

Entrepreneurial Motivation and Born Globals: An Attention-Based View

Zhongyun Hai

Xi'an Jiaotong University

Haipeng Geng

genghaipeng95@163.com

Xi'an University of Technology

Zhongfeng Su

Xi'an Jiaotong University

Research Article

Keywords: Born globals, entrepreneurial motivation, internationalization, the attention-based view

Posted Date: July 16th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10312893/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License. [Read Full License](#)

Additional Declarations: No competing interests reported.

Abstract

This study examines how entrepreneurial motivation shapes the emergence of born globals (BGs). Drawing on the attention-based view (ABV), we argue that opportunity-driven entrepreneurs (OEs) are more likely than necessity-driven entrepreneurs (NEs) to allocate attention to foreign markets, thereby increasing the likelihood that their ventures emerge as BGs. We further theorize that this relationship is contingent on social and institutional contexts because these contexts condition how entrepreneurs with different motivations search for, interpret, and act on foreign market opportunities. Using multilevel data on 45,595 early-stage entrepreneurs in 65 countries, we find that OEs are positively associated with the likelihood of new ventures to emerge as BGs. Digital access strengthens this association, whereas business freedom weakens it. This study contributes to international entrepreneurship research by identifying entrepreneurial motivation as an individual-level antecedent of the emergence of BGs and by showing how national contexts condition the relationship between entrepreneurial motivation and the emergence of BGs.

1. Introduction

Born globals (BGs) have become an increasingly prominent phenomenon in international entrepreneurship, yet not all new ventures internationalize early and intensively (Knight & Cavusgil, 2004). Explaining why some young ventures internationalize early while others remain domestically oriented has therefore become a central question in the field (Keupp & Gassmann, 2009; Rialp et al., 2005; Zahra, 2005). Prior research has identified several important antecedents of the emergence of BGs, including entrepreneurs' human capital, social networks, international experience, and institutional conditions (Bloodgood et al., 1996; Dau & Cuervo-Cazurra, 2014; Kiss et al., 2012; Musteen et al., 2010; Sharma & Blomstermo, 2003). Although these studies offer valuable insights, they focus mainly on resources and external conditions, leaving the motivational heterogeneity of entrepreneurs less examined (Jones et al., 2011; Terjesen et al., 2016).

International entrepreneurship research increasingly recognizes that early internationalization is shaped not only by resources and institutions, but also by entrepreneurs' motivations and by the social and institutional contexts in which entrepreneurial action is embedded (Baker et al., 2005; Welter, 2011). As Shane et al. (2003) argue, motivational differences shape whether individuals positively evaluate and pursue entrepreneurial opportunities. In the international entrepreneurship context, such differences may therefore affect how entrepreneurs recognize foreign market opportunities, evaluate their potential, and direct effort toward their pursuit (Maitland & Sammartino, 2015; Oviatt & McDougall, 2005). At the same time, the implications of these motivations are likely to vary across social and institutional contexts (Baker et al., 2005; Terjesen et al., 2016; Welter, 2011). Thus, scholars have called for explanations that connect entrepreneurs' motivational heterogeneity with the contexts in which internationalization decisions are embedded (Coviello, 2015; Terjesen et al., 2016). Nevertheless, the link between entrepreneurial motivation and the emergence of BGs remains underdeveloped in international entrepreneurship research (Coviello, 2015; Jones et al., 2011; Terjesen et al., 2016).

This study responds to this gap by adopting the attention-based view (ABV) to explain how entrepreneurial motivation shapes the emergence of BGs and how this relationship depends on social and institutional contexts. The ABV argues that decision makers' actions depend on the issues and answers to which they allocate attention (Ocasio, 1997). From this perspective, early internationalization is more likely when entrepreneurs attend to foreign markets rather than limiting their strategic focus to domestic concerns (Cho & Hambrick, 2006; Ocasio, 2011). Entrepreneurial motivation can therefore operate as an attentional filter that shapes the initial salience of foreign market opportunities (Autio et al., 2000; Ocasio et al., 2018). We focus on the distinction between opportunity-driven entrepreneurs (OEs) and necessity-driven entrepreneurs (NEs). OEs enter entrepreneurship to pursue perceived opportunities, which is likely to orient their attention toward growth possibilities, proactive opportunity search, and uncertain but potentially valuable foreign market opportunities (Boudreaux et al., 2019; Hessels et al., 2008; Ocasio, 1997). NEs, by contrast, enter entrepreneurship because alternative employment options are absent or unsatisfactory, and their attention is more likely to be directed toward short-term survival, immediate income, and familiar local demand (Amorós et al., 2019; Dencker et al., 2021; Hessels et al., 2008). These differences suggest that OEs are more likely than NEs to notice foreign market opportunities and to treat foreign markets as viable strategic options. Accordingly, motivational differences may translate into different propensities for young ventures to internationalize early.

The ABV further suggests that attention allocation is situated in context rather than formed in isolation (Ocasio, 1997). Entrepreneurs with different motivations may therefore allocate attention differently across social and institutional environments (Baker et al., 2005; Terjesen et al., 2016; Welter, 2011). Thus, to elaborate on the impact of entrepreneurial motivations on BGs, it is imperative to further explore the moderating effects of critical social and institutional factors, such as digital access and business freedom (Nambisan, 2017; Stenholm et al., 2013). Digital access captures the informational environment in which entrepreneurs search for and evaluate foreign market opportunities (Nambisan, 2017). Higher digital access may shape attention allocation by lowering the cost of searching for foreign market information and making cross-border signals more visible, especially for entrepreneurs already oriented toward opportunity seeking (Monaghan et al., 2020; von Briel et al., 2018). Business freedom refers to the extent to which the regulatory environment reduces administrative and transaction frictions (Meyer et al., 2009; North, 1990; Scott, 2013; Stenholm et al., 2013). By reducing regulatory frictions that absorb founders' limited attention, business freedom may lessen the extent to which early internationalization depends on the opportunity-driven attention of OEs. We therefore adopt digital access and business freedom as contextual moderators of the relationship between entrepreneurial motivation and BGs. Figure 1 presents the overall research model.

[Insert Fig. 1 about here]

To test our hypotheses, we construct a multisource dataset that combines individual-level data from the Global Entrepreneurship Monitor (GEM) with country-level data from the World Bank and the Heritage Foundation. Using data on 45,595 early-stage entrepreneurs in 65 countries during 2016–2018, we find that OEs are positively associated with the propensity of young ventures to emerge as BGs. Digital access strengthens this association, whereas business freedom weakens it. This study makes two contributions. First, drawing on the ABV, it not only identifies entrepreneurial motivation as an individual-

level antecedent of the emergence of BGs, but also clarifies how the relationship between entrepreneurial motivation and BGs is contingent on key social and institutional contexts, thereby advancing our understanding of the situated boundaries of attention in the emergence of BGs (Jones et al., 2011; Ocasio et al., 2018; Terjesen et al., 2016). Second, this study extends research on OEs and NEs by showing how these motivational types are associated with the emergence of BGs, especially under different levels of digital access and business freedom. It thereby enriches our understanding of the implications of OEs and NEs (Amorós et al., 2019; Dencker et al., 2021; Hessels et al., 2008).

2. Literature Review

2.1 The Antecedents of BGs

BGs are entrepreneurial firms that, from or near their founding, seek strong international business performance by selling outputs across countries (Knight & Cavusgil, 2004). While BGs have become an increasingly pervasive phenomenon, not all new ventures internationalize early, making the factors that facilitate or inhibit the emergence of BGs a critical research question (Johanson & Vahlne, 2017; Keupp & Gassmann, 2009; Rialp et al., 2005). Prior research has linked the emergence of BGs to entrepreneurs' human capital, leadership characteristics, social networks, international experience, and supportive institutional conditions (Dau & Cuervo-Cazurra, 2014; Musteen et al., 2010; Sharma & Blomstermo, 2003). These antecedents matter not only because they provide resources and knowledge for foreign market entry, but also because they shape what founders are able to notice, evaluate, and prioritize when foreign market opportunities arise (Sharma & Blomstermo, 2003; Nadkarni & Perez, 2007; Shepherd et al., 2017). Yet this literature remains less clear about how founders' motivational differences shape attention to early internationalization beyond the resources and contextual conditions emphasized in prior research (Jones et al., 2011; Terjesen et al., 2016). Thus, research on the antecedents of BGs should examine additional antecedents that operate closer to founders' decision processes, such as the motivational heterogeneity of entrepreneurs.

The emergence of BGs reflects an internal decision process through which founders interpret foreign market opportunities and decide whether those opportunities warrant strategic attention (Nadkarni & Perez, 2007). Resources and favorable conditions do not, by themselves, ensure that founders will attend to foreign markets or deploy their resources internationally (Terjesen et al., 2016). Early internationalization therefore unfolds under uncertainty and depends partly on how founders interpret and prioritize foreign market opportunities (Weerawardena et al., 2007; Nadkarni & Perez, 2007). Because entrepreneurial action is driven by diverse goals and embedded in social and institutional contexts, founders' motivations may shape which opportunities they notice and how they prioritize them (Baker et al., 2005; Hessels et al., 2008). This suggests that founders' motivational heterogeneity remains an important but insufficiently examined antecedent of the emergence of BGs, particularly when considered alongside the resources, networks, and external conditions emphasized in prior research (Jones et al., 2011; Hessels et al., 2008; Terjesen et al., 2016).

2.2 Entrepreneurial Motivation and Attention Allocation

To examine the motivational heterogeneity of entrepreneurs, we distinguish between OEs and NEs (Amit & Müller, 1995; Fairlie & Fossen, 2020). OEs enter entrepreneurship to pursue perceived market opportunities, growth, independence, or wealth creation, whereas NEs enter entrepreneurship because alternative employment options are limited or unsatisfactory (Amorós et al., 2019; Boudreaux et al., 2019). These different motives are likely to orient attention in different directions. OEs tend to attend to opportunity search, growth possibilities, and uncertain future returns, whereas NEs are more likely to focus on short-term viability, immediate income, and familiar local demand (Dencker et al., 2021; Hessels et al., 2008). Although prior studies have shown that OEs and NEs differ in entrepreneurial entry, aspirations, and performance, relatively little research has examined how these motivational types matter for early internationalization (Hessels et al., 2008; Fairlie & Fossen, 2020; Dencker et al., 2021).

Drawing on the ABV, we theorize how entrepreneurial motivation is linked to early internationalization. The ABV argues that strategic action depends on how decision makers allocate limited attention among competing issues, opportunities, and possible courses of action (Ocasio, 1997). This perspective is especially relevant for early-stage ventures, where founders face resource constraints, information uncertainty, and multiple domestic and foreign market opportunities at the same time (Ocasio, 2011; Shepherd et al., 2017). Entrepreneurial motivation shapes attention allocation by directing founders' limited attention toward opportunities that are consistent with their goals, while making competing issues less likely to enter strategic consideration (Grégoire et al., 2011; Ocasio et al., 2018; Levasseur et al., 2024). Motivation can therefore serve as an attentional filter through which founders assess whether foreign market opportunities warrant strategic consideration (Grégoire et al., 2011; Ocasio, 1997; Shepherd et al., 2017; Ramsey et al., 2025).

We argue that OEs and NEs may differ in their association with the emergence of BGs because they attach different levels of salience to foreign market opportunities (Ocasio, 1997; Hessels et al., 2008; Dencker et al., 2021). For OEs, foreign market opportunities are more likely to appear salient because opportunity-driven motivation directs attention toward growth possibilities beyond familiar domestic markets (Autio et al., 2000; Nadkarni & Perez, 2007; Francioni & Martín Martín, 2024). As a result, OEs are more likely to treat foreign markets as viable strategic options and to place early internationalization on their strategic agenda (Maitland & Sammartino, 2015). For NEs, by contrast, the need to address immediate constraints may direct attention toward short-term viability, local demand, and operational survival (Amorós et al., 2019; Dencker et al., 2021). These demands may make distant and uncertain foreign market signals less salient (Dencker et al., 2021; Shepherd et al., 2017). Thus, compared with NEs, OEs are more likely to direct attention toward foreign market opportunities and to be associated with the emergence of BGs. Therefore,

Hypothesis 1

Compared with NEs, OEs are more likely to be associated with the emergence of BGs.

2.3 The Situational Drivers of Attention

The ABV emphasizes that attention is situated in context rather than formed in isolation (Ocasio, 1997; Ocasio, 2011). Although entrepreneurial motivation may guide founders' initial attention to certain opportunities, whether such attention is associated with early internationalization is likely to depend on the social and institutional contexts in which founders search for, evaluate, and act on opportunities (Baker et al., 2005; Ocasio et al., 2018). Prior research suggests that contextual conditions shape how individual- and firm-level antecedents relate to the emergence of BGs by altering information access, transaction costs, and the relative attractiveness of domestic and foreign market opportunities (Autio et al., 2014; North, 1990; Scott, 2013; Stenholm et al., 2013; Brieger et al., 2024). To better understand the relationship between entrepreneurial motivation and BGs, we therefore examine contextual moderators that may condition how founders allocate attention to early internationalization (Cortina et al., 2023).

We focus on digital access level and business freedom because they capture two contextual conditions that may shape the relationship between entrepreneurial motivation and the emergence of BGs through founders' attention allocation (Ocasio, 1997; Baker et al., 2005; Stenholm et al., 2013). Digital access level reflects the informational dimension of the social context, whereas business freedom reflects the regulatory dimension of the institutional context (Nambisan, 2017; von Briel et al., 2018; Brieger et al., 2022; North, 1990; Stenholm et al., 2013). These two conditions allow us to examine whether the attentional difference between OEs and NEs becomes stronger or weaker under different social and institutional conditions.

In the social context of early internationalization, information asymmetry and cognitive limits are important barriers to opportunity recognition and internationalization, especially for early-stage ventures that lack established foreign market experience (Baker et al., 2005; Shepherd et al., 2017). Digital connectivity can reduce these barriers by making foreign customers, competitors, and market conditions more visible and searchable (Autio et al., 2018; Monaghan et al., 2020; von Briel et al., 2018). We therefore use digital access level to examine whether the relationship between entrepreneurial motivation and the emergence of BGs is conditioned by the informational environment in which founders search for and evaluate foreign market opportunities.

We argue that digital access level strengthens the relationship between OEs and BGs because it affects how easily entrepreneurs can direct attention to foreign markets. OEs tend to attend to opportunity search and growth possibilities beyond familiar domestic markets, which makes them more likely to use improved digital information access to notice and evaluate foreign market opportunities (Autio et al., 2000; Hessels et al., 2008; Nadkarni & Perez, 2007). When digital access level is high, OEs can search, compare, and assess foreign market opportunities with lower information costs, making their opportunity-driven attention more likely to include early internationalization (Gregory et al., 2019; Monaghan et al., 2020). In this sense, digital access level is not treated as a general driver of early internationalization. Rather, it is a contextual condition that may strengthen the international relevance of opportunity-driven attention (Nambisan, 2017; von Briel et al., 2018).

Digital access level is less likely to redirect attention in the same way for NEs because necessity-driven entrepreneurship is often tied to basic needs, constrained choice, and short-term viability (Amorós et al., 2019; Dencker et al., 2021). Even when foreign market information becomes more accessible, NEs may continue to focus on domestic demand and immediate operational concerns if these issues remain more salient to venture survival (Dencker et al., 2021; Shepherd et al., 2017). Digital access level may therefore widen the difference between OEs and NEs by making foreign market opportunities more salient mainly for entrepreneurs already oriented toward opportunity search (Hessels et al., 2008; Nambisan, 2017; von Briel et al., 2018). Therefore,

Hypothesis 2

A country's digital access level positively moderates the relationship between OEs and the propensity to emerge as BGs, such that the difference between OEs and NEs in the emergence of BGs becomes larger when digital access level is higher.

Business freedom captures the extent to which the regulatory environment reduces the administrative burdens and transaction frictions associated with starting, operating, and closing a business (North, 1990; Stenholm et al., 2013). It represents a national institutional condition that broadly applies to entrepreneurs operating in the same business environment (North, 1990; Scott, 2013; Stenholm et al., 2013). From an ABV perspective, these institutional conditions matter because regulatory burdens may compete for founders' limited attention and shape whether foreign market opportunities are perceived as feasible (Ocasio, 1997; Bai et al., 2022; Peng et al., 2008). We therefore use business freedom to examine when entrepreneurial motivation may matter more or less for the emergence of BGs.

We argue that business freedom weakens the relationship between OEs and BGs by changing how institutional frictions shape founders' allocation of attention (Ocasio, 1997; Meyer et al., 2009; Peng et al., 2008). When business freedom is low, administrative burdens and transaction frictions are more likely to absorb founders' limited attention and make the basic tasks of starting, operating, and expanding a venture more demanding (North, 1990; Stenholm et al., 2013; Tracey & Phillips, 2011). Under such conditions, NEs may be especially likely to allocate attention to immediate viability, compliance demands, and familiar local demand, because these issues are closely tied to venture survival (Dencker et al., 2021; Ocasio, 1997). OEs, by contrast, are more likely to maintain attention to opportunity search and growth possibilities beyond domestic markets, making their motivation more consequential for the emergence of BGs when institutional frictions are high (Hessels et al., 2008; Nadkarni & Perez, 2007). Thus, low business freedom may enlarge the attentional difference between OEs and NEs by making early internationalization more dependent on strong opportunity-driven attention.

When business freedom is high, this motivational difference is likely to become less pronounced because lower regulatory burdens reduce the attention entrepreneurs must devote to administrative and compliance concerns (Peng et al., 2008; Stenholm et al., 2013). As institutional frictions decline, foreign market opportunities may become more feasible and more likely to enter strategic consideration even for entrepreneurs whose attention is less strongly oriented toward opportunity search (North, 1990; Meyer et al., 2009). Accordingly, business freedom may lower the institutional threshold for early internationalization and reduce the extent to which the emergence of BGs depends on the opportunity-driven attention of OEs (Meyer et al., 2009; Peng et al., 2008). Thus,

Hypothesis 3

A country's business freedom negatively moderates the relationship between OEs and the propensity to emerge as BGs, such that the difference between OEs and NEs in the emergence of BGs becomes smaller when business freedom is higher.

3. Method

3.1 Data and Sample

To test the proposed cross-level model, we construct a multisource dataset that combines individual-level entrepreneurial data with country-level contextual indicators. Core observations at the individual level are extracted from the Adult Population Survey (APS) of the Global Entrepreneurship Monitor (GEM). GEM has been widely used in comparative entrepreneurship research because it applies standardized survey procedures, random sampling, and country-specific weighting to enhance cross-national comparability and sample representativeness (Bosma, 2013; Reynolds et al., 2005). Its reliability and validity have also been established in prior research on international business and comparative international entrepreneurship (Autio et al., 2013; Epure et al., 2024; Estrin et al., 2022).

To align the sample with the early-stage nature of BGs, we restrict the analysis to the Total early-stage Entrepreneurial Activity (TEA) cohort. TEA comprises nascent entrepreneurs and owner-managers of new businesses. Under GEM's classification, owner-managed ventures that have paid salaries, wages, or other payments to their owners for more than 42 months are classified as established businesses and are therefore excluded from the TEA cohort (Reynolds et al., 2005). GEM's cross-national individual-level coverage makes it appropriate for examining how entrepreneurial motivation is associated with the emergence of BGs across different national contexts. To examine country-level moderators, we matched the individual-level GEM data with country-level indicators. Digital access level and macroeconomic indicators are obtained from the World Bank's World Development Indicators (WDI), whereas business freedom is obtained from the Heritage Foundation's Index of Economic Freedom (HF). We use the 2016–2018 period to avoid the systemic disruptions associated with the COVID-19 pandemic. After excluding observations with missing values on core variables, the final merged sample includes 45,595 early-stage entrepreneurs across 65 countries. Country-level variables are matched to individual observations by country and survey year. Table 1 reports the country distribution and sample composition.

Table 1
Sample Composition

No.	Country name	Observations	No.	Country name	Observations
1	Angola	730	34	Israel	492
2	United Arab Emirates	569	35	Italy	205
3	Argentina	492	36	Jamaica	131
4	Australia	399	37	Jordan	117
5	Austria	636	38	Japan	144
6	Burkina Faso	520	39	Kazakhstan	262
7	Bulgaria	235	40	South Korea	604
8	Bosnia and Herzegovina	63	41	Lebanon	1360
9	Belize	518	42	Luxembourg	209
10	Brazil	1142	43	Latvia	379
11	Canada	793	44	Morocco	483
12	Switzerland	118	45	Madagascar	889
13	Chile	5566	46	Mexico	914
14	China	1162	47	Malaysia	430
15	Cameroon	433	48	Netherlands	571
16	Colombia	1169	49	Panama	737
17	Cyprus	404	50	Peru	1004
18	Germany	647	51	Poland	970
19	Ecuador	1088	52	Portugal	146
20	Egypt	816	53	Qatar	467
21	Spain	3034	54	Russia	159
22	Estonia	539	55	Saudi Arabia	1245
23	Finland	116	56	Sudan	395
24	France	221	57	El Salvador	232
25	Georgia	119	58	Slovakia	551
26	Greece	327	59	Slovenia	300
27	Guatemala	1867	60	Sweden	900
28	Croatia	423	61	Thailand	1214
29	Hungary	130	62	Uruguay	614
30	Indonesia	922	63	United States	857
31	India	1010	64	Vietnam	480
32	Ireland	513	65	South Africa	409
33	Iran	1004		Total	45,595

[Insert Table 1 about here]

3.2 Measures

BGs. The dependent variable captures strong international orientation among early-stage ventures, which we use as an operational proxy for the emergence of BGs. Although prior research has used different criteria to identify born globals, temporal proximity to founding and the intensity of foreign-market activity are among the most commonly used dimensions (Knight & Cavusgil, 2004; Rialp et al., 2005). We address the temporal dimension by restricting the sample to GEM's TEA cohort (Reynolds et al., 2005). This horizon is broadly comparable to the temporal criteria used in prior early internationalization research (Knight & Cavusgil, 2004; Rialp et al., 2005). To capture foreign-sales intensity, we use the following GEM APS item: "What percentage of your annual sales revenues will usually come from customers living outside your country?" We classify an early-stage venture as meeting the study's operational criterion for BGs when the respondent reports that more than 25% of the venture's annual sales revenues are expected to come from customers living outside the respondent's home country. The binary indicator equals 1 for these ventures and 0 otherwise. This threshold distinguishes ventures with limited expected

foreign-sales exposure from those with substantial expected foreign-market engagement. Although the GEM item is expectation-based rather than a direct observation of realized foreign-market activity, it provides a theoretically grounded, foreign-sales-based operationalization of BGs because BGs are commonly identified by their early-stage status and substantial foreign-sales intensity. This approach is consistent with prior studies that use foreign-sales or foreign-customer thresholds to identify born globals, export-oriented new ventures, and strongly internationalized new ventures (Knight & Cavusgil, 1996, 2004; Brieger et al., 2022; De Clercq et al., 2008; Hessels & van Stel, 2011). Accordingly, the measure serves as a foreign-sales-based operational proxy for BGs rather than as a complete representation of all possible BGs criteria.

Entrepreneurial motivation. We measure entrepreneurial motivation using the GEM item that asks respondents about their main reason for starting a business (Reynolds et al., 2005). GEM distinguishes opportunity-driven entrepreneurship from necessity-driven entrepreneurship on the basis of this response. Specifically, respondents report whether they started the business “to take advantage of a business opportunity” and “because there are no better choices for work” (Bosma, 2013). Following established measurement conventions and the official GEM coding framework, we operationalize entrepreneurial motivation as a binary variable (Reynolds et al., 2005; Williams & Williams, 2014). The indicator equals 1 when respondents report starting the business to take advantage of a business opportunity, representing OEs, and 0 when they report having no better choices for work, representing NEs (Acs et al., 2008).

Digital access level. This variable captures the informational dimension of the social context and is sourced from the World Bank's World Development Indicators (WDI). We measure digital access level as the percentage of individuals using the Internet in a country or region (Nambisan, 2017). This indicator is widely recognized in innovation and entrepreneurship research to capture a country's foundational digital connectivity (von Briel et al., 2018). To separate digital access level from broader macroeconomic development, we first regress digital access level on GDP per capita, GDP growth, and year fixed effects. We then use the residualized digital access level measure when constructing the interaction term. Accordingly, the interaction involving digital access level should be interpreted as capturing variation in digital access level net of these macroeconomic conditions.

Business freedom. This variable captures the regulatory dimension of the institutional context and is obtained from the Heritage Foundation's Index of Economic Freedom (HF) (Estrin et al., 2013). The index evaluates the efficiency of government regulation by considering the time, cost, and procedures associated with starting, operating, and closing a business (McMullen et al., 2008). The score ranges from 0 to 100, with higher values indicating a more supportive business environment with lower administrative and compliance burdens (Bradley et al., 2021).

Control variables. We include several control variables. First, we control for entrepreneurs' *age*, *gender*, perceived entrepreneurial *skills*, and *managerial experience* (Davidsson & Honig, 2003; Marvel et al., 2016). We also control for prior *entrepreneurial experience*, operationalized as recent business discontinuance. The indicator equals 1 if the respondent discontinued a business that he or she owned and managed during the previous 12 months and the business did not continue its activities after the respondent disengaged, and 0 otherwise. This measure captures a recent experience of business discontinuance rather than the breadth or duration of the respondent's entrepreneurial career. Second, we control for *product novelty* because ventures offering products or services that are new to customers may differ in their international orientation (Cassiman & Golovko, 2011; Knight & Cavusgil, 2004). Following GEM's coding, the indicator equals 1 when the respondent reports that the venture's product or service is new to all or some customers and 0 otherwise. We also include country-level controls to account for macroeconomic conditions that may shape domestic market attractiveness and international activity (Terjesen et al., 2016). These controls include the standardized natural logarithm of *GDP per capita*, which captures absolute economic development and wealth, and the annual *GDP Growth*, which captures domestic market expansion (Acs et al., 2008; Estrin et al., 2013). Table 2 summarizes the definitions and data sources for all variables.

Table 2
Variable Description

Variables	Definition	Source
Dependent variable		
Born globals (BGs)	Binary variable: 1 if the respondent reports that more than 25% of the venture's annual sales revenues are expected to come from customers living outside the respondent's home country; 0 otherwise.	GEM
Independent variable		
Entrepreneurial motivation	Binary variable: 1 if the primary motive for starting a business is opportunity-driven; 0 if necessity-driven.	GEM
Moderating variables		
Digital access level	Standardized continuous variable: Percentage of individuals using the Internet (% of population).	WDI
Business freedom	Standardized continuous variable: Measures regulatory efficiency in starting, operating, and closing a business (score 0-100).	HF
Control variables		
Age	Continuous variable: The exact age of the entrepreneur in years.	GEM
Gender	Dummy variable: 1 if male; 0 if female.	GEM
Skills	Dummy variable: 1 if the entrepreneur perceives they have the required skills and knowledge to start a business; 0 otherwise.	GEM
Managerial experience	Dummy variable: 1 if the entrepreneur has prior managerial experience; 0 otherwise.	GEM
Entrepreneurial experience	Dummy variable: 1 if the respondent discontinued a business that he or she owned and managed in the past 12 months and the business did not continue after the respondent disengaged; 0 otherwise.	GEM
Product novelty	Dummy variable: 1 if the respondent reports that the venture's product or service is new to all or some customers; 0 otherwise.	GEM
Year fixed effects	Dummy variables for survey years, with 2016 as the reference year, used to control for common temporal shocks during 2016–2018.	GEM
GDP per capita	Standardized continuous variable: Natural logarithm of GDP per capita (constant 2015 US).	WDI
GDP growth	Continuous variable: Annual percentage growth rate of GDP.	WDI
Note. GEM = Global Entrepreneurship Monitor; WDI = World Bank's World Development Indicators; HF = Heritage Foundation's Index of Economic Freedom.		

[Insert Table 2 about here]

3.3 Empirical Strategy

Given the nested structure of the GEM data, in which individual entrepreneurs are embedded within countries, we estimate multilevel mixed-effects logistic regression models with country-level random intercepts and year fixed effects. This approach is appropriate because the dependent variable is binary and because observations within the same country or region may share unobserved contextual characteristics. The models include control variables at the individual, venture, and country levels to reduce observable confounding. Single-level models, such as ordinary least squares, standard logit, or probit models, assume independent observations and do not fully account for the clustering of individuals within countries (Hofmann, 1997). The multilevel approach addresses this issue by allowing the intercept to vary across countries, thereby accounting for unobserved country-level heterogeneity. All models include year fixed effects to account for common temporal shocks during 2016–2018 period (Autio et al., 2013; Estrin et al., 2022).

4. Results

Table 3 presents the descriptive statistics and correlations. The mean of the BGs indicator is 0.155, indicating that 15.5% of the sampled early-stage ventures were coded as meeting the study's operational criterion for BGs. This pattern is consistent with the view that BGs represent a distinctive rather than universal form of early internationalization. In addition, we assess multicollinearity by calculating variance inflation factors (VIFs). The maximum VIF is 2.09, which is well below the conventional threshold of 10 and does not indicate serious multicollinearity concerns (Hair et al., 2010).

Table 3
Descriptive Statistics and Correlations (N = 45,595)

1. BGs	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	1.000											
2. Entrepreneurial motivation	0.035***	1.000										
3. Digital access level	0.037***	-0.005	1.000									
4. Business freedom	0.108***	0.119***	0.213***	1.000								
5. Age	-0.012***	-0.058***	0.091***	0.131***	1.000							
6. Gender	-0.074***	-0.070***	-0.018***	-0.057***	0.001	1.000						
7. Skills	0.042***	0.045***	0.021***	0.014***	0.030***	-0.047***	1.000					
8. Managerial experience	-0.023***	-0.047***	0.012***	-0.053***	0.059***	0.014***	0.027***	1.000				
9. Entrepreneurial experience	0.042***	-0.035***	-0.009*	-0.016***	-0.013***	0.006	0.018***	-0.007	1.000			
10. Product novelty	0.076***	-0.004	0.013***	-0.103***	-0.061***	0.007	0.013***	-0.012***	0.015***	1.000		
11. GDP per capita	0.160***	0.097***	0.210***	0.760***	0.141***	-0.069***	0.028***	-0.066***	-0.037***	-0.057***	1.000	
12. GDP Growth	-0.085***	0.016***	-0.270***	-0.082***	-0.027***	0.009*	-0.073***	0.027***	-0.035***	0.007	-0.129***	1.000
Means	0.155	0.746	0.092	0.280	37.579	0.418	0.834	0.669	0.063	0.156	0.463	2.869
SD	0.362	0.435	0.359	0.741	12.446	0.493	0.372	0.471	0.243	0.363	0.752	2.251
Note. * $p < .10$, ** $p < .05$, *** $p < .01$.												

[Insert Table 3 about here]

4.1 Multilevel Logistic Regression Results

Table 4 presents the results of the multilevel mixed-effects logistic regression models with year fixed effects. Model 1.1 includes only control variables. Model 1.2 adds entrepreneurial motivation and the two moderators, and Model 1.3 further introduces the cross-level interaction terms. In Model 1.2 the coefficient for OEs is positive and statistically significant ($\beta = 0.103, p < 0.01$). This result indicates that OEs are positively associated with the likelihood that their ventures are coded as meeting the study's operational criterion for BGs after accounting for individual-level, venture-level, and country-level controls, as well as year fixed effects. In Model 1.3, the coefficient for OEs remains positive and statistically significant after the interaction terms are introduced ($\beta = 0.132, p < 0.01$). This finding indicates that the positive association remains when digital access level and business freedom are held at their reference values. Hypothesis 1 is therefore supported.

Table 4
Multilevel Mixed-Effects Logistic Regression Results

Variables	Model 1.1	Model 1.2	Model 1.3
Entrepreneurial motivation		0.103*** (0.035)	0.132*** (0.040)
Digital access level		-0.671*** (0.164)	-0.814*** (0.177)
Business freedom		0.277*** (0.106)	0.381*** (0.112)
Entrepreneurial motivation ×digital access level			0.176** (0.087)
Entrepreneurial motivation ×business freedom			-0.149*** (0.047)
Age	-0.005*** (0.001)	-0.005*** (0.001)	-0.005*** (0.001)
Gender	-0.290*** (0.030)	-0.286*** (0.030)	-0.285*** (0.030)
Skills	0.138*** (0.042)	0.130*** (0.042)	0.131*** (0.042)
Managerial experience	-0.122*** (0.031)	-0.109*** (0.031)	-0.109*** (0.031)
Entrepreneurial experience	0.426*** (0.053)	0.425*** (0.054)	0.425*** (0.054)
Product novelty	0.194*** (0.037)	0.204*** (0.038)	0.206*** (0.038)
GDP per capita	1.020*** (0.180)	0.834*** (0.198)	0.845*** (0.199)
GDP growth	-0.123*** (0.012)	-0.137*** (0.013)	-0.138*** (0.013)
Constant	-1.894*** (0.182)	-1.954*** (0.188)	-1.968*** (0.189)
Year fixed effects	Yes	Yes	Yes
Country random intercepts	Yes	Yes	Yes
Observations	45595	45595	45595
Number of countries	65	65	65
Wald test (χ^2)	374.448	399.661	412.242
Wald test prob. > χ^2	0.000	0.000	0.000
Log-likelihood	-16624.223	-16609.559	-16602.603
Likelihood-ratio test (χ^2)	4106.716	4122.878	4132.191
Likelihood-ratio test prob. > χ^2	0.000	0.000	0.000
Note. * p < .10, ** p < .05, *** p < .01. Standard errors are reported in parentheses. Year fixed effects are included but not reported. Digital access level is residualized.			

Model 1.3 also tests the cross-level interaction hypotheses. The interaction between OEs and digital access level is positive and statistically significant ($\beta = 0.176, p < 0.05$), indicating that the positive association between OEs and the emergence of BGs becomes stronger as digital access level increases. Put differently, higher digital access level widens the estimated difference between OEs and NEs in the likelihood that their ventures meet the criterion for BGs. This result supports Hypothesis 2. The interaction between OEs and business freedom is negative and statistically significant ($\beta = -0.149, p < 0.01$), indicating that the positive association between OEs and the emergence of BGs becomes weaker as business freedom increases. Thus, higher business freedom narrows the estimated difference between OEs and NEs in the likelihood that their ventures meet the criterion for BGs. This result supports Hypothesis 3.

[Insert Table 4 about here]

To facilitate interpretation of the cross-level interaction patterns, Figs. 2 and 3 present predicted probabilities of the emergence of BGs across different levels of digital access level and business freedom. These figures illustrate whether the association between entrepreneurial motivation and the emergence of BGs varies across social and institutional contexts.

Figure 2 shows that the estimated difference between OEs and NEs varies across levels of digital access. At a low level of digital access (-1 SD), the predicted probability of the emergence of BGs is 24.3% for OEs and 25.1% for NEs. At a high level of digital access ($+1$ SD), the predicted probability is 8.8% for OEs and 6.7% for NEs. These predicted probabilities should be interpreted as conditional contrasts between OEs and NEs rather than as evidence of a uniformly positive main effect of digital access level. More specifically, the estimated difference between OEs and NEs shifts from -0.8% at low digital access level to 2.1% at high digital access level. Although the predicted probabilities are lower overall at high digital access level, the relative difference between OEs and NEs becomes more favorable to OEs as digital access level increases. This pattern is consistent with the argument that higher digital access level strengthens the association between opportunity-driven motivation and the emergence of BGs, thereby supporting Hypothesis 2.

[Insert Fig. 2 about here]

Figure 3 presents the predicted probabilities across levels of business freedom. At a low level of business freedom (-1 SD), the predicted probability of the emergence of BGs is 12.4% for OEs and 9.8% for NEs. This pattern indicates a 2.6% difference in favor of OEs when business freedom is relatively low. At a high level of business freedom ($+1$ SD), the predicted probabilities are 18.0% for OEs and 18.3% for NEs, indicating that the estimated difference between the two groups becomes negligible. This pattern is consistent with the argument that business freedom narrows the association between opportunity-driven motivation and the emergence of BGs. When regulatory burdens and transaction frictions are lower, the emergence of BGs appears to depend less strongly on opportunity-driven attention. The figure should not, however, be interpreted as direct evidence that business freedom benefits NEs more than OEs. Rather, it illustrates that the estimated difference between OEs and NEs becomes substantially smaller as business freedom increases. This pattern is consistent with Hypothesis 3.

[Insert Fig. 3 about here]

4.2 Endogeneity and Robustness Analyses

To assess the credibility and stability of the empirical findings, we conduct two sets of additional analyses: endogeneity tests that address selection-related concerns and robustness tests that examine the sensitivity of the results to alternative model specifications and measurement choices.

We first consider selection arising from nonrandom sorting into opportunity-driven and necessity-driven entrepreneurship. Because entrepreneurial motivation is not randomly assigned, the observed association between OEs and the emergence of BGs may partly reflect pre-existing differences in human capital, prior experience, perceived skills, or venture-level resource conditions. To reduce concerns that these observable differences might bias the estimated association between OEs and the emergence of BGs, we implemented a set of endogeneity tests, as reported in Table 5.

Table 5 Endogeneity Tests			
Variables	Model 2.1	Model 2.2	Model 2.3
Entrepreneurial motivation	0.013***	0.012***	0.012***
	(0.005)	(0.004)	(0.004)
Controls	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	45595	45595	45595
Oster's delta			0.035
Observations (N)	45595	45595	45595
Note. * $p < .10$, ** $p < .05$, *** $p < .01$. Standard errors are reported in parentheses. Models 2.1 and 2.2 report average treatment effects. The treatment is opportunity-driven entrepreneurial motivation (1 = OE; 0 = NE). All models include the same control variables as the main specification. Year fixed effects use 2016 as the reference year. Model 2.3 reports Oster's delta based on a linear probability model.			

First, we use propensity score matching (PSM) and inverse probability weighting (IPW) to reduce observable selection bias between OEs and NEs (Rosenbaum & Rubin, 1983; Austin, 2011). In the PSM analysis, we use a set of covariates to match OEs with NEs who possess similar observable characteristics. Using a nearest-neighbor matching algorithm, Table 5, Model 2.1 shows that the estimated average treatment effect remains positive after

accounting for observable selection bias (ATE = 0.013). Similarly, the IPW estimation in Table 5, Model 2.2 yields a positive estimate (ATE = 0.012, $p < 0.05$), suggesting that the baseline association is unlikely to be driven solely by observable differences between OEs and NEs.

We also use the Oster (2019) test to examine whether unobserved factors could overturn the estimated association between OEs and the emergence of BGs. As reported in Table 5, Model 2.3, the Oster delta is 0.035. Because this value is below the conventional benchmark of 1.0, the Oster result should be interpreted cautiously and does not, by itself, show that the estimated association is robust to unobserved selection. We therefore treat the Oster result as a supplementary diagnostic rather than definitive evidence of causal robustness. Taken together, the consistency of the PSM, IPW, and alternative-model results reduces concerns that the baseline association is driven solely by observable selection. However, the observational nature of the data still warrants caution in making causal claims.

[Insert Table 5 about here]

We next conduct three robustness checks to assess whether the main findings are sensitive to alternative model specifications and alternative operationalizations of internationalization intensity. First, we re-estimate the baseline model using a multilevel mixed-effects probit model to assess whether the main conclusions depend on the distributional assumption of the logit model (Cameron, 2005). As shown in Table 6, Model 3.1, the multilevel probit results are consistent with the baseline results: the coefficient for OEs remains positive and statistically significant, the interaction between OEs and digital access level remains positive, and the interaction between OEs and business freedom remains negative.

Table 6
Robustness Tests

Variables	Model 3.1	Model 3.2	Model 3.3
Entrepreneurial motivation	0.072*** (0.022)	0.112*** (0.035)	0.167*** (0.028)
Digital access level	-0.448*** (0.101)	-0.731*** (0.146)	0.437*** (0.140)
Entrepreneurial motivation × digital access level	0.161*** (0.061)	0.361*** (0.098)	-0.098 (0.083)
Business freedom	0.108** (0.049)	0.144* (0.076)	0.152** (0.064)
Entrepreneurial motivation × business freedom	-0.079*** (0.026)	-0.132*** (0.040)	-0.108*** (0.034)
Age	-0.002*** (0.001)	-0.004*** (0.001)	-0.005*** (0.001)
Gender	-0.159*** (0.016)	-0.244*** (0.026)	-0.251*** (0.021)
Skills	0.077*** (0.023)	0.101*** (0.037)	0.114*** (0.028)
Managerial experience	-0.060*** (0.017)	-0.087*** (0.026)	-0.041* (0.022)
Entrepreneurial experience	0.234*** (0.031)	0.367*** (0.044)	0.325*** (0.040)
Product novelty	0.118*** (0.021)	0.159*** (0.031)	0.242*** (0.028)
GDP per capita	0.451*** (0.103)	0.789*** (0.183)	1.396*** (0.217)
GDP growth	-0.074*** (0.007)	-0.116*** (0.011)	-0.120*** (0.009)
Constant	-1.095*** (0.098)	-2.117*** (0.172)	
Random intercept variance (country)	0.347*** (0.066)	1.116*** (0.221)	1.471*** (0.301)
Year fixed effects	Yes	Yes	Yes
Country random intercepts	Yes	Yes	Yes
Observations	45595	45595	45595
Wald test (χ^2)	404.443	417.643	724.796
Wald test prob. > χ^2	0.000	0.000	0.000
Log-likelihood	-16605.075	-16605.091	-51440.157
Note. * p < .10, ** p < .05, *** p < .01. Standard errors in parentheses. Digital access level is residualized.			

We also use a multilevel complementary log-log model to account for potential asymmetry in the binary outcome distribution. Table 6, Model 3.2 shows substantively consistent results. OEs remain positively associated with the emergence of BGs, digital access level positively moderates this association, and

business freedom negatively moderates it. These results suggest that the core findings for the binary BGs outcome are not sensitive to the distributional assumption of the baseline multilevel logit model.

Third, to assess whether the findings depend on classifying strong international orientation using the 25% threshold, we use the ordered response categories to the same GEM APS export-intensity question as an alternative outcome. The question asks respondents what percentage of their annual sales revenues will usually come from customers living outside their country. In the APS data, responses are recorded in seven ordered categories: no foreign sales, 1%–10%, 11%–25%, 26%–50%, 51%–75%, 76%–90%, and more than 90% of annual sales revenues from customers outside the home country. We reverse the order of the valid response categories so that higher values indicate greater expected foreign-sales intensity, while refused, do-not-know, and other missing responses are treated as missing. We then estimate a multilevel ordered logit model, reported in Table 6, Model 3.3 (Cameron, 2005). Whereas the binary outcome identifies ventures that cross the 25% threshold for strong international orientation, the ordered outcome captures variation across different levels of foreign-sales intensity. This analysis therefore examines whether the main relationships extend beyond the binary proxy for the emergence of BGs to broader differences in early-stage ventures' internationalization intensity. The coefficient for OEs remains positive and statistically significant, and the interaction between OEs and business freedom remains negative and statistically significant. However, the interaction between OEs and digital access level is not statistically significant in the ordered logit specification. Thus, the positive association between OEs and foreign-sales intensity, as well as the negative moderating role of business freedom, is supported across the binary and ordinal outcomes. By contrast, the evidence for the moderating effect of digital access level is limited to the binary classification of strong international orientation and should therefore be interpreted cautiously. Overall, the positive association between OEs and the emergence of BGs remains robust across alternative specifications, and the negative moderating role of business freedom is stable.

[Insert Table 6 about here]

5. Discussion

5.1 Theoretical Contributions

This study makes two theoretical contributions. First, this study advances research on BGs by identifying entrepreneurial motivation as an individual-level antecedent of the emergence of BGs and by clarifying how the relationship between entrepreneurial motivation and BGs is contingent on social and institutional contexts (Jones et al., 2011; Ocasio, 1997; Ocasio et al., 2018; Terjesen et al., 2016). Prior research has explained the antecedents of BGs in terms of resources, capabilities, networks, and external conditions (Knight & Cavusgil, 2004; Rialp et al., 2005; Musteen et al., 2010; Terjesen et al., 2016). These studies provide important explanations of why some young ventures are better positioned to enter foreign markets, but they offer a less complete account of how founders' motivational differences shape attention to early internationalization (Jones et al., 2011; Coviello, 2015; Terjesen et al., 2016). By showing that OEs are more likely than NEs to be associated with the emergence of BGs, this study complements resource- and network-based explanations and identifies founders' motivation as a more proximal factor shaping the salience of foreign market opportunities for young ventures (Baker et al., 2005; Ocasio, 1997; Shepherd et al., 2017). This finding is consistent with Baker et al.'s (2005) argument that individuals with different goals enact market opportunities in social settings. It extends this view by specifying how opportunity-driven and necessity-driven motivations differ in their relevance for BGs. In this respect, the study shifts attention from what young ventures possess to how founders' motivations may shape the foreign market opportunities that enter strategic consideration (Ocasio, 1997; Nadkarni & Perez, 2007; Shepherd et al., 2017).

This study further clarifies the contextual boundaries of the relationship between entrepreneurial motivation and BGs (Ocasio, 1997; Ocasio et al., 2018; Welter, 2011). The findings show that the association between OEs and the emergence of BGs is strengthened by digital access level but weakened by business freedom. These findings indicate that social and institutional contexts should not be treated simply as uniform enablers of early internationalization (Baker et al., 2005; Welter, 2011; Terjesen et al., 2016). Rather, different contextual conditions may strengthen or weaken the relevance of founder motivation for BGs. Digital access level may strengthen the relevance of opportunity-driven attention by making foreign market information more visible and searchable. By contrast, business freedom may reduce the relative advantage of OEs by lowering the regulatory frictions that otherwise make early internationalization more dependent on strong opportunity-driven motivation (Monaghan et al., 2020; Nambisan, 2017; North, 1990; Stenholm et al., 2013). This interpretation is most directly supported for the binary emergence of BGs, whereas the robustness test using ordinal internationalization intensity suggests that the digital access moderation should be interpreted with caution. This study thereby extends context-sensitive explanations in international entrepreneurship research by showing that the antecedents of BGs should be examined together with the social and institutional conditions in which founders allocate attention (Baker et al., 2005; Welter, 2011; Terjesen et al., 2016).

Second, this study extends the implications of OEs and NEs to the emergence of BGs. Existing research has distinguished OEs and NEs to explain entrepreneurial entry, aspirations, and necessity-based constraints (Amit & Müller, 1995; Hessels et al., 2008; Fairlie & Fossen, 2020; Dencker et al., 2021). This study moves that distinction into the context of early internationalization and shows that OEs and NEs differ in how they are associated with the emergence of BGs (Hessels et al., 2008; Terjesen et al., 2016). OEs are more likely to be associated with the emergence of BGs because opportunity-driven motivation is likely to direct attention toward opportunity search, growth possibilities, and foreign market opportunities (Autio et al., 2000; Hessels et al., 2008; Nadkarni & Perez, 2007). NEs, by contrast, may face more immediate constraints that direct attention toward short-term viability and familiar local demand (Amorós et al., 2019; Dencker et al., 2021). This finding extends the implications of OEs and NEs beyond venture creation itself by showing that the opportunity–necessity distinction also helps explain the international orientation of young ventures after entry (Hessels et al., 2008; Fairlie & Fossen, 2020; Dencker et al., 2021; Terjesen et al., 2016).

This study further shows that the implications of OEs and NEs are context-dependent (Baker et al., 2005; Welter, 2011; Amorós et al., 2019; Dencker et al., 2021; Deng et al., 2024). In particular, digital access level amplifies the relative association between OEs and BGs, whereas business freedom narrows the

difference between OEs and NEs. These findings suggest that motivational differences should not be interpreted as fixed individual attributes with uniform implications across national contexts (Baker et al., 2005; Ocasio, 1997; Welter, 2011). Instead, the relevance of OEs and NEs for BGs depends on whether the context makes foreign market opportunities more visible or reduces the institutional frictions associated with early internationalization (Monaghan et al., 2020; Nambisan, 2017; North, 1990; Peng et al., 2008; Stenholm et al., 2013). Overall, the study enriches research on OEs and NEs by showing when their differences matter more, when they matter less, and why this variation is important for understanding the emergence of BGs (Amorós et al., 2019; Dencker et al., 2021; Terjesen et al., 2016).

5.2 Practical Implications

The findings offer two practical implications. First, they suggest that entrepreneurs and organizations supporting international entrepreneurship should pay closer attention to how entrepreneurial motivation is translated into systematic foreign market search and evaluation. Opportunity-driven motivation may support early internationalization when founders use it to identify foreign customers, compare market signals, and assess the feasibility of foreign market engagement (Baker et al., 2005; Monaghan et al., 2020; Nambisan, 2017; Ocasio, 1997). Support organizations may therefore assist early-stage entrepreneurs by providing digital market intelligence, foreign-market training, and tools that reduce the information costs associated with evaluating foreign opportunities (Monaghan et al., 2020; Nambisan, 2017; von Briel et al., 2018).

Second, the findings suggest that policies aimed at supporting the emergence of BGs should consider how national contexts shape the relevance of entrepreneurial motivation. Digital access level and business freedom may support early internationalization through different channels. Expanding digital access level may help opportunity-driven entrepreneurs search for and evaluate foreign market opportunities, whereas improving business freedom may reduce institutional burdens that discourage a wider range of entrepreneurs from considering foreign market engagement (Nambisan, 2017; North, 1990; Peng et al., 2008; Stenholm et al., 2013). Overall, policies intended to support BGs may benefit from combining digital information support with regulatory simplification rather than treating national context as a single and uniform condition for early internationalization. Such an approach recognizes that social and institutional contexts may shape how founders' motivations translate into foreign market engagement (Baker et al., 2005; Terjesen et al., 2016; Welter, 2011).

5.3 Limitations and Future Research

This study has several limitations that offer avenues for future research. First, although the GEM data allow us to examine a large cross-national sample, the cross-sectional structure limits our ability to observe how entrepreneurial motivation, attention allocation, and early internationalization evolve over time. Future research could use longitudinal data to examine whether NEs develop more opportunity-driven attention after venture survival becomes more secure, or whether OEs maintain an outward-looking orientation throughout the early stages of internationalization. Second, our operationalization of BGs relies on a foreign-sales threshold available in GEM. This measure is appropriate for identifying early-stage ventures with a substantial foreign-market orientation, but it cannot reveal the timing, geographic scope, entry mode, or durability of foreign market activity. Future studies could combine GEM data with firm-level export records, customs data, or longitudinal archival data to examine these dimensions of early internationalization more directly (Coviello, 2015; Oviatt & McDougall, 2018). Third, this study focuses on the emergence of BGs rather than their post-entry performance and survival. Future research could examine whether BGs associated with OEs and NEs differ in post-entry growth, survival, learning, or resilience. Such research would help distinguish the antecedents of the emergence of BGs from the conditions that sustain international performance (Knight & Cavusgil, 2004; Sapienza et al., 2006).

Declarations

Author Contribution

ZY.H wrote the main manuscript text. HP.G and ZF.S provided guidance and critical revisions to the manuscript. All authors reviewed and approved the final manuscript.

Data Availability

The data that support the findings of this study were obtained from three secondary data sources: the Global Entrepreneurship Monitor Adult Population Survey (GEM APS), the World Bank World Development Indicators (WDI), and the Heritage Foundation Index of Economic Freedom. The GEM APS individual-level data are available from the Global Entrepreneurship Monitor subject to its data-access terms and conditions. The WDI data are publicly available from the World Bank DataBank, and the Index of Economic Freedom data are publicly available from the Heritage Foundation. The processed dataset used for the analyses is available from the corresponding author upon reasonable request, subject to the terms and conditions of the original data providers.

References

1. Acs, Z. J., Desai, S., & Hessels, J. (2008). Entrepreneurship, economic development and institutions. *Small Business Economics*, 31(3), 219–234.
2. Amit, R., & Müller, E. (1995). "Push" and "pull" entrepreneurship. *Journal of Small Business & Entrepreneurship*, 12(4), 64–80.
3. Amorós, J. E., Ciravegna, L., Mandakovic, V., & Stenholm, P. (2019). Necessity or opportunity? The effects of state fragility and economic development on entrepreneurial efforts. *Entrepreneurship Theory and Practice*, 43(4), 725–750.
4. Austin, P. C. (2011). An introduction to propensity score methods for reducing the effects of confounding in observational studies. *Multivariate Behavioral Research*, 46(3), 399–424.
5. Autio, E., Kenney, M., Mustar, P., Siegel, D., & Wright, M. (2014). Entrepreneurial innovation: The importance of context. *Research Policy*, 43(7), 1097–1108.

6. Autio, E., Nambisan, S., Thomas, L. D., & Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, 12(1), 72–95.
7. Autio, E., Pathak, S., & Wennberg, K. (2013). Consequences of cultural practices for entrepreneurial behaviors. *Journal of International Business Studies*, 44(4), 334–362.
8. Autio, E., Sapienza, H. J., & Almeida, J. G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, 43(5), 909–924.
9. Bai, W., Johanson, M., Oliveira, L., Ratajczak-Mrozek, M., & Francioni, B. (2022). Where business networks and institutions meet: Internationalization decision-making under uncertainty. *Journal of International Management*, 28(1), 100904.
10. Baker, T., Gedajlovic, E., & Lubatkin, M. (2005). A framework for comparing entrepreneurship processes across nations. *Journal of International Business Studies*, 36(5), 492–504.
11. Bloodgood, J. M., Sapienza, H. J., & Almeida, J. G. (1996). The internationalization of new high-potential US ventures: Antecedents and outcomes. *Entrepreneurship Theory and Practice*, 20(4), 61–76.
12. Bosma, N. (2013). The Global Entrepreneurship Monitor (GEM) and its impact on entrepreneurship research. *Foundations and Trends in Entrepreneurship*, 9(2), 143–248.
13. Boudreaux, C. J., Nikolaev, B. N., & Klein, P. (2019). Socio-cognitive traits and entrepreneurship: The moderating role of economic institutions. *Journal of Business Venturing*, 34(1), 178–196.
14. Bradley, S. W., Kim, P. H., Klein, P. G., McMullen, J. S., & Wennberg, K. (2021). Policy for innovative entrepreneurship: Institutions, interventions, and societal challenges. *Strategic Entrepreneurship Journal*, 15(2), 167–184.
15. Brieger, S. A., Chowdhury, F., Hechavarría, D. M., Muralidharan, E., Pathak, S., & Lam, Y. T. (2022). Digitalization, institutions and new venture internationalization. *Journal of International Management*, 28(4), 100949.
16. Brieger, S. A., Hechavarría, D. M., & Newman, A. (2024). Entrepreneurship and democracy: A complex relationship. *Entrepreneurship Theory and Practice*, 48(5), 1285–1307.
17. Cameron, A. C. (2005). Microeconometrics: methods and applications. *Cambridge University*.
18. Cassiman, B., & Golovko, E. (2011). Innovation and internationalization through exports. *Journal of International Business Studies*, 42(1), 56–75.
19. Cho, T. S., & Hambrick, D. C. (2006). Attention as the mediator between top management team characteristics and strategic change: The case of airline deregulation. *Organization Science*, 17(4), 453–469.
20. Cortina, J. M., Köhler, T., Sheng, Z., Keeler, K. R., Nielsen, B. B., Coombs, J. E., & Ketchen, D. J., Jr. (2023). Restricted variance interactions in entrepreneurship research: A unique basis for context-as-moderator hypotheses. *Entrepreneurship Theory and Practice*, 47(5), 1995–2016.
21. Coviello, N. (2015). Re-thinking research on born globals. *Journal of International Business Studies*, 46(1), 17–26.
22. Dau, L. A., & Cuervo-Cazurra, A. (2014). To formalize or not to formalize: Entrepreneurship and pro-market institutions. *Journal of Business Venturing*, 29(5), 668–686.
23. Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing*, 18(3), 301–331.
24. Dencker, J. C., Bacq, S., Gruber, M., & Haas, M. (2021). Reconceptualizing necessity entrepreneurship: A contextualized framework of entrepreneurial processes under the condition of basic needs. *Academy of Management Review*, 46(1), 60–79.
25. Deng, W., Orbes, I., & Ma, P. (2024). Necessity-and opportunity-based female entrepreneurship across countries: The configurational impact of country-level institutions. *Journal of International Management*, 30(4), 101160.
26. Epure, M., Martin-Sanchez, V., Aparicio, S., & Urbano, D. (2024). Human capital, institutions, and ambitious entrepreneurship during good times and two crises. *Strategic Entrepreneurship Journal*, 18(2), 414–447.
27. Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013). Which institutions encourage entrepreneurial growth aspirations?. *Journal of Business Venturing*, 28(4), 564–580.
28. Estrin, S., Korosteleva, J., & Mickiewicz, T. (2022). Schumpeterian entry: Innovation, exporting, and growth aspirations of entrepreneurs. *Entrepreneurship Theory and Practice*, 46(2), 269–296.
29. Fairlie, R. W., & Fossen, F. M. (2020). Defining opportunity versus necessity entrepreneurship: Two components of business creation. In S. W. Polachek & K. Tatsiramos (Eds.), *Change at home, in the labor market, and on the job* (pp. 253–289). *Research in Labor Economics* (Vol. 48). Emerald Publishing Limited.
30. Francioni, B., & Martín, O. M. (2024). International market, network, and opportunity selection: A systematic review of empirical research, integrative framework, and comprehensive research agenda. *Journal of International Management*, 30(5), 101174.
31. Grégoire, D. A., Corbett, A. C., & McMullen, J. S. (2011). The cognitive perspective in entrepreneurship: An agenda for future research. *Journal of Management Studies*, 48(6), 1443–1477.
32. Gregory, G. D., Ngo, L. V., & Karavdic, M. (2019). Developing e-commerce marketing capabilities and efficiencies for enhanced performance in business-to-business export ventures. *Industrial Marketing Management*, 78, 146–157.
33. Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis (7th ed.). Pearson.
34. Hessels, J., & van Stel, A. (2011). Entrepreneurship, export orientation, and economic growth. *Small Business Economics*, 37(2), 255–268.
35. Hessels, J., van Gelderen, M., & Thurik, R. (2008). Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics*, 31(3), 323–339.
36. Hofmann, D. A. (1997). An overview of the logic and rationale of hierarchical linear models. *Journal of Management*, 23(6), 723–744.

37. Johanson, J., & Vahlne, J. E. (2017). The internationalization process of the firm—a model of knowledge development and increasing foreign market commitments. *In International business* (pp. 145–154). Routledge.
38. Jones, M. V., Coviello, N., & Tang, Y. K. (2011). International entrepreneurship research (1989–2009): a domain ontology and thematic analysis. *Journal of Business Venturing*, 26(6), 632–659.
39. Keupp, M. M., & Gassmann, O. (2009). The past and the future of international entrepreneurship: A review and suggestions for developing the field. *Journal of Management*, 35(3), 600–633.
40. Kiss, A. N., Danis, W. M., & Cavusgil, S. T. (2012). International entrepreneurship research in emerging economies: A critical review and research agenda. *Journal of Business Venturing*, 27(2), 266–290.
41. Knight, G. A., & Cavusgil, S. T. (1996). The born global firm: A challenge to traditional internationalization theory. *Advances in International Marketing*, 8(1), 11–26.
42. Knight, G. A., & Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, 35(2), 124–141.
43. Levasseur, L., Lanivich, S. E., Kalubandi, S. C., & Sanaria, A. (2024). Time perspective and entrepreneurs' alertness. *Entrepreneurship Theory and Practice*, 48(6), 1358–1403.
44. Maitland, E., & Sammartino, A. (2015). Managerial cognition and internationalization. *Journal of International Business Studies*, 46(7), 733–760.
45. Marvel, M. R., Davis, J. L., & Sproul, C. R. (2016). Human capital and entrepreneurship research: A critical review and future directions. *Entrepreneurship Theory and Practice*, 40(3), 599–626.
46. McMullen, J. S., Bagby, D. R., & Palich, L. E. (2008). Economic freedom and the motivation to engage in entrepreneurial action. *Entrepreneurship Theory and Practice*, 32(5), 875–895.
47. Meyer, K. E., Estrin, S., Bhaumik, S. K., & Peng, M. W. (2009). Institutions, resources, and entry strategies in emerging economies. *Strategic Management Journal*, 30(1), 61–80.
48. Monaghan, S., Tippmann, E., & Coviello, N. (2020). Born digitals. *Journal of International Business Studies*, 51(1), 11–22.
49. Musteen, M., Francis, J., & Datta, D. K. (2010). The influence of international networks on internationalization speed and performance: A study of Czech SMEs. *Journal of World Business*, 45(3), 197–205.
50. Nadkarni, S., & Perez, P. D. (2007). Prior conditions and early international commitment: The mediating role of domestic mindset. *Journal of International Business Studies*, 38(1), 160–176.
51. Nambisan, S. (2017). Digital entrepreneurship: Toward a digital technology perspective of entrepreneurship. *Entrepreneurship Theory and Practice*, 41(6), 1029–1055.
52. North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.
53. Ocasio, W. (1997). Towards an attention-based view of the firm. *Strategic Management Journal*, 18(S1), 187–206.
54. Ocasio, W. (2011). Attention to attention. *Organization Science*, 22(5), 1286–1296.
55. Ocasio, W., Laamanen, T., & Vaara, E. (2018). Communication and attention dynamics: An attention-based view of strategic change. *Strategic Management Journal*, 39(1), 155–167.
56. Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*, 37(2), 187–204.
57. Oviatt, B. M., & McDougall, P. P. (2005). Defining international entrepreneurship and modeling the speed of internationalization. *Entrepreneurship Theory and Practice*, 29(5), 537–553.
58. Oviatt, B. M., & McDougall, P. P. (2018). Toward a theory of international new ventures. In A. R. Reuber (Ed.), *International entrepreneurship: The pursuit of opportunities across national borders* (pp. 31–57). Palgrave Macmillan.
59. Peng, M. W., Wang, D. Y., & Jiang, Y. (2008). An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies*, 39(5), 920–936.
60. Ramsey, J. R., Lorenz, M. P., Farmer, S. M., & Tang, J. (2025). The experience dilemma: A nonlinear exploration of antecedents to entrepreneurial alertness. *Journal of International Management*, 31(1), 101218.
61. Reuber, A. R., & Fischer, E. (1997). The influence of the management team's international experience on the internationalization behaviors of SMEs. *Journal of International Business Studies*, 28(4), 807–825.
62. Reynolds, P. D., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P., & Chin, N. (2005). Global Entrepreneurship Monitor: Data collection design and implementation 1998–2003. *Small Business Economics*, 24(3), 205–231.
63. Rialp, A., Rialp, J., & Knight, G. A. (2005). The phenomenon of early internationalizing firms: What do we know after a decade (1993–2003) of scientific inquiry?. *International Business Review*, 14(2), 147–166.
64. Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70(1), 41–55.
65. Sapienza, H. J., Autio, E., George, G., & Zahra, S. A. (2006). A capabilities perspective on the effects of early internationalization on firm survival and growth. *Academy of Management Review*, 31(4), 914–933.
66. Scott, W. R. (2013). *Institutions and organizations: Ideas, interests, and identities*. Sage Publications.
67. Shane, S., Locke, E. A., & Collins, C. J. (2003). Entrepreneurial motivation. *Human Resource Management Review*, 13(2), 257–279.
68. Sharma, D. D., & Blomstermo, A. (2003). The internationalization process of born globals: A network view. *International Business Review*, 12(6), 739–753.

69. Shepherd, D. A., McMullen, J. S., & Ocasio, W. (2017). Is that an opportunity? An attention model of top managers' opportunity beliefs for strategic action. *Strategic Management Journal*, 38(3), 626–644.

70. Stenholm, P., Acs, Z. J., & Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), 176–193.

71. Terjesen, S., Hessels, J., & Li, D. (2016). Comparative international entrepreneurship: A review and research agenda. *Journal of Management*, 42(1), 299–344.

72. Tracey, P., & Phillips, N. (2011). Entrepreneurship in emerging markets: Strategies for new venture creation in uncertain institutional contexts. *Management International Review*, 51(1), 23–39.

73. Ucbasaran, D., Alsos, G. A., Westhead, P., & Wright, M. (2008). Habitual entrepreneurs. *Foundations and Trends in Entrepreneurship*, 4(4), 309–450.

74. Von Briel, F., Davidsson, P., & Recker, J. (2018). Digital technologies as external enablers of new venture creation in the IT hardware sector. *Entrepreneurship Theory and Practice*, 42(1), 47–69.

75. Weerawardena, J., Mort, G. S., Liesch, P. W., & Knight, G. (2007). Conceptualizing accelerated internationalization in the born global firm: A dynamic capabilities perspective. *Journal of World Business*, 42(3), 294–306.

76. Welter, F. (2011). Contextualizing entrepreneurship—conceptual challenges and ways forward. *Entrepreneurship Theory and Practice*, 35(1), 165–184.

77. Williams, N., & Williams, C. C. (2014). Beyond necessity versus opportunity entrepreneurship: Some lessons from English deprived urban neighbourhoods. *International Entrepreneurship and Management Journal*, 10(1), 23–40.

78. Zahra, S. A. (2005). A theory of international new ventures: a decade of research. *Journal of International Business Studies*, 36(1), 20–28.

Figures

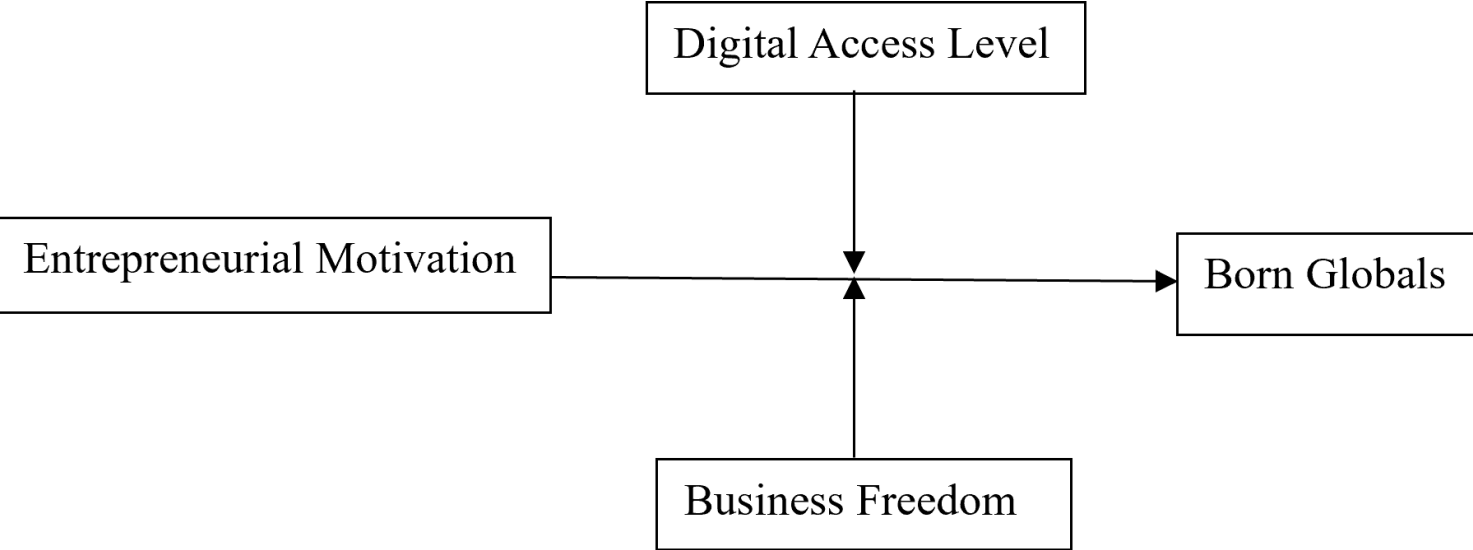


Figure 1

Research Framework

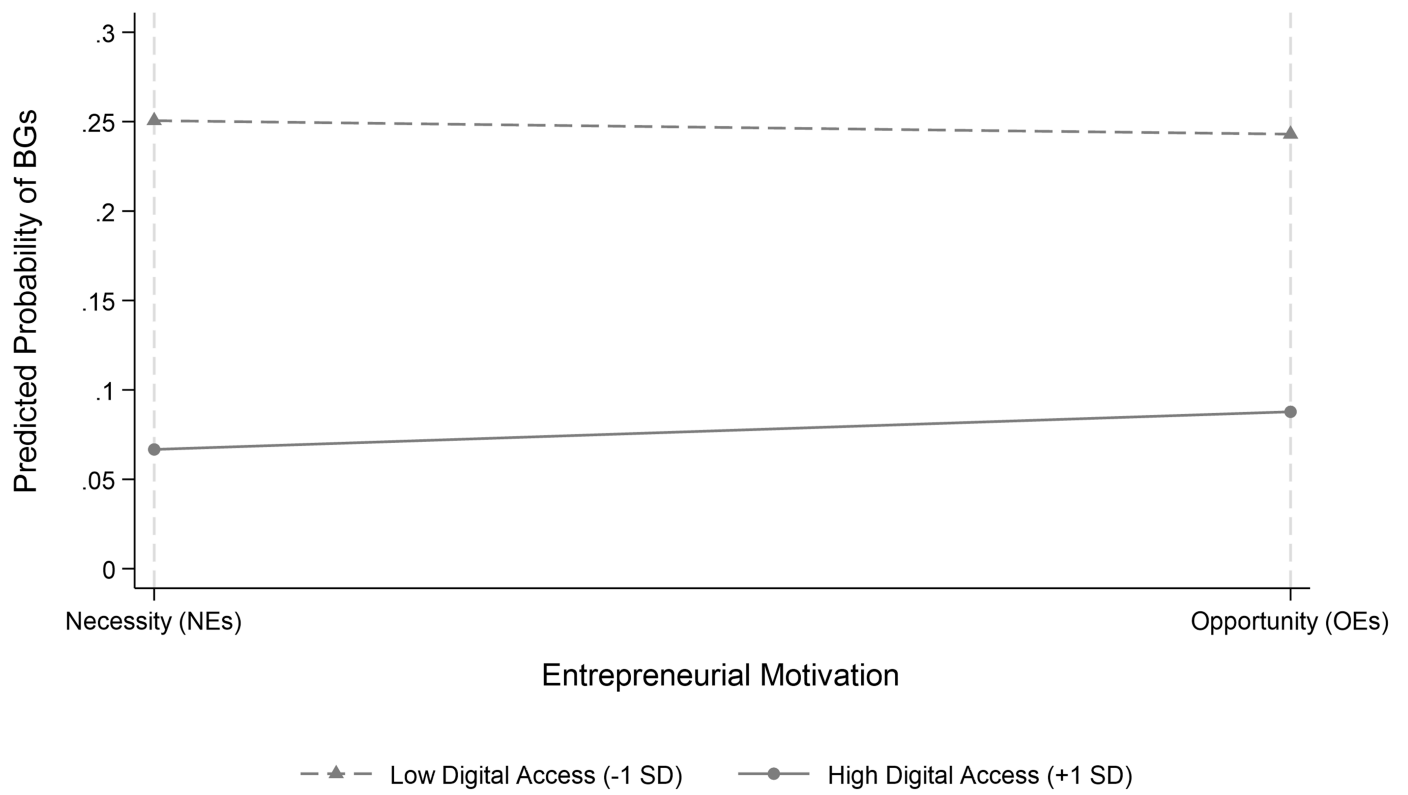


Figure 2

Moderating Effect of Digital Access Level

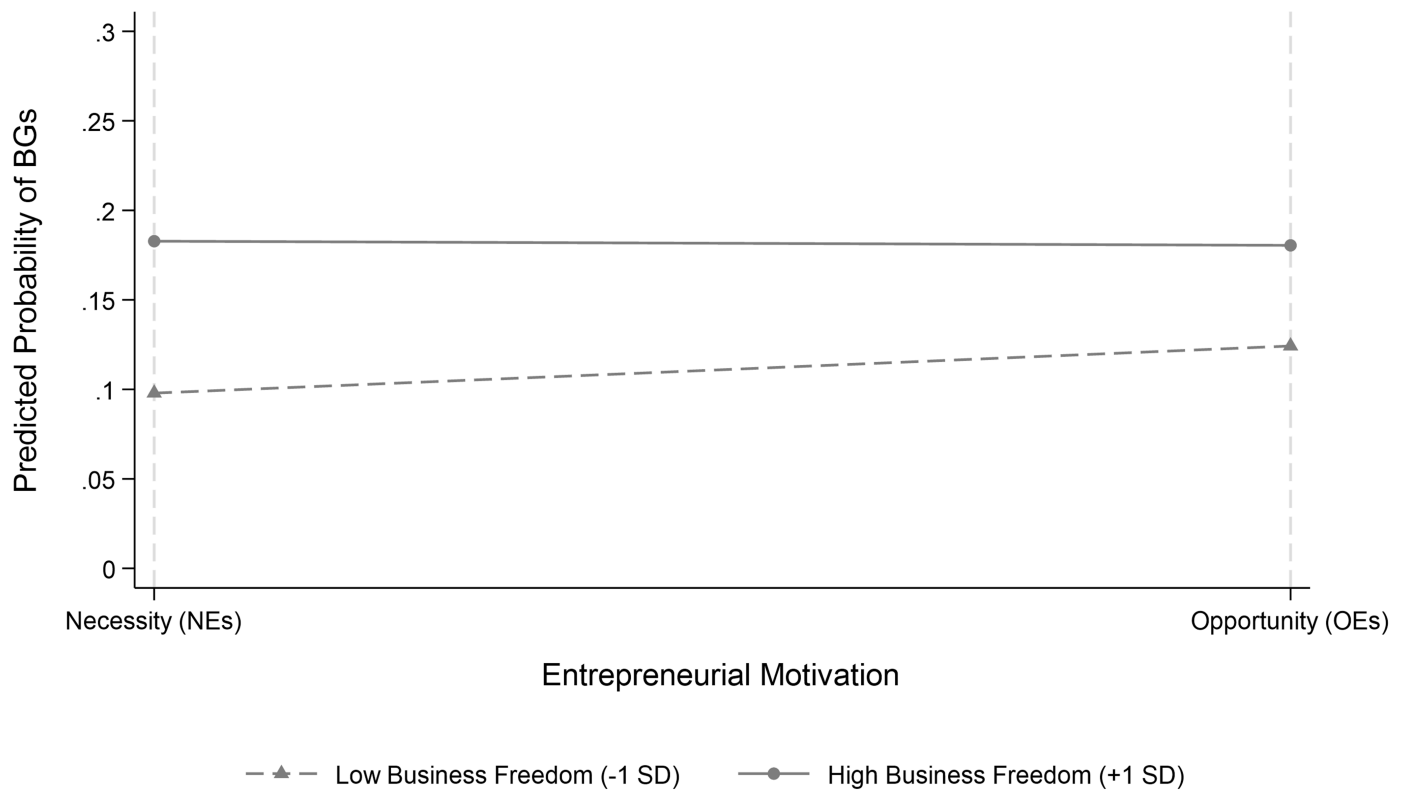


Figure 3

Moderating Effect of Business Freedom

