



International Journal of Business Excellence

ISSN online: 1756-0055 - ISSN print: 1756-0047

<https://www.inderscience.com/ijbex>

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DOI: [10.1504/IJBEX.2025.10073723](https://doi.org/10.1504/IJBEX.2025.10073723)

Article History:

Received:	23 June 2025
Accepted:	08 July 2025
Published online:	09 October 2025

Driving global success: entrepreneurialness and strategic competency of ICT-born global firms in Sri Lanka

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Abstract: This study investigates the role of entrepreneurialness-measured through international entrepreneurial culture (IEC) – in enhancing the international performance of ICT-born global firms in Sri Lanka, with strategic competency (SC) as a mediating variable. Based on the dynamic capability view, IEC exhibits five strategic orientations: international entrepreneurial orientation, international market orientation, international learning orientation, international network orientation, and international growth orientation. A cross-sectional online survey of 225 ICT firms was analysed using PLS-SEM. The results confirm that all IEC dimensions significantly influence international performance, and through the mediating effect of SC. The findings offer empirical evidence from a developing country context, highlighting how internally driven dynamic capabilities can enable small firms to overcome resource constraints and succeed globally. The study contributes to the literature by offering a new perspective on the multidimensional IEC model and reinforcing the strategic role of SC in the international expansion of born global firms.

Keywords: born global firms; dynamic capability view; DCV; entrepreneurialness; international entrepreneurial culture; IEC; international performance; Sri Lanka; strategic competency.

Reference to this paper should be made as follows: Herath, H.M.T.S. (2025) 'Driving global success: entrepreneurialness and strategic competency of ICT-born global firms in Sri Lanka', *Int. J. Business Excellence*, Vol. 37, No. 5, pp.1–29.

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1 Introduction

The rise of born global (BG) firms has displaced conventional views on international business by establishing that small size and limited tangible resources need not be barriers to achieving global market success. Their distinctive entrepreneurial mindset,

technological prowess, and innovativeness set BGs apart from other firms and allow them to overcome resource constraints and achieve rapid internationalisation to compete effectively in global markets (Cavusgil and Knight, 2015). However, BG firms are particularly challenged in emerging markets, where they receive weaker institutional support and have limited resource access (Buccieri et al., 2021; Nirmala et al., 2024). To navigate these challenges, BGs should cultivate dynamic capabilities (Nirmala et al., 2024) such as the ability to remain continuously alert, recognise, seize, and reform resources and adapt competencies to respond to evolving market environments (Teece et al., 1997). This study focuses on BG firms in Sri Lanka, an emerging market where the dynamics of internationalisation are unique, complex, unstable and remain less explored.

Whereas conventionally, entrepreneurial orientation (EO) – comprising the dimensions of innovativeness, proactiveness, and risk-taking – has been the focal point of research on international entrepreneurship (Oviatt and McDougall, 2005; Dimitratos et al., 2012), recent studies argue for a broader conceptualisation of entrepreneurship, encompassing several other aspects of entrepreneurship: market orientation (MO), learning orientation (LO), network orientation (NO), and growth orientation (GO) (Knight and Cavusgil, 2004; Weerawardena et al., 2007; Jantunen et al., 2008; Baimai and Mukherji, 2015; Buccieri et al., 2021). To capture the complexity of entrepreneurship in BG firms, Gabrielsson et al. (2014) introduced the concept of entrepreneurialness. Referring to the quality of being entrepreneurial, entrepreneurialness measured through international entrepreneurial culture (IEC), provides a comprehensive framework to understand how these firms harness various entrepreneurial dimensions in pursuit of international market opportunities. IEC refers to cultural attributes that foster entrepreneurial activities, including persistent innovation, calculated risk-taking, and development of competitive strategies to perform successfully on an international scale (Dimitratos and Plakoyiannaki, 2003).

Internal capabilities and competencies play a pivotal role in the success of BG firms (Escandon-Barbosa et al., 2019; Nirmala et al., 2024). These capabilities become especially critical in emerging markets, where access to resources and institutional support is limited compared to developed economies (Buccieri et al., 2021). The dynamic capability view (DCV) provides a fitting theoretical framework for understanding how BG firms succeed in turbulent international environments. DCV emphasises that firms must develop, integrate, and reconfigure competencies to adapt to changes, particularly when facing resource limitations (Teece et al., 1997). BG firms operating with limited resources must rely heavily on dynamic capabilities – such as sensing, seizing, and reconfiguring opportunities – to achieve international growth and higher performance (Knight and Cavusgil, 2004; Weerawardena et al., 2007; Jantunen et al., 2008; Gabrielsson et al., 2014; Buccieri et al., 2021; Knoppen and Knight, 2022). These dynamic capabilities evolve through the integration of IEC dimensions, allowing firms to stay agile and competitive in the global marketplace. Further, their continuous adaptation to changes in the global market enhances the BG firms' ability and agility to innovate and transform their business models to address new opportunities and challenges (Jantunen et al., 2008; Knoppen and Knight, 2022). The entrepreneurial activities of BG firms are closely tied to their organisational culture, which fosters the development of dynamic capabilities. Firms with a strong IEC are more likely to engage in creative problem-solving, strategic renewal, and market innovation (Zahra et al., 2000; Buccieri et al., 2020; Nave et al., 2024). IEC encourages knowledge generation through LO, market responsiveness through MO, resource access through NO, and scalability through

GO (Buccieri et al., 2021). However, the fragmented nature of research on IEC in BG firms limits our understanding of how these cultural dimensions influence firm performance (Gabrielsson et al., 2014; Baimai and Mukherji, 2015; Buccieri et al., 2021; Nave et al., 2024).

This study builds on these insights, investigating the multidimensional impact of IEC dimensions on the performance of BG firms. Contrastingly, many recent studies on IEC conceive it as a single composite construct, overlooking its inherently multidimensional nature (e.g., Zhang et al., 2009, 2017; Baimai and Mukherji, 2015; Buccieri et al., 2021). This study addresses this research gap by investigating IEC through its individual dimensions to capture the unique, multidimensional impact each orientation has on firm performance, and subsequently provide a more nuanced understanding of IEC's influence on BG firms' international success. Furthermore, despite the growing significance of emerging markets to the global economy, most studies on BG firms focus on developed countries (Stocker et al., 2021). The Asia-Pacific region represents a dynamic context with unique challenges and opportunities for internationalisation, such as weak institutional frameworks, resource constraints, and knowledge isolation on the one hand, and advancements in the ICT sector and growing demand for innovative products on the other (Anand et al., 2023). The study responds to recent suggestions to investigate the interplay between IEC, dynamic capabilities, and firm performance in emerging markets (Peiris et al., 2012; Cavusgil and Knight, 2015; Buccieri et al., 2021; Anand et al., 2023; Nave et al., 2024), providing empirical evidence from South Asia (Peiris et al., 2012; Paul and Rosado-Serrano, 2019). Sri Lanka's ICT sector, while strategically important due to its significant contribution to the economy, faces high failure rates and holds a limited global market share. Inconsistent growth – especially after 2012, with occasional setbacks like a 7.2% decline in 2020 – highlights the need for better strategies to achieve sustainable international performance (IP). To address these challenges, the government aims to generate USD 5 billion in revenue, create 200,000 jobs, and launch 1,000 start-ups by 2025 (Export Performance – ICT Services – Industry Information – EDB, 2024). In this context, ICT-BG firms in Sri Lanka must strengthen and capitalise on their entrepreneurial capabilities and strategic competencies. This adaptability is essential for Sri Lankan ICT-BG firms, which must leverage their entrepreneurialness to enhance IP and maintain competitiveness.

The novelty of this study is that it advances a comprehensive model of entrepreneurialness, integrating five distinct IEC dimensions within the framework of dynamic capabilities. This multi-dimensional IEC model offers a new perspective on how IEC interacts with dynamic capabilities to enhance IP. Unlike earlier research that focused on individual entrepreneurial dimensions, this study examines how multiple IEC dimensions, with the mediation of strategic competency (SC), influence the success of BG firms. The examination of the underexplored mediating role of SC, in particular, demonstrates how firms align entrepreneurialness with strategic actions to enhance performance in resource-constrained environments. The study offers practical implications for entrepreneurs and policymakers, providing strategies to develop entrepreneurial capabilities and dynamic competencies that align with Sri Lanka's ICT sector goals. Further, it highlights the importance of building SC to complement entrepreneurial culture and thereby enable ICT-BG firms to seize global opportunities despite external challenges.

The rest of the paper is organised as follows. The next section provides a comprehensive review of the literature, which serves as the basis for the development of

the conceptual framework and hypotheses. This is followed by a section on research methods, with a rationale for their selection. The subsequent sections present the results and findings of the study, followed by a discussion of their implications. Finally, the paper concludes by highlighting the limitations of the study and offering directions for future research.

2 Literature review

2.1 Theoretical background: DCV

The DCV provides a critical lens for understanding how BG firms sustain their performance in the face of resource constraints. According to Teece et al. (1997), DCV emphasises that a firm's success hinges on its ability to sense opportunities, seize them, and reconfigure resources in response to environmental shifts. Based on this view, the firm is essentially a knowledge-processing entity. Jantunen et al. (2008, p.159) define the firm's dynamic capabilities as 'processes, structures, and procedural knowledge, all of which help to build, integrate and reconfigure its asset base in its endeavours to attain new profitable resource configurations in a changing business environment'. Thus, the firm's ability to recognise and exploit promising opportunities depends on its capabilities in information acquisition through MO, knowledge creation by organisational learning, and utilisation of networking capabilities (Peiris et al., 2012; Pitelis et al., 2025). This adaptability is vital for BGs, which operate in highly volatile, competitive international markets where agility and innovation are critical for survival. Providing an entrepreneurial perspective to the DVC expands the knowledge about how entrepreneurs or entrepreneurial teams adapt, build, integrate, and reconfigure knowledge and resources to create a sustainable competitive advantage for the firm. However, existing knowledge on dynamic capabilities and their impact on the IP of internationalised firms is still nascent, and thus, the exact nature of a dynamic capability in this context is not yet well understood (Peiris et al., 2012; Knoppen and Knight, 2022; Nave and Ferreira, 2023).

Integrating IEC with DCV, this study posits that orientations, such as entrepreneurial, market, learning, network, and growth, serve as the foundation upon which dynamic capabilities are built. By fostering a culture of entrepreneurial responsiveness and innovation, IEC enables firms to strategically align resources with emerging market demands; thus, international competencies mediate the relationship between IEC culture and IP, improving the firm's ability to compete and thrive internationally.

This theoretical framework suggests that orientations and performance relationships are not only direct but can also critically depend on dynamic strategic competencies to overcome resource limitations. Thus, DCV underpinned this study's hypotheses that BG firms leverage these competencies to achieve long-term success in the global arena.

2.2 International entrepreneurial culture

Introduced by Dimitratos and Plakoyiannali (2003), IEC is operationalised as a comprehensive framework which includes various entrepreneurial and strategic orientations within a firm's organisational culture. It is a multi-dimensional construct, integrating international business, strategic management, and entrepreneurship perspectives. Each of these dimensions shapes a firm's ability to discover and exploit

international opportunities, adapt to new markets, and develop strategies that enhance IP (Dimitratos et al., 2012; Gabrielsson et al., 2014; Mostafiz et al., 2024). Dimitratos and Plakoyiannali (2003) assert that the IEC possesses five main characteristics. First, IEC is a firm-level phenomenon that applies to all the firm's hierarchical levels, irrespective of geographical boundaries. Second, it is a process and thus, a dynamic and evolving development. Third, it is a phenomenon embedded in the organisational culture of a firm. Fourth, the IEC is closely associated with discovering and exploiting opportunities in the international market. Fifth, and most importantly, the IEC aims to create value for the firm and, as such, acts as a predictor of the superior performance of BG firms. As per existing literature, BG firms display strong entrepreneurialness, and firms equipped with a strong IEC generally experience enhanced IP (Zhang et al., 2009, 2013, 2017; Dimitratos et al., 2012; Gabrielsson et al., 2014; Baimai and Mukherji, 2015; Buccieri et al., 2021; Nave et al., 2024).

Thus, the IEC operationalises entrepreneurialness, capturing the complexity of international entrepreneurship beyond traditional constructs like EO. It offers a nuanced framework for understanding how BG firms leverage multiple cultural dimensions to enhance performance, especially in resource-constrained environments. This integrated approach emphasises the importance of both strategic alignment and cultural adaptability for long-term success in international markets. Based on existing literature, this study identified five different aspects of IEC: international entrepreneurial orientation (IEO), international market orientation (IMO), international learning orientation (ILO), international network orientation (INO), and international growth orientation (IGO).

2.3 Development of hypotheses

2.3.1 IEO and IP relationship

EO reflects the entrepreneurial nature of a firm. It is a multi-dimensional construct (Covin and Slevin, 1991) observed at both the individual and firm levels (Knight, 2001). Freeman and Cavusgil (2007, p.3) define IEO as 'the behavioural elements of a global orientation and captures top management's propensity for risk-taking, innovativeness, and proactiveness'. However, much of the existing research on IEO simply treats it as EO applied in an international context, employing internationalisation-related dependent variables without distinguishing the two as distinct constructs, (e.g., Knight, 2001; Dimitratos et al., 2004; Jantunen et al., 2005). In line with this view, the 'international' aspect in this study is treated as a context for entrepreneurial activities rather than as a separate theoretical construct, that is applied to other orientations examined in this study as well.

Based on the three-dimensional EO construct originally proposed by Miller (1983), this study identifies innovativeness, proactiveness, and risk-taking as elements of IEO. Innovativeness and proactiveness are crucial for firm-level entrepreneurship as they contribute to higher performance (Nave et al., 2024). Whereas innovativeness involves engaging new ideas, experimentation, and creative processes, leading to new products or services (Lumpkin and Dess, 1996), proactiveness involves introducing new products ahead of the competition and anticipating future demand (Rauch et al., 2009). Rauch et al. (2009) further emphasise that risk-taking, involving bold actions and significant resources, is essential for entrepreneurial firms operating in volatile markets.

While many studies found a positive relationship between IEO/EO and firm performance (Wiklund, 1999; Wiklund and Shepherd, 2005; Kropp et al., 2006; Jantunen et al., 2008; Rauch et al., 2009; Coviello, 2015; Emöke-Szidónia, 2015; Soares and Perin, 2020; Presutti et al., 2024; Suder et al., 2024), some found an insignificant relationship (Morgan and Strong, 2003; Hughes and Morgan, 2007). Thus, this study proposes that:

H1 IEO influences the IP of BG firms.

2.3.2 *IMO and IP relationship*

IMO refers to a managerial mindset and organisational behaviour that emphasises the proactive creation of superior value for customers across multiple countries (Knight and Cavusgil, 2004; Gabrielsson et al., 2014). This involves a strategic focus on understanding and satisfying the needs of foreign customers in a manner that resonates with diverse international markets. The concept underscores a firm's commitment to consistently delivering value through tailored marketing efforts aimed toward building strong, enduring relationships with global customers (Knight and Kim, 2009; Nave et al., 2024). As Narver and Slater (1990) assert, to achieve outstanding business performance, firms could focus on developing sustainable competitive advantage by creating superior value and fostering a market-oriented culture within the firm. This comprehensive approach includes gathering market intelligence, coordinating resources, and aligning marketing strategies to sustain competitiveness and build customer relationships globally.

While acknowledging the validity of other conceptualisations of MO, Narver and Slater's (1990) approach offers greater explanatory power for firm performance. Their scale (MKTOR scale) effectively captures the multifaceted nature of MO, aligning it more directly toward performance outcomes. This scale encompasses customer orientation, competitor orientation, and inter-functional coordination, which are critical for achieving superior business performance, making it a more comprehensive and performance-oriented model of MO. Customer orientation refers to a firm's ability to meet both present and potential customer needs surpassing their expectations, while competitor orientation involves understanding all behavioural actions and reactions of both present and potential competitors (Narver and Slater, 1990; Deng and Dart, 1994). Inter-functional coordination refers to the coordination and integration of a firm's resources to create superior value for its customers (Narver and Slater, 1990).

Although a few studies have found a negative or no relationship, the mainstream literature maintains that a positive relationship generally exists between IMO and firm performance (Slater and Narver, 1995; Kwon and Hu, 2000; Rose and Shoham, 2002; Rodriguez Cano et al., 2004; Kropp et al., 2006; Hartsfield et al., 2008; Morgan et al., 2009; He and Wei, 2011; Murray et al., 2011; Boso et al., 2013; He et al., 2018; Presutti et al., 2024). Accordingly,

H2 IMO influences the IP of BG firms.

2.3.3 *ILO and IP relationship*

LO is a key aspect of entrepreneurial culture and a critical firm-level capability that enables a BG firm to enhance its IP and competitive advantage, facilitating long-term sustainability (Long, 2013; Gabrielsson et al., 2014; Nave and Ferreira, 2022, 2023). It can be comprehensively defined as a firm-level attribute that reflects a firm's

commitment to acquiring, disseminating, and utilising knowledge, particularly in the context of dynamic and competitive environments. LO encompasses the firm's inclination towards valuing continuous learning, not just from past experiences (single-loop learning), but also through questioning and altering underlying norms and processes (double-loop learning) (Baker and Sinkula, 1999). These definitions integrate the proclivity to acquire and utilise foreign market intelligence (Gabrielsson et al., 2014) with the broader concept of organisational learning that promotes both generative learning and adaptability (Baker and Sinkula, 1999). Thus, a firm's LO is not only about collecting information but also about creating an organisational culture that encourages the open exchange of knowledge and assessing the organisation's customary business practices to enhance overall effectiveness and adaptability in international markets. It emphasises the importance of systematically leveraging the information to foster innovation and maintain competitive advantage.

This study uses Sinkula et al.'s (1997) approach to understand LO, which is a multidimensional construct encompassing commitment to learning, shared vision, and open-mindedness. Commitment to learning involves a firm's dedication to fostering a culture of learning and adaptation, including acquiring, communicating, accepting, and integrating knowledge (Calisir et al., 2013). Shared vision reflects a common understanding of the importance of learning across all levels, improving the efficiency and effectiveness of learning initiatives (Sinkula et al., 1997). Open-mindedness refers to the proclivity for critical evaluation of established routines and embracing new ideas, promoting organisational competitiveness, performance, success, survival, growth, and sustainability (Calisir et al., 2013).

The effect of LO/ILO on firm outcomes is multifaceted. Although previous research has found that LO positively relates to firm performance (Baker and Sinkula, 1999; Calantone et al., 2002; Jantunen et al., 2008; Ding et al., 2022; Iyiola et al., 2023; Presutti et al., 2024), market responsiveness (Sinkula et al., 1997), firm innovativeness (Calantone et al., 2002), product innovation (Calisir et al., 2013), international opportunities (Buccieri et al., 2020, 2021), and entrepreneurial performance (Bae and Choi, 2021), there is a lack of research specifically investigating the relationship between ILO and IP in the BG firm context (Jantunen et al., 2008), particularly in emerging economies (Iyiola et al., 2023). Also, previous research investigating the direct effects of LO on outcome variables is limited (Bae and Choi, 2021). Thus, this study proposes that,

H3 ILO influences the IP of BG firms.

2.3.4 INO and IP relationship

Networking can be formal or informal, with formal ties being partnerships and industrial contacts (Makhbul and Hasun, 2010), and informal ties being personal relationships with various parties, which lead to the formation of formal business networks (Zhou et al., 2007). Strong ties gather more trustworthy information, while weak ties provide access to diverse information.

INO determines the degree of access a firm has, through various levels of alliances and social embeddedness, to access and leverage resources generated in the external environment for its international market operations (Dimitratos et al., 2012; Gabrielsson et al., 2014). The focus of the definition is not only on the resource-embeddedness within the networks but also on the firm's ability to access other sources of resources through

networks. Thus, networks play an essential role in enabling entrepreneurs to identify international opportunities (Oviatt and McDougall, 2005; Ellis, 2011; Kontinen and Ojala, 2011; Nirmala et al., 2024), build credibility, and quickly identify, access and mobilise external resources (Oviatt and McDougall, 2005; Weerawardena et al., 2007; Stam and Elfring, 2008); this eventually leads to higher IP (Stam and Elfring, 2008; Dimitratos et al., 2012; Chun et al., 2014; Etemad, 2023).

High INO in a firm facilitates greater access to resources, reduced transaction cost, creativity, increased innovation, and accelerated internationalisation and superior performance (Carpenter et al., 2012). Moreover, a strong network enables BG firms to successfully navigate various challenges they may face due to early internationalisation, changes in the international environment in terms of demand, competitors, suppliers and resources, and exchange rate fluctuations (Coviello and Munro, 1995, 1997; Hennart et al., 2021; Etemad, 2023; Nirmala et al., 2024). Research on the role of networks in the success of BG firms has consistently demonstrated positive relationships between NO and firm performance (Sullivan Mort and Weerawardena, 2006), accelerated internationalisation (Knight and Cavusgil, 1996; Coviello and Munro, 1997; Madsen and Servais, 1997), and efficient entry modes and market selection (Moen et al., 2004). Furthermore, networks contribute to minimising risk (Sullivan Mort and Weerawardena, 2006) and drive innovation. However, the relationship between INO and firm performance is under-researched; thus, this study suggests,

H4 INO influences the IP of BG firms.

2.3.5 IGO and IP relationship

Internationalised firms often feature a GO – a strategic focus on expanding their operations and market presence beyond borders. This approach involves actively seeking and exploiting opportunities in foreign markets to achieve growth and competitive advantage (Jantunen et al., 2008). In other words, IGO reflects a firm's commitment to internationalisation and its proactive approach to accessing and developing new markets (Sørensen and Madsen, 2012). It is influenced by internal factors and external pressures, such as the global mindset of managers, resource allocation, and perceived risks in foreign operations (Knight, 2001; Jantunen et al., 2008; Sørensen and Madsen, 2012). IGO is explicitly linked to a firm's international motivation (IM) (Dimitratos and Plakoyiannaki, 2003). Motivation is the main distinguishing characteristic between growth-oriented and non-growth-oriented entrepreneurs (Delmar, 1996; Nave et al., 2024). Therefore, IGO and IM have often been used interchangeably in the literature. For example, Dimitratos et al. (2012) and Dimitratos and Plakoyiannaki (2003) have used IM as one of the key dimensions of IEC; in contrast, Jantunen et al. (2008) have used IGO as one of the key concepts representing strategic orientations of BG firms.

Studies have found that firms with higher IGO are more internationalised, have a larger foreign customer base, and have a larger share of international sales (Nummela et al., 2005). IGO facilitates the identification of new opportunities and promotes firm growth and performance (Sundqvist and Kuivalainen, 2009; Escandon-Barbosa et al., 2019). Existing literature identifies a positive relationship between IGO and firm performance, as international expansion and knowledge acquisition increase the chances of succeeding in international markets (Nummela et al., 2005; Jantunen et al., 2008; Knight and Kim, 2009; Sørensen and Madsen, 2012; Escandon-Barbosa et al., 2019).

Accordingly, this study proposes,

H5 IGO influences the IP of BG firms.

2.3.6 SC – mediator of IEC – IP relationship

SC includes the managerial skills required to perform key strategic functions of a firm and is particularly crucial for BG firms (Knight, 2001). These firms, characterised by rapid internationalisation and strong EO, rely on their ability to develop and implement dynamic competencies (Kessler and Zipper-Weber, 2023) such as technological competence (TC), unique product development (UPD), quality focus (QF), and foreign distribution capabilities to succeed in global markets. Strategic behaviour theory suggests that the orientations-performance relationships depend on the chosen strategic competencies; they are, thus, pivotal to the survival and sustainability of BG firms. Whereas TC is essential for continuous innovation, developing unique products tailored to fit international markets enhances a firm's ability to meet specific customer needs and differentiate itself from competitors (Knight and Cavusgil, 2004). The integration of SC within the framework of IEC allows these firms to overcome resource constraints, capitalise on international opportunities, and achieve greater performance in the global marketplace. BG firms, often operating with limited resources, must carefully cultivate these competencies to maximise their IP (Knight and Cavusgil, 2004; Chaudhuri et al., 2023; Kessler and Zipper-Weber, 2023).

TC refers to a firm's ability to develop new products, improve existing ones, and upgrade production processes through the effective use of technology. It is crucial for innovative entrepreneurial firms as it allows them to interact more efficiently with customers and channel members (Zahra et al., 2000). Technological advances in production and transportation enable small-scale firms to increase productivity and meet specialised needs of niche markets at the lowest cost. TC is, therefore, vital for BG firms, as it enables them to innovate and enhance IP (Knight and Cavusgil, 2004; Acur et al., 2010). UDP is a strategy employed by BG firms to design products that meet unmet customer needs, leading to increased customer loyalty. This process involves blending EOs – entrepreneurial, market, learning and network – with innovation-driven knowledge to create unique products (Knight and Cavusgil, 2004). This combination provides a competitive edge in international markets, enhancing customer loyalty and IP (Barney, 1991; Autio et al., 2000). QF refers to improving product features or performance to meet or exceed customer experience (Knight and Cavusgil, 2004), which is essential for differentiating a product or service from its rivals, especially in a global, highly volatile market. Customers demand superior products of high quality, and are willing to pay higher prices to satisfy their requirements, leading to continual comparisons between products. As a result of increased customer awareness and global competitiveness, firms operating globally must continuously improve their products to increase their competitive advantage (Knight and Cavusgil, 2004).

Studies have emphasised that various forms of firm culture and orientations largely affect the strategies of small firms that particularly operate in international contexts (Baimai and Mukherji, 2015). For example, Knight and Cavusgil (2004) investigated how IEO and IMO affect the strategic competencies of BG firms, while Knight (2001) proposes that IEO has a direct effect on the SC of BG firms. Similarly, Buccieri et al. (2021) emphasise that different aspects of IEC, like IEO, IMO, ILO, INO and IM, are key

drivers of dynamic capabilities of strategic behaviour. Further, Baimai and Mukherji (2015) found that IEC positively influences entrepreneurial strategy. In keeping with these findings, this study proposes the following hypothesis.

H6 IEO influences SC.

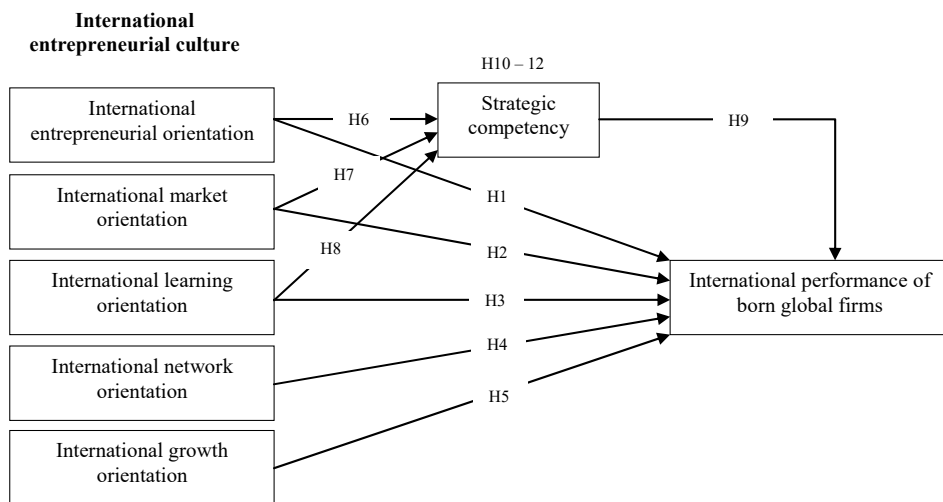
H7 IMO influences SC.

H8 ILO influences SC.

Apart from the significant role of IEC dimensions on SC, several studies have supported the idea that SC is positively related to the IP of BG firms (Knight, 2001; Julien and Ramangalahy, 2003; Baimai and Mukherji, 2015; Chaudhuri et al., 2023). Thus, this study proposes the following hypothesis.

H9 SC influences IP.

Figure 1 Research model of the study



The existing literature has investigated how firm strategy is related to entrepreneurship, and found its mediating role is significant (Baimai and Mukherji, 2015). Several studies have observed that SC or firm strategy mediates the relationship between EO, MO, and LO and firm performance (Atuahene-Gima and Ko, 2001; Julien and Ramangalahy, 2003; Knight and Cavusgil, 2004; Baimai and Mukherji, 2015). However, Baimai and Mukherji (2015) have investigated IEC as a composite construct, while Knight and Cavusgil (2004) have investigated the multidimensional effect of SC in this mediator relationship. Thus, this study proposes the following hypotheses.

H10 SC mediates the relationship between IEO and IP.

H11 SC mediates the relationship between IMO and IP.

H12 SC mediates the relationship between ILO and IP.

Consequently, the study proposes the following research model.

3 Research methods

This study was designed as cross-sectional quantitative research to achieve its main objectives. The data was collected through an electronic survey, and the unit of analysis was at the firm level, focusing on BG firms operating in Sri Lanka's ICT sector. The research model of the study includes five independent variables – IEO, IMO, ILO, INO, and IGO, a dependent variable – IP, and a mediator variable – SC. This design ensures the empirical testing of relationships using measures aligned with the theoretical framework.

3.1 Measures

This study used established scales to measure all constructs using a seven-point Likert scale. IEO was measured through nine items, capturing innovativeness, proactiveness, and risk-taking, based on Covin and Miller (2014). IMO comprised ten items relating to three dimensions – customer orientation, competitor orientation, and inter-functional coordination, as proposed by Narver and Slater (1990). Following Sinkula et al. (1997), ten items were used to measure ILO, encompassing commitment to learning, shared vision and open-mindedness. INO and IGO, as first-order constructs, were measured through four items each, based on Dimitratos et al. (2012) and Nummela et al. (2005), respectively. SC incorporated three dimensions – technology competency, UPD, and QF – and was measured using a Knight and Cavusgil (2004) scale. Lastly, IP, as a first-order construct, was measured through four items that assessed sales volume, market share, profitability, and overall performance, based on Cavusgil and Zou (1994). IEO, IMO, ILO, and SC are second-order constructs. Each measure was adapted to the context of Sri Lankan ICT-BG firms.

3.2 Sample, data collection and data analysis

The study targeted ICT export entrepreneurs in Sri Lanka using the export databases of the Export Development Board (EDB) and the Sri Lanka Association of Software and Service Companies (SLASSCOM). Typically, ICT exporters register with both EDB, a government body, and SLASSCOM, a private organisation, to obtain various benefits, including policy support, network opportunities, information access, knowledge-sharing, and capacity-building programs. Due to the rapid development of the ICT sector and the lack of consistent official figures, the EDB database was chosen as the target population for this study. As an official government registry, the EDB database provides a more comprehensive and reliable representation of ICT exporters in Sri Lanka, making it a rational choice to ensure the validity and generalisability of the study findings.

The study sample comprises 225 ICT export entrepreneurial firms operating in Sri Lanka's ICT sector. At the time of the survey (2024), 598 exporters were registered with the EDB. However, due to various challenges post-pandemic challenges and the country's economic crisis, nearly 20% of these firms had withdrawn from the industry. Consequently, the number of active firms in the target population was reduced to 478, of which 98 firms were excluded as they were not engaged in international operations yet, resulting in the final population of 380 eligible firms. Thus, given the small number, the study used total population sampling, contacting all 380 eligible firms to ensure comprehensive coverage. Data was collected over a period of four weeks through an

online survey – a widely accepted method in social science research (Wu et al., 2022) – distributed via e-mail invitations, with several follow-up reminders to encourage participation. Only 225 responses were received, representing a response rate of 59.2%, a good figure for online surveys (Wu et al., 2022). Table 1 shows the sample characteristics measured at the firm level.

Table 1 Demographics of the sample ($N = 225$)

	<i>Category</i>		<i>Percent (%)</i>
Age of the firm	< 4 years	(after 2020)	9
	4–14 years	(2010–2020)	37
	14–24 years	(2000–2009)	32
	> 24 years	(before 2000)	22
Number of employees	< 50	(small)	41
	50–249	(medium)	51
	> 250	(large)	8
Time of internationalisation	From inception		70
	1–5 years		24
	6–10 years		5
	> 10 years		1
Scale of internationalisation (% of export sales)	< 25%		5
	26%–50%		26
	51%–75%		32
	76%–100%		37
Scope of internationalisation (number of countries serving)	< 5		35
	5–10		37
	> 10		28

The study used descriptive statistics and variance-based structural equation modelling (VB-SEM), also known as partial least squares structural equation modelling (PLS-SEM), for data analysis. VB-SEM was chosen due to its ability to handle complex models with latent constructs, facilitate non-probability sampling techniques, and effectively manage multicollinearity (Hair, 2014). Descriptive statistics were used to summarise the socio-demographic characteristics of respondents and to examine associations among main constructs. Confirmatory factor analysis (outer model) was conducted to evaluate the validity and reliability of the measurement model, ensuring that the questionnaire items adequately represented the underlying constructs. The construct reliability was assessed through indicator reliability and internal consistency reliability using the Cronbach's alpha value and composite reliability (CR), as recommended by Hair (2014). Convergent validity, which measures how closely the same items of the same construct are correlated, and discriminant validity, which measures how closely the items of different variables are closely correlated, were used to assess the construct validity (Hair, 2014). Subsequently, the structural model was performed to test the hypothesised relationships.

4 Results and findings

4.1 Measurement model

The measurement model in PLS-SEM evaluates the reliability and validity of the constructs used in the structural equation model (Hair, 2014). Specifically, it confirms that the latent variables (constructs) are accurately represented by their observed indicators (items), providing a solid foundation to proceed with the structural model.

Internal consistency reliability and indicator reliability were used to assess the construct reliability. The results indicate that the values of Cronbach's alpha and CR are above the threshold value of 0.7, as recommended by Hair (2014), confirming that all constructs have good internal consistency. Further, indicator reliability ensures that each observed variable has a sufficiently high loading on its corresponding latent construct, i.e., above 0.7, as recommended by recommended by Hair (2014).

Convergent validity was evaluated using the average variance extracted (AVE) to confirm that all indicators of a particular construct are strongly correlated. The results confirm that the AVE values are higher than the recommended threshold value of 0.5 (Hair, 2014). Table 2 presents the results of reliability and convergent validity for higher-order constructs, and Annexure 1 presents the results of reliability and convergent validity for lower-order constructs.

Table 2 Construct reliability and convergent validity results for higher-order constructs

<i>Construct</i>	<i>Item code</i>	<i>Factor loading</i>	<i>Cronbach's alpha</i>	<i>CR Rho_a</i>	<i>CR Rho_c</i>	<i>AVE</i>
IEO	INNO	0.840	0.806	0.806	0.885	0.720
	PRO	0.857				
	RT	0.849				
IMO	CUSO	0.865	0.837	0.839	0.902	0.754
	COMO	0.885				
	IFC	0.855				
ILO	CL	0.805	0.776	0.783	0.870	0.690
	SV	0.846				
	OM	0.840				
SC	TC	0.897	0.890	0.892	0.932	0.819
	UPD	0.925				
	QF	0.894				

In PLS-SEM, discriminant validity was assessed using both the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio (Hair, 2014). As shown in Table 3 (for higher-order constructs), the Fornell-Larcker criterion is satisfied as the square root of the AVE of each construct is higher than the correlation values with other constructs (Fornell and Larcker, 1981), and the HTMT ratio of each construct is below the accepted threshold of 0.9 (Henseler et al., 2016). This verifies that constructs in the model are adequately distinct from one another.

Table 3 Results of the discriminant validity for higher-order constructs

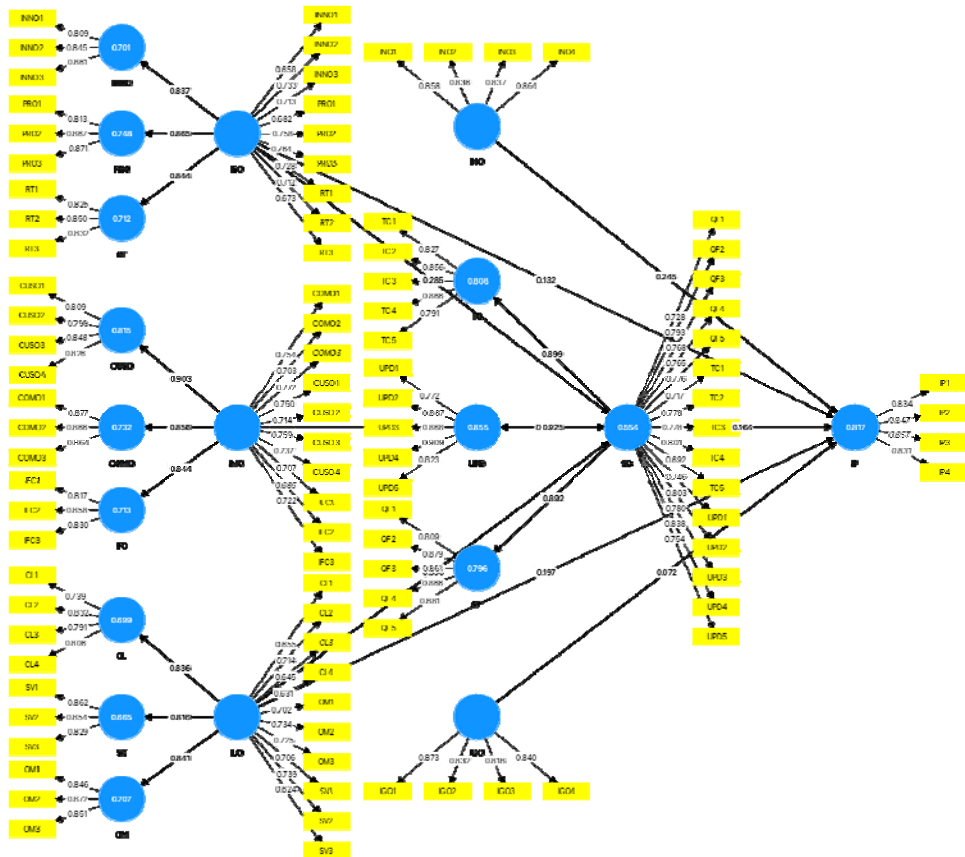
<i>Fornell-Larcker criterion</i>							
	<i>IEO</i>	<i>IGO</i>	<i>ILO</i>	<i>IMO</i>	<i>INO</i>	<i>IP</i>	<i>SC</i>
IEO	0.849						
IGO	0.451	0.841					
ILO	0.446	0.379	0.831				
IMO	0.501	0.439	0.401	0.869			
INO	0.476	0.347	0.399	0.473	0.849		
IP	0.650	0.538	0.627	0.755	0.686	0.842	
SC	0.593	0.514	0.591	0.591	0.623	0.764	0.905
<i>HTMT ratio</i>							
IEO							
IGO	0.537						
ILO	0.562	0.463					
IMO	0.607	0.513	0.489				
INO	0.567	0.399	0.479	0.552			
IP	0.779	0.619	0.761	0.888	0.789		
SC	0.697	0.581	0.708	0.681	0.706	0.870	

Annexure 2 provides the discriminant validity results for the lower-order constructs. Satisfying reliability and validity requirements, the measurement model exhibited sufficient fit, confirming its adequacy to proceed with the structural model analysis. The measurement model is illustrated in Figure 2.

4.2 Structural model

The structural model assessment in PLS-SEM analyses the relationship between latent variables to determine their predictive power and significance (Hair, 2014). For this purpose, several key criteria, such as assessing path coefficients, R^2 values, f^2 effect size, and predictive relevance (Q^2) were used. To evaluate the robustness of the model and confirm the significance of the structural paths, bootstrapping with 5,000 re-samples was conducted. Additionally, blindfolding was employed to assess the predictive relevance (Q^2), ensuring that the model provides meaningful predictions for the dependent variable.

The study used standardised root mean square residual (SRMR) and normed fit index (NFI), the main indices to measure the model fit in PLS-SEM, as recommended by Hair (2014). The results obtained that the SRMR values for the saturated model and the estimated model are 0.052 and 0.064, respectively, and below the accepted threshold of 0.08 (Hair, 2014), indicating a good model fit. Also, the NFI values show an acceptable model fit with 0.827 for the saturated model and 0.819 for the estimated model, though they are slightly below the recommended threshold of 0.9 (Hair, 2014). Further, the Chi-square value of 601.549 for the saturated model indicates that the model fit reasonably aligns well with the observed data.

Figure 2 Measurement model (see online version for colours)

The presence of multicollinearity was assessed using the variance inflation factor (VIF), which is the reciprocal of tolerance (Hair, 2014). A VIF value below 5 ensures the absence of the multicollinearity problem in the model (Hair, 2014). As shown in Table 4, the VIF values for all predictive constructs fall below this threshold, confirming that there are no multicollinearity issues in the model.

The predictive power of the structural model was assessed using R^2 and Adjusted R^2 values, which are widely used measures to assess the structural model (Hair, 2014). The R^2 value for the endogenous latent constructs is 0.818 for IP (IP) and 0.554 for SC, the mediator of the model. The value above 0.75 shows a substantial explanatory power in the endogenous construct explained by all the exogenous constructs in the model, while the value above 0.50 shows a moderate power (Hair, 2014). Also, the adjusted R^2 value, modified with regard to the number of exogenous constructs and sample size, is 0.813 and 0.554 for IP and SC, respectively, showing no significant variations from the R^2 values.

In addition, effect size f^2 was also analysed to evaluate the relative contribution of exogenous constructs to the R^2 value of the latent endogenous constructs, IP and SC. The results are reported in Table 5. As it illustrated, IMO ($f^2 = 0.435$) has the largest effect (> 0.35) (Hair, 2014) on IP, while INO and ILO ($f^2 = 0.192$ and 0.141 , respectively) have moderate effects. Further, IEO ($f^2 = 0.055$) and IGO ($f^2 = 0.021$) have a small effect on

IP. With regard to SC, the mediator variable, IMO and ILO have a moderate effect, with $f^2 = 0.195$ and 0.154 , respectively, while IEO ($f^2 = 0.124$) has a small to moderate effect. Meanwhile, SC ($f^2 = 0.052$) has a small to moderate effect on IP, indicating its strategic importance in BG firm performance.

Table 4 Evaluation of the problem of multicollinearity

	<i>VIF</i>
IEO \rightarrow IP	1.736
IEO \rightarrow SC	1.476
IGO \rightarrow IP	1.466
ILO \rightarrow IP	1.584
ILO \rightarrow SC	1.318
IMO \rightarrow IP	1.693
IMO \rightarrow SC	1.409
INO \rightarrow IP	1.715
SC \rightarrow IP	2.716

Table 5 f^2 effect size

	<i>IP</i>	<i>SC</i>
IEO	0.055	0.124
IGO	0.021	
ILO	0.141	0.195
IMO	0.435	0.154
INO	0.192	
IP		
SC	0.052	

4.3 Hypothesis testing

The significance of the structural model path coefficients was used to assess the hypothesised relationships of the proposed research model, and the results are reported in Table 6.

The bootstrapping results indicate that all path coefficients are positive, statistically significant and fall within the 95% confidence interval bias-corrected. Both direct and indirect effects are positive and statistically significant, with t-statistics exceeding the critical value of 1.96 and p-value below 0.05, supporting all hypotheses. Regarding the direct effects, all IEC constructs – IEO, IMO, ILO, INO, and IGO – are significant predictors of IP, while IEO, IMO, and ILO were significant predictors of SC. Notably, IMO and ILO have the strongest direct effect on IP (IMO: $\beta = 0.366$, $p = 0.000$ and ILO: $\beta = 0.201$, $p = 0.000$) and SC (IMO: $\beta = 0.311$, $p = 0.000$ and ILO: $\beta = 0.339$, $p = 0.000$), followed by INO on IP ($\beta = 0.244$, $p = 0.000$). Thus, H2, H3, H4, H7, and H8 were supported. IEO also has a significant and positive effect on IP ($\beta = 0.132$, $p = 0.000$) and SC ($\beta = 0.286$, $p = 0.000$). Its effect on SC is larger than that on IP, and thus, both H1 and H6 were accepted. Though the effect is comparatively weaker, IGO positively impacts IP

($\beta = 0.075$, $p = 0.037$), which supports H5. In addition, SC also has a significant positive impact on IP ($\beta = 0.160$, $p = 0.001$), supporting H9. These results emphasise the critical roles of IEC constructs and SC the superior performance of BG firms.

Table 6 Summary of the hypotheses test results

<i>Structural path</i>	<i>Path coefficient</i>	<i>t statistic</i>	<i>p-value</i>	<i>95% confidence interval</i>	<i>Decision</i>
IEO \rightarrow IP	0.132	3.500	0.000	(0.055, 0.203)	Supported
IEO \rightarrow SC	0.286	5.112	0.000	(0.174, 0.392)	Supported
IGO \rightarrow IP	0.075	2.091	0.037	(0.005, 0.146)	Supported
ILO \rightarrow IP	0.201	5.332	0.000	(0.130, 0.277)	Supported
ILO \rightarrow SC	0.339	6.094	0.000	(0.224, 0.446)	Supported
IMO \rightarrow IP	0.366	9.786	0.000	(0.292, 0.437)	Supported
IMO \rightarrow SC	0.311	5.925	0.000	(0.208, 0.413)	Supported
INO \rightarrow IP	0.244	6.622	0.000	(0.166, 0.313)	Supported
SC \rightarrow IP	0.160	3.351	0.001	(0.067, 0.257)	Supported
ILO \rightarrow SC \rightarrow IP	0.054	3.123	0.002	(0.024, 0.094)	Supported
IMO \rightarrow SC \rightarrow IP	0.050	2.925	0.003	(0.020, 0.089)	Supported
IEO \rightarrow SC \rightarrow IP	0.046	2.773	0.006	(0.019, 0.086)	Supported

Regarding the indirect effects, the results of the mediation analysis show that SC significantly mediates the relationship between IEO, IMO, ILO and IP. Thus, H10, H11, and H12 were supported. Among the three, ILO shows the strongest mediated effect on IP through SC ($\beta = 0.054$, $p = 0.002$), followed by IMO ($\beta = 0.050$, $p = 0.003$). Though a positive and significant mediation effect is evident, IEO shows the weakest effect on IP through SC ($\beta = 0.046$, $p = 0.006$). These findings emphasise the important role of SC as a mediator in accelerating the IP of BG firms.

Finally, the blindfolding procedure was performed to assess the predictive relevance (Q^2) of the structural model with respect to each endogenous latent variable; the results are presented in Table 7. The results show that IP ($Q^2 = 0.798$) has the largest and strongest predictive relevance, while SC ($Q^2 = 0.540$) has a moderate predictive relevance.

Table 7 Predictive relevance (Q^2)

	<i>Q^2 predict</i>	<i>RMSE</i>	<i>MAE</i>
IP	0.798	0.453	0.368
SC	0.540	0.684	0.531

5 Discussion for implications

Despite facing significant resource constraints, BG firms often achieve rapid internationalisation and remarkable success. However, not all BG firms manage to succeed, and the absence of a strong entrepreneurial nature has been identified as a critical factor for their failure. Existing literature lacks comprehensive quantitative

investigation on how entrepreneurialness affects the IP of BG firms. This study attempted to address this gap by presenting a novel conceptualisation of ‘entrepreneurialness’, measured through IEC. In addressing the existing contradictions relating to the IEC-IP relationship, this study recognised the importance of the role of potential mediatory effects on this relationship. Therefore, it explored the mediatory role of SC in the IEC-IP relationship. It is proposed as a critical linking construct, connecting entrepreneurialness with superior IP, and offering new insights into the mechanisms driving the success of BG firms.

Consistent with existing theories and findings, this study concludes that five IEC dimensions, IEO, IMO, ILO, INLO, and IGO, are the most significant predictors of IP and SC of BG firms, observing a strong direct impact. Among these dimensions, IMO and ILO showed the strongest impact on IP. These findings are consistent with prior studies that highlight the critical roles of market-driven strategies and continuous learning in resource-constrained firms achieving superior performance (e.g., Slater and Narver, 1995; Sinkula et al., 1997; Kwon and Hu, 2000; Calantone et al., 2002; Rose and Shoham, 2002; Rodriguez Cano et al., 2004; Kropp et al., 2006; Hartsfield et al., 2008; Jantunen et al., 2008; Morgan et al., 2009; He and Wei, 2011; Murray et al., 2011; Boso et al., 2013; He et al., 2018; Iyiola et al., 2023). Whereas IEO and INO also significantly impact IP, IGO has the weakest effect. This validated previous findings that the influence of IGO, while important, is less critical compared to other IEC dimensions (e.g., Nummela et al. 2005; Jantunen et al., 2008; Knight and Kim, 2009; Sørensen and Madsen, 2012; Escandon-Barbosa et al., 2019). The study further highlights the mediating role of SC, which is critical in translating entrepreneurial culture into measurable IP outcomes. Thus, it serves as a bridge that enables firms to overcome resource constraints and align their internal capabilities with global market demands. This finding aligns with previous studies that emphasise the role of SC in enhancing the performance of resource-constrained firms through capabilities such as technological innovations, product quality and development, and strategic focus (Atuahene-Gima and Ko, 2001; Julien and Ramangalahy, 2003; Knight and Cavusgil, 2004; Baimai and Mukherji, 2015). The strong direct impact of SC on IP also validates its essential role in facilitating international success (Knight, 2001; Julien and Ramangalahy, 2003; Baimai and Mukherji, 2015), particularly in contexts where resource constraints and external challenges are significant.

Additionally, the study found that the Sri Lankan ICT sector to be a young, dynamic, and promising economic sector with distinct competitive advantages. With a majority of the firms catering to international markets from its inception (70%), the sector generates a significant portion of its revenue from exports, with 69% of them earning over 50% of export sales. In terms of market scope, these firms operate across 12 geographic markets, with most firms active in 5–10 markets and 28% active in more than ten markets. The firms exhibit a simple organisational structure, a highly educated workforce, and leaders equipped with industry-specific qualifications. These statistics reflect the sector’s strong international orientation and broad market reach.

In conclusion, this study enriches the existing theoretical understanding of BG firms by integrating IEC and SC within the framework of DCV. It bridges gaps in the existing literature by empirically investigating the multidimensional effect of IEC and its mediatory effects through SC, notably in an emerging country context – Sri Lanka. Thus, the findings offer a comprehensive model for understanding how entrepreneurialness drives the IP of BG firms. For policymakers, the study highlights the importance of

institutional support in fostering an entrepreneurial ecosystem; programs that promote innovation, cost-effective infrastructure facilities, and enhanced global market access are essential for empowering and encouraging young BG firms. For managers, the findings provide actionable insights into aligning a strong entrepreneurial culture with strategic competencies to achieve a competitive advantage in the global market.

6 Conclusions, limitations and future research directions

This study makes several important contributions. First, from the theoretical standpoint, it enriches the understanding of BG firms by integrating IEC and SC within the theoretical framework of the DVC. By empirically testing IEC's multidimensional nature, the study offers a novel conceptualisation of 'entrepreneurialness' and clarifies its impact on IP. Methodologically, it advances measurement in international entrepreneurship by providing a validated model that captures the mediating role of SC, thus moving beyond single-dimensional approaches commonly used in prior studies. Finally and contextually, this study contributes rare insights from an emerging economy by focusing on Sri Lanka's ICT-BGs, illustrating how these firms overcome severe resource constraints to achieve competitiveness in the global marketplace.

Despite its significant contributions, several possible limitations to this study require consideration. The first limitation relates to the study sample; a reliable sample could not be drawn as the population is unknown. There is no single up-to-date official database containing the details of the ICT export entrepreneurs in Sri Lanka; as a result, the study faced several difficulties in compiling a detailed background of the sample frame. Therefore, the only available database – that of EDB – was used for this study purpose. This may affect the generalisation of the findings of this study. Second, this study investigated a developing country context, i.e., Sri Lanka, which is a country with notably high economic, political and social instability. Thus, these results may vary in other more stable business, economic, political and social contexts. The same may hold true when findings are applied to industries other than the ICT industry. Third limitation arises from the operationalisation of key constructs of this study. There are several possible approaches to conceptualising the key constructs of this study: IEO, ILO, IMO, INO, IGO and SC; this may restrict comparability with other studies adopting alternative conceptualisation. Therefore, the findings are subjective to the operationalisation of the constructs. Fourth, this study examined the role of entrepreneurialness in the IP of BG firms using cross-sectional data. The role of entrepreneurship in predictors like international growth and firm innovation remains to be explored. This line of research lacks longitudinal studies, which may more appropriately explain the performance and growth of firms. Finally, the study tested its novel conceptualisation model with only successful – BG firms, thereby excluding failed ventures that could have provided equally valuable insights into the entrepreneurialness-performance relationship.

Building on these limitations, several directions for future research can be suggested. Future research could apply the proposed model across industries and different countries or regional contexts to test the robustness and generalisability of the findings. Also, Future researchers are encouraged to use different approaches to conceptualise these constructs, as this may offer novel insights into the international entrepreneurship research field, which could uncover additional dimensions or provide greater comparability across contexts. Further, longitudinal research would be particularly

valuable in understanding how entrepreneurialness evolves over time in shaping firm growth, innovation, and survival. Finally, investigating failed BG firms in empirical analysis would yield deeper insights into the role of entrepreneurialness not only in driving success but also in explaining failure, thereby offering a more complete understanding of BG trajectories.

Declarations

The author declares no conflict of interest for this single-author paper.

Informed consent was obtained from all individual respondents who participated in the survey.

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Annexure 1

Table A1 Construct reliability and convergent validity results for lower-order constructs

Lower-order constructs						
Construct	Item code	Factor loading	Cronbach's alpha	CR Rho_a	CR Rho_c	AVE
International entrepreneurial orientation (IEO)						
Innovativeness	INNO1	0.809	0.789	0.791	0.876	0.703
	INNO2	0.845				
	INNO3	0.861				
Proactiveness	PRO1	0.813	0.809	0.813	0.887	0.724
	PRO2	0.867				
	PRO3	0.871				
Risk-taking	RT1	0.825	0.784	0.785	0.874	0.699
	RT2	0.850				
	RT3	0.832				
International market orientation						
Customer orientation	CUSO1	0.809	0.838	0.838	0.892	0.673
	CUSO2	0.798				
	CUSO3	0.848				
	CUSO4	0.826				
Competitor orientation	COMO1	0.877	0.838	0.840	0.903	0.755
	COMO2	0.866				
	COMO3	0.864				

Table A1 Construct reliability and convergent validity results for lower-order constructs (continued)

Lower-order constructs						
Construct	Item code	Factor loading	Cronbach's alpha	CR Rho_a	CR Rho_c	AVE
International market orientation						
Inter-functional coordination	IFC1	0.817	0.783	0.783	0.874	0.698
	IFC2	0.858				
	ICF3	0.830				
International learning orientation (ILO)						
Commitment to learning	CL1	0.739	0.802	0.804	0.871	0.629
	CL2	0.832				
	CL3	0.791				
	CL4	0.806				
Shared vision	SV1	0.862	0.806	0.811	0.885	0.720
	SV2	0.854				
	SV3	0.829				
Open mindedness	OM1	0.846	0.819	0.819	0.892	0.734
	OM2	0.872				
	OM3	0.851				
International network orientation (INO)	INO1	0.858	0.871	0.872	0.912	0.721
	INO2	0.836				
	INO3	0.837				
	INO4	0.864				
International Growth Orientation (IGO)	IGO1	0.873	0.862	0.871	0.906	0.707
	IGO2	0.832				
	IGO3	0.818				
	IGO4	0.840				
Strategic competency (SC)						
Technology competency	TC1	0.827	0.895	0.898	0.923	0.705
	TC2	0.856				
	TC3	0.855				
	TC4	0.866				
	TC5	0.791				
Unique product development	UPD1	0.772	0.902	0.905	0.928	0.721
	UPD2	0.867				
	UPD3	0.868				
	UPD4	0.909				
	UPD5	0.823				

Table A1 Construct reliability and convergent validity results for lower-order constructs
(continued)

<i>Lower-order constructs</i>						
<i>Construct</i>	<i>Item code</i>	<i>Factor loading</i>	<i>Cronbach's alpha</i>	<i>CR Rho_a</i>	<i>CR Rho_c</i>	<i>AVE</i>
<i>Strategic competency (SC)</i>						
Quality focus	QF1	0.809	0.911	0.912	0.934	0.738
	QF2	0.879				
	QF3	0.861				
	QF4	0.866				
	QF5	0.881				
International performance	IP1	0.834	0.863	0.863	0.907	0.709
	IP2	0.847				
	IP3	0.857				
	IP4	0.831				

Annexure 2

Table A2 Results of the discriminant validity for lower-order constructs

	CL	COMO	CUSO	IFC	IGO	INNO	INO	IP	OM	PRO	QF	RT	SV	TC	UPD
<i>Fornell-Larcker criterion</i>															
CL	0.390														
COMO	0.303	0.769													
CUSO	0.192	0.732	0.805												
IFC	0.415	0.461	0.503	0.381											
IGO	0.371	0.451	0.505	0.480	0.463										
INNO	0.375	0.465	0.492	0.495	0.399	0.455									
INO	0.560	0.774	0.786	0.777	0.619	0.673	0.789								
IP	0.682	0.375	0.333	0.266	0.343	0.297	0.345	0.599							
OM	0.418	0.462	0.377	0.316	0.472	0.733	0.518	0.638	0.405						
PRO	0.452	0.583	0.590	0.540	0.502	0.570	0.628	0.807	0.463	0.569					
QF	0.401	0.491	0.552	0.464	0.441	0.697	0.484	0.688	0.339	0.754	0.611				
RT	0.614	0.429	0.465	0.394	0.371	0.445	0.449	0.696	0.676	0.405	0.548	0.449			
SV	0.504	0.542	0.508	0.436	0.474	0.468	0.615	0.738	0.480	0.474	0.752	0.451	0.570		
TC	0.505	0.582	0.551	0.490	0.590	0.553	0.660	0.799	0.541	0.532	0.810	0.596	0.587	0.858	
UPD															
<i>HTMT ratio</i>															
CL	0.793														
COMO	0.321	0.869													
CUSO	0.249	0.646	0.820												
IFC	0.152	0.597	0.653	0.835											
IGO	0.347	0.394	0.428	0.316	0.841										
INNO	0.293	0.366	0.410	0.378	0.386	0.838									
INO	0.315	0.400	0.422	0.410	0.347	0.378	0.849								
IP	0.466	0.660	0.668	0.640	0.538	0.555	0.686	0.842							
OM	0.554	0.310	0.276	0.213	0.289	0.238	0.292	0.504	0.857						
PRO	0.336	0.381	0.310	0.253	0.398	0.590	0.433	0.533	0.329	0.851					
QF	0.387	0.509	0.516	0.456	0.448	0.485	0.560	0.716	0.399	0.488	0.859				
RT	0.316	0.397	0.447	0.365	0.366	0.550	0.401	0.566	0.270	0.601	0.516	0.836			
SV	0.498	0.349	0.379	0.309	0.311	0.351	0.380	0.583	0.555	0.327	0.472	0.358	0.849		
TC	0.428	0.470	0.440	0.366	0.421	0.394	0.545	0.651	0.413	0.403	0.680	0.379	0.487	0.839	
UPD	0.428	0.508	0.479	0.414	0.523	0.466	0.586	0.705	0.464	0.452	0.734	0.501	0.505	0.773	0.849