



# When Born Globals Grow Up: A Review and Agenda for Research on the Performance of Maturing Early Internationalizers

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Received: 10 December 2021 / Revised: 19 August 2022 / Accepted: 22 August 2022 /  
Published online: 27 September 2022

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## Abstract

Born globals (BG)' post-entry evolution is a process characterized by superior growth opportunities, but also higher risks of failure. These concerns lead to the fundamental question regarding the factors that may play a role in BGs' post-entry performance and survival. To provide a comprehensive picture on this issue, this paper critically examines 185 articles that have appeared in 39 academic journals over the past three decades. Drawing on complexity theory, we map a dynamic complex system comprising the interplay of six components relating to system inputs, managerial and firm-level capabilities – e.g., innovativeness, learning, and experience –, networks and system outputs – e.g., international growth and survival. Our review also suggests that strategic choices and orientations may act as change catalysts that bring BGs' complex systems to the next stages of evolution, with further consequences on firm expansion. Our review contributes to the extant literature by taking stock of the present state of knowledge, and providing a taxonomy on the components of the dynamic system that influences the post-entry performance and survival of BGs. Furthermore, this paper and the resulting taxonomy unpacks the various sources of BGs' heterogeneity, based on factors such as their different resources, capabilities, and strategies. In doing so, the paper uncovers significant gaps and contradictions in the literature, which opens important opportunities for future research. The paper concludes with a discussion of managerial and public policy implications.

**Keywords** Born globals · International new ventures · Firm performance · Complex system · Systematic literature review

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## 1 Introduction

Early internationalizers expand abroad shortly after their inception (Autio, 2017; Hashai, 2011), an initiative that has an imprinting effect on subsequent organizational capabilities and resource requirements, so that these ventures develop idiosyncratic characteristics that differ from late internationalizers and determine their long-term evolution, performance, and survival (Sapienza et al., 2006; Schwens & Kabst, 2009). Early international entrepreneurship literature mostly adopted the terms born-globals (BGs) (e.g., Knight & Cavusgil, 1996; Rennie, 1993) or global start-ups (Oviatt & McDougall, 1995) to refer to such firms that commence internationalization shortly after inception. Some studies, however, rightly point out not all firms that expand abroad early are born with global intent or scope, and that, accordingly, the term ‘international new ventures’ (INVs) is more appropriate (e.g., Coviello, 2006; Prashantham & Young, 2011). In this paper, for the sake of brevity and general consistency with the literature, we collectively refer to such businesses as BGs, and differentiate other subtypes such as born regionals (Patel et al., 2018), as we further justify in next section.

BGs’ internationalization behavior is characterized by risk-taking and innovation, and developed through entrepreneurial action rather than via a gradual cross-border accumulation and deployment of resources (Bembom & Schwens, 2018; Sleuwaegen & Onkelinx, 2014). Early internationalization is a particularly challenging undertaking because BGs must simultaneously face the liabilities of foreignness, newness, and smallness, all of which can impact their access to resources, business goodwill, consolidated routines, and domestic and foreign market knowledge (Freixanet & Renart, 2020; Yang & Aldrich, 2017; Zaheer & Mosakowski, 1997). Furthermore, such resource limitations go together with high resource demands resulting from their early international expansion. This is in contrast to late internationalizers, which usually pursue cross-border expansion only after developing a consolidated resource base. As a result, BGs’ post-entry evolution becomes a process characterized by superior growth opportunities, but also by higher risks of failure (Sapienza et al., 2006; Zhou & Wu, 2014). Hence, general press praises new ventures’ dynamism and international expansion (e.g., World Economic Forum, 2021), while researchers warn that BGs suffer from lower survival odds (Freixanet & Renart, 2020). These concerns lead to the fundamental question regarding how BGs evolve over time and the factors that may play a role in maturing BGs’ performance and survival during the period after their first internationalization event (Jones & Coviello, 2005).

Prior research provides evidence of specific elements that may boost BGs’ sustained market success, while mitigating their risk of failure. For instance, Efrat and Shoham (2012) found that while environmental factors are key for BGs’ short-term performance, internal factors are more important for long-term survival and success; and Sadeghi, Rose, and Chetti (2018) underscore the influence of post-entry internationalization speed on BGs’ export performance. Along this line, the literature identifies a profusion of capabilities, resources and strategic decisions that affect post-entry outcomes of BGs (e.g., Evers et al., 2012;

Freixanet & Renart, 2020; Gerschewski et al., 2015). However, the extant literature on the topic to date is largely fragmented and requires systematic review and analysis to draw some definitive conclusions. For example, it remains unclear how various internal and external factors may interact to influence BGs' post-entry performance.

To shed new light on this topic, we draw on complexity theory (Anderson, 1999; Chiva et al., 2014), a metaphorical and holistic approach that has its roots in the natural sciences and centers on the study of complex systems. It views an object of study as a complexus – in Latin, 'what is woven together' – and, accordingly, represents firms as entities formed by various constituent parts that interact with one another and with their surroundings (Dillon, 2000; Tsoukas & Dooley, 2011). Complex systems appear to be especially suitable for understanding the dynamic relationships between BGs and the different elements surrounding them. In particular, we position this approach dynamically to investigate the evolution of BGs' complex systems.

To this end, we conduct a systematic literature review that reveals managerial and firm-level capabilities – such as innovativeness, learning, and experience – , and networks, as essential components of BGs' complex systems that help them overcome resource deficits and thereby improve performance. Our review also identifies industry features, market characteristics, and informal institutions, as well as resources, which interact with firm factors to influence BGs' development. Finally, our analysis suggests that strategic choices and orientations may act as change catalysts that bring BGs' complex systems to the next stages of evolution, with further consequences on performance and survival. While part of the BG literature analyzes the role of some of these factors as antecedents to early internationalization, our review focuses on their influence on BG performance during the post-entry stage. Hence, we take as a starting premise that BGs go through different phases, which may be broadly divided between pre-internationalization, initial internationalization, and post-entry growth and resource accumulation stages (Gabrielsson et al., 2008), and focus on the latter phase.

This study makes several relevant contributions to the academic literature and to practice. First, our systematic review of 185 journal articles offers an overarching perspective of the different internal and external factors that play a role in the post-entry performance and survival of early internationalizers. Previous reviews are spread mostly across the whole international entrepreneurship domain, and the few that focus on BGs examine only the pre-entry stage, or they mix both pre- and post-entry stages (see Table A1). This prevents us from having a specific and clear agenda for future research directions on the topic. Hence, the current study reformulates the question of 'why young firms internationalize,' prevalent in prior reviews, to the more interesting question, from a strategy perspective, of 'how early internationalizers may improve their performance and survival'.

Second, adopting a dynamic complex system perspective is consistent with calls for research focusing on adaptable, evolving organizations that achieve performance through interconnected processes (Chiva et al., 2014; Freixanet, 2022), that considers time, behavior, and interactions (Jones & Coviello, 2005), and that applies system-based theories to make theoretical contributions in review articles (Post et al.,

2020). Furthermore, this approach provides a taxonomy that can contribute to the literature by distilling knowledge on the multiple factors and their combinations that influence BGs' growth and survival, and by coherently establishing a roadmap that paves the way for future research on this topic (Schleicher et al., 2018; Zettinig & Benson-Rea, 2008).

Third, this paper and the resulting taxonomy unpacks the various sources of BGs' heterogeneity (Madsen, 2013), based on factors such as their different resources, capabilities, and strategic decisions and orientations. In doing so, the paper uncovers contradictions in the literature, such as those relating to the role of technology, the alliances developed by BGs in their early stages, and the adoption of a niche strategy. Finally, the findings and conclusions of the review provide fresh insights for managers and policymakers on how early internationalizers can improve their performance and odds of survival.

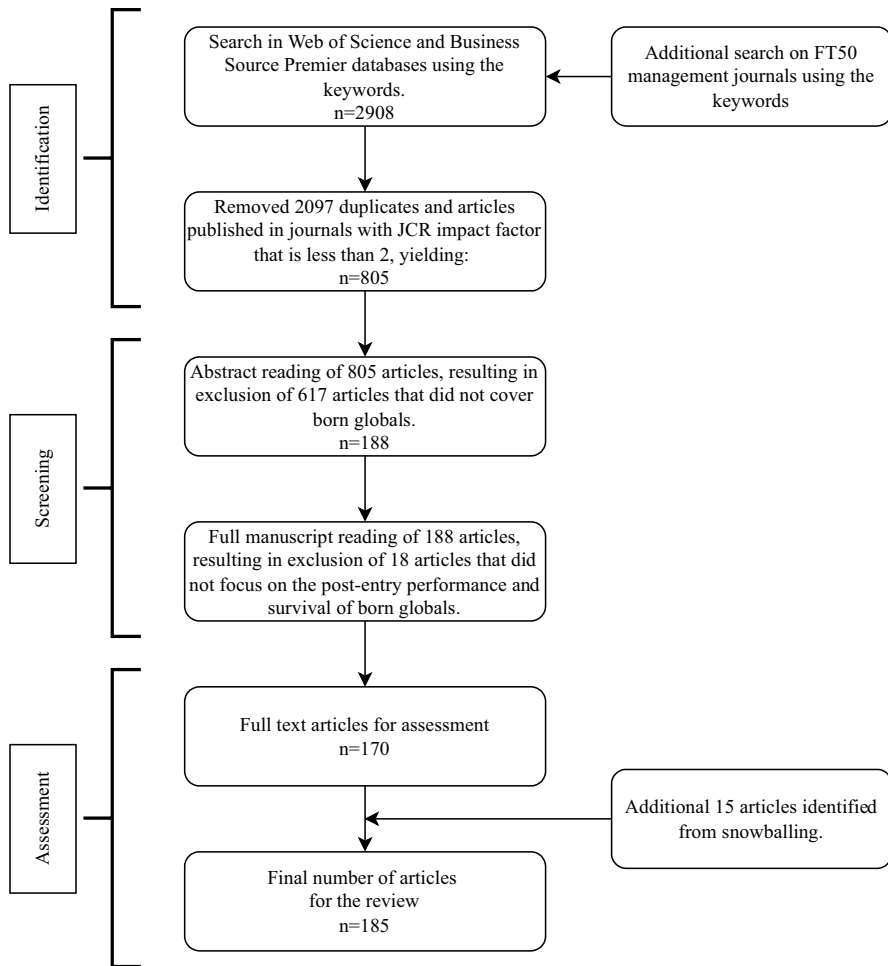
We organize the remainder of the paper as follows. First, we develop two key conceptual elements in the review pertaining to the use of the terms BG and INV, and complexity theory. Then, we describe the methodology and present the review findings. Next, we discuss the various factors influencing BGs' performance and survival. We then present a synthesized theoretical framework of BGs' dynamic complex system and its components. Then, we propose a systems-based integration of research on maturing BGs, including several fruitful areas for future research, and conclude our review by suggesting some managerial implications.

## 2 Methodology

To review the literature, we conducted a three-step content analysis: collecting the data for the review, coding the articles and analyzing their research themes, and interpreting the coded content of the articles.

### 2.1 Data Collection

We started the process of systematic literature search by establishing the review's conceptual boundaries. Based on the goals of this study and the notion of post-entry stage developed above, we included articles that (1) examine what happens to early internationalizers in the period following the initiation of internationalization expansion; (2) focus on this topic, so it is not a theme the articles examine marginally; (3) adopt a firm-level perspective, not an international economics perspective. To collect the articles corresponding to these conceptual boundaries, we followed three main phases: identification, screening, and assessment (see Fig. 1). In the identification phase, we broadly searched for peer-reviewed articles in the Web of Science and Business Source Premier databases using the following keywords: 'born global,' 'early internationaliz\*,' 'rapid internationaliz\*,' 'early accelerate\* internationaliz\*,' 'international new venture,' 'global startup,' 'global start-up,' and 'international entrepreneur\*,' which are the different concepts used in the literature when referring to born globals. We subsequently searched specific management journals that belong



**Fig. 1** Process conducted to identify the sample for the literature review

to the Financial Times (FT) 50 list. The search yielded 2,908 articles. We then filtered the articles by removing duplicates, those that had incomplete fields (e.g., no authors, reports, and no abstract), and those that were published in academic journals with an impact factor lower than two in the Journal of Citation Reports. This is justified because of the need to establish some quality threshold in a review paper, and follows previous reviews in using journal impact factor/ranking as a selection criterion (e.g., Bembom & Schwens, 2018; Jiang et al., 2020). Our initial sample consisted of 805 articles.

Next, during the screening phase, we read the abstracts of the articles that emerged from the initial search. We then discarded 617 articles that did not focus on BGs' post-entry growth stage, but in other topics such as previous phases of BGs life cycle. This step resulted in a pared off tally of 188 articles.

Finally, in the assessment phase, we read the full manuscripts of the articles and discarded a further 18 articles that did not consider specifically BG outcomes such as performance and survival. We acknowledge that, while journals' impact factor or ranking is a quality threshold commonly employed in review papers (e.g., Bembom & Schwens, 2018; Jiang et al., 2020), it may leave out important work on the topic. To partially reduce this problem, using the snowballing technique through the consistently cited references of the manuscripts, we included 15 articles we found to be relevant, thus arriving at a final sample of 185 articles over the period 1997–2020. The sample articles for the review are published in 39 journals, of which nine journals belong to the FT 50 list (see Table A2 for the list). Figure 1 shows the process conducted to identify the sample for the literature review.

## 2.2 Data Coding

Since our comprehensive literature review focuses on a specific research topic with narrow scope, we adopted Gaur and Kumar's (2018) recommended coding scheme, which contains parent categories for coding the articles: the type of study (i.e., conceptual or empirical), theory(ies) employed, scope of study (i.e., single- or cross-country), and context of the study (i.e., developed economies, emerging economies, or mixed). We also included the type of research (i.e., quantitative, qualitative, mixed, or conceptual) and the type of analysis conducted (i.e., longitudinal or cross-sectional) as categories of the review.

With regard to the research theme parent category and sub-categories (Aguilera et al., 2020; Gaur & Kumar, 2018), we followed two steps. First, based on a deductive approach, we considered the list of system components in complexity and systems-based models (e.g., Chiva et al., 2014; Nadler & Tushman, 1980; Schleicher et al., 2018), which forms our baseline conceptual framework. Second, we followed an inductive approach, based on a comprehensive review of the literature on early internationalizers, to identify the various types of elements. From these two steps, six general sub-categories emerged corresponding to the components of a dynamic system: system inputs, firm-level capabilities, managers' characteristics, networks, change catalysts, and system outputs. Finally, we also took into account the parent themes related to the primary variables (i.e., dependent variables, independent variables, moderators, and mediators) and the key findings. Since the reviewed articles consist of a diverse set of factors and relationships, we discuss them along with our interpretation of each of the sub-categories in the next section. Our final coding scheme consists of seven parent categories and their corresponding sub-categories (see Table A3).

Once the coding scheme was defined, we coded the sample articles. To enhance the reliability of the coding process, all the authors jointly reviewed the results. Although our initial coding resulted in an inter-coder reliability – measured using a Cohen's Kappa coefficient (Neuendorf, 2017) – of almost 98%, we subsequently discussed and resolved any inconsistency that emerged during the coding process.

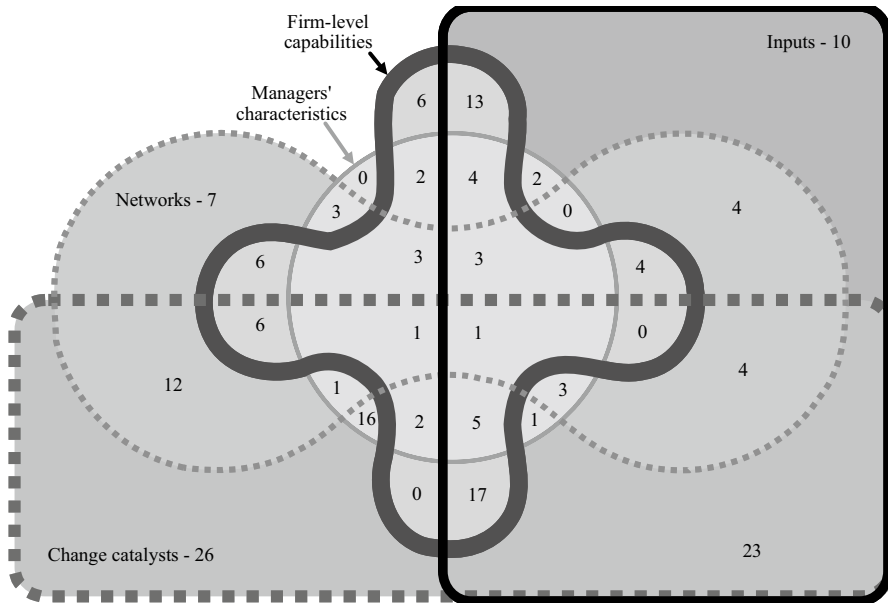


Fig. 2 Edwards-Venn diagram of reviewed articles

### 2.3 Data Analysis

The reviewed articles are largely empirical studies (155 articles representing 87.08% of the sample), 12 conceptual, and 11 review studies (see Table A4 for a descriptive analysis of the coded content, summarized following our coding scheme). Following our main research agenda, most articles center on the effects of change catalysts, system inputs, and firm-level capabilities, while the articles place relatively less focus on networks and managers' characteristics as their central research topic. More importantly, the intersection of the research themes has also generated scholarly interest, with 130 articles (see Fig. 2 for an Edwards-Venn diagram of the reviewed articles' research themes<sup>1</sup>). Moreover, although many of the extant studies (54), continue to rely on contrasting internationalization process theory (Johanson & Vahlne, 1977) and the born-global approach (Cavusgil & Knight, 2015; Oviatt & McDougall, 1994), more than 100 articles draw on capability-based theories (e.g., the resource-based view, dynamic capabilities perspective, network theory, organizational learning theory, the knowledge-based view, and social capital theory).

With regard to the empirical studies, more than 76% of the articles focus on a single country. The divide between the articles covering developed and emerging economies is 62.36% and 22.47%, respectively. In addition, more than half of the

<sup>1</sup> The Edwards-Venn diagram counts the number of articles on each research theme. For example, it shows that seven articles examine the effects solely of networks, six examine networks and firm capabilities, three investigate networks and managers' characteristics, and so on.

reviewed articles adopt a quantitative research approach, while almost 30% conduct a qualitative research approach; barely 5% of the studies have mixed methods. Furthermore, the large bulk of articles (73.03%) analyze cross-sectional data, whereas only about 13% use longitudinal data.

### 3 The Dynamic Complex System of Maturing Born Globals

Our review suggests that BGs form a system based on reciprocal interactions among different factors, which evolves and also interacts with its surroundings, so that it constitutes a dynamic open complex system (Chiva et al., 2014; Schleicher et al., 2018). This is a notion in line with Hallbäck and Gabrielsson (2013), who conclude that BGs' international performance is determined by the fit between internal and external contingencies of the firm, and its strategies. Complexity theory contends that the evolution of a complex system can be modified, accelerated, or slowed down through some change catalysts (Chiva et al., 2014). These are elements that bring a system to 'the edge of chaos,' i.e., a state of 'limited instability' (Freixanet, Rialp, & Churakova, 2020), a period of change that enables a system to reach a new stage in its evolution (Anderson, 1999).

Our model underscores six major system components influencing the post-entry evolution of BGs: inputs, firm capabilities, managerial characteristics, networks, change catalysts, and outputs. These components are in line with system models such as Nadler and Tushman (1980) that define a number of inputs to the system (in this case contextual factors and organizational resources), a transformation process (the factors that enable BGs to use these inputs to obtain performance outputs), and the system outputs (firm performance and survival). Yet, a detailed picture of the factors influencing the growth and survival of BGs requires filling in this broader framework with more specific variables and subcategories from the reviewed studies. Therefore, we developed a taxonomy of these factors that is useful for organizing the abundant research on BGs' performance, and provides an interesting summary of cumulative knowledge on the component areas of BGs. To identify the subcategories of factors, we followed an inductive approach, based on a comprehensive review of the literature on the topic.

Table 1 displays the extended BG system taxonomy, which takes stock of all the factors identified in the reviewed articles. Next, the paper discusses each of the components of the system and then examines how the principles pertaining to complex systems influence our topic.

#### 3.1 Inputs

Inputs are the "givens" of a complex system, that is, the materials a firm has to operate with and the context in which it develops its operations. They comprise organizational resources, institutions, and external factors. Inputs offer opportunities but also place demands and constraints on systems (Schleicher et al., 2018).



**Table 1** Complex system components, subcategories, and variables

Components	Sub-categories	Variables and Sample References
Inputs	Resources	<p>Knowledge-based resources (Martin &amp; Javalgi, 2019)</p> <p>Informational resources (Martin et al., 2018)</p> <p>Contributions from venture capitalists (Ughetto, 2016)</p> <p>Brands, reputation and intellectual property assets (Li &amp; Deng, 2017)</p> <p>Technological level (Fariborzi &amp; Keyhani, 2018)</p> <p>Information technology (Zhang &amp; Tansuhaj, 2007)</p> <p>Initial public offerings in overseas stock exchanges (Liu, 2017)</p> <p>Family control (Habbershon, 2006)</p>
	Home-country conditions	<p>Industry dynamism (Patel et al., 2018)</p> <p>Sectorial clusters providing access to knowledge spillovers, technology and partners (Jiang et al., 2020)</p> <p>Home-country ties (Prashantham &amp; Birkinshaw, 2015)</p> <p>Physical distance (Trudgen &amp; Freeman, 2014)</p> <p>Home-country ties (Prashantham &amp; Birkinshaw, 2015)</p> <p>Host-country risk (Clegg et al., 2016)</p>
Firm-level capabilities	Industry/sector conditions	<p>Specific industry (e.g., software; Terjesen et al., 2008)</p> <p>Degree of industry growth (Mudambi &amp; Zahra, 2007)</p> <p>Degree of global integration (Jiang et al., 2020)</p> <p>International industry conditions (Nadkarni et al., 2011)</p>
	Adaptive capabilities	<p>Innovativeness (Baronchelli &amp; Cassia, 2014)</p> <p>Entrepreneurial capability (Faroque et al., 2020)</p> <p>Learning (Nguyen &amp; Mort, 2020)</p> <p>Behavioral integration (Freixanet &amp; Renart, 2020)</p> <p>Product innovation (Weerawardena et al., 2007)</p>
Dynamic capabilities		<p>Capacity to combine and recombine their resources effectively (Hallböck &amp; Gabrielsson, 2013)</p>

**Table 1** (continued)

Components	Sub-categories	Variables and Sample References
Managers' characteristics	Observable demographic characteristics	Marketing educational background and knowledge (Park & Rhee, 2012) Business experience (Jain et al., 2019) Bicultural advantages (Liu, 2017) Intercultural connections (Mort & Weerawardena, 2006) Level of core self-evaluation (Habbershon, 2006) Immigration status (Jiang et al., 2016) Entrepreneurial drive (Taylor & Jack, 2013) Host-country networks (Ryan et al., 2019) International partners from multiple locations (Tolstoy, 2010) Social capital (Bai et al., 2020)
	Managers' competencies	Trust (Berg et al., 2008) Partner similarity, and business understanding (Freeman et al., 2010) Threat of ostracism and collective sanctions (Jones et al., 1997) Adjusting BGs' routines to partners requirements (Zetting & Benson-Rea, 2008)
Networks	International alliances	Size expansion (Greve & Salaff, 2003) Evolution: dyadic to multilateral relationships (Sasi & Arenius, 2008) Shifting network structures from strong to weak ties (Prashantham & Young, 2011)
	Exchange mechanisms	Post-entry internationalization speed (Meschi et al., 2017) International market scope (Patel et al., 2018)
Change catalysts	Network evolution	Entrepreneurial orientation (Blesa & Ripolles, 2020) International entrepreneurial orientation (Gerschewski et al., 2015) Market orientation (Paliwoda et al., 2009) Learning orientation (Gerschewski et al., 2018) Niche orientation (Khan & Lew, 2018)
	Strategic decisions on post-entry internationalization	Export intensity (Hughes et al., 2019) International sales growth (Bai et al., 2020) Internationalization pace (Nguyen & Mort, 2020) Geographical scope (Hashai, 2011)
System outputs	Strategic orientations	
	International growth performance	

**Table 1** (continued)

Components	Sub-categories	Variables and Sample References
	Financial performance	Firm profitability (Zhou & Wu, 2014) Growth in sales or employees (Hagen & Zucchella, 2014) Operational performance (Gerschewski et al., 2015) Strategic performance (Falahat et al., 2018)
	Performance relative to goals	Legitimacy (Prashantham et al., 2019) Perception of success (Gerschewski & Xiao, 2015)
	Survival	Firm survival (Fariborzi & Keyhani, 2018) Survival in the export market (Sui & Baum, 2014)

### 3.1.1 Firm Resources

BGs are usually resource-scarce organizations that tend to grow through little internalization and a larger use of alternative governance structures and alliances (Oviatt & McDougall, 1994). BGs' resource scarcity is likely to render them highly dependent for their expansion on the possession of fungible resources (i.e., those that may be deployed for alternative uses, or combined with other resources, at a low cost). Sapienza et al. (2006) argue that the ability to shift resources is important for BGs because it allows managers to adapt existing practices to foreign markets, and it offers the flexibility to create new capabilities with existing resources, and to share resources across multiple organizational functions. Fungible resources also enable the exploitation of growth opportunities, in that they allow BGs to pursue multiple new paths at comparatively lower cost. Along the same line, Zetting and Benson-Rea (2008) contend that possessing resources that may be combined with other resources, is key for the capacity of BGs to adapt to fast-paced changes and different institutional environments.

Our review reveals empirical evidence consistent with the importance of fungible resources. For example, Martin and Javalgi (2019) conclude that knowledge-based resources, i.e., those mechanisms firms use to combine and transform tangible resource inputs (Gassmann & Keupp, 2007), are positively linked to a BG's marketing capabilities and then, to BGs' international performance. Similarly, Martin et al. (2018) propose that informational resources are positively associated with service capabilities, which in turn are positively related to BGs' performance. In turn, Li and Deng (2017)'s findings point to the importance of the international performance of brands, reputation, and intellectual property assets for BGs' long-run performance and survival.

Interestingly, while the literature refers to technology as a fundamental resource for BGs, there seem to be discrepancies as to its effects. On the one hand, Zhang and Tansuhaj (2007) and Fariborzi and Keyhani (2018) found that information technology and technological level respectively, contribute positively to BGs' international performance. Similarly, Altshuler and Tarnovskaya (2010) conclude that technology is a resource that may enable BGs to build an international brand – and thus boost their international expansion – without the need for expensive marketing campaigns. On the other hand, Xie et al. (2016), in their study on Chinese firms, found that technological resources do not have a significant effect on international growth. These discrepancies may be due to contextual differences and point to the need for further research on the topic.

The literature also suggests that entrepreneurs' individual resources may partially compensate for the scarcity of external resources. For example, Ughetto (2016) shows the number of founders, which the author claims it serves as a proxy for the availability of internal capital, positively influences the growth of BGs. Similarly, Liu (2017) found that initial public offerings in overseas stock exchanges accelerate the high growth trajectory of BGs by signaling their maturity.

In any case, the reliance on external resources is bound to decrease over time, because of firms' reluctance to relinquish excessive control to outside parties (Pfeffer & Salancik, 1978). BGs gradually build up their own critical resources, and

internalize more and more transactions as they mature (Zetting & Benson-Rea, 2008). This accumulation of tangible and intangible assets becomes increasingly necessary for BGs as they advance in their internationalization process, and employ more advanced entry methods involving higher commitment of resources (Blesa & Ripollés, 2020; Fariborzi & Keyhani, 2018).

### 3.1.2 Institutions and External Factors

A system cannot be understood separately from the environment in which it exists and develops. BGs' complex systems reciprocally influence their industries and institutional environments, through aspects such as scientific research, launching of new products, patent filings, and rivalry with competitors (Zetting & Benson-Rea, 2008). BGs operate simultaneously in various national environments, home and host countries, which may differently influence their evolution and survival.

Home-country conditions can impact the international expansion of a BGs' system by affecting a venture's ability and willingness to compete abroad. On the one hand, a strong domestic economy and infrastructure provides external resources and capabilities that may enhance a firm's competitive advantages. For example, Jiang et al. (2020) posit that industry clusters grant direct access to knowledge spillovers, technology, proper infrastructures, or partners, which improve BGs' capacity to compete. Prashantham and Birkinshaw (2015) also find evidence of such positive effects and conclude that BGs' industry group membership is positively associated with export intensity. Moreover, Patel et al. (2018) find that higher dynamism in the home country industry reduces born-regionals' risk of failure. On the other hand, a strong domestic demand or lower competition helps increase the interest of the local market relative to exports markets, and thus reduces a BG's incentive for international growth. In this vein, Prashantham and Birkinshaw (2015) conclude that firms' stronger home-country ties are associated with lower international intensity.

As to the influence of host-country conditions, the reviewed studies suggest that BGs' international performance depends on several target markets' institutional characteristics such as market size, competition, and attractiveness, as well as cultural and institutional barriers. For example, Trudgen and Freeman (2014) find that, due to the required learning and adaptation processes, BGs that initially enter psychically distant markets are slower to progress with regard to their international development than those BGs that initially enter psychically close markets. This is a first interesting step into exploring the effects of 'distance-related' factors, that further research could complement by looking into the impact of objective economic or institutional distance.

Besides, industry-level influences may also play an important role in BGs' evolution. Firstly, the relevant industry may influence the method of entering a foreign market. For instance, Terjesen et al. (2008) find that software companies, in contrast to firms from other industries, are more likely to employ intermediated forms of internationalization, using multinationals as intermediaries, rather than direct entry modes. Secondly, industry characteristics affect BGs' foreign market success. For example, Mudambi and Zahra (2007) find that a higher degree of industry growth increases the likelihood of survival of BGs because their advantages become

stronger, enabling them to thrive in uncertain industry conditions. Furthermore, Jiang et al. (2020) argue that the greater an industry's global integration is, the faster a BG can achieve internationalization because such integration fosters the coordination of BGs' activities across different countries. Thirdly, the interaction of target market industry factors with managerial capabilities can also determine BGs' post-entry performance. Nadkarni et al. (2011) show evidence in this regard, by suggesting that the fit between the domestic mindset of top managers and international industry conditions maximizes the performance of early internationalizers.

In sum, while extant research provides evidence on the influence of specific product/industry conditions, we still lack understanding on the effects of arguably key contextual factors such as host-markets' legal and political context – e.g., protectionist measures –, and the evolution of these elements. Furthermore, an interesting unexplored line for further research would involve conducting the reverse analysis: how do internationally entrepreneurial firms influence their macro-economic contexts, in terms for example of economic growth, employment and technological development?

### 3.2 Firm-Level Capabilities

Complex adaptive systems are based on the development of processes that enable the system to respond to environmental challenges. Adaptive routines are important to achieve current and long-term system survival (March, 1991). In the case of BGs', the development of capabilities that enable the system to evolve is particularly crucial, considering their abovementioned resource-scarcity, and their liabilities of foreignness and smallness (Sapienza et al., 2006; Zaheer & Mosakowski, 1997). Hence, BGs' systems adapt and respond to environmental challenges in both their home and host countries, by developing a variety of distinctive routines and processes that enable them to leverage and boost their resources (Cavusgil & Knight, 2015).

Our review reveals a wide variety of such adaptive capabilities, a prevalent one being *innovativeness* (Baronchelli & Cassia, 2014; Hagen & Zucchella, 2014; Hughes et al., 2010; Kim et al., 2011; Lee et al., 2016; Sui & Baum, 2014). Studies stress that product innovation, either through extensions, upgrades, or modification of current products, increases BGs' capacity to survive and thrive (Cavusgil & Knight, 2015), and positively affects financial returns (Kim et al., 2011). Other BG idiosyncratic adaptive capabilities referred to in recent studies are entrepreneurial capability (Faroque et al., 2020) and learning and absorptive capacity (Bunz et al., 2017; Jain et al., 2019; Nguyen & Mort, 2020; Rodriguez-Serrano & Martin-Armario, 2019; Wu & Voss, 2015). More specifically, the literature identifies BGs' *learning advantages of newness*, which refers to younger internationalizing firms typically experiencing a process of accelerated knowledge accumulation, learning, and adaptation (Autio et al., 2000; Sleuwaegen & Onkelinx, 2014; Zhou & Wu, 2014). Another distinctive BG adaptive capability lies in their usually high levels of so-called *behavioral integration* (Hambrick & Mason, 1984), which defines the amount of collective interactions within organizations that may enable BGs to react quickly and enhance their agility (Freixanet & Renart, 2020).

While unique capabilities may enable BGs to exploit their assets and generate current performance, BGs need to develop the capacity to combine and recombine their resources effectively in order to adapt to fast-paced changes in their institutional environments and enable long-term performance (Hallbäck & Gabrielsson, 2013). BGs develop new routines by selecting new valuable information, integrating it with existing knowledge and synthesizing it to fit new or changing environments (Zettinig & Benson-Rea, 2008). These organizational routines enabling the adaptation to fast-changing environments have been labeled *dynamic capabilities* (Eisenhardt & Martin, 2000). Consistent with the dynamism and turbulence that typically characterize BGs' organizational and environmental contexts, a growing number of reviewed articles have identified dynamic capabilities as a key element in BGs' dynamic complex system for their long-term growth and survival (e.g., Evers et al., 2012; Freixanet & Renart, 2020; Khan & Lew, 2018; Khavul et al., 2010).

### 3.3 Managers' Characteristics

Managers' features are an essential component of the BGs dynamic complex system, as they play a vital role in a venture's performance and evolution. An entrepreneur or manager's attitudinal and cognitive characteristics may impact a BG's performance in two ways. First, managers' educational background and experiences determine individual cognitive differences, and these condition managers' perceptions (Hambrick & Mason, 1984). In turn, from a behavioral theory perspective (Cyert & March, 1963), decision-makers' perceptions and attitudes explain why similar firms make different strategic choices, such as those concerning a firm's international expansion. Hence, managers' characteristics are likely to significantly affect decisions on foreign market selection, entry, and marketing which, in turn, will have an impact on international and firm performance (Freixanet et al., 2018). Second, managers' experiences and cognitive attributes may partially compensate for a BG's lack of path-dependent organizational routines and foreign market knowledge, with expertise brought in by the managers themselves (Laanti et al., 2007; Sapienza et al., 2006).

Upper echelons theory (Hambrick & Mason, 1984) posits that decision-makers' observable demographic features can be used to infer psychological cognitive bases and values, and as such may serve as potent predictors of their strategic choices. Our review reveals that, consistent with this perspective, most studies analyze a variety of observable managerial characteristics that influence BGs' performance. These include managers' marketing educational background and knowledge (Baronchelli & Cassia, 2014; Falay et al., 2007; Park & Rhee, 2012), business experience (Freixanet & Renart, 2020; Jain et al., 2019; Khan & Lew, 2018; Nummela et al., 2016; Prashantham & Dhanaraj, 2010; Ughetto, 2016; Wood et al., 2011), entrepreneurial drive (Romanello & Chiarvesio, 2017; Taylor & Jack, 2013), creativity (Loane et al., 2007; Nemkova, 2017), bicultural advantages (Liu, 2017), and international connections (Liu, 2017; Loane et al., 2007; Mort & Weerawardena, 2006).

It is also interesting to highlight other single study investigated managerial capabilities. Jiang et al. (2016) find that immigration status (naturalization) positively

moderates the effect of an early internationalization strategy on new venture survival. In their conceptual paper, Prashantham and Floyd (2019) conclude that there is an inverted-U relationship between the level of core self-evaluation in an entrepreneur's personality profile and BGs' reasoned response to opportunities and threats, which eventually leads to BGs' survival. Finally, Habbershon (2006) points to family control as a context that generates idiosyncratic managerial capabilities that provide BGs with a potential agency advantage. While extant research examines a wide range of managerial features, there is still scarce evidence on the impact of foreign-born entrepreneurs on BGs' international expansion. This offers an interesting avenue for future research, considering the variety in the cultural backgrounds and the international networks that typically such entrepreneurs possess. Furthermore, while studies examine the effects of strategic orientations at the organizational level, we still lack theoretical and empirical research on how the entrepreneur's key individual orientations (such as entrepreneurial orientation), influences BG's strategic orientations and then, its performance.

Managerial characteristics, other than interacting with the other elements of the complex system, also show intrarelationships among themselves. International business experience, which features prominently among BGs' managerial characteristics, may be determined by entrepreneurial drive and educational background, attributes that enable managers to build and mobilize international connections and resources (Jiang et al., 2020). In turn, international business experience allows managers to take better internationalization decisions, such as market selection and entry mode (Hagen & Zucchella, 2014; Prashantham & Dhanaraj, 2010), and to recognize business opportunities from a specific market in which they have experience (Johanson & Martín, 2015).

### 3.4 Networks

Networks, defined as a set of nodes and ties representing some relationship between nodes (Bembom & Schwens, 2018) are a key element in BGs' complex system. The papers that examine this component focus on firm-level networks, and emphasize their importance in helping BGs to overcome their resource and capabilities deficits. Studies suggest that network relationships may be even more relevant for BGs' future development than the actual path of internationalization (Coviello, 2006; Johanson & Vahlne, 2003). The reviewed articles point to key specific areas of viability contribution from BGs' partners such as providing access to new revenue streams (Gabrielsson & Kirpalani, 2004) or growth opportunities (Zettinig & Benson-Rea, 2008; Zhou et al., 2007), support in establishing foreign sales offices (Mort & Weerawardena, 2006), help in overcoming red tape and software piracy (Zain & Ng, 2006), entering multiple export destinations (Felzensztein et al., 2015; Park & Rhee, 2012), and providing legitimacy (Coviello & Munro, 1997). However, while the literature points to the importance of knowledge or credit constraints in the development of new ventures, we have scant evidence on the reviewed literature of the impact of networks in helping BGs access such resources.



On the other side, part of the literature adopts a dynamic perspective and shows how BGs adapt to the partners' routines and develop a structure enabling it to integrate and synthesize their knowledge with that of their partners (Zetting & Benson-Rea, 2008). Building a capacity for the assimilation and exploitation of partners' knowledge is essential for BGs, considering that foreign partners may provide valuable and not readily accessible knowledge from their host markets, as Mort and Weerawardena (2006) and Ryan et al. (2019) show in their qualitative studies among Australian and Irish BGs respectively. Relatedly, Tolstoy (2010) illustrates the benefits of combining foreign market knowledge from partners from different countries; Sharma and Blomstermo (2003) and Bai et al. (2020) demonstrate that social capital is positively associated with international learning and performance. Finally, Freeman et al. (2010) show that networks foster tacit knowledge, absorptive capacity, and new knowledge generation among BGs.

However, some studies also warn of the potential constraining effects of early network ties on BGs development. Coviello and Munro (1997) inform that network partners' reputation problems may spread to BGs that are linked to them. They also caution that BGs' partners obtained at the moment of their inception might subsequently limit their market opportunities and hamper their international growth. Similarly, Prashantham and Dhanaraj (2010) suggest that BGs' initial networks may lose their value or become obsolete as the firm evolves. Finally, Gerschewski et al. (2015) find no significant effect of the size of personal networks on international performance on a sample of BGs from New Zealand and Australia.

The mixed arguments and empirical findings suggest that, while symbiotic partners are essential for BGs survival, selecting who enters their complex system and then, structuring a solid balance between their contributions and interactions, is key for BGs growth. Studies also point to some mechanisms improving networks performance. Blomquist et al. (2008) and Berg et al. (2008) focus on the role of *trust*, and argue it is an important exchange mechanism that reduces opportunistic behaviors and enhances the efficiency of transactions among network partners. The reviewed literature also provides some of the characteristics that may accelerate the trust-building process, such as partner similarity, shared location, business understanding, and prospects of a future relationship (e.g., Bembom & Schwens, 2018; Blomqvist et al., 2008; Freeman et al., 2010). Extant research also suggests that *social mechanisms* can facilitate resource transfer within networks. These include the threat of ostracism and collective sanctions for cheating partners, and complementary skills that can protect partners from opportunistic behaviors by highlighting collective benefits (Jones et al., 1997). Social mechanisms are suitable for resource-scarce BGs because they demand fewer resources than other mechanisms do (Bembom & Schwens, 2018).

In order for dynamic systems with symbiotic partners to provide sustained benefits, it is also necessary that they evolve. First, changes need to occur at a firm-level, with adjustments in BGs routines in response to the requirements of their partners. This makes interactions with symbiotic partners smoother, it creates outside stability, even in fast-changing environments, and it allows BGs to develop their own stable structures and routines (Zetting & Benson-Rea, 2008). Second, as a BG advances in its internationalization process and uses entry methods that

require more commitment of resources (Johanson & Vahlne, 1977), it must expand its network size to gain access to those necessary resources (Greve & Salaff, 2003). Hence, while dyadic relationships may be useful during their early stages, BGs need to complete the transition to multilateral network relationships to achieve significant international growth (Sasi & Arenius, 2008). Third, as BGs evolve, shifting network structures from strong to weaker ties can also offers advantages, such as reducing establishment costs and seizing opportunities to obtain more innovative and diverse resources that bridge structural gaps (Coviello, 2006; Han, 2008; Prashantham & Young, 2011).

### 3.5 Change Catalysts

Complex dynamic systems evolve when they find themselves at the ‘edge of chaos’, a state of ‘limited instability’, entailed by any different or shocking situation or decision (Anderson, 1999; Freixanet, Churakova & Rialp, 2020). Our review identifies firm strategic decisions as those leading to edge of chaos situations, and then unleashing a process of transformation in the abovementioned components of the complex system. Such decisions avoid stability in the system and introduce a change that produces positive feedback and brings the BG to a renewed situation (Chiva et al., 2014). Supporting this argument, Jin et al. (2018) find that each BG move to a next stage of evolution comes from strategic decisions related to survival and growth. Gabrielsson and Gabrielsson (2013) conclude that decision-making logic moderates the impact of resources, capabilities, and opportunities on BGs’ growth and survival, and Yang and Gabrielsson (2017) that it helps optimize entrepreneurial marketing. Hence, strategic decisions, either specific post-entry internationalization or general strategic decisions and orientations, may play a resource-dynamizing role, and propel BGs to more advanced evolution stages (Freixanet & Renart, 2020; Zhou & Wu, 2014).

#### 3.5.1 Strategic Decisions on Post-Entry Internationalization

Two post-entry strategic decisions, internationalization speed and market scope, are particularly likely to lead to changes in the components of BGs’ complex system (Meschi et al., 2017; Patel et al., 2018). A rapid post-entry international expansion may bring diverging effects on BGs performance and survival. On the one hand, it forces BGs to quickly adapt and develop organizational capabilities, which can put extra pressure on their scarce resources and may endanger their survival (Freixanet & Renart, 2020). On the other hand, it enables firms to improve their efficiency because of a higher use of the infrastructure established to support international activities such as logistics, administration, and marketing (Hennart, 2007). Furthermore, prior literature points to BGs’ specific advantages in sustaining a high pace of internationalization. These include the abovementioned ‘learning advantages of newness’ (Autio et al., 2000; Sadeghi et al., 2018; Zhou & Wu, 2014), and higher levels of ‘behavioral integration’ (Hambrick & Mason, 1984), which may enable

BGs to react quickly, and thus be capable of facing the challenges of rapid internationalization with a higher chance of success (Meschi et al., 2017).

In turn, international market scope confers on BGs the capacity to exploit their competitive advantage across a higher number of foreign markets, thus achieving economies of scope and reducing average costs and commercial risks (Holcomb et al., 2006; Schwens et al., 2018). Yet, a broader international market scope involves extra marketing and logistic costs (Patel et al., 2018), and exerts greater pressure on BGs' resources because of the need to develop new capabilities to deal with multiple markets (Sapienza et al., 2006). Nevertheless, extant research on the relationship between international market scope and BG survival is scarce and offers inconclusive empirical evidence. On the one hand, Freixanet and Renart (2020) show that higher market scope increases the likelihood of BGs' survival, while Patel et al. (2018) demonstrate that intraregional diversification increases – while interregional geographic diversification decreases – the survival of early internationalizers.

### 3.5.2 General Strategic Orientations

Extant research shows that general strategic orientations can also be considered aspects critically affecting BGs' evolution, as they direct organizational behavior and strategic investments (Covin & Miller, 2014). In particular, the role of BGs' *entrepreneurial orientation* in firm growth and survival has received considerable attention. Entrepreneurially oriented firms are defined as those that are more willing to assume risks, have a stronger desire to innovate, and are more proactive toward new markets opportunities than competitors are (Lumpkin & Dess, 2001). Previous studies show that BGs with a greater entrepreneurial orientation tend to use entry modes that involve higher resource commitment (Ripollés et al., 2012), have a broader international market scope (Blesa & Ripolles, 2020), and ultimately greater foreign market success (Falahat et al., 2018) and firm performance (Khan & Lew, 2018; Martin & Javalgi, 2016, 2019). Moreover, studies argue that entrepreneurial orientation may foster BGs' international competitiveness by enhancing their marketing capabilities (Martin & Javalgi, 2016, 2019), international market orientation (Ripolles et al., 2012), and knowledge-based resources (Martin & Javalgi, 2019).

Meanwhile, research in the past decade has shifted toward the concept of international entrepreneurial orientation, which refers to a firm's propensity for internationally proactive behavior, risk-taking, and innovativeness (Covin & Miller, 2014). It involves firms' attempts to pursue new market opportunities and renew existing areas of operation by crossing national borders (Freixanet, Braojos, Rialp, & Rialp, 2020). Similar to (non-international) entrepreneurial orientation, previous studies argue that higher international entrepreneurial orientation may result in improved BG performance (Gerschewski et al., 2015; Knight & Cavusgil, 2004). However, we still have very limited evidence on the effects of this type of strategic orientation in the BG context, which is surprising since it aligns with the overall international entrepreneurship field.

Other studies also focus on market orientation, which refers largely to the marketing aspect of internationalization that combines customer and competitor orientations (e.g., Gerschewski et al., 2015). It is crucial for BGs' international performance

and involves an organizational culture that creates better value for a firm's clients than its competitors (Kocak & Abimbola, 2009). Indeed, these strategic orientations may be linked to specific activities such as participating in international trade shows which, to the extent that they enable BGs to develop distinctive resources and capabilities, may be also serve as change catalysts (Gerschewski et al., 2019).

Reviewed articles identify another type of strategic orientation, learning orientation, which relates to the open-mindedness of managers and their commitment to learning (Kocak & Abimbola, 2009) and to BGs' continuous efforts to learn and accumulate knowledge in the internationalization process (Gerschewski et al., 2018).<sup>2</sup> Studies emphasize that BGs with a strong learning orientation may take advantage of the additional opportunities available in international markets, thus contributing to their foreign market success (Kocak & Abimbola, 2009; Nemkova, 2017) and overall firm performance (Gerschewski et al., 2018).

Finally, previous studies also cover niche strategy or niche orientation, but their findings regarding the relationship between niche orientation and firm outcomes appear to be contradictory. On the one hand, Khan and Lew (2018) find that niche orientation improves the long-term survival of BGs from an emerging economy. Similarly, Andersson et al. (2020) show evidence that Swedish BGs have built a competitive position by developing international niche products. Moreover, Autio (2017) argues that adopting a niche orientation intensifies the association between cross-border operations and competitive advantage. On the other hand, Gerschewski and Xiao (2015) find that niche strategies of New Zealand and Australian BGs are negatively associated with financial performance. These mixed results suggest the need to conduct further research on how and in which contexts a niche strategy may improve BGs' performance.

### 3.6 System Outputs

The interrelationships among the abovementioned elements result in various firm outputs, or products of the complex system. That is, given a set of internal resources and contextual factors, BGs develop organizational routines and managerial competencies, and implement specific strategies that may enable them to attain different outcomes. The literature on BGs examines a variety of outcomes that we may broadly divide into performance and survival. In turn, we may distinguish between international growth performance, financial performance, and performance relative to firm goals.

The reviewed studies mostly measure international growth performance through export intensity or international sales growth (e.g., Bai et al., 2020; Coviello, 2006; Faroque et al., 2020; Hughes et al., 2019; Knight & Cavusgil, 2004; Lee et al., 2016; Park & Rhee, 2012; Sasi & Arenius, 2008), while others focus on geographical

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<sup>2</sup> Although Kocak and Abimbola (2009) define learning orientation based on managers' open-mindedness and commitment to learning, we have included this element within strategic orientations (and not managers' characteristics) because these authors define and analyze it as an organizational feature. That is, they examine how managers render firm learning oriented through their activities and attitudes.

scope (Blesa & Ripollés, 2020; Hashai, 2011; Nguyen & Mort, 2020). Some studies also consider the amount of time in achieving international expansion, and thus examine the pace of internationalization as a system output (Loane et al., 2007; Nguyen & Mort, 2020; Prashantham & Young, 2011; Taylor & Jack, 2013). The problem with measuring final outcomes through market scope and internationalization speed is that, other than being potentially a measure of accomplishment, they are also strategic decisions taken by firms, as we have seen in the previous section. That is, a company may strategically decide to focus on one or a few markets and develop a gradual and cautious geographical expansion, and still be more successful abroad, in terms, for example, of export intensity and profitability, than another company with speedy and dispersed internationalization.

Firm profitability – either in absolute terms or as a ratio such as return on sales or assets – features prominently among final financial performance outcomes (Jain et al., 2019; Kim et al., 2011; Nadkarni et al., 2011; Zhou & Wu, 2014). Growth in sales or employees (Gabrielsson & Gabrielsson, 2013; Hagen & Zucchella, 2014; Schueffel et al., 2011; Ughetto, 2016), operational (Gerschewski et al., 2015) and strategic performance (Falahat et al., 2018), may also fall into this category. Performance relative to firm goals is essentially based on perceptions from managers, such as the perception of success (Gerschewski & Xiao, 2015; Gerschewski et al., 2015), or perceptions from external stakeholders, such as those relating to legitimacy (Prashantham et al., 2019; Turcan & Juho, 2014).

Finally, an emerging research stream has started to evaluate BGs' survival (Fari-borzi & Keyhani, 2018; Khan & Lew, 2018; Patel et al., 2018). Firm survival is obviously related to performance, but they are conceptually different. Sapienza et al. (2006) argue that early internationalization may lead to high growth together with lower likelihood of survival, considering the greater pressure it puts on new ventures' scarce resources. Sleuwagen & Onkelinx (2014) and Freixanet and Renart (2020) find empirical support for this hypothesis and show that BGs exhibit lower likelihood of survival than late internationalizers. In contrast, Jiang et al. (2016) conclude that early internationalization may enhance the prospects of survival of new ventures started by immigrants; and Mudambi and Zahra (2007) suggest there is no difference after considering firms' competitive strategies. More empirical research is thus necessary to establish clearer conclusions on the key topic of whether, and in which cases, early internationalization reduces a firm's likelihood of survival.

#### 4 A Systems-Based Integration of Research on Maturing BGs

The complex system perspective adopted in this review is a useful approach to identify which factors out of a possibly infinite set are most important for understanding the functioning of the system (Schleicher et al., 2018). Following the discussion on each component of the BG system in isolation, we develop an integrative consideration of how complexity theory and the principles pertaining to complex systems influence our topic (Chiva et al., 2014; Dillon, 2000; Nadler & Tushman, 1980), namely reciprocal interrelationship, equifinality, congruence, adaptation and capacity for feedback. These principles describe how the components of a system

are likely to interact, and they suggest a more multifaceted and dynamic view of BGs' evolution that extant research has typically considered (see Fig. 3). Hence, they offer a theoretical framework that helps us to better understand prior literature on the topic and identify fruitful avenues for future research. Next, we comment on these complex systems principles and key areas for further research, and summarize them in Table 2.

#### 4.1 Reciprocal Interrelationship

The mutual reciprocal relationship among system components is a core feature of complex systems. This principle holds implications for the review findings and for future studies. A first direct suggestion would be to go beyond the linear causality that has traditionally linked these concepts in previous research in favor of holistic, complex approaches that stress mutual causality (Tsoukas & Dooley, 2011). Most articles have assessed the effects, in isolation, of one of the system components in output measures, yet there is still relatively little evidence regarding how they interact with each other and within the broader BG system. Table 3 and Fig. 4 summarize the linkages among the factors and attributes of the reviewed articles. More than 44% of the reviewed articles cover the relationship between change catalysts and system outputs, followed by the link of firm-level capabilities (27.5%), inputs (23.2%), and networks (18.4%) to system outputs. Inter alia, we need more evidence on relevant topics such as how managerial characteristics may lead to the development of firm networks (only 1.6% of papers address this topic), the interrelationships between the individual entrepreneurs' capabilities and those at firm level (1.6%), and on the interactions between various elements such as firm resources and capabilities, and change catalysts with contextual factors. For example, future studies could add both theoretical and practical value by analyzing in more detail how public policy measures on innovation and export promotion may lead to the development of BGs' key competencies, or trigger strategic decisions such as the acceleration of the speed of internationalization or geographic scope.

The interdependence among elements may also have implications on the theoretical framework employed in future research. Our review shows that, other than internationalization process theory, a growing number of scholars draw on other perspectives that provide divergent explanations and predictions regarding BGs' outcomes. Given the multiplicity of interconnected factors that influence BGs, building on complexity-based theories, or in a strategy tripod perspective – which integrates institutional theory, an industry-based approach, and a resource-based view (Yamakawa et al., 2008) – , could be a fruitful path for analyzing these firms.

#### 4.2 Equifinality

This characteristic of complex systems means that different system configurations can lead to the same outcome or to the same type of input–output conversion. Hence, there is not a single path for achieving an objective (Gresov & Drazin, 1997). In the context of our study, this means that, taking for example long-term BG survival as

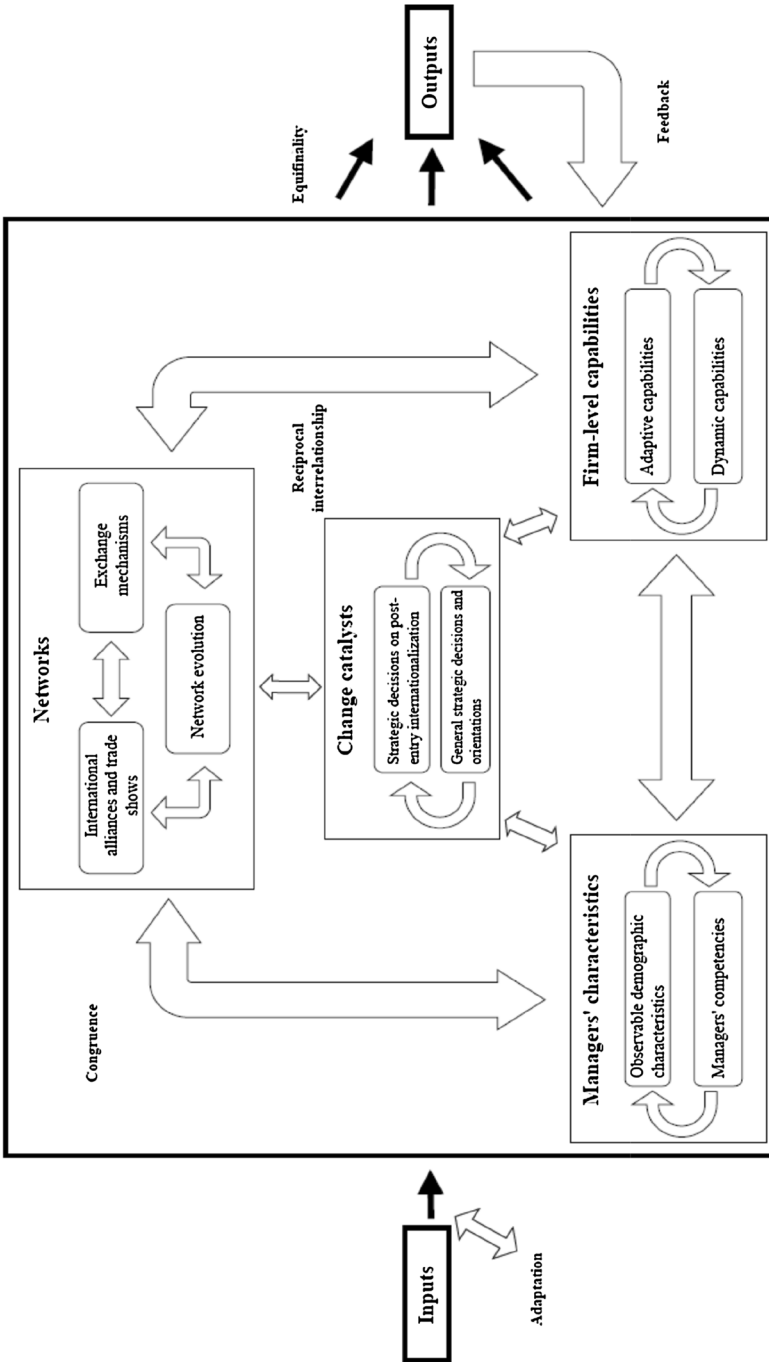


Fig. 3 An open dynamic complex system of maturing born globals

**Table 2** Recommended directions for future research

Focus	Research gaps and sample questions
Inputs	<p>Research has examined the influence of several contextual forces on BGs' evolution. However, we lack theoretical and empirical evidence on the opposite effects: How do BGs impact the level of their home-countries' economic development, employment, and technological capabilities</p> <p>How does entering into countries that are similar or dissimilar in terms of economic, institutional or cultural characteristics influence BGs performance? Which of these 'distance-based' measures is more important?</p> <p>Theoretical and empirical research should further examine the influence of key host-country institutional factors such as the current state and evolution of protectionist measures such as import tariffs and accreditations, governmental incentives, and easiness to do business in the country</p> <p>Due to inconsistent empirical research, we need more studies on the influence of specific firm resources, such as technology assets, on BGs' dynamic system</p> <p>While extant studies have theoretically argued on the importance of fungible resources, we need empirical evidence on key aspects such as, to what extent does resource fungibility add to BGs' performance? Which resources are more fungible and how can BGs procure them?</p> <p>Considering the importance of knowledge assets, particularly for high-tech BGs, we need more research on how BGs identify, assimilate and exploit technological knowledge from foreign markets</p>
Firm-level capabilities	<p>How do entrepreneurs' capabilities and knowledge become those of BGs? What can firms do to accelerate and optimize the process of capability transfer?</p> <p>How can BGs attract, incorporate and train new recruits with the set of skills and knowledge that facilitate firms developing the set of routines and practices they need for their development?</p>
Managers' characteristics	<p>There is a need to understand the process of interactions between entrepreneurs' individual orientations (e.g., entrepreneurial orientation), and strategic orientations at the organizational level</p> <p>What is the influence of managers' background diversity in terms of prior experience, personal networks, or academic qualifications? How do foreign-born entrepreneurs influence BGs' international expansion?</p> <p>What incentives drive managers of BGs? How do managerial thought processes influence BGs' decision making and strategy planning and execution?</p>
Networks	<p>How do partners' characteristics such as cultural distance influence key exchange and social mechanisms such as trust or complementary skills that facilitate knowledge transfer within networks?</p> <p>We need further research on the role of networks in solving specific resource-scarcity problems such as credit constraints, and knowledge assets</p> <p>How can BGs undertake a successful transition to larger, multilateral and multinational networks, that enable them to access their full potential of growth opportunities?</p>
Change catalysts	<p>We need more research on the effects of international market scope, considering the scarcity of empirical evidence and the inconclusive results, particularly as to the impact on firm survival</p> <p>To what extent is international entrepreneurial orientation a prevalent feature of BGs'? How does this strategic orientation impact BGs' international growth and overall performance?</p>



**Table 2** (continued)

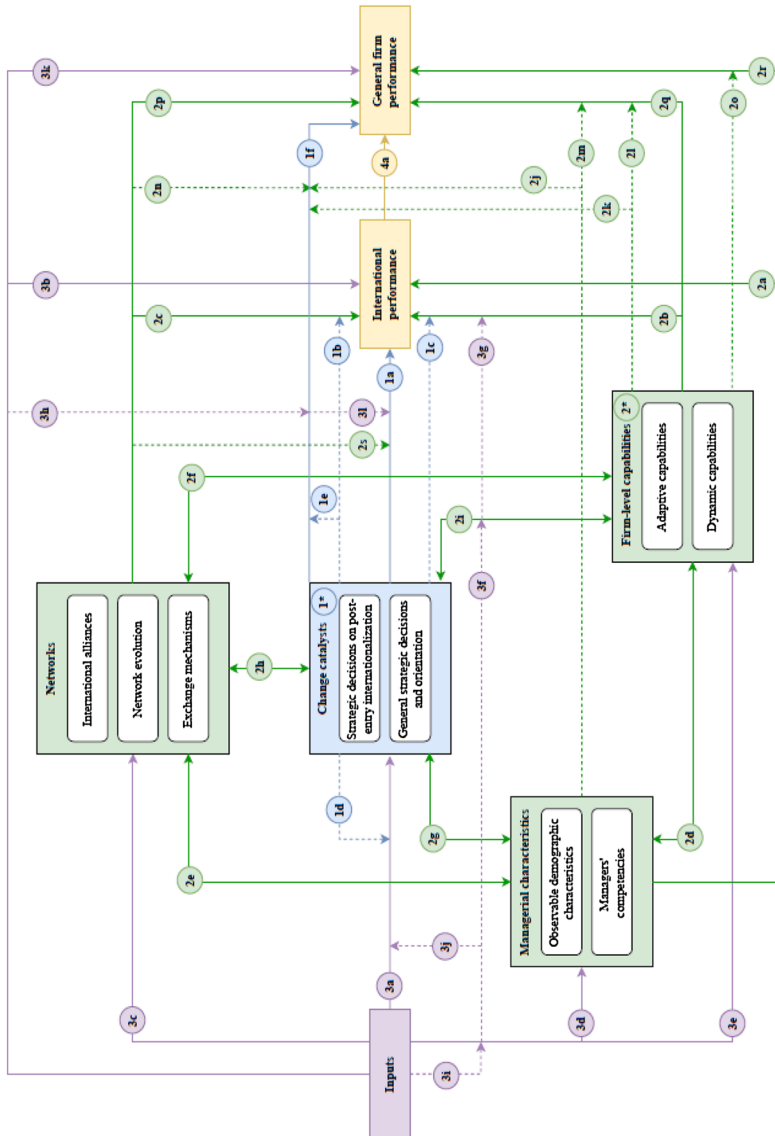
Focus	Research gaps and sample questions
System outputs	<p>Since there is inconsistent evidence regarding the link between early internationalization and survival, more research is needed to resolve this issue</p> <p>While the literature points to differences on capabilities from early and late internationalizers, and from pre- to post-entry stages, we lack clear understanding on the differences in outputs. For example, what are the differences on stakeholders' reactions to financial losses in each firm and stage?</p> <p>How do BGs' boards of directors influence organizational outcomes?</p>
Reciprocal interrelation-ships	<p>Research has mostly focused on the relationship between system components and system outputs, so we need more evidence on the interrelationships among the components themselves</p> <p>There is a need to have an integrative theoretical framework that stresses mutual causality, to understand the evolution of BGs</p>
Equifinality	<p>What combinations of factors result in high/low BG post-entry performance and survival?</p> <p>How do different factors complement or substitute each other? For example, how may individual capabilities or strategic orientations substitute or complement those at firm level?</p>
Congruence	<p>We need further research on how BGs simultaneously navigate through multiple institutional and environmental settings. For example, considering the need for congruence, do BGs operating in both developed and emerging economies implement different strategies than those operating only in either developing or emerging markets?</p> <p>How do the effects of capabilities, resources or strategies vary depending on the context? For example, how does the impact of dynamic capabilities, or international market scope on survival change depending on host-markets economic and institutional uncertainty?</p> <p>More comparative studies would be useful to ascertain the influence of contextual factors</p>
Adaptation	<p>While there is considerable evidence on the evolution of a number of system components, we still lack understanding on key issues such as how BG systems adapt to major contextual changes such as those provoked by environmental jolts</p> <p>How do BGs react to external corporate governance mechanisms?</p> <p>What are BGs' structural designs and organizational processes, how do these designs and processes evolve over time, and how do these adaptations influence overall firm decision making, performance, and survival?</p>
Capacity for feedback	<p>How do the system outputs influence the various system components? For example, how do BGs' results determine the development of firm capabilities, the increase of firm resources or the change in strategies?</p> <p>Do the consequences of output feedback vary based on managers characteristics, or contextual factors such as organizational culture, or macro-economic evolution?</p>
Methodological implications	<p>Using QCA can be a fruitful path to apply a neo-configurational perspective in BG research</p> <p>There is a need to perform more longitudinal large-n studies to understand how BGs evolve over time</p> <p>We lack studies applying a network approach to analyze how BGs are embedded in their ecosystem, and the effect of such network on firm performance and survival</p>

**Table 3** Summary of studied linkages in the reviewed articles

Legend in Fig. 3	Relationship	Number of articles	Percentage (%)
1*	Change catalysts only	8	2.17
1a	Change catalysts to international performance	47	12.77
1b	Change catalysts moderating the link of networks to international performance	1	0.27
1c	Change catalysts moderating the link of firm-level capabilities to international performance	2	0.54
1d	Change catalysts moderating the link of inputs to change catalysts	2	0.54
1e	Change catalysts moderating the link of change catalysts to international performance	2	0.54
1f	Change catalysts to general firm performance	36	9.78
2*	Firm level capabilities only	1	0.27
2a	Managerial characteristics to international performance	6	1.63
2b	Firm-level capabilities to international performance	32	8.70
2c	Networks to international performance	21	5.71
2d	Link between managerial characteristics and firm-level capabilities	3	0.82
2e	Link between managerial characteristics and networks	3	0.82
2f	Link between networks and firm-level capabilities	6	1.63
2g	Link between managerial characteristics and change catalysts	8	2.17
2h	Link between networks and change catalysts	13	3.53
2i	Link between firm-level capabilities and change catalysts	26	7.07
2j	Managerial characteristics moderating the link of change catalysts to general firm performance	3	0.82
2k	Firm-level capabilities moderating the link of change catalysts to general firm performance	5	1.36
2l	Firm-level capabilities moderating the link of firm-level capabilities to general firm performance	1	0.27
2m	Managerial characteristics moderating the link of firm-level capabilities to general firm performance	2	0.54
2n	Networks moderating the link of change catalysts to general firm performance	2	0.54
2o	Firm-level capabilities moderating the link of managerial characteristics to general firm performance	1	0.27
2p	Networks to general firm performance	15	4.08
2q	Firm-level capabilities to general firm performance	20	5.43
2r	Managerial characteristics to general firm performance	12	3.26

**Table 3** (continued)

Legend in Fig. 3	Relationship	Number of articles	Percentage (%)
2s	Networks moderating the link of change catalysts to international performance	1	0.27
3a	Inputs to change catalysts	17	4.62
3b	Inputs to international performance	19	5.16
3c	Inputs to networks	3	0.82
3d	Inputs to managerial characteristics	1	0.27
3e	Inputs to firm-level capabilities	8	2.17
3f	Inputs moderating the link between firm-level capabilities and change catalysts	2	0.54
3g	Inputs moderating the link of firm-level capabilities to international performance	2	0.54
3h	Inputs moderating the link of change catalysts to general firm performance	10	2.72
3i	Inputs moderating the link of inputs to firm-level capabilities	2	0.54
3j	Inputs moderating the link of inputs to change catalysts	1	0.27
3k	Inputs to firm performance	21	5.71
3l	Inputs moderating the link of change catalysts to international performance	1	0.27
4a	International performance to firm performance	2	0.54



Note: Solid lines show the direct paths, while broken lines show the moderating effects.

Fig. 4 Studied linkages of the reviewed articles

the desired outcome, there are multiple ways to enhance the prospects of survival, for instance, by employing different combinations of capabilities and strategic decisions. This resonates strongly with causal complexity and a neo-configurational perspective, which has already been adopted in international business research (Fainshmidt et al., 2020), and which can be a productive approach in studying BGs. This perspective would entail a significant departure from traditional BG research by suggesting that rather than the key issue being which resource, capability, or strategic decision is more relevant, scholars should strive to determine which combinations of these factors can lead to the desired outcome. These configurations may be formed not only by the presence of explanatory attributes, but also by their absence, as the absence of factors may be just as consequential to explaining a BG's performance and survival (Ragin, 2009). Hence, future studies could focus on identifying these different configurations, and their complementarity, interdependence, or substitution effects.<sup>3</sup>

### 4.3 Congruence

This is a measure of how well pairs of components fit together. The congruence hypothesis establishes that components of a complex system co-exist in a state of relative balance or consistency with each other (Nadler & Tushman, 1980). BG systems, consistent with this hypothesis, show that a particular combination of capabilities in a given context of resources and institutions may not work in another context. For example, the abovementioned mixed results relating to the impact of early networks, technological resources, or niche strategy in BGs' performance, challenge some of the so-called 'best practices.' A recommendation stemming from this systems' principle is for future studies to consider the congruence between various factors when hypothesizing their effects in BGs' performance or survival.

It also brings to the fore the need for more comparative studies. Only 11% of the articles used more than one country as the empirical setting, and none of them performed a comparative analysis on the relationship between institutional factors and post-entry performance of BGs. Interesting avenues for further research could include, for instance, considering the influence of differences in culture, norms, and practices across countries, how BGs differ from other exporters when accounting for informal institutions, or how the interplay between formal and informal institutions impacts their performance. Along the same line, ownership is an aspect of corporate governance that can alter the strategic directions of firms, thereby affecting firm outcomes. Future studies could explore how owners' particular demands and expectations, for example those that originate in family control and institutional shareholders, may influence system outputs (Connelly et al., 2010; Federo et al., 2020). So far,

<sup>3</sup> Furnari et al. (2021) suggest using a "fact-foil" approach to identify equifinal configurations. This approach involves that a set of factors theorized or observed to explain a phenomenon ("the fact") is compared to a similar set of attributes that did not lead to that phenomenon (the "foil"), with the idea of the comparison being that a potential reason may be found where the causal histories of the fact and the foil differ. In other words, this process entails answering the question, 'Why X [fact] rather than Y [foil]'?

Zahra's (2014) work on comparing public and private ownership governance in BGs is a first step in this area.

#### 4.4 Adaptation

To survive, an open system must evolve and adapt to the changes in its environment (Freixanet et al., 2020b; Nadler & Tushman, 1980). In particular, for BG systems to sustain performance, they must adjust key aspects such as firm and managerial capabilities, decision-making, and output measurement to variations in markets, resources and institutional contexts.

The general management literature includes a wealth of studies that examine the evolution of firms and identify specific stages throughout their life cycle. For example, family firms' generational stage is known to influence their priorities, resources and capabilities and then, their performance (e.g., Miller et al., 2003); and internationalization process theory (Johanson & Vahlne, 1977, 2003) distinguishes several stages in firms' international expansion based on increasing commitment of resources and learning (Freixanet, 2012). In the case of BGs, their fast evolution through the pre- and post-entry stages entails that they tend to experience a stronger and faster evolution in system components than other SMEs, as has been emphasized by the extant literature on the topic.

Studies show that some BG system factors appear only in the post-entry stage (such as international market scope or internationalization speed), while others are already important in the pre-entry phase, although they modify their forms and influences (see Table A6 for a summary of these factors and evolution). For example, *networks* are key in the pre-entry stage, although, as noted in the previous section, they tend to greatly evolve following BGs' expansion: from dyadic to multilateral relationships (Sasi & Arenius, 2008), and from weaker to stronger ties (Prashantham & Young, 2011) to sustain BG growth. *Outputs* also vary. Trudgen and Freeman (2014) emphasize that only in the international growth/consolidation stage can financial measures be considered a suitable gauge of BGs' performance, while in earlier stages, operational measures are more relevant.

The use of *export assistance* is another relevant element likely to change within BGs' life cycle. Belhoste et al. (2019) find that while these services are more important for traditional SMEs during the entrance phase than the intensification phase, the opposite holds for BGs.

Gabrielsson et al. (2014) suggest that although *entrepreneurship* positively affects advancement through the early BG growth stages, its effect is negative in the later phases, so it is advisable to harness most aspects of entrepreneurship during the later phases of BGs. Along this line, Romanello and Chiarvesio (2017) find that for maturing BGs, a trade-off emerges between entrepreneurial capabilities and some specific firm resources aimed at achieving sustainable firm growth. Additionally, Hallböck and Gabrielsson (2013) suggest that the *innovativeness* and adaptation of marketing strategies decrease as BGs expand internationally.

In turn, Gabrielsson et al. (2008) conclude that BGs experience a development of resources and *organizational learning* as they move the different phases of their life cycle forward. More specifically, Ciszewska-Mlinarič et al. (2020) differentiate between congenital learning, grafting, experiential learning, vicarious learning, and searching, and find that these learning modes change as BGs mature and grow. Additionally, Pellegrino and McNaughton (2015) examine the evolution of various learning facets, and conclude that as BGs expand abroad, their focus shifts from product knowledge to knowledge about foreign markets, and experiential learning increases in importance, as do other resource-intensive learning processes, such as grafting by hiring locals or acquiring foreign companies. Wu and Voss (2015) focus on the relationship between learning and *absorptive capacity*, and find that as the learning advantages of newness diminish, so does the effectiveness of high levels of absorptive capacity, as it becomes captured by organizational and operational rigidities. Relatedly, Nadkarni et al. (2011) prescribe the need for BG managers to adjust their domestic *mindsets* so that they match international industry environments. Habbershon (2006) examines the evolving influence of *family control*, and argues that family BGs possess a potential agency advantage, which is likely to evolve since agency inputs and outputs change over time.

In sum, BG systems evolve within their life cycle through changes in important components such as entrepreneurship, innovativeness, learning, networks, and output measurement. Although conventional internationalizing SMEs may also form systems that comprise these elements, their importance and evolution deviate from BG systems. For example, the development of BG capabilities such as entrepreneurship and innovation is accelerated during the initial stages for BGs, and it changes considerably during the later stages (Gabrielsson et al., 2008; Sapienza et al., 2006). The same holds for other elements, such as networks and the use of export assistance, which, as we have seen, are crucial external suppliers of resources for BGs' growth but not for traditional SMEs, and these elements tend to evolve differently for early and late internationalizers (Sapienza et al., 2006). The more modest resource requirements and slower growth expectations of traditional SMEs may also result in earlier expectation of financial returns than in the case of BGs (which are typically not expected to generate profitability until they reach the consolidation stage).

However, the literature overlooks relevant topics related to BG systems' adaptation that provide opportunities for further research. First, future studies could provide evidence on how BG systems adapt to environmental jolts, for example as a result of economic downturns. Also, we have scant evidence on reactions to external corporate governance mechanisms such as the market for corporate control, external auditors, stakeholder activism, rating organizations, and the media, which are likely to have a direct effect on BGs' growth (Aguilera et al., 2015).

Second, a relevant and unexplored field is that which relates to BGs' structural designs and organizational processes, how they evolve over time as conditions change, and how these adaptations influence the firm's decision-making, performance, and survival (e.g., Nonaka, et al., 2016). Third, there is a dearth of research on the effects of boards of directors along BGs' evolution. Among the reviewed articles, only one uses a board variable to capture managerial experience (Schueffel, et al., 2011). Boards are crucial mechanisms with the fiduciary duty to monitor

managerial decisions that influence firm performance (Fama & Jensen, 1983), so it is surprising that research is yet to unpack how BG boards function.

#### 4.5 Capacity for Feedback

This characteristic enables the provision of key information by system outputs relating to how well the system functions, and thus may help to correct errors (Nadler & Tushman, 1980). Assessing a BG's outcomes is vital in controlling and improving the system. We still have little evidence in extant BG research regarding this feedback and its consequences. To the best of our knowledge, only Yang and Gabriels-son (2017) explicitly account for this, and find that BGs' alternate causal and effectual marketing forms as a result of variations in technological uncertainty, and any market turbulence the firm faces. Further research should delve into this aspect and examine how BGs may use output feedback to reconfigure the dynamic system in order to improve performance and survival.

#### 4.6 Methodological Implications

Our complex system-based review reveals several important methodological recommendations for future research. First, the equifinality principle of complex systems suggests using a qualitative comparative analysis (QCA) research technique (e.g., Fainshmidt et al., 2020; Misangyi et al., 2017). QCA is a widely accepted research technique for the empirical analysis of complex systems/phenomena, and one that particularly fits measurement of the three principles of causal complexity: conjunction, equifinality, and asymmetry (Furnari et al., 2021; Parente & Federo, 2019). A start in this direction is the paper from Hughes et al. (2019), in which the authors demonstrate that QCA can be useful for identifying different combinations of network- and knowledge-based capabilities that are suitable for early and late internationalizers. Likewise, QCA may enable the discovery of multiple paths or combinations of capabilities, resources, and institutional factors leading to BG performance and survival.

Second, more than 70% of the reviewed articles primarily used cross-sectional data, and only 13.5% longitudinal data. Moreover, many longitudinal studies have implemented a qualitative research methodology in examining a few cases. Adopting longitudinal research designs in large-n studies is warranted to understand how the BG system adapts over time through changes in strategies, structures, and processes, and how those adaptations affect BG performance. Third, considering that inputs are an important component of the complex system of BGs, future studies should clearly describe the context regarding factors such as country, industry, organization form, and resources.

Fourth, 27% of the reviewed articles draw on a network perspective to explain the post-entry outcomes of BGs, which indicates the importance of this component of the complex system. However, none of the studies analyzes the determinants and effects of BGs' specific network variables such as centrality, structure, and density. Sepulveda and Gabrielsson (2013) found that network features are important for



obtaining strategic resources and entrepreneurial experience, although their findings come from qualitative data of five Finnish firms. To provide more generalizable results, we propose for future research to conduct quantitative network analyses to determine the relationship between various network parameters and system firm outcomes.

## 5 Conclusion

The increasing scholarly interest in what happens to BGs as they grow and evolve over time has inspired us to conduct this systematic and comprehensive literature review. Our review of 185 articles suggests that this topic has reached adolescence, and already covers several important aspects in the life cycle of BGs. We find that multiple factors influence the post-entry performance and survival of BGs. Accordingly, we take a holistic approach and develop an integrative framework which proposes that firm-level capabilities, managers' characteristics, networks, and system inputs and outputs interact and form a dynamic complex system, which may be brought to new stages of evolution through change catalysts (in this case, firms' strategic managerial decisions).

This system approach and the resulting taxonomy enable us to identify which factors, out of a possibly infinite set, are most important for the post-entry performance of BGs, to better understand prior literature, and to identify fruitful avenues for future research. It is also a particularly suitable perspective to analyze BGs, which are adaptable, evolving organizations that achieve performance through interconnected processes. The literature shows that BG systems differ from those formed by gradually internationalizing SMEs regarding the role and evolution throughout their life cycle of key system elements such as entrepreneurship, learning, networks, and performance measurement. The evolution of system factors also brings heterogeneity among BGs so that a distinction may be made, for example, between those having developed worldwide networks, market scope, multicultural learning, and high-commitment entry modes, and those with their presence limited to a specific region and to exporting-based entry methods.

However, our review also reveals there are several research gaps yet to be explored. We emphasize, *inter alia*, the need to draw on new theoretical frameworks to further investigate the various paths or configurations of system components leading to BGs' performance and survival, and to consider the congruence between the different factors.

This review may also hold relevant managerial implications. First, BG managers should adopt a holistic view of their firms, and keep in mind that despite the scarcity of resources from which their firms usually suffer, they may resort to a variety of internal and external capabilities and resources that may enable their firms to grow and thrive (Freixanet, Monreal & Sánchez-Marín, 2020c). These are namely organizational innovativeness, learning capabilities, knowledge-based resources, and dynamic capabilities. These add to international trade shows and networks, which may become key sources of learning and market access, as long as partners implement proper mechanisms to facilitate resource transfers within the networks, and

provided they may evolve from dyadic to multilateral relationships and from strong to weak ties. Besides, in the cases in which BGs may develop dynamic capabilities high post-entry internationalization speed or scope, they might consider these strategies as an avenue to increase their efficiency and thus their performance and survival odds. Along this line, BG managers should realize the importance of developing their firms' entrepreneurial, market, and/or learning orientation, for the internationalization performance of their ventures.

The literature also points to international business experience, marketing background, entrepreneurial drive, creativity, and bicultural advantages as key managerial characteristics for BGs' performance. BGs need to search for such characteristics when incorporating managers, or otherwise train their current managers in this regard. Finally, consistent with a system's holistic view, managers should be aware these elements do not exist in isolation, and that rather than pursue a specific factor or a large number of factors of performance, it is important to prioritize the right combinations that lead to greater impact.

Our review also has implications for public policy. In the past few decades, export promotion programs have increased in number and weight in most governments' budgets, with the final objective of enhancing firm competitiveness and the capacity to generate employment (Freixanet, 2010, 2022). Export promotion agencies should be aware of the variety of elements that may enhance BGs' international performance and seek to consistently reinforce those combinations of factors with clearer impact. For example, the review reveals the importance of managers' foreign market experience and knowledge, which export promotion agencies could foster through trade missions and training programs; firm networks, which agencies could accomplish by means of their multiple business contacts and own networks; and by improving managers' decision-making process through training in collaboration with business schools.

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1007/s11575-022-00485-y>.

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