to clearly represent the causal loops.

*4.3.4. Fourth stage: scenario building*

Foresight as a participatory construction tool serves multiple objectives, including the identification and analysis of future alternatives for born global agribusiness. This is achieved through key elements that act as precursors to medium- and long-term changes across various segments. These elements facilitate the creation of shared visions for the future of prioritized chains within the departmental context, ensuring a comprehensive understanding and strategic planning for their development. Building shared future visions is crucial due to the dynamic nature of the agri-food sector BGFs and the effects of a volatile, uncertain, complex, and ambiguous environment. This requires the involved parties to reach consensus to illuminate the present with future actions from a proactive stance

The construction of alternative scenarios for the evolution of BGFs in the agri-food sector aims to present institutional, academic, and state stakeholders with possible futures within a time horizon. Through a process of collective appropriation and commitment, these scenarios can guide firms toward optimal international performance (Ringland, 2010). These scenarios not only outline possible courses of action but are also derived from an in-depth analysis by experts from various segments. These potential scenarios are based on prioritized critical factors that can influence both positively and negatively in the long term. Using MATLAB, a morphological analysis was employed to systematically explore and map out the complex interrelations and potential configurations within the strategic framework of the agri-food sector. Morphological analysis has gained increasing prominence in recent literature as an effective tool for scenario development and strategic foresight (e.g. Kurniawan et al., 2022; Sedighi et al., 2024).

*4.3.4.1. Morphological Space*

An initial framework for each of the 13 variables was developed based on an extensive review of scholarly literature and analysis of relevant patents. These sources, accessed through the Web of Science and the PatentScope database, provided a robust empirical and theoretical foundation for establishing five preliminary states for each variable.

A prospective workshop was then conducted with 24 experts from academia, industry, and government sectors within Colombia. The selection of the experts was conducted through

judgmental sampling (Hota, 2024), focusing on individuals with extensive knowledge and expertise in the agribusiness sector, specifically in cocoa, coffee, and fruit production. Participants were chosen from recognized governmental institutions within the agribusiness sector, universities with renowned programs in agricultural and agro-industrial engineering, as well as from established BGFs within the country. The selection of 24 experts is supported by existing literature, which highlights similar sample sizes as effective in participatory foresight studies. These studies often involve groups ranging from 15 to 30 experts to ensure a balance between the quality of interactions and operational feasibility (Dufva & Ahlqvist, 2015; Hebinck et al., 2018; Taheri Demneh et al., 2022).

During this workshop, the initial framework and the results from the structural analysis were presented to the panel of experts. The workshop was designed not only to introduce the preliminary states but also to harness the experts' insights to refine these into three distinct, well-defined states per variable. This participatory process allowed the experts to discuss, debate, and ultimately converge on a consensus regarding the most relevant and realistic states that reflect the dynamic and complex nature of the agri-food sector. The detailed list of expert profiles can be found in Annex 4.1.

The experts played a critical role in this phase, applying their sector-specific knowledge and experience to critically assess and refine the preliminary states. Their discussions were instrumental in distilling the five initial states into three refined states, each described in detail by the experts themselves. This refinement process ensured that the final states were not only grounded in scholarly research and patent findings but also vetted and validated by those with practical and strategic expertise in the field.

The experts defined three states for each variable, ranging from the most basic level of development (Development State) to the most advanced or innovative manifestations (Leading/Innovative State). This categorization captures a comprehensive spectrum of potential evolutions and impacts on strategic performance and decision-making. Following the expert refinement, a morphological matrix was constructed, presenting a structured visual of all possible combinations of the refined states across the thirteen variables. This matrix

serves as a strategic tool for identifying feasible configurations that agri-food companies might adopt in response to various challenges and opportunities within the sector.

#### *4.3.4.2. Cluster analysis*

To effectively visualize and interpret the structure of the morphological space, we employed a hierarchical clustering approach using the Ward linkage method. Hierarchical clustering is applied to a subset of combinations within a three-dimensional space to identify groups, or clusters, of combinations that share similar characteristics in the morphological space. Each point in this space represents a unique configuration of variables from the morphological analysis. These clusters provide an overview of how potential configurations naturally group together based on their similarities. By examining these clusters, we can understand which combinations of characteristics tend to cluster together and what patterns emerge in terms of similarities.

This analytical technique involved plotting a randomly selected sample of 1,000 points within a three-dimensional space, differentiated by varying colors to denote clusters that exhibited similar characteristics. This clustering helped to identify natural groupings among the potential combinations of variables, providing a clear depiction of various strategic configurations and their interrelations.

#### *4.3.4.3. Top scenarios*

The subsequent step involved defining success criteria derived from the results of the cluster analysis, with each criterion assigned a specific weight to reflect its strategic importance for BGFs in the agri-food sector. Subsequently, each combination within the morphological space was evaluated against these criteria using a scoring matrix. The combinations that achieved the highest weighted scores were identified as the top five optimal scenarios. These scenarios represent the most promising strategic configurations for promoting the sustainable growth of BGFs. Each scenario was then displayed and analyzed in detail to elucidate its strategic components.

## *4.4. Results*

### *4.4.1. Variable Prioritization*

After calculating the summative values of influence and dependence, we positioned these as coordinates on a four-quadrant plane, where the Y-axis represents Influence and the X-axis represents Dependence. We used median values of influence and dependence as cut-points to define the quadrants. The Power and Dependence Map is shown in Figure 2. In the top right quadrant (Quadrant I), we find variables that are both highly dependent and highly influential, marking them as critical nodes within the system due to their strong connections and impacts on other variables. In the top left quadrant (Quadrant II), the variables show low dependence but high influence, identifying them as key drivers that can shape the system's behavior without requiring substantial support from others. The bottom left quadrant (Quadrant III) houses variables that are low in both dependence and influence, categorizing them as peripheral entities within the broader system dynamics. Lastly, the bottom right quadrant (Quadrant IV) includes variables that, despite their high dependence, exert little influence, placing them as dependent and potentially vulnerable within the system's structure.

In our analysis, we prioritized the variables located in Quadrant I of the de-fuzzified Power and Dependence Map. This decision was based on their high dependence and high influence, which categorizes them as critical nodes within the system. Variables in Quadrant I are both heavily influenced by and exert significant influence on other system components, indicating their central role in system dynamics. Prioritizing these variables allows us to focus on those elements that, if adjusted or supported, could lead to substantial changes in the system's overall behavior and performance. This strategic focus is vital for directing resources and interventions where they can have the most significant impact, ensuring that efforts are concentrated on the most influential and dependent aspects of the system.

In the Power and Dependence Map analysis, a bisector line was employed to evaluate the balance between influence and dependence of each variable, serving as a locus where these values equate. This objective assessment facilitates the orthogonal projection of prioritized variables onto the bisector, reducing the data's dimensionality from two-dimensional (influence and dependence) to a scalar representation. This projection method not only minimizes distortion, preserving the variables' essential systemic roles, but also ranks them

according to their proximity to the line of equilibrium. Variables closer to this line maintain a more balanced influence and dependence, which is crucial for sustaining the dynamic stability of BGFs in the agri-food sector.

Table 4.1 lists these variables in order of their projection onto the bisector, with those nearest exhibiting the most balanced characteristics and thus holding central importance for strategic interventions in the system. This ranking aids in focusing resources on areas critical for maintaining equilibrium and optimizing system performance.

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Figure 4.2.

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Table 4.1.

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**3.3.Structural Analysis**

The results from Dynamic System Modeling with Causal Loops are shown in Figure 3, which presents the Weighted Influence Map of the prioritized variables. This diagram illustrates the extent of each variable's influence on others and the magnitude of these influences, serving as a crucial tool for understanding the system more intricately. It facilitates the identification of key relationships that are vital for the internationalization strategies of firms. The arrows represent the pathways of influence between the variables, with the numbers on these arrows indicating the strength of each relationship. Values closer to 1 denote stronger influence, whereas lower values indicate weaker influences.

Strategic Alliances (SA) significantly influence key variables such as International Commercial Intensity (ICI), Process Exploration (PE), and Technological Exploration (TE). This finding underscores the importance of building strategic partnerships to enhance international market presence and advance exploration activities. Furthermore, SA is influenced by Geographic Diversification of Production (GDoP) and Quality Focus (QF),

indicating that diversification in production and maintaining high-quality standards are critical for forming effective alliances.

Technological Exploration (TE) plays a crucial role in maintaining existing product lines and innovating new offerings. TE exerts a strong influence on Sustaining Current Products (SCP) and New Product Development (NPD), highlighting the importance of technological advancement in the lifecycle of products. TE is also driven by International Market Exploration (IME) and Process Exploration (PE), which underscores the significance of market knowledge and efficient internal processes in fostering technological innovation.

Certifications (Cer) influence Channel Diversification (CD) and Prizes and Awards (PA). Acquiring certifications helps firms to diversify their sales channels and gain recognitions, which are essential for market expansion and brand credibility. Cer is influenced by Quality Focus (QF) and Strategic Alliances (SA), demonstrating that maintaining high-quality standards and partnerships are keys to achieving necessary certifications.

International Commercial Intensity (ICI) impacts Geographic Diversification of Production (GDoP) and Process Exploration (PE). A higher level of international engagement facilitates production expansion and the exploration of new processes, with ICI being significantly influenced by Strategic Alliances (SA), highlighting the role of partnerships in expanding international operations.

Process Exploration (PE) is essential for advancing Technological Exploration (TE) and Improvements in Packaging (IP). Ongoing improvements in internal processes drive technological innovation and better packaging solutions, with PE being influenced by Channel Diversification (CD) and International Market Exploration (IME), which points to the importance of diverse sales strategies and extensive market knowledge in process improvement.

Geographic Diversification of Production (GDoP) substantially influences Quality Focus (QF) and Sustaining Current Products (SCP). Expanding production locations is crucial to maintaining quality and product stability, with GDoP being driven by International Commercial Intensity (ICI), indicating that international market expansion is a facilitator for geographic diversification.

The self-looping arrows in the diagram illustrate self-reinforcing or self-balancing feedback relationships for specific variables within the system. These feedback loops are significant in systems analysis as they provide insights into how a variable's current state can influence its future development, leading to potential amplification or stabilization of certain effects.

several key feedback loops emerge that illustrate the dynamic interplay among strategic variables. These cycles are crucial for understanding how changes in one area can influence multiple aspects of a firm's operations and strategy.

One such loop involves Strategic Alliances, International Commercial Intensity, and Geographic Diversification of Production. This cycle suggests that forming strategic alliances helps to increase international commercial intensity, which in turn facilitates geographic diversification of production. As geographic diversification expands, it can strengthen the capacity for forming further strategic alliances, creating a reinforcing loop that promotes expansion and solidifies international market presence.

Another significant cycle involves Process Exploration, Technological Exploration, and Sustaining Current Products. Improvements in process exploration enhance technological exploration, crucial for sustaining current product lines. Enhanced product sustenance feeds back into better process exploration, forming a reinforcing loop that fosters continuous improvement and innovation within the firm.

A more complex loop connects Certifications, Channel Diversification, International Commercial Intensity, Geographic Diversification of Production, and Quality Focus. Achieving certifications allows for greater channel diversification, which enhances international commercial intensity. Increased international presence enables geographic diversification, which necessitates a focus on quality to maintain market standards. High-quality standards then make obtaining further certifications easier, completing a loop that enhances overall strategic positioning.

Furthermore, New Product Development, Improvements in Packaging, Quality Focus, and Geographic Diversification of Production form a feedback loop. This begins with new product development leading to improvements in packaging, which enhances overall product quality. Better quality supports geographic diversification of production, which provides opportunities for launching new products, thus reinforcing innovation.

Lastly, the cycle involving Prizes and Awards, Strategic Alliances, International Market Exploration, and Technological Exploration highlights how winning prizes and awards can facilitate forming strategic alliances, crucial for exploring international markets. Successful international market exploration enhances technological exploration, potentially leading to more innovations that could win additional prizes and awards, creating a reinforcing feedback loop that boosts the firm's reputation and competitive edge.

These feedback loops offer insights into the systemic behaviors of BGFs, revealing how certain variables, when increased or modified, have the capacity to sustain or even amplify their own influence, potentially creating growth momentum or ensuring consistent performance. This holistic view is essential for strategists aiming to identify leverage points where interventions could yield disproportionately beneficial effects on the firm’s growth and resilience.

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Figure 4.3.

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*4.4.2. Morphological analysis*

We obtained a total of 1,594,323 possible combinations. Each combination represents a unique configuration of strategies across all 13 strategic variables. Table 4.2 shows the morphological space.

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Table 4.2.

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Several key clusters were identified through this analysis. Appendix 4.6 shows the graphical representation of the four obtained clusters. The first cluster focused on strategic alliances and geographic diversification, highlighting the importance of these alliances in enhancing international commercial intensity and geographic diversification of production. These alliances not only facilitate penetration into international markets but also bolster resilience

against external uncertainties. Firms within this cluster are advised to prioritize forming partnerships with technology companies or cooperatives to augment their presence and robustness in key markets.

Another cluster, encompassing firms committed to technological innovation for developing and sustaining products, illustrates how technological exploration is crucial for both the development of new products and the maintenance of existing ones, which is particularly vital in volatile global markets. Companies in this cluster should focus their efforts on integrating advanced technological systems that enhance both their current products and foster future innovations.

A third cluster includes companies aiming to differentiate themselves through certifications and a strong focus on quality. The research demonstrates that certifications contribute to diversifying sales channels and enhancing brand credibility. Companies in this cluster should invest in advanced certifications that cover not only quality but also sustainability, aligning with the social and environmental responsibility discussed in the research.

Finally, the fourth cluster focused on new product development and channel diversification is oriented towards expansion through new products and diversification of channels. Companies in this cluster should balance exploring new markets with exploiting existing channels, as per the OA strategy described in the research. This involves developing products suited to various international contexts and leveraging an omnichannel strategy to ensure broader market access.

Each cluster represents different combinations of ambidextrous capabilities. For instance, firms in the Strategic Alliances Cluster might benefit from expansion strategies through international partnerships, while those in the Technological Exploration Cluster could focus on innovation to maintain competitiveness. By integrating Strategic Foresight, these companies can better anticipate market changes and adjust their exploration and exploitation strategies accordingly. This is essential for sustaining organizational resilience, as discussed in the research.

To determine the most promising strategic configurations, we defined four success criteria derived from insights gained during the cluster analysis: the capacity to sustain growth through balancing exploration and exploitation; the degree of sustainable geographic

diversification for risk mitigation; emphasis on achieving certifications that enhance market credibility; and the level of investment in technological innovation and development. Each criterion was assigned a weight to reflect its strategic priority in the context of BGFs in the agri-food sector, distributed as 30%, 25%, 20%, and 25% respectively.

The assignment of these weights was carefully justified based on their relative importance to the success of BGFs post-entry. The capacity to sustain growth received the highest weight of 30%, reflecting the critical importance of maintaining a balance between exploring new opportunities and exploiting existing capabilities, which is fundamental for sustained growth and resilience in international markets. This priority is especially crucial in the agri-food sector, where market conditions can be highly volatile, making the ability to manage this balance a key determinant of a firm's survival and expansion.

Geographic diversification was weighted at 25%, acknowledging that risk management is essential for firms operating across diverse markets. The ability to diversify geographically helps to mitigate risks associated with local fluctuations—be they political, climatic, or economic—and reduces reliance on a single market, thereby enhancing the firm’s ability to adapt to adverse changes in the environment.

The focus on quality and certification was allocated a weight of 20%. This reflects the role of certifications and quality standards in building market credibility and facilitating access to international markets, which is particularly stringent in the agri-food sector. Although crucial, the weight assigned is slightly less than growth and diversification, presuming that without effective growth strategies and diversification, certifications alone may not sustain long-term growth.

Technological innovation and development also received a significant weight of 25%, emphasizing its role in process improvement and product innovation, which are necessary to maintain competitiveness in a rapidly changing global market. The agri-food sector benefits significantly from adopting advanced technologies that allow firms to differentiate and optimize their operations.

This weighted approach underscores a balanced strategic focus where sustained growth and diversification are prioritized, without overlooking the importance of quality and

technological innovation. This combination of factors contributes to the resilience and competitiveness of BGFs in dynamic international environments.

Each combination in the morphological space was scored based on these criteria using a scoring matrix. Each combination received a score from 1 to 5 for each criterion, which were then weighted according to the assigned importance to produce a final score for each combination. This systematic evaluation of combinations was conducted using MATLAB, which applied specific conditional rules established for the four key criteria to determine how favorable each combination was for each criterion.

For instance, in evaluating the capacity to sustain growth, the type of strategic alliances was considered. Alliances more oriented towards export received a high score (5), reflecting their benefit for international growth, while technology-focused alliances received a slightly lower score (4), and national alliances received a moderate score (3). Similarly, for geographic diversification, global diversification received the highest score (5), international but not global diversification received a score of 4, and regional diversification received a score of 3.

Each combination was then systematically evaluated across all criteria, with scores for each criterion based on these rules. MATLAB then calculated the total score by weighting these scores. This allowed us to identify the most advantageous combinations based on the overall criteria, selecting the top scenarios that best combined strategic alliances, diversification, quality, and innovation, according to our established rules.

The top five combinations achieving the highest weighted scores were selected as the optimal scenarios. These scenarios represent the most promising strategic configurations for facilitating the sustainable growth of BGFs. The top five scenarios that could be utilized to enhance growth potential are:

*Scenario 1:*

- Strategic Alliances: Export-Oriented Alliances
- International Commercial Intensity: Variable/Fluctuating Commercial Intensity
- International Market Exploration: Moderate Exploration
- Process Exploration: Moderate Process Exploration

- Technological Exploration: Integrated Technological Systems
- Geographic Diversification: Extensive Global Diversification
- Sustaining Products: Incremental Product Enhancement
- Certifications: Intermediate Certification
- Quality Focus: Enhanced Quality Control
- Channel Diversification: Initial E-commerce Adoption
- New Product Development: Market Expansion Products
- Improvements in Packaging: Sustainable Packaging
- Prizes and Awards: Industry Endorsement

*Scenario 2:*

- Strategic Alliances: National Strategic Alliances
- International Commercial Intensity: Moderate Commercial Intensity
- International Market Exploration: Exploration with Exploitation
- Process Exploration: Balanced Process Exploration and Exploitation
- Technological Exploration: Integrated Technological Systems
- Geographic Diversification: Extensive Global Diversification
- Sustaining Products: Incremental Product Enhancement
- Certifications: Intermediate Certification
- Quality Focus: Enhanced Quality Control
- Channel Diversification: Initial E-commerce Adoption
- New Product Development: Market Expansion Products
- Improvements in Packaging: Sustainable Packaging
- Prizes and Awards: Industry Endorsement

*Scenario 3:*

- Strategic Alliances: Export-Oriented Alliances
- International Commercial Intensity: High Commercial Intensity
- International Market Exploration: Intensive Exploration
- Process Exploration: Balanced Process Exploration and Exploitation
- Technological Exploration: Integrated Technological Systems
- Geographic Diversification: Extensive Global Diversification
- Sustaining Products: Seasonal and Market-driven Variations
- Certifications: Advanced Certification
- Quality Focus: Enhanced Quality Control
- Channel Diversification: Initial E-commerce Adoption
- New Product Development: Market Expansion Products
- Improvements in Packaging: Sustainable Packaging
- Prizes and Awards: Industry Endorsement

*Scenario 4:*

- Strategic Alliances: National Strategic Alliances
- International Commercial Intensity: Moderate Commercial Intensity
- International Market Exploration: Moderate Exploration
- Process Exploration: Moderate Process Exploration
- Technological Exploration: Advanced Automation and Monitoring
- Geographic Diversification: Extensive Global Diversification
- Sustaining Products: Seasonal and Market-driven Variations
- Certifications: Advanced Certification
- Quality Focus: Enhanced Quality Control

- Channel Diversification: Initial E-commerce Adoption
- New Product Development: Market Expansion Products
- Improvements in Packaging: Sustainable Packaging
- Prizes and Awards: Industry Endorsement

*Scenario 5:*

- Strategic Alliances: Export-Oriented Alliances
- International Commercial Intensity: Moderate Commercial Intensity
- International Market Exploration: Intensive Exploration
- Process Exploration: Balanced Process Exploration and Exploitation
- Technological Exploration: Integrated Technological Systems
- Geographic Diversification: Regional Diversification
- Sustaining Products: Incremental Product Enhancement
- Certifications: Advanced Certification
- Quality Focus: Enhanced Quality Control
- Channel Diversification: Initial E-commerce Adoption
- New Product Development: Market Expansion Products
- Improvements in Packaging: Sustainable Packaging
- Prizes and Awards: Industry Endorsement

*Narrative of the Scenarios*

*Scenario 1: Export-Oriented Alliances with Fluctuating Commercial Intensity and Moderate Exploration*

This scenario envisions a Born Global Firm (BGF) that forms export-oriented alliances to drive its international market reach, relying on partnerships with foreign firms or government entities to enhance market access. These alliances are crucial for expanding the firm's global footprint, particularly in regions where trade agreements and institutional support facilitate

smoother market entry. The firm faces fluctuating commercial intensity, where export activity varies in response to external economic or policy shifts.

In terms of exploration, the firm adopts a moderate approach, investing modestly in exploring new markets while continuing to leverage its existing market knowledge. Process exploration is moderate as well, with limited experimentation in new operational methods aimed at managing risks effectively. Technological exploration is integrated, focusing on advanced technological systems that enhance operational efficiency and product quality. The firm's product offerings are characterized by incremental enhancements, such as seasonal adjustments and minor improvements in existing products, catering to shifting market demands without substantial disruptions to its current operations.

Geographically, the firm focuses on extensive global diversification, expanding production and operations across multiple continents to mitigate regional risks and diversify its supply chain. To maintain its competitive advantage, the firm seeks intermediate-level certifications, such as ISO or regional organic certifications, which bolster its market credibility but are not exhaustive in terms of international standards. The firm adopts initial e-commerce capabilities to complement traditional retail channels, recognizing the need for an omnichannel strategy as a future growth lever. This scenario ultimately emphasizes maintaining growth through gradual adaptation and leveraging strategic alliances to support international expansion, while remaining responsive to market volatility.

*Scenario 2: National Strategic Alliances with Moderate Exploration and Balanced Process and Technological Exploration*

In the second scenario, the BGF pursues national strategic alliances, primarily focusing on partnerships with large firms or cooperatives within its home country or neighboring regions. These alliances help the firm scale operations domestically while creating a foundation for subsequent international expansion. The firm operates under moderate commercial intensity, reflecting a steady level of international engagement, supported by trade agreements like MERCOSUR or NAFTA, but hindered by some regional barriers and challenges.

Exploration in this scenario is more intensive than in Scenario 1, as the firm invests more in understanding and penetrating new markets through significant market research, expos, and pilot operations. Simultaneously, the firm embraces a balanced approach to process

exploration and exploitation, integrating new findings into existing operations to maintain agility and operational effectiveness. Technological exploration is centered on integrated systems, focusing on automation and monitoring technologies that reduce manual intervention and enhance production precision.

Geographically, the firm pursues a moderate international diversification strategy, expanding its operations into several international markets but still maintaining a regional focus. Its product development strategy is characterized by incremental enhancements to its existing product lines, ensuring that products remain competitive without making radical changes. Certifications are intermediate, ensuring the firm meets regional quality and safety standards, and it adopts e-commerce as part of its distribution strategy, complementing traditional retail methods.

This scenario highlights the importance of strategic alliances in building the firm's capabilities, while also emphasizing the balanced exploration of new market opportunities and the exploitation of existing strengths. It seeks to create a robust operational foundation that allows the firm to adapt to international markets gradually.

*Scenario 3: Export-Oriented Alliances with High Commercial Intensity and Intensive Exploration*

The third scenario presents a more aggressive growth strategy, where the BGF focuses heavily on forming export-oriented alliances with a strong emphasis on market expansion. These alliances are primarily with foreign firms or governments, enhancing the firm's ability to penetrate international markets at a faster pace. The firm operates under high commercial intensity, reflecting a significant and sustained export activity driven by favorable international policies and market integration.

Exploration in this scenario is intensive, with the firm dedicating substantial resources to exploring new and emerging markets, supported by extensive market research and pilot projects. The firm adopts a balanced approach to process exploration and exploitation, integrating new operational findings into its existing systems to enhance efficiency and reduce operational risks. Technological exploration is advanced, with the firm investing in highly specialized technologies that address specific agricultural challenges, such as automated systems and multi-crop quality assessments.

Geographically, the firm expands its operations across multiple continents, achieving extensive global diversification to mitigate risks associated with localized disruptions. Product development is focused on pioneering innovations, with the firm introducing groundbreaking products that redefine market standards or create entirely new market categories. The firm also seeks advanced certifications, such as GlobalGAP or Fairtrade, to bolster its market credibility and meet international standards. E-commerce adoption is integrated into the firm's broader omnichannel strategy, allowing for seamless sales and distribution across both online and offline platforms.

This scenario reflects a more ambitious approach to internationalization, emphasizing rapid market penetration, technological innovation, and strategic partnerships. By focusing on high-intensity exploration and exploitation, the firm positions itself to thrive in volatile global markets and capitalize on emerging opportunities.

*Scenario 4: National Strategic Alliances with Moderate Exploration and Advanced Technological Systems*

Scenario 4 outlines a strategy where the Born Global Firm (BGF) forges national strategic alliances with key domestic players such as large firms or cooperatives. These alliances serve to fortify the firm's position within its home country and foster an early-stage expansion into international markets. The firm operates with moderate international commercial intensity, where export activity is steady but subject to regional constraints and fluctuations in trade dynamics.

In this scenario, international market exploration is characterized by a moderate approach, focusing on exploring new markets but with a cautious allocation of resources. Similarly, process exploration is moderate, as the firm conducts research and development (R&D) to identify operational improvements but does not undertake significant experimentation. The firm's technological exploration strategy involves the integration of advanced automation and monitoring systems, enhancing production efficiency and allowing for more precise control over operations, thus improving product quality.

Geographically, the firm pursues extensive global diversification, spreading production and operations across multiple regions and continents to mitigate risks associated with local market volatility and supply chain disruptions. The firm sustains its products through

seasonal and market-driven variations, making minor adjustments to its existing offerings to align with changing consumer preferences or seasonal demand.

To maintain market credibility, the firm secures advanced certifications, such as GlobalGAP or Fairtrade, ensuring its products meet rigorous international standards. Quality control is enhanced through an intensified focus on internal management systems and regular product testing to ensure product consistency and excellence.

In terms of distribution, the firm adopts initial e-commerce capabilities to complement traditional retail methods, acknowledging the importance of online platforms in broadening market reach. The firm also engages in market expansion through new product development, introducing products designed specifically for new market segments. The firm further invests in sustainable packaging, aligning with global sustainability trends and consumer expectations for environmentally responsible practices.

Finally, the firm garners industry endorsement through prestigious awards, bolstering its market reputation and signaling product quality to consumers and partners. This scenario presents a strategy where the firm balances steady, cautious internationalization with innovations in technology and sustainability to create long-term value in global markets.

*Scenario 5: Export-Oriented Alliances with Intensive Market Exploration and Regional Diversification*

Scenario 5 presents a more aggressive approach to internationalization, where the BGF focuses on forming export-oriented alliances with foreign firms or government entities to rapidly expand its global presence. This approach emphasizes the importance of partnerships in accelerating market access and establishing footholds in key international markets. The firm operates with moderate international commercial intensity, indicating a steady but not excessively high level of export activity, supported by favorable international trade policies.

In terms of market exploration, the firm adopts an intensive approach, investing heavily in market research, international expos, and pilot operations in various global regions. This extensive exploration allows the firm to identify new opportunities, gain valuable insights, and refine its international strategies. Process exploration is balanced with exploitation, as the firm integrates new technologies and methods into its existing processes to achieve operational efficiency while continuing to optimize and leverage current capabilities.

Technologically, the firm explores integrated technological systems, such as advanced automation tools and data-driven technologies, to streamline operations and improve product offerings. These technological innovations contribute to the firm's ability to meet the demands of both existing and new markets.

Geographically, the firm focuses on regional diversification, expanding operations into neighboring countries or strategically important regions to mitigate risk and increase market reach. The firm sustains its products through incremental enhancements, making minor improvements to existing product lines to maintain their competitiveness in international markets.

The firm secures advanced certifications to enhance its credibility, ensuring that its products meet international standards for quality and sustainability. Quality control is intensified, focusing on rigorous internal checks and continuous improvement in production processes.

Channel diversification involves the adoption of e-commerce strategies, with the firm setting up online platforms to reach a broader customer base. New product development is centered around market expansion products, with offerings tailored to the needs of specific regional or international markets. The firm also invests in sustainable packaging, responding to consumer demand for environmentally friendly products and aligning with broader industry trends.

Industry endorsements in the form of awards further elevate the firm's reputation, enhancing its visibility in international markets and signaling quality to both consumers and partners. Scenario 5 exemplifies a strategy where the firm accelerates its internationalization through strategic alliances and intensive market exploration, supported by technological innovation and strong certifications to ensure long-term competitiveness and growth.

### *4.5. Discussions*

This study set out to explore how SF can be leveraged to enhance OA in BGFs within the agri-food sector during their post-entry growth phase. By employing an advanced combination of foresight methodologies—including Fuzzy-MICMAC analysis, structural causal loop diagrams, morphological analysis, and scenario planning—we identified 13 critical variables and their interrelationships that significantly influence the capacity of BGFs to navigate complex international markets. These variables were prioritized based on their

systemic influence and dependence, leading to the development of optimal strategic scenarios that blend exploration and exploitation activities.

Our findings substantiate the theoretical proposition that OA, the capacity to balance exploration (innovation, adaptability) and exploitation (efficiency, refinement), is crucial for BGFs seeking sustained growth in volatile international markets (O'Reilly & Tushman, 2013). The incorporation of SF methodologies provides a structured approach to anticipate and navigate future uncertainties, enabling firms to align their ambidextrous strategies effectively (Slaughter, 1995; Tsoukas & Shepherd, 2004).

The study advances the discourse on OA by demonstrating how SF can operationalize the balance between exploration and exploitation. For instance, the causal loop diagrams revealed reinforcing feedback loops where strategic alliances and technological exploration mutually enhance both exploration and exploitation activities. This integration offers a dynamic capability framework (Teece, 2007) where BGFs can reconfigure their resources and competencies proactively in response to anticipated market shifts.

Strategic Alliances emerged as the most influential and dependent variable, acting as a central node within the system. This finding underscores the critical role of partnerships in accessing new resources, knowledge, and markets (Khan & Lew, 2018). Export-oriented alliances, in particular, facilitate not only market entry but also enhance international commercial intensity and geographic diversification of production. This aligns with network theory, which posits that firms embedded in international networks can better leverage opportunities and mitigate risks (Johanson & Vahlne, 2009).

Moreover, the feedback loops involving Strategic Alliances indicate that such partnerships can create self-reinforcing mechanisms, amplifying the firm's capacity for innovation and market expansion. This supports the notion that alliances are not merely transactional relationships but are strategic assets that contribute to the firm's dynamic capabilities (Eisenhardt & Martin, 2000).

Technological Exploration was identified as a key driver for both sustaining current products and developing new ones. The emphasis on integrating advanced technological systems reflects the imperative for continuous innovation to maintain competitiveness (Hsu et al., 2013). Our morphological analysis showed that firms adopting advanced automation and

monitoring technologies, such as IoT-enabled systems, are better positioned to enhance product quality and operational efficiency.

This finding resonates with the resource-based view (RBV) of the firm, which emphasizes that technological capabilities are valuable, rare, and difficult to imitate resources that can lead to sustainable competitive advantage (Barney, 1991). The incorporation of advanced technologies enables BGFs to innovate not only in products but also in processes, thereby enhancing both exploration and exploitation capacities.

Certifications and a strong Quality Focus were found to significantly influence Channel Diversification and Prizes and Awards. Achieving advanced certifications, such as GlobalGAP or Fairtrade, enhances market credibility and opens access to international markets with stringent quality and sustainability standards (Bemelmans et al., 2023). This aligns with signaling theory, where certifications serve as credible signals of quality and reliability to external stakeholders (Spence, 1973).

The study further highlights that certifications are not merely compliance mechanisms but strategic tools that can be leveraged for differentiation and market expansion. The positive feedback loop between certifications and quality focus suggests that investments in quality systems can lead to a virtuous cycle of improved reputation, customer trust, and competitive positioning.

Geographic Diversification of Production was emphasized as a critical strategy for risk mitigation and market expansion. By diversifying production across multiple regions or countries, BGFs can buffer against local disruptions, such as political instability or climate-related risks (Mudambi & Zahra, 2007). This strategy enhances the firm's resilience and ability to capitalize on diverse market opportunities.

The findings support real options theory, which views international diversification as a portfolio of options that firms can exercise in response to environmental uncertainties (Kogut & Kulatilaka, 1994). Geographic diversification thus serves both as an exploration activity—venturing into new markets—and an exploitation activity—leveraging existing capabilities in new contexts.

The scenario analysis provided strategic roadmaps that BGFs can adopt to optimize growth. The top scenarios identified emphasize a balanced approach to exploration and exploitation,

integrating export-oriented alliances, moderate to intensive market exploration, and investments in technological and process innovations.

For example, Scenario 1 combines export-oriented alliances with moderate market exploration and integrated technological systems, suggesting a strategic configuration where BGFs leverage partnerships to access new markets while investing in technology to enhance efficiency and innovation. This aligns with the concept of ambidextrous organizations that simultaneously pursue incremental and radical innovation (March, 1991).

### *4.6. Conclusions*

This study significantly advances the understanding of how SF can be integrated with OA to enhance the growth trajectories of BGFs in the agri-food sector. By employing an advanced methodological framework that synergizes Fuzzy-MICMAC analysis, structural analysis, morphological analysis, and scenario planning, we have identified critical variables and strategic configurations that bolster BGFs' capacity to navigate the complexities of international markets characterized by uncertainty and rapid change.

The findings underscore the pivotal roles of Strategic Alliances, Technological Exploration, Certifications, and Geographic Diversification in fostering OA and sustaining growth. Specifically, the study demonstrates that BGFs can effectively balance exploration and exploitation by leveraging SF to anticipate future uncertainties and strategically align their actions. This balance is essential for BGFs to remain agile and responsive in the face of dynamic global market conditions.

The proposed scenarios offer practical roadmaps for BGFs, emphasizing:

- Export-Oriented Alliances: Forming strategic partnerships that enhance international market penetration and knowledge sharing.
- Investments in Advanced Technologies: Fostering innovation through technological exploration to improve product offerings and operational efficiencies.
- Adherence to International Quality Standards: Achieving advanced certifications to gain market credibility and meet the stringent requirements of global markets.

These strategies collectively enable BGFs to enhance their dynamic capabilities, adapt swiftly to changing market conditions, and maintain a competitive edge on the global stage.

*Theoretical Implications*

From a theoretical perspective, this study advances the discourse on OA by illustrating how SF can operationalize the delicate balance between exploration and exploitation. By incorporating foresight as a strategic capability, we extend the dynamic capabilities framework (Teece, 2007), demonstrating that proactive resource reconfiguration is vital for sustained competitive advantage in international markets.

Moreover, the study bridges a critical gap in the literature by providing empirical evidence on the integration of SF and OA in the context of internationalization. This integration enriches the theoretical foundations of international entrepreneurship by elucidating the mechanisms through which BGFs can achieve sustained post-entry growth. The nuanced understanding of the interdependencies among critical variables offers valuable insights into the strategic levers that enhance BGFs' competitiveness.

*Methodological Contributions*

Methodologically, the study showcases the efficacy of integrating advanced foresight methodologies with OA theory. The use of Fuzzy-MICMAC analysis allowed for the prioritization of variables within a complex and uncertain environment, capturing the subtleties of influence and dependence among factors. The causal loop diagrams provided dynamic insights into the systemic behaviors of BGFs, revealing reinforcing and balancing loops critical for strategic decision-making.

The combination of morphological analysis, cluster analysis, and scenario planning facilitated the exploration of an extensive array of strategic variables, leading to the identification of optimal scenarios. This comprehensive methodological approach offers a robust framework for both scholars and practitioners seeking to navigate the intricacies of international market expansion.

This study is among the first to apply a comprehensive mixed-methods approach in the examination of dynamic capabilities within agri-food BGFs. Through qualitative insights from executive-level experts and rigorous application of multi-criteria decision-making techniques, the study establishes a framework that captures context-specific exploratory and exploitative strategies essential for growth. Leveraging expert input, provides an adaptable approach for analyzing complex qualitative concepts quantitatively.

The Fuzzy-MICMAC analysis allowed for a nuanced identification of the drivers based on their power to influence and being influenced by other variables. Furthermore, the structural analysis facilitated the exploration of cross-relationships among these drivers, yielding a conceptual framework that captures the specific exploratory and exploitative managerial resources and capabilities necessary for sustained growth in volatile global markets.

This framework offers a foundation for researchers to develop future hypotheses, supporting further empirical exploration in various emerging contexts. The insights generated here contribute significantly to the theoretical understanding of ambidexterity and foresight as critical enablers of resilience and competitive advantage in international markets.

*Practical Implications*

For practitioners, the study offers actionable insights into strategic planning and resource allocation:

Strategic Alliances: BGFs should prioritize forming export-oriented alliances to enhance international market penetration and leverage shared resources and knowledge.

Technological Exploration: Investments in advanced technologies are essential for driving product innovation and improving process efficiencies, which are critical for maintaining competitiveness.

Quality Certifications: Achieving advanced international certifications not only facilitates market access but also strengthens brand reputation and customer trust.

These strategies enable BGFs to build resilient organizational structures capable of withstanding market volatilities and capitalizing on emerging opportunities.

For managers and stakeholders within agri-food BGFs, this study provides a strategic tool to reconfigure organizational resources to bolster international competitiveness. By understanding the distinct functions of the identified drivers and their interdependencies, managers can more effectively align their strategic actions with evolving market demands and operational needs. For instance, this research underscores the importance of building and sustaining robust international networks, which facilitate quicker adaptation to host market conditions and enable BGFs to capitalize on emerging opportunities and partnerships.

*Policy Implications*

For policymakers, the study highlights the necessity of developing supportive frameworks that encourage:

- Strategic Partnerships: Facilitating platforms and incentives for BGFs to form strategic alliances, particularly those that are export-oriented.
- Technological Innovation: Providing resources and incentives for technological development to enhance the innovative capacity of BGFs.
- Quality Enhancement: Assisting firms in achieving international certifications to improve market access and competitiveness.
- Policy interventions that ease access to international networks and foster innovation can significantly accelerate the growth trajectories of agri-food firms, contributing to economic development and food security.

*Limitations and Future Research*

While the study offers substantial insights, certain limitations warrant attention. The sample size of firms and experts, although methodologically adequate, may constrain the generalizability of the findings. Future research should consider expanding the sample across diverse regions and sectors to validate and extend the applicability of the results.

Additionally, the focus on 13 variables, though comprehensive, suggests avenues for further exploration. Future studies could incorporate additional factors such as:

- Cultural Influences: Examining how cultural differences impact BGFs' internationalization strategies.
- Regulatory Environments: Investigating the effects of varying regulatory landscapes on BGFs' operations.
- Digital Transformation: Understanding how digital technologies influence BGFs' capacity for innovation and market expansion.

Longitudinal studies are also recommended to assess the long-term effectiveness of the proposed scenarios and strategies. By investigating the dynamic interplay between SF, OA, and other organizational capabilities over time, researchers can deepen the theoretical and practical understanding of BGFs' internationalization processes.

*Figure 4-1. Co-ocurrence Network*

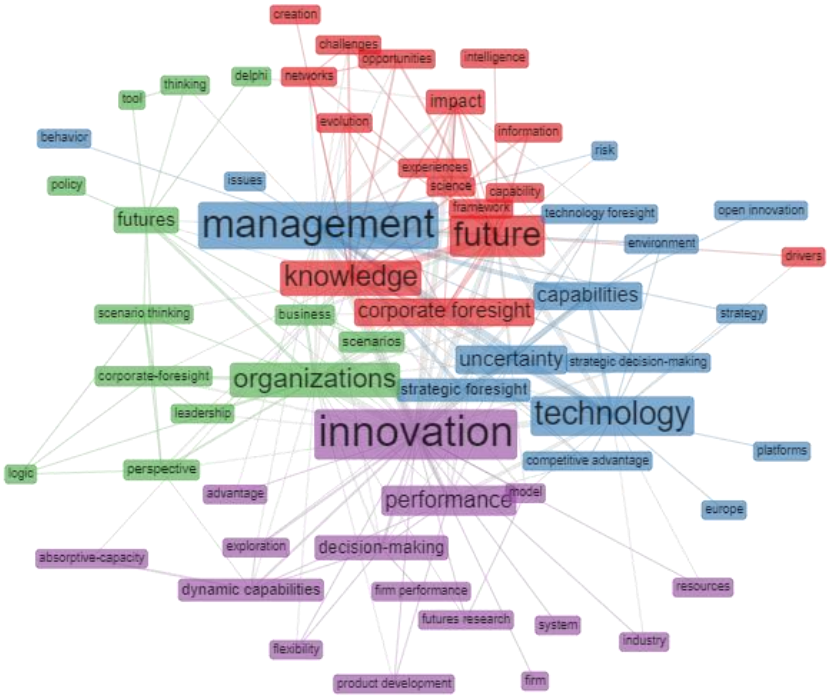



*Figure 4-2 Power and Dependence Map*

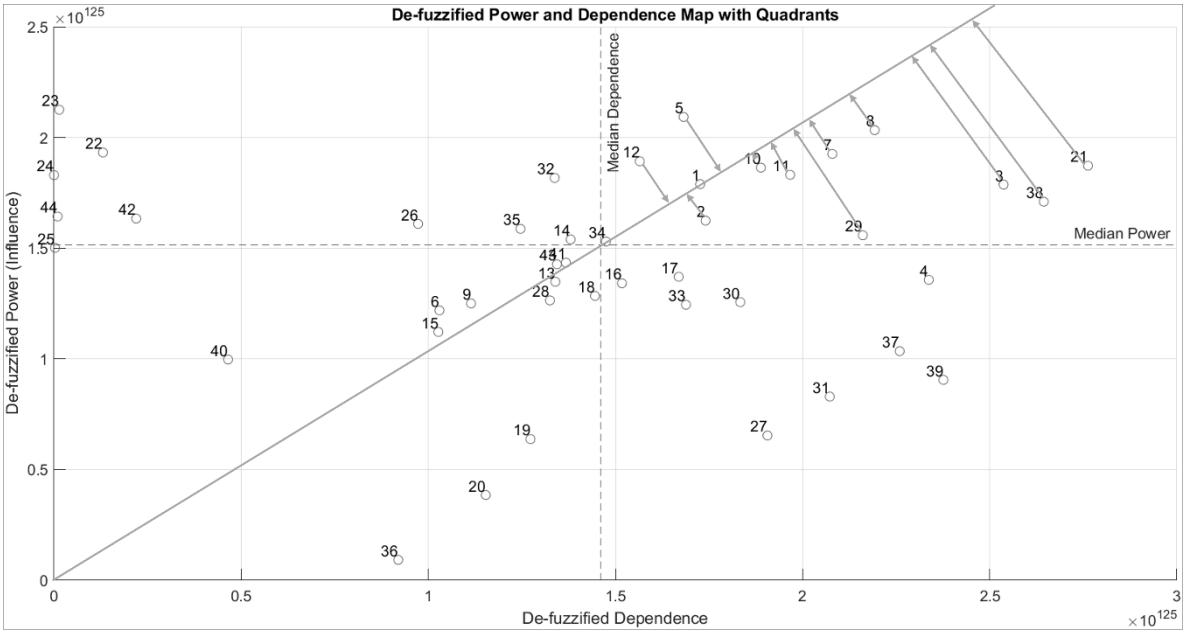


*Figure 4-3. Weighted Influence Map of Prioritized Variables*

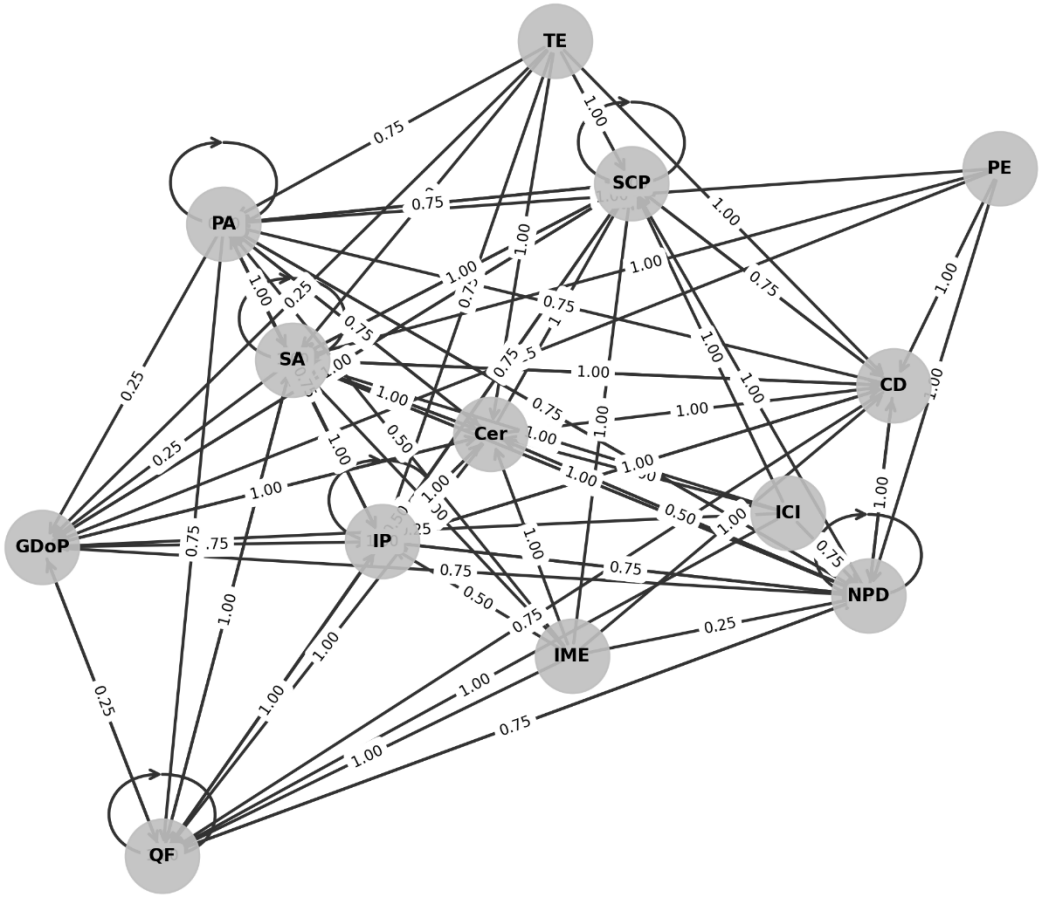



*Table 4—1. Ranked Prioritized Variables*

| Number Label | Short Label | Variable |
|---|---|---|
| 21 | SA | Strategic Alliances |
| 38 | ICI | International Commercial Intensity |
| 3 | IME | International Market Exploration |
| 8 | PE | Process Exploration |
| 7 | TE | Technological Exploration |
| 29 | GDoP | Geographic Diversification of Production |
| 11 | SCP | Sustaining current Products |
| 10 | Cer | Certifications |
| 5 | QF | Quality Focus |
| 1 | CD | Channel Diversification |
| 2 | NPD | New Product Development |

| Number Label | Short Label | Variable |
|---|---|---|
| 12 | IP | Improvements In Packaging |
| 34 | | Prizes And Awards |

*Table 4—2. Morphological Space*

| Variable/source | Developing State | Advanced State | Leading/Innovative State |
|---|---|---|---|
| Strategic Alliances/ (Galaso & Rodríguez Miranda, 2022) | **National Strategic Alliances:** Description: These alliances involve larger firms or national cooperatives, which have significant influence and are involved in larger scale operations that go beyond local markets to national and international markets. | **Innovative/Technology-Oriented Alliances:** Description: Alliances that specifically focus on innovation and technological advancement. These could involve collaborations with research institutions, tech companies, and include initiatives like joint R&D projects, technology sharing, etc. | **Export-Oriented Alliances:** Description: Strategic alliances formed to enhance capabilities and reach in international markets. These alliances are likely to involve firms with strong export orientations and may include partnerships with foreign companies or governments. |
| International Commercial Intensity (Ayuda et al., 2022) | **Moderate Commercial Intensity:** Description: Represents a medium level of engagement in international markets, perhaps due to some beneficial trade agreements like MERCOSUR or NAFTA, but still facing some challenges like geographical or political barriers. This could involve moderate GDP growth and moderate increases in export volumes. | **High Commercial Intensity:** Description: Scenarios where countries exhibit high levels of export activity, strongly influenced by favorable trade agreements, economic policies promoting exports, and strong economic indicators. High commercial intensity would be characterized by rapid GDP growth, significant participation in international markets, and substantial export volumes | **Variable/Fluctuating Commercial Intensity:** Description: This state would reflect the fluctuations in export volumes and economic activity due to external factors such as economic downturns, changes in trade policies, or other macroeconomic factors that could cause variations in export performance over time. |
| International Market Exploration (Lin & Si, 2019) | **Moderate Exploration:** Description: Firms engage in some level of exploration without fully committing extensive resources to it. They balance between utilizing known markets and occasionally venturing into new | **Intensive Exploration:** Description: Firms actively seek out new markets and opportunities with significant investment in exploration activities. This includes extensive market research, participation in | **Exploration with Exploitation:** Description: Firms not only explore new markets aggressively but also exploit these opportunities rapidly. They quickly utilize the new knowledge gained from exploration |

| Variable/source | Developing State | Advanced State | Leading/Innovative State |
|---|---|---|---|
| | markets to test potential opportunities. | international expos, or establishing pilot operations in new regions. | activities to expand and solidify their presence in new international markets. |
| Process Exploration(Lin & Si, 2019) | **Moderate Process Exploration:** **Description:** Firms engage in some exploratory activities, experimenting with new processes on a limited scale. This might include adopting new technologies or methodologies but within a controlled scope to manage risks effectively. | **Intensive Process Exploration:** **Description:** At this level, firms are deeply invested in exploring new processes. This includes significant investments in R&D, innovation, and experimentation with entirely new approaches to business operations, aiming to discover novel methods that can provide competitive advantages in international markets. | **Balanced Process Exploration and Exploitation:** **Description:** Firms at this stage not only explore new processes extensively but also efficiently exploit these new findings. This balance allows them to rapidly incorporate new knowledge and innovations into their mainstream operations, enhancing both their agility and effectiveness in international markets. |
| Technological Exploration (Ma, 2018; Nagar et al., 2023; Selvam et al., 2022) | **Integrated Technological Systems:** **Description:** At this level, technologies are more integrated and begin to include elements of IoT, enabling better connectivity and data flow between devices. This includes systems like the AI-based smart agriculture system using embedded IoT, which enhances productivity and operational efficiency through improved data management and device interoperability. | **Advanced Automation and Monitoring:** **Description:** This state features highly sophisticated systems that incorporate advanced monitoring and automation technologies, such as the ZigBee-based agricultural wireless automatic monitoring control system. Here, technologies are used to automate complex processes and provide extensive monitoring capabilities, significantly reducing manual intervention and improving precision in operations. | **Highly Specialized Technological Innovation:** **Description:** The most advanced state of technological exploration, involving cutting-edge innovations tailored to specific agricultural needs. Examples include the multi-crop quality assessment system that uses machine vision to assess the quality of different crops and pulses accurately and efficiently. This state represents the pinnacle of technology application, where specialized, high-tech solutions are developed to address particular challenges in agriculture. |
| Geographic Diversification of Production(Awokuse et al., 2024) | **Regional Diversification** **Description:** Expansion of production across | **Moderate International Diversification** **Description**: Establishment of | **Extensive Global Diversification** **Description**: Strong presence across multiple |

| Variable/source | Developing State | Advanced State | Leading/Innovative State |
|---|---|---|---|
| | multiple regions within a country or among neighboring countries. This reflects a strategy aimed at risk mitigation and the exploration of new markets, leveraging diverse regional advantages. | operations in various countries, potentially within a continent or in key international markets. This stage indicates a more advanced level of integration into global value chains and enhanced resilience against localized shocks. | continents or global markets, reflecting a strategy of maximum diversification and expansion. This stage is typical of companies operating on a global scale, seeking to maximize reach and mitigate risks through broad geographic dispersion. |
| Sustaining current Products(Awokuse et al., 2024) | **Seasonal and Market-driven Variations:** **Description:** The company introduces minor variations to their existing products to cater to seasonal demands or minor market shifts. These variations might include special packaging, limited-time offers, or slight adjustments in product formulations to align with temporary market trends. | **Incremental Product Enhancement:** **Description:** This state involves gradual improvements in the product's features, quality, or efficiency. The enhancements are aimed at keeping the product competitive and appealing to existing customers by refining attributes such as taste, durability, or user-friendliness. | **Product Line Extension:** **Description:** The company expands its existing product lines through additions that are closely related to the current offerings. This could involve introducing different sizes, flavors, or complementary products that enhance the use of the original product but remain closely tied to the core product characteristics. |
| Certifications (Akiri et al., 2024; Bemelmans et al., 2023; Giua et al., 2024; Wei et al., 2024; Yang et al., 2023) | **Intermediate Certification:** **Description:** This state represents certifications that provide a moderate competitive edge in domestic and some international markets, such as ISO 9001 or regional organic certifications. These certifications help firms differentiate themselves based on quality and safety improvements. | **Advanced Certification:** **Description:** Involves higher-level, internationally recognized certifications that significantly enhance market access and consumer trust, such as GlobalGAP, Fairtrade, or Rainforest Alliance. These certifications often include stringent environmental and social sustainability standards. | **Integrated Multi-certification:** **Description:** Firms hold multiple advanced certifications that cover a wide array of quality, safety, environmental, and social standards, enhancing brand reputation, market access, and consumer trust globally. This state represents a comprehensive approach to meeting the highest standards of product excellence and corporate responsibility. |
| Quality Focus (Hatab et al., 2019; Millet et al., 2020) | **Enhanced Quality Control:** **Description:** Companies engage in more rigorous quality | **Integrated Quality and Sustainability:** **Description:** At this level, firms integrate quality control with | **Strategic Quality Leadership:** **Description:** Firms in this state are industry leaders in quality, setting |

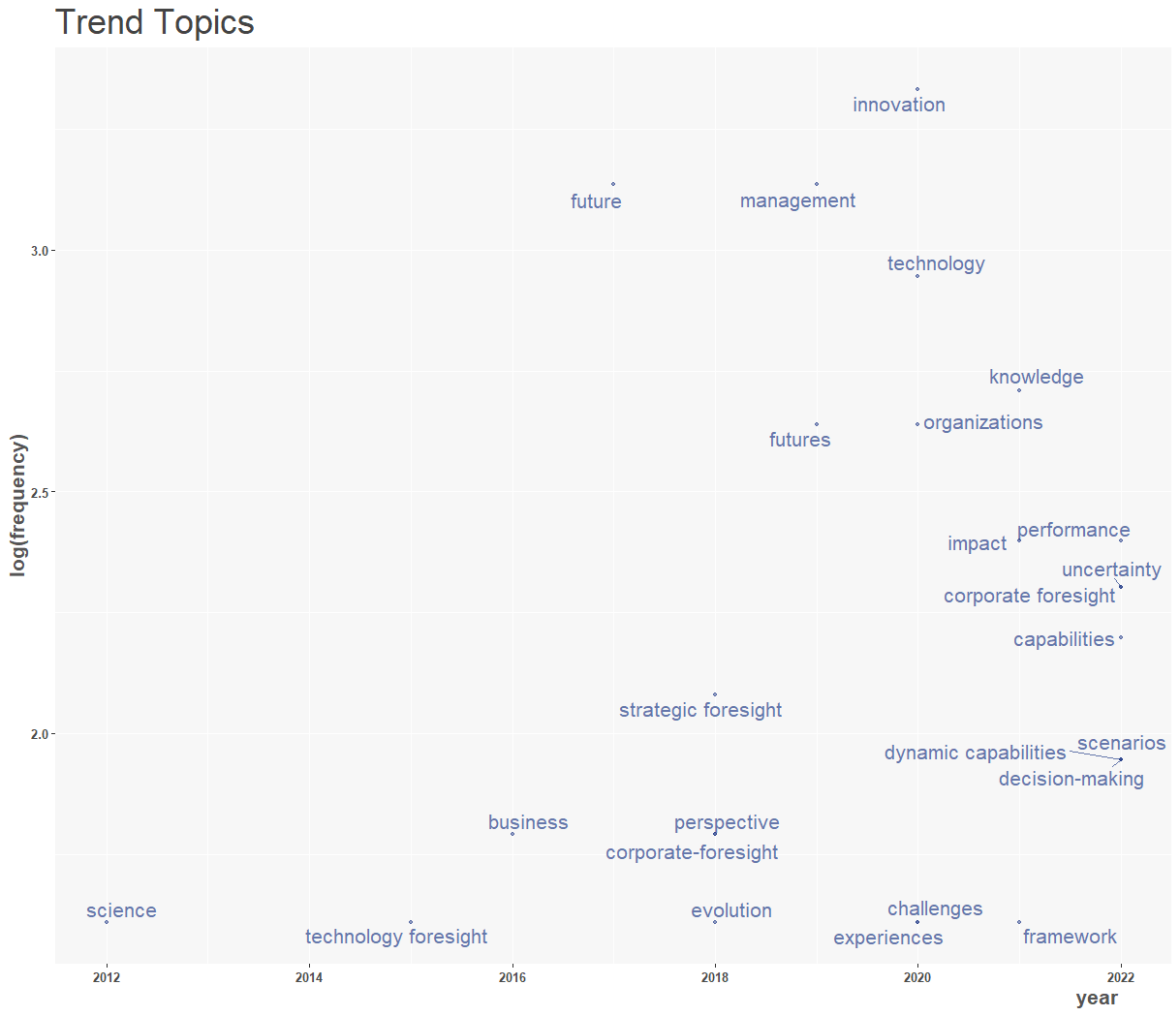
| Variable/source | Developing State | Advanced State | Leading/Innovative State |
|---|---|---|---|
| | checks and process optimizations beyond basic compliance. This includes implementing internal quality management systems, regular product testing, and possibly obtaining certifications like ISO 9001 that focus on continual improvement of quality management systems. | sustainability measures. This includes obtaining certifications that not only emphasize product quality but also consider environmental and social standards, such as GlobalGAP or Fairtrade. This state reflects a holistic approach to quality, where the production process's sustainability aspects are as crucial as the product's quality. | benchmarks and defining market standards. They might be involved in setting geographical indications (GIs), leading sustainability practices, and pioneering new quality standards. These companies use quality as a strategic element to differentiate themselves significantly in the market and drive industry trends. |
| Channel Diversification (Ciasullo et al., 2022; Hu et al., 2019; Mohamadi & Mohammadi, 2024) | **Initial E-commerce Adoption:** **Description:** The firm extends its reach by adopting basic e-commerce capabilities, enabling online sales through a simple online platform or third-party e-commerce sites without fully integrating with traditional sales methods. | **Advanced E-commerce Integration:** **Description:** The company integrates advanced e-commerce strategies, utilizing a fully functional online store with integrated inventory and logistics that complement traditional retail channels. | **Omnichannel Strategy:** **Description:** The highest level of channel diversification where the firm employs an omnichannel strategy, seamlessly integrating online and offline sales channels to provide a unified customer experience. This includes synchronization of sales, marketing, and customer service across all platforms. |
| New Product Development(Cho et al., 2017; Jing et al., 2023) | **Market Expansion Products:** **Description:** Here, the company develops products intended to expand their market reach. This could involve entering new geographic markets or demographic segments with products specifically designed to appeal to these new audiences. | **Diversification Products:** **Description:** In this state, the company introduces products that diversify their existing portfolio to reduce market risks. These products may be related to the company's current offerings but explore different applications or use cases. | **Pioneering Products:** **Description:** This state represents the introduction of groundbreaking products that establish entirely new markets or redefine existing ones. These innovations typically involve significant investments in research and development and are aimed at creating new industry standards. This state also represents the introduction of groundbreaking products that establish entirely new markets or redefine existing ones. Innovations in this |

| Variable/source | Developing State | Advanced State | Leading/Innovative State |
|---|---|---|---|
| | | | category are not just improvements but are transformative in nature, offering new functionalities or creating entirely new product categories. For example, methods for enhancing the nutritional value of fruits by enriching them with functional amino acids. |
| Improvements In Packaging (Haumont & Stukanova, 2024; James, 2023; Lina et al., 2024) | **Sustainable Packaging:** **Description:** In this state, the company adopts environmentally friendly packaging solutions, such as using biodegradable materials or reducing packaging waste. This reflects a commitment to sustainability and responds to increasing consumer demand for eco-friendly products. | **Advanced Material Innovation:** **Description:** This state represents significant advances in packaging materials that enhance product preservation, usability, or aesthetics. Innovations might include the use of novel biomaterials or technologies that significantly improve barrier properties or durability. | **Integrated Smart Packaging:** **Description:** The highest level of packaging innovation, where packaging is integrated with smart technologies such as sensors or connectivity features. These enhancements offer functionality beyond traditional uses, such as tracking freshness, displaying information dynamically, or improving consumer engagement. |
| Prizes And Awards (Dar et al., 2024; Engemann et al., 2023; Kim et al., 2024; Ryan et al., 2019) | **Industry Endorsement:** **Description:** These awards are recognized within specific industries and serve as endorsements of the firm's capabilities and quality. As suggested in the research, such endorsements can enhance a firm's reputation within industry networks, facilitating entry into new markets by leveraging sector-specific networks and relationships. | **Global Prestige:** **Description:** Internationally recognized awards that confer global prestige and signify superior quality and reliability. According to the insights from the papers on institutional quality and social capital, these awards can significantly impact a firm's internationalization by opening up international trade channels and enhancing the firm's negotiation position in global markets. | **Market Transformation:** **Description:** Awards that have a transformational impact on the firm's market presence and business strategy. This highest level of recognition can redefine a firm's strategic direction, as discussed in the context of extended social capital and network benefits, leading to new partnerships, expanded international operations, and potentially influencing industry standards. |

*Appendix 4.1. Search strings from the systematic literature review on SF in Business*

| | | |
|---|---|---|
| Search string: "strategic foresight" OR "corporate foresight" OR “organizational foresight” OR “la prospective” (Topic)<br><br>476 results | Search string: "strategic foresight" OR "corporate foresight" OR “organizational foresight” OR “la prospective” (Topic) and Article (Document Types) and English (Languages) and Business Economics (Research Areas)<br><br>246 results | Manual Review of Titles, Abstracts, and Keywords Inclusion Criterion: SF as Part of the Theoretical Framework<br><br>109 results |

*Appendix 4.2. Research trends in SF in Business*



*Appendix 4.3. Papers by Research Stream*

| Research Stream | Studies |
|---|---|
| Studies Integrating SF with Other Theoretical Frameworks | (Lautenschlager & Tzempelikos, 2024); (van der Duin et al., 2024); (Grumbach, 2023); (Hall et al., 2022); (Schwarz et al., 2023); ( Li et al., 2022; Liu & Hansen, 2022); (Nascimento et al., 2021); (Datta et al., 2023); (Hakmaoui et al., 2022); (Gordon et al., 2019). |
| Studies Evaluating the Relationship of SF with Other Variables | (Moqaddamerad & Ali, 2024); (Purwanto et al., 2023); (Peterson & Wu, 2021); (Haarhaus & Liening, 2020); (Fathi et al., 2021); ( Li & Sullivan, 2022); (Ratcliffe, 2020); (René Rohrbeck & Kum, 2018)(Sarpong & Hartman, 2018); (Hojland & Rohrbeck, 2018); (Sarpong & Maclean, 2016); (Sarpong & Maclean, 2014); ( Rohrbeck & Schwarz, 2013); (Rohrbeck, 2012); (Rohrbeck & Gemünden, 2011); (Bootz, 2010); (Daheim & Uerz, 2008). |
| SF Applications in Organizations | (Westphal et al., 2023); (Gbegbelegbe et al., 2024); (Michel et al., 2023); (Spaniol & Rowland, 2022); (Idoko & MacKay, 2021); (Bishop et al., 2020); (Streit et al., 2021); (Unlu et al., 2024); (Michel et al., 2023); (Burt & Nair, 2020); (Pistolesi et al., 2024); (Burt & Nair, 2020), (Héry & Malenfer, 2020) (Demneh et al., 2023) (Idoko & MacKay, 2021); (Bishop et al., 2020); (Calof et al., 2020); (Dadkhah et al., 2018); (Adams et al., 2018); (Abdoli et al., 2018); (Carlisle et al., 2016); (Durst et al., 2015); (Raford, 2015); (Vishnevskiy et al., 2015); (Cook et al., 2014); (Battistella, 2014); (Förster & von der Gracht, 2014); (Farrington et al., 2012); (Riccardo Vecchiato, 2012); (Ringland, 2010); (Micic, 2010); (Bezold, 2010); (Riccardo Vecchiato & Roveda, 2010); (Nováky & Tyukodi, 2010); (Liebl & Schwarz, 2010); (von der Gracht et al., 2010); (De Vito & Taffoni, 2023); (Habegger, 2010); (Leigh, 2003); (Jafari-Sadeghi et al., 2020); (Alsan, 2008). |
| Literature Reviews and Academic reflections on the nature of SF | (Zhao et al., 2023); (Semke & Tiberius, 2020); (Marinković et al., 2022); (Andresen et al., 2022); (Fergnani, 2022b); (Andresen et al., 2022); (Wenzel, 2022); (Fergnani, 2022a); (van der Laan, 2021); (Mastio & Dovey, 2021); (Iden et al., 2017); (Rohrbeck et al., 2015) (Ruff, 2015); (Sarpong et al., 2013); (Martinet, 2010); (Mojica, 2010); (Konstantin Vishnevskiy et al., 2015;) (Ruff, 2006). |

## *Appendix 4.4. Variable Prioritization Instrument (Matrix of Direct Influences)*

Please rate the impact of each variable over the other ones as follows: 0: No influence; 1: Weak; 2: Moderate; 3: Strong; 4: Potential.

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Channel Diversification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | New Product Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | International Market Exploration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Exploration Of Social and Relational Capital | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Quality Focus | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Technological Exploitation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | Technological Exploration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Process Exploration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Process Exploitation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Certifications | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Sustaining Traditional Products | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Improvements In Packaging | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Customization | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | Contract Manufacturing Strategy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | Offer If By-Products for The Home Market | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | Value Chain Recognition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | Exploration Of Social and Relational Capital | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | Financial Support from Public/Private | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | Strategic Alignment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | Forward Contracts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | Strategic Alliances | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | Commodity Prices | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | Climate Change | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | Cultural Diversity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | Social/Political Crises | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | Intense Competition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | New Presentations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | Cultural/Ethical Branding Strategies | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | Geographic Diversification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Vertical Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | Current Market Exploitation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | Traceability | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | Reduction In Production Costs | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | Prizes And Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | Added Value Through Education | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | Organizational Bricolage | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | International Strategic Agility | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | International Commercial Intensity | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | Risk Diversification | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | Risk Taking Behavior | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | CSR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | The founder's Mindset | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | Resilience | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | Niche Strategy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

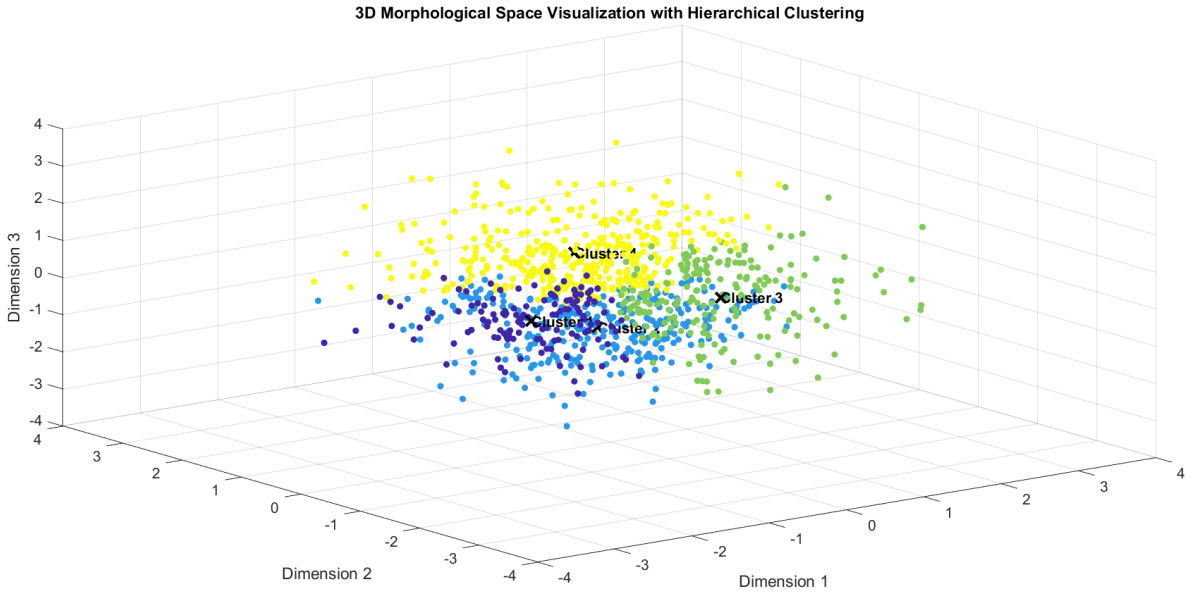
## *Appendix 4.5. Variable Definition Instrument*

| Variable Name | | Variable Definition |
|---|---|---|
| 1 | Channel Diversification | Refers to a strategy employed by retail firms where they utilize both digital (e-commerce) and physical sales channels to expand their product portfolio and international market presence simultaneously. This approach enables firms to mitigate the negative impacts traditionally associated with expanding both product and geographic diversity, by leveraging the distinct benefits of each sales channel (Batsakis et al., 2023). |
| 2 | New Product Development | New Product Development (NPD) is defined as the process that businesses undertake to conceptualize, design, develop, and bring new products to market (Falay et al., 2007). NPD is crucial for maintaining competitiveness and achieving growth, particularly in industries characterized by rapid technological change or consumer preference shifts. It involves stages such as idea generation, product design, prototyping, testing, and market introduction. Effective NPD requires strategic alignment with the firm's resources, capabilities, and broader business objectives. |
| 3 | International Market Exploration | The systematic process through which firms assess and identify potential markets overseas to determine the viability of entering and competing effectively. This process is especially critical for BGFs and involves extensive research to understand market demands, regulatory environments, competitive dynamics, and cultural nuances. Effective exploration is integral to the strategic decision-making of BGFs, facilitating their rapid entry into international markets in alignment with their capabilities for managing dual demands of exploration and exploitation, characteristic of OA (Monferrer et al., 2015). |
| 4 | Exploration Of Social And Relational Capital | Refers to the deliberate efforts by these firms to investigate, build, and leverage networks and relationships that can provide strategic benefits. This exploration involves identifying potential partnerships, alliances, and channels that can facilitate knowledge acquisition, resource access, and market entry in international contexts (Fuerst & Zettinig, 2015). |
| 5 | Quality Focus | Refers to the strategic prioritization of maintaining high standards in product and service offerings. This commitment is characterized by the rigorous application of quality controls, compliance with international food safety regulations, and a proactive approach to incorporating stakeholder feedback into quality assurance processes. |

| Variable Name | | Variable Definition |
|---|---|---|
| 6 | Technological Exploitation | Refers to the strategic use of existing technological assets to enhance operational efficiencies, improve product quality, and sustain competitive advantage in established markets. This concept encompasses the refinement and intensification of technology-based processes, optimization of production techniques, and effective utilization of information systems to maximize productivity and meet the rigorous standards of global agri-food markets. |
| 7 | Technological Exploration | Involves the proactive pursuit of new technologies to extend a firm's capabilities and access new markets. This entails engaging in research and development, adopting emerging technologies, and experimenting with advanced agricultural techniques to enhance product offerings and enter unexplored market segments. |
| 8 | Process Exploration | Refers to the deliberate investigation and adoption of new operational processes. This exploration aims to enhance efficiency, innovation, and adaptability in production and management systems. |
| 9 | Process Exploitation | Refers to the strategic use and optimization of existing operational processes to maximize efficiency, quality, and profitability. This involves refining established methods, enhancing production techniques, and improving supply chain management to better exploit current capabilities and resources. Through process exploitation, BGFs can solidify their market position and achieve sustained growth by effectively leveraging their established operational strengths. |
| 10 | Certifications | Formal recognitions that agri-food firms comply with established standards across various dimensions such as quality, safety, environmental management, and social responsibility. Attaining such certifications not only enhances operational credibility and market access but also aligns with the dual strategic imperatives of exploration and exploitation. By securing and maintaining certifications, BGFs can effectively explore new market opportunities while exploiting their established credentials to bolster trust and competitive positioning. |
| 11 | Sustaining current Products | Refers to the strategic exploitation of the existing product portfolio. This approach focuses on maximizing the efficiency and market performance of current products, aligning with the firm's capability to exploit well-established resources while maintaining the flexibility to adapt and innovate within the global marketplace. |
| 12 | Improvements In Packaging | Refers to the strategic enhancement of packaging processes and materials to achieve greater product appeal, durability, and sustainability. This involves integrating advanced technologies and innovative designs to optimize packaging functionality and efficiency, while also considering environmental impact. Such improvements are crucial for BGFs seeking to exploit existing markets more effectively and explore new international opportunities by meeting or exceeding regulatory standards and consumer expectations. |
| 13 | Customization | Refers to the strategic adaptation of products, services, and processes to meet specific customer preferences, cultural nuances, and market requirements in various international locations. This approach enables BGFs to effectively exploit existing capabilities while exploring and responding to the diverse needs and opportunities presented by global markets, thereby enhancing customer satisfaction and competitive positioning. |
| 14 | Contract Manufacturing Strategy | Refers to a tactical approach where a firm outsources its manufacturing processes to third-party producers in various international markets. This strategy enables BGFs to leverage specialized manufacturing capabilities and local market knowledge, facilitating rapid scaling and entry into new markets. It supports the firm's exploitation of cost efficiencies and quality control, while allowing exploration of market-specific customization and faster adaptation to local consumer preferences. |
| 15 | Offer Of By-Products for The Home Market | Refers to the strategic marketing and distribution of secondary products or by-products produced during the manufacturing process, targeted specifically at domestic consumers. This approach allows firms to maximize resource utilization and revenue streams by capitalizing on all output products, enhancing both economic and environmental sustainability. It involves identifying market needs and consumer preferences within the home country to effectively position and sell these by-products. |
| 16 | Value Chain Recognition | The acknowledgment and trust established among stakeholders throughout the value chain due to a firm's reputable operations and ethical business practices. This recognition facilitates the exploitation of a firm's reputation for building and sustaining long-term relationships, enhancing trust, and securing strategic advantages such as better terms of trade and loyalty, which are critical for maintaining competitive positions in both domestic and international markets. |
| 17 | Exploitation Of Social And Relational Capital | Actively exploiting current relationships and networks that can provide strategic resources and insights. |
| 18 | Financial Support From Public And Private Entities | The acquisition of funding from governmental bodies and private sector organizations. This financial backing is crucial for fueling growth, supporting research and development, and facilitating international expansion. It often involves grants, loans, tax incentives, and investment from entities interested in fostering innovation and global trade within the agri-food industry. Such support enables BGFs to leverage additional resources to scale operations and penetrate new markets more effectively. |
| 19 | Strategic Alignment | Refers to the process of adjusting a firm's strategy, resources, and capabilities to ensure coherence with its business objectives and external market conditions. This alignment is crucial for leveraging competitive advantages and effectively responding to international market demands. It involves synchronizing operational activities and strategic goals across different levels of the organization to enhance performance and achieve long-term sustainability. |
| 20 | Forward Contracts | Agreements made in advance to buy or sell a particular commodity at a predetermined price on a specified future date. These contracts are used as a risk management tool to hedge against price fluctuations in the market. By locking in prices, BGFs can stabilize their cost inputs and sales revenues, facilitating more predictable financial planning and reducing exposure to adverse market movements. |
| 21 | Strategic Alliances | Partnerships formed between companies to leverage mutual strengths for achieving strategic objectives that might be difficult to attain independently. These alliances enable firms to share resources, knowledge, and markets, facilitating rapid international expansion and innovation. By collaborating with partners, BGFs can enhance their capabilities, access new markets more efficiently, and improve competitiveness through combined efforts and shared risk. |
| 22 | Commodity Prices | the market prices for raw agricultural products and other basic goods that are traded on commodity exchanges. These prices are crucial for BGFs as they directly affect the cost of raw materials and the pricing strategy for final products. Fluctuations in commodity prices can significantly impact profitability, requiring BGFs to employ strategies such as hedging and diversification to manage risks associated with price volatility. |
| 23 | Climate Change | Refers to the long-term shifts in temperatures and weather patterns. These changes can significantly impact agricultural productivity, supply chains, and market stability. BGFs must adapt to these changes by implementing sustainable agricultural practices, diversifying their crop portfolios to include more resilient varieties, and enhancing their supply chain flexibility to mitigate risks associated with climate variability. Adapting to climate change is crucial for maintaining competitiveness and ensuring long-term sustainability. |
| 24 | Cultural Diversity | Refers to the variety of cultural perspectives and practices encountered in global markets . Embracing cultural diversity enables BGFs to tailor their products and marketing strategies to meet the unique preferences and needs of diverse consumer bases. This adaptation enhances market penetration and competitiveness, fostering innovation and responsiveness in product development and customer engagement strategies. |
| 25 | Social/Political Crisis | The challenges and disruptions caused by societal and governmental instability. These crises can affect market access, supply chain operations, and overall business continuity. BGFs must navigate these uncertainties by developing contingency plans, engaging in proactive stakeholder communication, and leveraging their agility to adapt to changing regulatory and social environments. This resilience supports their ability to maintain operations and pursue growth opportunities despite unpredictable conditions. |
| 26 | Intense Competition | Refers to the high level of rivalry that these firms face from both local and international competitors in the global market. This competition demands that BGFs continually innovate, enhance their efficiencies, and effectively differentiate their products and services. Navigating intense competition requires strategic agility, market insight, and the ability to rapidly adapt to changing consumer preferences and technological advancements. |
| 27 | New Presentations | Refers to the innovative ways products are packaged, branded, and marketed to meet diverse and evolving consumer preferences in global markets. This involves redesigning product formats, enhancing visual appeal, and adapting marketing messages to resonate with local cultural and consumer trends. Effective new presentations can significantly impact product differentiation and market penetration, enabling BGFs to stand out in competitive international environments. |
| 28 | Cultural/Ethical Branding Strategies | Refer to marketing approaches that incorporate cultural and ethical elements into the branding process. For example, featuring the faces of local farmers on packaging and using product names that reflect the cultural identity of each market. This strategy not only enhances the authenticity and appeal of the products but also aligns with consumer values focused on ethical sourcing and cultural respect, thereby strengthening brand differentiation and consumer loyalty in diverse global markets. |

| Variable Name | | Variable Definition |
|---|---|---|
| 29 | Geographic Diversification of Production | T he strategic expansion of production facilities across multiple geographic regions. This diversification strategy aims to mitigate risks associated with local market fluctuations, access new markets more effectively, and leverage regional advantages such as lower labor costs, favorable regulatory environments, or proximity to raw materials. It enables BGFs to enhance their supply chain resilience and responsiveness to global demand shifts. |
| 30 | Vertical Integration | Refers to the strategic expansion where a firm not only exports products but also starts to control other stages of the value chain such as production, processing, and distribution. This approach allows BGFs to achieve greater control over their supply chain, enhance product quality, reduce costs, and respond more swiftly to market demands. Vertical integration helps in creating efficiencies and ensuring consistency, thereby supporting both local and international market strategies. |
| 31 | Current Market Exploitation | Strategic activities focused on maximizing the potential of existing markets. This involves leveraging established products and customer bases, optimizing marketing and sales efforts, and enhancing operational efficiencies to increase market share and profitability. By effectively exploiting current markets, BGFs can generate stable revenue streams, fund further international expansion, and sustain competitive advantages. This strategy emphasizes utilizing existing resources and capabilities to achieve incremental growth and market dominance. |
| 32 | Traceability | The ability to track and document the production, processing, and distribution of food products throughout the supply chain. This involves recording detailed information at each stage, from raw material sourcing to the final product reaching the consumer. Implementing traceability systems enhances transparency, ensures product quality and safety, meets regulatory requirements, and builds consumer trust by providing verifiable information about the origin and handling of food products. This practice is essential for managing risks and maintaining a competitive advantage in global markets. |
| 33 | Reduction In Production Costs | Refers to strategies and practices aimed at decreasing the expenses associated with producing goods. This can involve optimizing supply chain processes, adopting new technologies, improving operational efficiencies, and utilizing economies of scale. By reducing production costs, BGFs can enhance their competitiveness, increase profit margins, and offer more attractive pricing in global markets. Cost reduction strategies are essential for maintaining financial health and supporting sustainable growth in international operations. |
| 34 | Prizes And Awards | Refer to recognitions and honors received for excellence in various aspects such as product quality, innovation, sustainability, and market achievements. These accolades are often bestowed by industry organizations, governmental bodies, and international entities, and they serve to validate the firm's efforts and accomplishments. Winning prizes and awards can significantly enhance a firm's reputation, build consumer trust, and provide competitive advantages by highlighting the firm's commitment to high standards and industry leadership. |
| 35 | Added Value Through Education | Refers to the enhancement of a firm's offerings and operations by investing in educational initiatives. This includes training programs for employees to improve skills and efficiency, educational outreach to customers to increase product knowledge and trust, and community education efforts to promote sustainable agricultural practices. By fostering education, BGFs can boost innovation, improve product quality, build stronger relationships with stakeholders, and enhance overall market competitiveness. |
| 36 | Organizational Bricolage | Refers to the creative and resourceful combination of available resources and capabilities to solve problems and pursue opportunities without relying on traditional or standardized methods. This approach involves improvisation, leveraging existing knowledge, and repurposing materials and processes to innovate and adapt swiftly to changing market conditions. Organizational bricolage enables BGFs to maintain flexibility, reduce costs, and enhance their ability to exploit new market opportunities and navigate uncertainties effectively. |
| 37 | International Strategic Agility | The firm’s ability to swiftly adjust its resources or competencies in response to market changes, quickly redirecting strategic focuses and applying agile methodologies” (Meuric & Favre-Bonté, 2023, p. 48) |
| 38 | International Commercial Intensity | The proportion of growth in sales generated by the firm’s overseas operations (Hilmersson & Johanson, 2016) |
| 39 | Risk Diversification | Risk diversification is conceptualized as an outcome resulting from the strategic deployment of ambidextrous actions that spread risks across multiple geographic locations, product lines, and market channels, thereby contributing to the overall growth of BGFs. |
| 40 | Risk Taking Behavior | The propensity of a firm, particularly its management and founders, to make decisions that involve significant risks with the potential for high returns. In the context of BGFs, this behavior is crucial as these firms often operate in uncertain international markets where they must quickly make bold strategic moves to capitalize on emerging opportunities and navigate competitive threats. |
| 41 | CSR | In the context of BGFs involves these firms adopting business practices that are not only economically profitable but also socially beneficial and environmentally sustainable. CSR activities might include implementing eco-friendly production processes, engaging in fair trade practices, and contributing to the social development of the communities in which they operate. This variable is particularly relevant in the agri-food sector, where sustainability and ethical considerations are increasingly influencing consumer preferences and regulatory frameworks. |
| 42 | The founder’s Mindset | The strategic outlook and cognitive framework that the founder(s) of a BGF bring to the firm’s strategic decision-making processes. This includes their vision, their tolerance for ambiguity, their commitment to the firm’s mission, and their ability to adapt to changing international market conditions. The founder's mindset is pivotal in steering the firm through the complexities of rapid internationalization and in shaping the firm’s culture and strategic priorities. |
| 43 | Resilience | The firm's capacity to withstand and recover quickly from difficulties such as economic downturns, market volatility, and logistical challenges. It involves maintaining operational stability and safeguarding the supply chain integrity in the face of disruptions, which is crucial for firms in the agri-food sector that must manage the perishability of goods and the fluctuation of market demands. |
| 44 | Niche Strategy | Involves focusing on a specific segment of the market where the firm can offer specialized products or services that meet the unique needs of a particular customer base. For BGFs, adopting a niche strategy can be a way to differentiate themselves from larger competitors by specializing in areas such as organic products, exotic foods, or gourmet offerings. This strategy often allows BGFs to establish a strong brand identity and customer loyalty in targeted market segments, which can be especially effective in the diverse and competitive international markets. |

*Appendix 4.6. Cluster Analysis*




*Annex 4.1. List of participants in the prospective workshop*

| ID | Expertise/Role | Position |
|---|---|---|
| 1 | Agronomist Engineer - PhD in Agricultural Sciences | Lecturer |
| 2 | Master's in Agricultural Engineering | Senior Lecturer |
| 3 | Agronomist Engineer | Lecturer |
| 4 | Farmer | Farmer |
| 5 | Agronomist Engineer | Professional Support for Export Registry |
| 6 | Agronomist Engineer | Contractor |
| 7 | Agronomist Engineer | University Professional - Avocado Chain Liaison |
| 8 | Farmer | Partner |
| 9 | Farmer | Administrator |
| 10 | PhD in Technology and Innovation Management | Innovation Coordinator |
| 11 | Agro-industrial Engineer | Consultant |
| 12 | PhD in Engineering and Innovation Projects | Senior Lecturer |
| 13 | Agronomist Engineer | Technical Researcher |
| 14 | Farmer | President of export association |
| 15 | Agro-industrial Engineer | Researcher |
| 16 | Founder/Manager | CEO - Export-Oriented Agri-food Company |
| 17 | Founder/Manager | General Manager - Coffee Export Company |
| 18 | Founder/Manager | Managing Director - Cocoa Export Firm |
| 19 | Founder/Manager | CEO - Fruit Export Enterprise |
| 20 | Founder/Manager | Founder - Sustainable Agri-Food Startup |
| 21 | Senior Export Consultant | National Agency for Agri-food Exports |
| 22 | Director of International Trade | Regional Export Promotion Office |
| 23 | Export Development Manager | Agri-food Export Council |
| 24 | Lead Strategist | Public-Private Export Partnership |

# 5. Chapter 5: Conclusions

This thesis has explored the critical role of Organizational Ambidexterity (OA) in driving the growth and resilience of firms operating in resource-constrained environments, with a specific focus on emerging markets. By examining Born Global Firms (BGFs) in the manufacturing and agri-food sectors through three interconnected studies, it provides a nuanced understanding of how exploration and exploitation strategies contribute to firm performance. This concluding chapter synthesizes the findings, connects them to broader theoretical frameworks, and discusses their implications for research and practice. Table 5.1. shows the Summary of Conclusions, Implications, Limitations, and Future Research for the Three Studies.

The first study examined the tensions between innovation strategies and the dual objectives of growth and profitability within Colombia's manufacturing sector. Emerging-market firms (EMFs) exhibit distinctive features that set them apart from their counterparts in developed economies. In particular, manufacturing firms reap significant advantages from ambidextrous innovation, driving both growth and profitability. Operating amid the volatile and unpredictable contexts characteristic of emerging markets, EMFs benefit from a dual innovation strategy that not only helps mitigate resource constraints and institutional voids but also capitalizes on novel opportunities while refining ongoing processes (March, 1991; Peng et al., 2018; Tushman & O'Reilly III, 1996).

Within their domestic spheres, compositional processes and frugal innovations jointly bolster EMFs' adaptive capacity and fortify their competitive edge, allowing them to thrive in both established and evolving market segments (Kim & Mauborgne, 1997; Shahid et al., 2023). Additionally, the extensive and specialized partnerships that support EXRI highlight the critical role of diverse resource utilization for sustained market growth (Agnihotri, 2015), all while maintaining a focus on cost-effectiveness.

Conversely, AMBI emerges as a key strategic lever for addressing the heterogeneous preferences of global consumers and managing the intricate dynamics of international marketplaces (Battaglia et al., 2018). By enhancing responsiveness to emerging trends, regulatory shifts, and technological breakthroughs, AMBI propels growth prospects across global arenas (Ciasullo et al., 2020).

This ambidextrous orientation enables EMFs to remain strategically agile, an imperative for penetrating foreign markets and scaling their international presence (Prange & Verdier, 2011). It ensures that firms are skilled not only in refining existing competencies for operational efficiency but also in probing uncharted domains—be they technologies, business models, or untapped customer segments—critical for successful internationalization (Xiao et al., 2022).

Simultaneously engaging in exploitation and exploration allows EMFs to traverse institutional and cultural barriers more effectively, thus smoothing pathways for foreign market entry and expansion (Luo & Rui, 2009). Empirical findings further indicate that a balanced application of AMBI substantially enhances EMFs' trajectory in global markets (Park & Meglio, 2019).

In financial terms, AMBI bolsters EMFs' resilience by enabling rapid adjustments to market upheavals and evolving consumer demands (Ochie et al., 2022). Exploitative activities safeguard present cash flows, whereas exploratory initiatives lay the foundation for future expansion, collectively improving long-term financial outcomes (Xiao et al., 2022). By simultaneously harnessing both innovation streams, EMFs create a diversified portfolio that mitigates the uncertainties associated with any single innovation pathway (Batra et al., 2022).

In turn, such risk diversification fosters a steadier profitability curve, shielding firms against market fluctuations and ensuring consistent revenue generation (He & Wong, 2004). This balanced approach is especially vital for EMFs, which frequently grapple with abrupt environmental changes and resource limitations. In these contexts, effectively executing an ambidextrous innovation strategy becomes a decisive factor for sustained growth and robust financial performance (Roh et al., 2024).

Ambidextrous firms consistently outperformed their counterparts in achieving sustained growth and profitability. This aligns with He & Wong's (2004) foundational research on ambidexterity, which posits that balancing these strategies enhances firm performance. However, this thesis extends these insights to emerging markets, emphasizing that resource constraints amplify the risks associated with exploration. The moderating role of Breadth of Knowledge Sources (BKS) further underscores the importance of external collaborations. Firms engaging in diverse partnerships—with industry stakeholders, academic institutions,

and policymakers—demonstrated greater innovation outcomes, as these collaborations mitigate the limitations imposed by scarce internal resources. Laursen and Salter's (2006) work corroborates this, suggesting that external knowledge diversity provides a buffer against environmental uncertainties.

The second study focused on the post-internationalization growth of BGFs in the agri-food sector, offering a qualitative exploration of ambidextrous strategies. By identifying seven distinct growth pathways—such as Resilience-Driven Innovation, Ethical Branding, and Ambidextrous Networking—the study revealed the multifaceted ways in which firms navigate volatile international markets. Resilience-Driven Innovation, for instance, highlights the critical role of local knowledge in adapting products to meet diverse regulatory and market demands. Ethical Branding demonstrates how sustainability-oriented practices enhance consumer trust and differentiate firms in competitive global markets. Ambidextrous Networking underscores the importance of building and maintaining robust relationships that provide access to resources, information, and market intelligence essential for navigating post-entry complexities. By detailing dynamic pathways of exploration and exploitation, our model shows how BGFs cultivate OA to respond effectively to fluctuating market environments. Reflecting on ongoing debates about ambidexterity (Khan et al., 2022; Luger et al., 2018; Zhou et al., 2020), we note that cross-functional collaboration—often starting with internal process innovations—may evolve to generate revenue streams from entirely new products or services, thus transitioning toward more reciprocal forms of ambidexterity. This evolution exemplifies the strategic reorientation described by Autio (2000), whereby firms "unlearn" entrenched processes to embrace new growth trajectories and avoid overreliance on any single strategic approach.

Our analysis indicates that maintaining a balance between exploratory and exploitative strategies across multiple dimensions not only increases international commercial intensity and strategic agility but also spreads risk, thereby fostering sustained positive growth. These findings align with research affirming the advantages of ambidexterity for born-global firms (BGFs), particularly in promoting higher efficiency, innovation, adaptability, and longevity (M Hughes et al., 2021; Monferrer et al., 2021; Monferrer et al., 2019).

Among the firms studied, various forms of ambidexterity emerged. For instance, some leveraged reciprocal ambidexterity in innovation, enabling close collaboration between specialized units (e.g., New Products and Operations) to develop novel offerings while preserving quality. In contrast, those focusing exclusively on exploration or exploitation typically encountered growth plateaus or declines in agility, underscoring the added value of a more balanced, ambidextrous approach.

Adopting the conceptual framework of Vuorio and Torkkeli (2023), this study observes that distinct portfolios of dynamic managerial capabilities lead to diverse internationalization trajectories, including both rapid and more incremental patterns of global expansion. These findings underscore how strategic choices must align with a firm's intended pace and scope of international growth. Moreover, building on Breuillot et al. (2022), our results emphasize that BGFs often transition from an individual to an organizational resource base when moving beyond initial market entry. Within the agri-food sector, ambidexterity emerges as an essential mechanism for effectively orchestrating these transitions, especially during the post-entry phase where resource deployment becomes even more critical.

Consistent with Gripsrud et al. (2023), rapid internationalization can be advantageous for achieving wide market coverage and immediate revenue, but also demands robust countermeasures for managing inherent risks. Our data highlight how OA not only enables swift market entry but also helps firms adapt to evolving global dynamics. This strategic flexibility is essential for managing diverse market conditions, regulatory changes, and emerging opportunities—key elements of successful post-entry performance.

The benefits of ambidextrous strategies are particularly pronounced in volatile or uncertain contexts—such as regions facing socio-political turbulence or environmental pressures—because these strategies enable both the exploitation of existing capabilities and the exploration of new avenues for risk mitigation and expansion. Access to financial resources and adept leadership further amplifies the effectiveness of ambidexterity, ensuring that investing in exploration does not undercut ongoing operations.

Our study also reveals that ambidexterity is especially valuable at advanced stages of internationalization, where firms must simultaneously fine-tune current operations and pursue new growth initiatives. Evidence from multiple cases (e.g., Firms A, D, F, K, M, and

N) illustrates that ambidexterity fosters strategic agility and diversifies risks via multiple expansion pathways. Within the agri-food segment, this includes blending vertical integration, geographic diversification, quality and product innovations, cultural adaptations, and stakeholder engagement, ultimately boosting resource efficiency and enabling firms to respond deftly to market shifts (Figueiredo et al., 2024).

The importance of combining exploration and exploitation for effective business model transitions is likewise highlighted in Liu (2017) and Weerawardena et al. (2007), especially given the resource constraints inherent in many BGFs. This dual focus allows firms to accommodate seemingly conflicting goals—such as balancing profitability with growth—by deploying explorative initiatives that can thrive even under adverse economic conditions while simultaneously refining established networks and product strategies to stabilize cash flows.

Mirroring Sousa and De Fátima Ferreiro's (2023) emphasis on trade shows as catalysts for network expansion, our research confirms that ambidextrous networking strategies can reduce internationalization costs and enhance a BGF's global visibility. Such strategies draw on valuable external resources—an aspect particularly relevant to OA, which entails effectively leveraging insights and capabilities from beyond the firm's core operations (Figueiredo et al., 2024).

In line with Meuric and Favre-Bonté (2023), international strategic agility functions as a micro-foundation of dynamic capabilities, allowing rapid recalibration to changing global conditions. Our findings further suggest that strategic agility is both an outcome and a catalyst of ambidexterity, aligning with Teece's (2016) viewpoint on the necessity of robust dynamic capabilities for navigating significant uncertainties. BGFs exhibiting high levels of OA more readily pivot to new markets, products, or consumer segments and innovate in response to environmental challenges or socio-political disruptions—often achieving sustained growth.

Reiterating Gripsrud et al.'s (2023) observations, our results confirm that while early and rapid internationalization accelerates revenue generation, it also introduces heightened risks that demand ongoing strategic vigilance. OA helps mitigate these risks by orchestrating resource renewal and exploitation efforts across multiple dimensions, from technological solutions to process management.

Additionally, early internationalization tends to foster broader geographic diversification, as Wu and Zhou (2018) note. Under these conditions, OA serves as a framework for managing diverse consumer demands and regulatory environments. While global expansion remains central for BGFs, our analysis underscores the ongoing relevance of home markets, where local production, non-exportable items, and specialized capabilities can reinforce international ventures and bolster overall commercial output.

The notion that comprehensive geographic diversification boosts growth for BGFs, especially in the agri-food sector, echoes the arguments of Casillas and Acedo (2012). Our data suggest that diversifying activities in domestic markets not only reduces exposure to external shocks but also generates synergies that support international ventures.

The third study integrated SF with OA, demonstrating that forward-looking capabilities amplify the effectiveness of ambidextrous strategies. By employing methodologies such as scenario planning and structural analysis, the study revealed that firms combining foresight with ambidexterity were better positioned to anticipate and adapt to future challenges. This aligns with Vecchiato's (2012) insights into the role of foresight in enhancing organizational adaptability. Additionally, the integration of foresight with ambidexterity addresses the high levels of uncertainty characteristic of emerging markets, enabling firms to proactively align exploration and exploitation activities with anticipated market trends. O'Reilly and Tushman's (2013) work on the complementarity between foresight and ambidexterity underscores this thesis' argument that these constructs are mutually reinforcing.

Our evidence reinforces that effectively balancing exploration and exploitation is a critical determinant of long-term success in volatile global markets. By leveraging SF, firms obtain a structured means of navigating the uncertainties intrinsic to international settings, aligning their ambidextrous strategies accordingly (Slaughter, 1995; Tsoukas & Shepherd, 2004).

This study extends research on OA by illustrating how foresight techniques bring operational clarity to the tension between exploration and exploitation. For example, the causal loop diagrams identified reinforcing cycles where technological exploration and strategic alliances jointly propelled both exploratory and exploitative activities. These insights contribute to the dynamic capabilities perspective (Teece, 2007), showing how BGFs can continuously reshape their resource base in anticipation of shifting market conditions.

Strategic Alliances emerged as both a highly influential and dependent factor, underscoring their role in accessing diverse knowledge pools and expanding market reach (Khan & Lew, 2018). In the case of export-oriented partnerships, alliances not only open doors to overseas markets but also bolster international commercial intensity and geographic diversification—echoing the ideas of network theory on leveraging external connections to seize opportunities and mitigate challenges (Johanson & Vahlne, 2009). These alliances proved to be more than transactional arrangements: they create positive feedback loops that amplify a firm's capacity to innovate and expand (Eisenhardt & Martin, 2000).

Technological Exploration also surfaced as pivotal for both sustaining current product lines and fueling new developments. The use of advanced technological systems, including IoT-enabled monitoring and automation, highlights the centrality of continuous innovation in remaining competitive (Hsu et al., 2013). This finding resonates with the resource-based view (Barney, 1991), which underscores the strategic value of technological capabilities that are difficult for rivals to replicate.

Certifications and a pronounced Quality Focus were found to have a strong influence on Channel Diversification as well as Prizes and Awards. International certifications such as GlobalGAP and Fairtrade not only facilitate compliance but also build trust, allowing BGFs to penetrate markets where high standards are mandatory (Bemelmans et al., 2023). These certifications thus operate as strategic differentiators, activating a virtuous cycle in which rigorous quality standards elevate reputation, thereby attracting new customers and bolstering competitive positioning.

Geographic Diversification of Production serves as a key tactic for coping with risk and tapping into varied market prospects. By distributing production across different regions, BGFs mitigate disruptions—whether political or environmental—and gain resilience (Mudambi & Zahra, 2007).

The empirical findings from these studies not only align with existing literature but also expand it by offering context-specific insights. For instance, Miocevic et al. (2025) demonstrate that SMEs employing ambidextrous strategies achieve superior performance during crises, a conclusion that reinforces the resilience-oriented growth pathways identified in this thesis. Similarly, Avioutskii & Tensaout (2022) exploration of state-driven

ambidexterity provides empirical support for the idea that contextually adaptive strategies are critical for navigating global markets. Their findings also highlight the importance of aligning ambidextrous strategies with broader economic policies, a notion that is particularly relevant for BGFs seeking to leverage institutional frameworks for sustainable growth.

The integration of intellectual and dynamic capabilities emerges as another key theme. Farzaneh et al. (2022) emphasize that leveraging intellectual capital through dynamic capabilities enhances both explorative and exploitative innovations. This insight aligns with the second study's findings on ambidextrous networking, which illustrates how firms in the agri-food sector utilize networks to access critical resources and knowledge. Escorcia-Caballero et al.'s (2024) work further supports this perspective, demonstrating that balanced configurations of ambidexterity directly influence market performance in emerging economies.

Recent contributions, such as those by Stoiber et al. (2023) and Bettiol et al. (2023), provide additional theoretical grounding. Stoiber's framework on structural, temporal, and contextual ambidexterity explains how disruptive business models enhance strategic resilience, closely aligning with the innovation pathways explored in this thesis. Bettiol et al's analysis of resilience during the COVID-19 pandemic highlights the critical role of ambidextrous strategies in navigating crises, offering concrete examples of how firms can adapt to unprecedented challenges through strategic agility.

Collectively, the three studies presented in this thesis offer a more holistic understanding of how OA can be fostered and leveraged in emerging-market firms, particularly those facing resource constraints. While the first study underscores the importance of balancing exploitation and exploration to achieve both profitability and growth, the second study shows how these dual strategies enable BGFs in the agri-food sector to navigate post-entry international contexts. The third study further highlights that complementing OA with strategic foresight (SF) enhances a firm's capacity to anticipate future disruptions, coordinate resources effectively, and strengthen long-term resilience. Taken together, these insights reveal that OA functions most effectively when supported by robust external collaborations, scenario-based planning, and context-specific innovations tailored to a firm's operational environment.

Moreover, these studies converge on the notion that ambidexterity, while conceptually universal, exhibits context-dependent manifestations. For manufacturing firms, cost-effective frugal innovations and compositional processes provide the foundation for balancing efficiency with exploration. In the agri-food sector, ambidexterity involves more nuanced pathways that integrate vertical integration, ethical branding, and localized production strategies, all underpinned by strong external networks. Integrating SF into this equation amplifies the benefits of OA by enabling firms to align exploratory and exploitative activities with anticipated market shifts. This alignment is particularly critical in emerging markets, where economic, social, and political volatility poses pronounced challenges. The studies collectively highlight that firms capable of orchestrating these elements—ambidexterity, collaborations, and foresight—demonstrate superior resilience, adaptability, and sustained competitive advantage, even under uncertain conditions.

Across diverse industry contexts and stages of international growth, a key thematic thread is the strategic agility that emerges from intentionally balancing incremental improvements (exploitation) and new market or product opportunities (exploration). Whether in the manufacturing context, the agri-food post-entry phase, or in tandem with forward-looking scenario planning, OA proves indispensable for addressing resource constraints and responding to rapidly evolving market conditions. By systematically adopting these ambidextrous practices—bolstered by external partnerships, quality certifications, and continuous technological advancement—EMFs can not only mitigate risks in volatile environments but also uncover novel avenues for long-term value creation. This integrated perspective offers both theoretical reinforcement and practical guidance for firms aspiring to harness the power of ambidexterity as a cornerstone of sustainable growth in emerging economies.

Taken together, the major reviews and meta-analyses converge on a clear pattern: OA is positively associated with performance, with effect sizes that strengthen under environmental dynamism and resource constraints and that are conditioned by contextual moderators (O'Reilly & Tushman, 2013; Junni et al., 2013; Wenke et al., 2021; Marín-Idárraga et al., 2025). This dissertation both corroborates and extends that consensus. Quantitatively, Study 1 shows that ambidextrous product innovation is linked to higher domestic and international growth and to profitability in EMFs, and that these effects are amplified by BKS, consistent

with the literature's emphasis on enabling contexts and boundary conditions identified in meta-analytic work (Junni et al., 2013; Wenke et al., 2021). Qualitatively, Study 2 unpacks *how* OA travels into outcomes via distinct post-entry growth pathways, revealing asymmetric, configuration-specific enactments that reconcile the positive average effects reported by prior syntheses with the heterogeneity observed in practice. Notably, in line with evidence that innovation mediates the OA–performance link (Marín-Idárraga et al., 2025), the cases document complementary roles for incremental and radical innovation in EMFs: incremental innovation (process standardization, quality routines, certifications) becomes disproportionately valuable under institutional voids, while radical moves are selectively timed to opportunity windows—an allocation logic consistent with O'Reilly and Tushman's ambidexterity architecture. Finally, the SF analysis operationalizes the configurational insight from these reviews by prioritizing high-leverage ambidextrous loops under uncertainty, thereby offering an actionable orchestration mechanism that aligns with and extends prior meta-analytic conclusions to the realities of emerging markets.

Moreover, the amplifying role of environmental dynamism highlighted in the literature on the OA-performance relationship fits the contexts analyzed in this dissertation. EMFs typically operate amid institutional voids, policy and exchange-rate volatility, demand heterogeneity, intensified competitive entry, and recurrent supply/logistics and climate shocks, conditions that heighten uncertainty and shorten planning horizons, making OA's balance of exploration and exploitation especially performance-relevant (O'Reilly & Tushman, 2013; Junni et al., 2013). Wenke et al. (2021) further show that the OA effect remains robust and often stronger among SMEs, whose resource scarcity and managerial bandwidth constraints mirror those of many EMFs; the quantitative and qualitative evidence in this dissertation is consistent with that pattern. Likewise, BGFs in the agri-food sector, especially in the post-entry growth phase examined in Studies 2 and 3, face high-velocity markets while bearing the liabilities of newness, smallness, and foreignness; they must scale capabilities, standardize processes for quality compliance, build channels, and diversify risk under tight resource and time constraints. The pathways documented here show how these firms configure OA to meet those demands, reinforcing the meta-analytic claim that OA's performance payoffs are magnified precisely where dynamism and constraints are greatest.

Viewed through Simsek et al.'s (2009) typology, the evidence across Study 2 spans both the temporal and structural dimensions of ambidexterity: the alternation between exploration-dominant and exploitation-dominant phases observed in agri-food BGFs maps to "cyclical" ambidexterity (sequential, within-unit), while alliance- and network-based mechanisms that preserve the non-dominant capability and shuttle knowledge across organizational boundaries align with "partitional" and, where mutual adjustment is emphasized, "reciprocal" ambidexterity (simultaneous or sequential, across interdependent units).

As a key consideration, Boumgarden et al. (2012) suggests that when the coordination costs of pursuing exploration and exploitation simultaneously are high, firms may obtain superior results by alternating over time between exploration-dominant and exploitation-dominant configurations. Recent evidence sharpens this point by showing that the speed of temporal cycling matters: high-speed switching tends, on average, to depress performance because of time-compression diseconomies in learning; this penalty is attenuated (and can even turn positive) in technologically dynamic, R&D-intensive contexts, while it is exacerbated in firms with large-scale R&D operations that face stronger inertial and coordination burdens (Mavroudi et al., 2020).

The multi-case evidence in Study 2 displays precisely such cadences: Born-Global agri-food firms move through exploration-heavy phases (Innovation/Expansion, Resilience-Driven Innovation) and subsequent consolidation phases (Quality, Ethical Branding), and reopen exploration as conditions shift, without abandoning the non-dominant capability. Study 3's strategic-foresight results offer a governance mechanism for this timing by prioritizing which ambidextrous feedback mechanisms to reinforce first under expected shocks, thereby orchestrating when to emphasize exploration or exploitation.

Study 1's panel estimates, in turn, reaffirm the positive average returns to ambidexterity; the asymmetric episodes and sequencing documented in Studies 2 and 3 help explain cross-sectional heterogeneity in those returns (an interpretation consistent with organizational vacillation. In emerging-market settings), where institutional voids, logistics volatility, and certification frictions raise integration costs and shorten planning horizons, deliberate temporal rebalancing appears especially functional, while integration mechanisms (quality routines, certifications, and alliances) preserve the non-dominant capability and reduce

switching costs. Collectively, these findings position simultaneous ambidexterity and temporal alternation as complementary logics and clarify the boundary conditions under which each is likely to dominate.

**Integrated Synthesis of Findings**

This dissertation integrates quantitative evidence (Study 1), multi-case process findings (Study 2), and SF (Study 3) to explain how and when OA translates into performance in emerging-market settings across manufacturing and agri-food industries. Taken together, the studies converge on a robust result: ambidextrous configurations systematically outperform single-sided orientations in producing the outcomes highlighted in Figure 5.1.: strategic agility, export intensity, domestic growth, and profitability.

Moreover, across the three studies, a common, cross-cutting mechanism is the breadth of the firm's knowledge base as the deliberate mobilization of heterogeneous, complementary knowledge channels that expand the search space, accelerate recombination between exploration and exploitation, and convert organizational ambidexterity into strategic agility, export intensity, growth, and profitability. In Study 1, this appears explicitly as the Breadth of Knowledge Sources measured econometrically, which strengthens the performance effects of ambidextrous product innovation. In Study 2, the same mechanism is enacted in practice through cross-border learning and networked access to diverse knowledge holders along and beyond the value chain: foreign customers and distributors (market intelligence, category requirements), suppliers and technology vendors (process/technology know-how), standards bodies and certifiers plus third-party laboratories (codified compliance and quality knowledge), NGOs and sustainability auditors (traceability and impact evidence), producer clusters and peer learning (operational heuristics), universities and R&D partners (scientific and engineering inputs), trade-promotion agencies and business associations (bridging ties), as well as digital analytics from omnichannel data and social listening. These heterogeneous sources undergird the Study-2 pathways—Customization, Quality, Ethical Branding, Innovation/Expansion Loop, Diversification, Resilience-Driven Innovation, and Ambidextrous Networking—by supplying the external and internal information needed to tailor products, standardize processes, meet certifications, and reconfigure routines at speed. In Study 3, strategic foresight institutionalizes this mechanism at a system level: participatory

expert inputs, structured influence mapping (e.g., Fuzzy-MICMAC), and scenario design pool and filter diverse expert knowledge to decide which ambidextrous feedback loops (notably the strategic-alliances loop) should be reinforced first under uncertainty. Read together, the three studies show that it is the breadth and orchestration of heterogeneous knowledge—not any single source—that amplifies the returns to ambidexterity in resource-constrained, turbulent environments.

On the other hand, the studies are complementary in scope and time horizon. Study 1 establishes baseline relationships in Colombian manufacturing, showing that ambidextrous product innovation is positively associated with domestic growth and profitability, and that these effects increase with knowledge breadth. Study 2 opens the mechanism by showing how OA is enacted in Born-Global agri-food firms through mutually reinforcing innovation, learning, and networking strategies, identifying distinct growth pathways (Innovation/Expansion Loop, Resilience-Driven Innovation, Customization, Quality, Ethical Branding, Diversification, Ambidextrous Networking) that channel OA into strategic agility, export intensity, growth, and profitability. Study 3 extends the analysis forward, using strategic foresight to configure the exploration–exploitation mix under uncertainty and to prioritize high-leverage feedback loops that sustain internationalization and competitiveness.

Triangulation reveals a crucial nuance: ambidexterity need not be symmetrical. Firms frequently deploy asymmetric ambidexterity, temporarily amplifying exploration or exploitation while retaining the counterpart as a supportive layer. In the qualitative pathways, Resilience-Driven Innovation is exploration-heavy (rapid experimentation in response to shocks), whereas Ethical Branding is exploitation-led (standardization, quality assurance, verifiable practices), yet both convert OA into the outcomes on the right of Figure 5.1. This nuance reconciles the superior average performance of ambidextrous innovation (Study 1) with the heterogeneous trajectories observed in practice (Study 2).

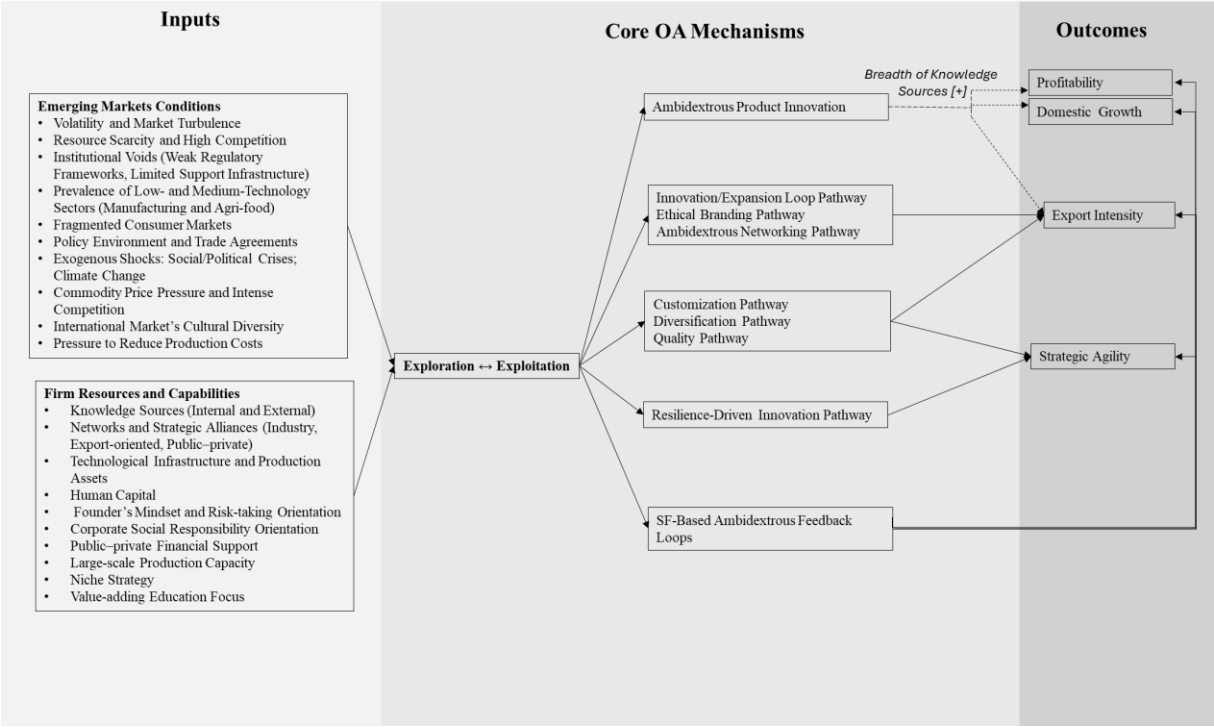
The foresight results (Study 3) clarify when to reinforce which mechanisms. Scenario design indicates, for example, the conditions under which it is advantageous to prioritize the loops alliances → export intensity → geographic diversification of production → alliances, process exploration → technological exploration → sustaining current products → process exploration, and quality focus → certifications → channel diversification → export intensity

→ geographic diversification → quality focus. In this framing, strategic foresight does not create new causal links; rather, it orchestrates which ambidextrous loops and scenarios to strengthen first, given anticipated shocks, market conditions, and capability endowments.

These convergences support a joint theoretical contribution that we term Configurational, Growth-Oriented Ambidexterity (ACOG): *in emerging markets, firms convert ambidexterity into strategic agility, export intensity, domestic growth, and profitability when they build and govern configurations of exploration and exploitation through innovation, learning, and networking; the breadth of knowledge sources acts as a multiplicative lever, and strategic foresight serves as an orchestration meta-capability that prioritizes the most productive ambidextrous feedback loops over time*. ACOG shifts the emphasis from an abstract equilibrium to configurations and sequences that are network- and knowledge-enabled and scenario-prioritized.

Figure 5.1. consolidates this contribution. Contextual and resource inputs feed core OA capabilities (Exploration ↔ Exploitation); the Study-2 pathways depict the actionable routes through which firms channel OA to the four outcomes displayed; Breadth of Knowledge Sources (Study 1) positively conditions the OA→outcome links (dashed arrows); and Strategic Foresight (Study 3) prioritizes the ambidextrous feedback loops to sustain performance under uncertainty.

*Figure 5-1. Integrated Conceptual Model of OA in EMFs*




## Future Directions

A promising avenue for future research lies in examining how dynamic capabilities evolve over extended periods of time and across varying institutional contexts. While this thesis has illustrated the ways in which firms deploy ambidexterity to balance exploration and exploitation activities, further longitudinal studies could capture the shifting interplay among these capabilities, particularly during times of crisis or rapid market fluctuations. Observing how firms recalibrate their resource configurations in response to such shocks would shed light on whether ambidexterity remains stable, transforms, or even intensifies in the face of uncertainty. Such insights would deepen our understanding of how organizations maintain or regain growth trajectories and competitive positions when confronted with pronounced volatility.

In parallel, comparative studies that span diverse emerging markets could illuminate how cultural, regulatory, or macroeconomic differences shape the success of ambidextrous strategies and their associated dynamic capabilities. While the contexts explored in this thesis underline the importance of resource constraints and institutional voids, expanding the geographic scope to include other regions—particularly those experiencing rapid

technological transitions—may reveal new contingencies. These could include variations in the availability of venture capital, differences in the strength of local innovation ecosystems, or the presence of government policies specifically designed to bolster internationalization. Research along these lines would help clarify the relationships between national institutions and firm-level capabilities, offering more generalizable models for nurturing growth in global contexts.

Moreover, the implications of digital transformation for ambidexterity and business expansion merit further scrutiny. Investigating how advanced data analytics, artificial intelligence, or blockchain solutions can reinforce both exploitative and explorative endeavors might unearth novel pathways for international expansion. Under the umbrella of dynamic capabilities, scholars could focus on how digitally enabled sensing, seizing, and reconfiguring processes evolve to meet fast-changing consumer demands and technological shifts, particularly in knowledge-intensive industries. Such research would not only enrich the ambidexterity literature but also inform practitioners seeking to leverage cutting-edge tools for sustained international growth.

Future research could also examine OA across modes in agri-food EMFs and Born Globals, explicitly contrasting external exploration via alliances (and, where scale allows, acquisitions) with internal exploitation, rather than seeking balance within a single organizational mode. In line with Stettner and Lavie (2014), performance is expected to be higher when firms balance across modes (i.e., internal organization, alliances, and acquisitions) for exploration and exploitation, than when they attempt to balance within modes; moreover, “it is more beneficial to acquire firms with distinct knowledge (exploration) while relying on established knowledge to internally refine existing products (exploitation)” (p. 1923).

A priority could be to test how absorptive capacity conditions these effects: Stettner & Lavie, (2014) argue that absorptive capacity enhances internal exploration efforts by enabling the assimilation and transformation of externally sourced knowledge, and related evidence shows that returns to ambidexterity increase with stronger absorptive routines and outperforms specialization (Solís-Molina et al., 2018). Building directly on this insight, future studies could model multi-level moderators: firm-level absorptive capacity (potential

vs. realized; R&D intensity; training depth; university linkages) and network-level absorptive capacity (partner diversity; prior collaboration experience), to test whether the across-modes configuration (external exploration via alliances/acquisitions and internal exploitation via quality/standardization) yields superior outcomes, and under what boundary conditions (e.g., country logistics reliability, certification intermediation, cultural distance).

For smaller agri-food BGFs where acquisitions are less feasible, alliances, minority stakes, and R&D partnerships can serve as functional equivalents for external exploration; longitudinal designs and shock-based identification (logistics or climate events) would allow clean tests of how absorptive capacity accelerates the internalization and performance conversion of externally sourced knowledge.

In addition, drawing on Brix (2019), researchers should explicitly incorporate organizational-learning mechanisms, inter-organizational learning, and absorptive capacity as mediating pathways that translate across-modes ambidexterity into performance. This would allow testing whether "balance" arises not from equal proportions of exploration and exploitation but from equal proficiency in the learning work required by each mode, and whether group-level sensemaking/integration capabilities reduce switching costs between exploration-dominant (external) and exploitation-dominant (internal) configurations in agri-food EMFs and Born Globals.

Building on the recent work of Jurado-Salgado et al. (2024) future research should also probe cultural contingencies in agri-food EMFs and Born Globals by explicitly testing how organizational culture moderates the conversion of OA into innovation and post-entry growth. Recent evidence from large Colombian firms shows that exploration and exploitation map onto radical and incremental innovation, respectively, and that the "alignment" cultural factor strengthens the exploitation→incremental link, whereas "adaptability" does not bolster the exploration→radical link . Building on this, future studies in the agri-food context could operationalize adaptability and alignment with established organizational-level scales (e.g., Gibson & Birkinshaw) to test moderation along the pathways defined in Study 2 and examine downstream outcomes such as export intensity and geographic diversification.

Extending Jurado-Salgado et al. (2024), researchers could incorporate additional cultural dimensions beyond adaptability/alignment (e.g., competing values or Denison-type facets)

to test whether alignment-heavy cultures systematically favor exploitation-led pathways (e.g., Quality, Ethical Branding), while adaptability-heavy cultures condition the timing and payoffs of exploration-heavy pathways (e.g., Innovation/Expansion, Resilience-Driven Innovation) in dynamic, shock-prone environments.Finally, greater attention to microfoundations—ranging from leadership cognition to organizational culture—would offer a more granular perspective on how ambidexterity is enacted in day-to-day strategic decisions. In-depth qualitative studies or mixed-method approaches could reveal how managerial mindsets, power dynamics, and social capital interact with firm-level practices to foster or impede ambidextrous outcomes. These explorations would deepen our understanding of the internal mechanisms driving long-term growth and internationalization success, thus reinforcing the central role of dynamic capabilities as engines of competitiveness in turbulent environments. By linking individual-level behaviors with broader strategic orientations, future research stands to produce a more comprehensive account of how ambidexterity both shapes and is shaped by the evolving landscape of global business.

*Table 5—1 Summary of Conclusions, Implications, Limitations, and Future Research for the Three Studies*

| Study | Conclusions | Implications | Limitations | Future Research |
|---|---|---|---|---|
| **Study 1: The Effect of Exploratory, Exploitative, and Ambidextrous Innovation on Emerging Market Firms' Growth vs Profit Tension** | 1. Ambidextrous innovation has a significant positive impact on both domestic and international growth for emerging market firms (EMFs). 2. Firms adopting a balanced approach of exploratory and exploitative innovation outperform those with a focus on either exclusively exploratory or exploitative innovation. 3. The breadth of knowledge sources (internal and external) enhances the relationship between ambidextrous innovation and performance outcomes, facilitating growth and profitability. 4. The integration of diverse knowledge sources acts as a moderating factor, improving the effectiveness of both exploration and exploitation in driving growth. | 1. Firms, especially in resource-constrained emerging markets, should prioritize ambidextrous innovation to achieve sustainable growth, balancing exploration of new opportunities with exploitation of existing capabilities. 2. Policymakers and managers should foster a culture of open innovation, leveraging both internal and external knowledge to maximize the performance outcomes of firms. 3. By understanding the nuanced relationship between innovation strategies and growth vs profit tensions, managers can better align their strategic goals with long-term objectives. 4. The findings contribute to dynamic capabilities theory by underscoring the importance of ambidextrous innovation as a dynamic capability for EMFs. | 1. The study is based on Colombian manufacturing firms, which may limit the applicability of the findings to other emerging markets or sectors. 2. The cross-sectional nature of the study does not capture the dynamic evolution of firms over time. 3. The research does not account for the potential impact of macroeconomic variables, such as inflation, political instability, or government policies, which could affect firm performance. | 1. Future research could examine the role of cultural factors and the regulatory environment in moderating the relationship between ambidextrous innovation and firm performance in different emerging markets. 2. Longitudinal studies could explore how firms evolve over time when they adopt ambidextrous strategies. 3. It would be valuable to investigate the role of digital transformation and technology adoption as a complementary factor in the ambidextrous innovation strategy. 4. Cross-industry comparisons could be useful in understanding whether the findings hold in different sectors, such as tech or services. |

| Study | Conclusions | Implications | Limitations | Future Research |
|---|---|---|---|---|
| **Study 2: Organizational Ambidexterity and Born Global Firms' Post-Entry Growth: A Multi-Case Study from the Agri-Food Sector** | 1. Ambidextrous strategies enable Born Global Firms (BGFs) in the agri-food sector to enhance international growth, improve strategic agility, and diversify risks. 2. BGFs successfully navigate the post-entry phase of internationalization by leveraging both exploration (seeking new opportunities) and exploitation (optimizing existing capabilities) simultaneously. 3. Seven distinct growth pathways were identified: Resilience-Driven Innovation, Innovation/Expansion Loop, Customization, Quality, Ethical Branding, Diversification, and Ambidextrous Networking. Each pathway highlights different ways BGFs balance exploration and exploitation to foster growth. 4. BGFs benefit from dynamic capabilities such as innovation, learning, and networking, which reinforce their ability to implement ambidextrous strategies. | 1. BGFs in the agri-food sector should adopt ambidextrous strategies to enhance their international competitiveness. 2. Policymakers and business leaders should support BGFs through policies and initiatives that encourage innovation, international collaboration, and resource-sharing, helping firms navigate the complexities of global markets. 3. The study enriches the dynamic capabilities framework, offering a clearer understanding of how BGFs leverage ambidexterity for sustainable global growth. 4. It also contributes to international entrepreneurship theory, especially in the context of emerging markets, where rapid internationalization is coupled with limited resources. | 1. The study's case sample is limited to 14 agri-food firms from Latin America, which may limit generalizability to other industries or regions. 2. While the case study approach provides in-depth insights, it is less generalizable compared to larger-scale quantitative studies. 3. The findings are focused on the agri-food sector, so the relevance of the identified growth pathways might not be fully applicable to other industries or types of BGFs. 4. The study is cross-sectional and does not account for long-term dynamics or shifts in strategic pathways. | 1. Further research could explore the role of digital technologies in shaping ambidextrous strategies for BGFs in the agri-food sector. 2. A comparative study across different industries (e.g., technology, manufacturing) could provide broader insights into the role of ambidextrous strategies for international growth. 3. Longitudinal research is needed to assess how BGFs evolve over time as they implement ambidextrous strategies and adapt to changing global market conditions. 4. Investigating the influence of environmental factors such as regulatory changes, market volatility, and trade barriers would deepen the understanding of how BGFs manage their post-entry growth. |

| Study | Conclusions | Implications | Limitations | Future Research |
|---|---|---|---|---|
| **Study 3: Leveraging Organizational Ambidexterity for Sustained Growth in Agri-Food Born Global Firms: A Strategic Foresight Approach** | 1. Integrating Strategic Foresight (SF) with Organizational Ambidexterity (OA) enhances the ability of BGFs in the agri-food sector to navigate uncertainty and achieve sustained growth. 2. The study developed actionable future-oriented scenarios based on expert consultations and morphological analysis. These scenarios help BGFs identify optimal strategies to balance exploration and exploitation, ensuring long-term competitiveness. 3. Key drivers for the successful integration of OA and SF include technological exploration, export-oriented alliances, adherence to international standards, and innovation-driven product development. 4. Strategic foresight methodologies offer a valuable tool for BGFs to anticipate future market dynamics and inform decision-making in volatile and uncertain environments. | 1. BGFs should leverage SF methodologies to guide their strategic decisions, especially in rapidly changing global markets. 2. Policymakers can support BGFs by fostering environments that encourage innovation, international partnerships, and access to advanced technologies. 3. The study provides a strategic framework for BGFs to better understand the interplay between exploration and exploitation and plan for sustainable growth through foresight and adaptive practices. 4. It emphasizes the need for BGFs to integrate forward-thinking strategies with ambidextrous capabilities to build long-term resilience and international competitiveness. | 1. The study's reliance on expert consultations, while valuable, may introduce biases based on the expert's background and experiences. 2. The sample size of 24 experts from specific countries (Colombia, Peru, Ecuador, and Honduras) limits the ability to generalize the findings to other regions or sectors. 3. The morphological analysis and scenario-building processes are based on subjective inputs, which could lead to over-optimization or oversimplification of the potential outcomes. | 1. Future research could examine the long-term impacts of SF and OA integration on the performance of BGFs over time, providing a more dynamic view of the interaction between strategic foresight and ambidexterity. 2. Investigating the role of government policies in shaping the effectiveness of SF and OA strategies in different countries would offer valuable insights into how to best support BGFs. 3. Cross-sector comparisons could be conducted to determine whether the integration of SF and OA applies equally well to other sectors, such as technology or manufacturing. 4. Further studies could explore the role of digital transformation in enhancing the capabilities of SF and OA to adapt to rapidly changing market conditions. |

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