2-2023

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Received: 6 July 2021 | Revised: 1 December 2022 | Accepted: 14 February 2023

DOI: 10.1002/gsj.1474

RESEARCH ARTICLE

GLOBAL STRATEGY JOURNAL WILEY

Boots on the ground: Foreign direct investment by born digital firms

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Abstract

Research Summary: Recent global strategy research on born digital firms (i.e., firms with digital products distributed through digital channels) has paid only limited attention to the role of foreign direct investment (FDI) in the internationalization of such firms. We argue that exploiting digital technologies requires a range of complementary, non-digital resources. Born digitals typically deploy FDI when large cultural and geographic distances limit the fungibility and scalability of such complementary resources, leading to a *positive* relationship between distance (cultural and geographic) and FDI. The positive distance effect is moderated by business model type. Using a sample of US-based born digital firms with over 800 FDIs, we find support for our hypotheses and contribute an important empirical baseline to recent discussions of digitalization in global strategy.

Managerial Summary: Companies selling digital products (e.g., software, cloud-based services) are theoretically able to offer their products in foreign markets through internet-based channels, without ever setting foot in a foreign country. And yet, many "born digital" firms establish a physical presence in foreign markets by undertaking foreign direct investment (FDI). This phenomenon remains insufficiently explained. We

argue that FDI can supply important complementary resources that help exploit and monetize digital assets in foreign markets. Using data from over 800 FDI projects, we show that FDI is more likely to occur if the foreign market is far away or culturally very different from the company's home country, and that the strength of this relationship differs among B2C and B2B business models.

KEYWORDS

born digital, cultural distance, digitalization, foreign direct investment, geographic distance

1 | INTRODUCTION

The rapid growth of the digital economy has triggered an important discussion on the implications of digitalization for global strategy research and theory (Autio et al., 2021; Birkinshaw, 2022; Nambisan et al., 2019; Tippmann et al., 2023). While digitalization is an ongoing process affecting firms of all kinds, its potential consequences for global strategy are most clearly visible today among "born digital" firms, that is, firms that from inception are built around intangible digital offerings—such as apps—that are distributed through digital infrastructure (Monaghan et al., 2020). By using digital channels to offer services and interact with customers, born digitals can access foreign markets instantly and at minimal cost (Banalieva & Dhanaraj, 2019; Chen et al., 2019; Stallkamp & Schotter, 2021). Scholars have predicted that this will diminish distance-related barriers and promote rapid and extensive internationalization among born digitals (Autio et al., 2021; Coviello et al., 2017; Nambisan et al., 2019).

However, in focusing on born digitals' ability to serve foreign markets remotely through digital channels, this growing literature has paid little attention to the role of foreign direct investment (FDI) in the international strategies of such firms. Early research predicted that the internet would obviate the need for market-seeking FDI (Zaheer & Manrakhan, 2001), while recent studies have suggested that digital platform business models can eliminate the need for owning physical assets in foreign markets (Banalieva & Dhanaraj, 2019; McKinsey, 2016; Nambisan et al., 2019). And yet, anecdotal evidence and conversations with practitioners reveal that many born digitals still establish a physical presence in key markets—or, as one executive put it, they place "boots on the ground."[1] Scholars have also noted that many born digitals have physical footprints in foreign markets (Coviello et al., 2017; Monaghan & Tippmann, 2018), leading to calls for a closer examination of born digitals' need for local assets (Verbeke & Hutzschenreuter, 2021). Despite the central importance of FDI in international business (IB) scholarship, we lack a theory-based and empirically grounded understanding of FDI by born digitals.

Our study begins to fill this gap by developing and testing a theoretical framework predicting in which markets born digitals use FDI to supplement virtual market access. Prior digitalization research submits that digital technologies are highly fungible and scalable (Adner et al., 2019; Giustiziero et al., 2021; Tippmann et al., 2023). Fungibility refers to the relative gap

in value when a resource is redeployed from one market to another (Anand & Delios, 2002; Fang et al., 2010; Rugman & Verbeke, 2001), while scalability refers to the extent to which the value of a resource declines in its original market when it is extended to other markets (Levinthal & Wu, 2010; Wu, 2013). However, we argue that profitably exploiting these digital technologies typically requires complementary resources (Verbeke & Hutzschenreuter, 2021), which often are neither fully fungible nor easily scalable. Examples of complementary resources include locally embedded human resources and context-specific skills, such as sales, customer service, stakeholder relations, and content development functions.

Drawing on the latest research on digital strategy (Adner et al., 2019; Giustiziero et al., 2021), we propose that born digitals employ FDI to overcome constraints resulting from limited fungibility and scalability of these complementary resources. We argue that cultural distance compels born digitals to make bundling investments in a host country due to the lack of fungibility of existing assets, while geographic distance constrains firms' ability to deploy non-scalable resources across extended spatial areas due to elevated transportation and communication costs. Therefore, diverging from prior studies that highlight the deterring effect of distance on FDI in more traditional industry settings (Boeh & Beamish, 2012; Y. Li et al., 2020; Ragozzino & Reuer, 2011), we hypothesize that for born digitals the relationship between FDI and home-host distance (both cultural and geographic distance) is generally *positive*. Furthermore, we draw attention to heterogeneity resulting from firms' business models, which arguably have different resource implications (Tallman et al., 2018). We propose that the effect of cultural distance will be greater when the firm's core offering is targeting B2C customers than B2B customers, whereas the effect of geographic distance will be greater for B2B firms. Consistent with our theory, we also find significant differences between FDI establishment modes: whereas foreign acquisitions are closely linked to cultural distance, greenfield FDI is associated with large geographic distances.

Our empirical analysis utilizes a sample of US-based born digitals that completed initial public offerings (IPOs) during the decade from 2010 to 2019. Based on the established definition of born digitals (Monaghan et al., 2020), we identified a sample of 129 firms with over 800 foreign investments. To the best of our knowledge, this is so far the most comprehensive firm-level data on FDI by born digitals. Despite the prevailing narrative about online-based internationalization, our data show that FDI is used extensively by these firms, suggesting that FDI remains an important pillar of global strategy in the digital age, which warrants systematic empirical investigation.

Our study aims to make several contributions to the literature on digitalization in global strategy. First, we provide new evidence on the use of FDI by born digitals, contributing to the establishment of an important "empirical baseline" (Verbeke et al., 2018) in digitalization research. We show that born digitals commonly use FDI to support their operations in culturally and physically distant markets, leading to a *positive* relationship between distance and FDI—contrary to the traditional understanding of distance as a deterrent to FDI (Nielsen et al., 2017). This suggests that the study of FDI remains an important research area in the digital economy, and one that requires fresh thinking and novel perspectives (Birkinshaw, 2022). Second, we offer a useful theoretical lens for understanding the internationalization of born digitals by incorporating critical insights from digital strategy research (Adner et al., 2019). Whereas recent IB literature emphasizes the potential global reach of digital products, we draw attention to the importance of complementary resources in exploiting digital assets, and posit that the fungibility and scalability of these complementary resources are key to understanding foreign market entry barriers and FDI decisions. Third, our research reveals important

differences *among* born digitals in terms of FDI, which we link to the heterogeneous resource requirements of B2C and B2B business models. Recently, scholars have argued that business models have a significant impact on firm internationalization (e.g., Hennart et al., 2021), yet empirical FDI research has rarely considered them. Our study seeks to advance this stream of research by presenting systematic evidence and linking business models to resource configurations.

2 | LITERATURE AND HYPOTHESES

2.1 | Digital internationalization and FDI

Although scholarly interest in digitalization has surged in recent years, the inquiry on how digital technologies may alter firms' foreign expansion was initiated much earlier. A recurring theme is that digitalization, including but not limited to information and communication technologies, is expected to reduce the need for physically spanning geographic distances. For instance, Zaheer and Manrakhan (2001, p. 668) contend that "the Internet has significantly reduced spatial transaction costs, making remote access to customers, suppliers, competitors and collaborators both technologically feasible and relatively inexpensive." Others refer more explicitly to distance and concur that the cost of transfer over distance is much lower for digital goods than physical goods (Nachum & Zaheer, 2005). Such costs are primarily informational and incurred when firms communicate with and learn about customers in foreign markets. One implication is that digital technologies can decouple value creation from physical location (Zaheer & Manrakhan, 2001). This may transform the motivations for foreign investment, as the need to locate facilities in proximity to particular markets, which had driven much of FDI in the past, is arguably much diminished.

More recent views on digitalization continue to highlight the transferability of firm-specific assets over distance and across borders. Researchers draw attention to instant market access as a key characteristic of digital products; diffusing products globally through automated virtual channels (such as software and mobile apps) seems to distinguish born digital firms from their traditional counterparts and render investment in foreign physical assets less necessary (Autio et al., 2021; Birkinshaw, 2022; Shaheer & Li, 2020). Scholars also observe that digital platforms play a salient role by providing online marketplaces which, in many cases, can facilitate cross-border transactions (Kretschmer et al., 2022; Nambisan et al., 2019). To summarize, this stream of research emphasizes the logic of "space," over which born digitals can access worldwide customers without a physical presence in local markets. Decreased transaction cost, easier transfer of firm-specific assets, and platform-based marketplaces are among the key factors reducing firms' dependence on location-bound assets.

However, other scholars have pointed out that some born digitals still have physical offices in host markets, often for the purposes of business development, marketing, customer support, software development, and stakeholder engagement (Coviello et al., 2017; Giustiziero et al., 2021; Monaghan et al., 2020; Stallkamp & Schotter, 2021; Verbeke & Hutzschenreuter, 2021). Despite the virtual channels for reaching global customers, acquiring new users may still depend on the effectiveness of a range of business processes and supporting activities. Following the conventional logic of asset bundling, Verbeke, Coeurderoy and Matt (2018, p. 1110) stress the importance of co-location of interlinked activities in value creation and value capture; they argue that "this co-location requirement is amplified further in the digital economy space, when vertical and

lateral complementary resources are needed locally to make an upstream technology exploitable and profitable." This line of argument champions firms' dependence on "place" and attributes it to the bundling of location-bound assets.

In isolation, neither of the "space" or "place" logics provides a full account of the internationalization of born digitals. Recent studies have emphasized that born digitals and their internationalization strategies are highly diverse (Autio et al., 2021; Domurath et al., 2020; Stallkamp et al., 2022). Monaghan et al. (2020) introduced the notion of a "space-place relationship" and argued that born digitals "adopt different degrees of digitization in terms of the reliance on 'space' versus 'place'," depending on their needs. However, research on this space-place balance is in its infancy, especially in terms of what mechanisms might tilt the balance toward "place" for some born digitals and induce them to undertake FDI. Below, we argue that the fungibility and scalability of a firm's resources—both digital and otherwise—are key to understanding the space-place relationship.

When emphasizing the costless transferability of digital products through internet infrastructure, the "space" logic is predicated on the assumption that digital products/services tend to be both highly *fungible* (Anand & Delios, 2002) and rapidly scalable (Adner et al., 2019; Giustiziero et al., 2021; Huang et al., 2017). The presumed scalability of digital technologies is rooted in what resource scholars have dubbed the *scale-free* nature of digital assets (Adner et al., 2019; Levinthal & Wu, 2010). A resource is scale-free when it can be extended to additional uses without incurring opportunity costs, meaning that the value of the resource in its first-best use does not decline when it is extended to other uses in addition to the first (Krakowski et al., 2022; Wu, 2013). Knowledge, patents, or brands are often cited as examples of scale-free resources in the management literature (Levinthal & Wu, 2010). In the digital world, data and other digital artifacts are considered scale-free, as they can be infinitely replicated at virtually no cost, with few meaningful capacity constraints or other opportunity costs (Adner et al., 2019; Giustiziero et al., 2021; Krakowski et al., 2022). This makes them freely distributable and re-deployable regardless of the geographic distance, and results in significant excess services of the resource, departing markedly from process replication in traditional businesses (Adner et al., 2019). By contrast, fungibility is defined as the "decline in value when a resource is applied in its second-best use relative to its first-best use" (Adner et al., 2019, p. 256). In international business contexts, fungibility more specifically refers to the extent to which a resource developed in one country can generate equal/similar value in other countries (Anand & Delios, 2002; Fang et al., 2010). In contrast to the "space" logic, the "place" logic stresses the conventional view that certain firm-specific assets are non-fungible and may decline in value across cultural boundaries (Rugman & Verbeke, 2001).

Many digital technology assets are indeed highly fungible because they are built upon common standards and components, provide a shared interface for interaction, and address universal problems such as communication and information provision (Autio et al., 2021; Birkinshaw, 2022; Nambisan et al., 2019). Being software-based, digital products and services are also generally scale free, as digital information can be replicated at virtually zero cost to serve any number of additional users (Shapiro & Varian, 1998). Important business processes that imposed capacity constraints, and therefore opportunity costs, on traditional businesses seem to be inconsequential for born digitals, for example manufacturing, distribution, and in-person service delivery.

However, we submit that capturing value from digital technology assets commonly requires complementary resources, such as a salesforce, customer support, user communities, digital content, marketing and operations, and branding. Despite increasing digitalization, these

complementary assets are often specific to local contexts and therefore not fully fungible across borders. Moreover, to the extent that they remain difficult to automate completely, many of these crucial complementary resources are *human* resources which have limited capacity and are therefore not freely scalable (Giustiziero et al., 2021). As a result, the international expansion of born digitals depends on both place and space. It often requires what we call a "brace" approach, which highlights the importance of having local physical support for capturing value from virtual products in international expansion. Put differently, digital products and technologies may exist primarily in virtual space—specifically on cloud computing servers connected by the internet—but they must be "braced" to the ground in foreign markets through supporting resources and activities that are tied to specific places, and therefore are often imperfectly fungible and non-scale-free. This has important implications for born digitals' FDI. In the hypotheses below, we elaborate on this "brace" approach by articulating how cultural distance dampens the fungibility of resources and how geographic distance exacerbates the limitations of non-scale-free resources.

2.2 | Cultural distance

Cultural distance has long been considered a barrier to international business activity, in part because it leads to differences in customer needs and preferences (Barkema et al., 1996; Kogut & Singh, 1988). These differences often require firms to make costly adaptation to products, services, and complementary activities such as marketing and distribution (Bartlett & Ghoshal, 1989). Thus, cultural distance reduces the cross-border fungibility of a firm's resources.

Born digitals are not immune to obstacles related to cultural distance. Even though many digital products are built on common global technology standards and address seemingly universal needs, such as information exchange and entertainment, customer preferences regarding digital content and services remain rooted in culture. Empirical research indicates that cultural distance inhibits interactions in the digital space in terms of website traffic (Alaveraz & Martens, 2015), crowdfunding transactions (Burtch et al., 2014) and mobile app downloads (Shaheer & Li, 2020). Scholars have also found cross-cultural differences in online consumer behaviors (Clemons et al., 2016; Sia et al., 2009), and have shown that digital firms engage in significant localization efforts in their communication and sales channels (R. A. Reuber et al., 2022).

Therefore, we expect cultural distance to play an important role in the international expansion strategies of born digitals. In culturally similar countries, a firm's existing resources are highly fungible. This allows born digitals to extend their products, content, and services to users in these countries simply by making them available over the internet, without major modifications. Similarly, born digitals' existing human resources, skills, and experiences translate relatively well into these countries, facilitating tasks that involve negotiating, knowledge-sharing, and trust-building with local stakeholders, without introducing undue cultural frictions (Shenkar, 2012; Sirmon & Lane, 2004). By contrast, market entry into culturally distant countries is considerably more complex, as the firm's existing resources are less fungible. Here, effective market entry often requires bundling investments in complementary resources (Hennart, 2009; Rugman & Verbeke, 2004), such as localized content, modified revenue models, local brands, as well as the development of local sales, customer service, and management capabilities that are aligned with local cultural norms. For example, streaming services such as Netflix invest heavily in developing or acquiring content that is relevant to local audiences (Brennan, 2018), while video

game developers such as Zynga and IGG invest in overseas studios to develop, adapt, or support games for audiences in culturally distant markets (TechCrunch, 2020).

As the fungibility of a firm's existing resources tends to decline with increasing cultural distance, we expect born digitals to be *more* likely to undertake FDI in culturally distant countries, where the need for local complementary resources is greatest. We hypothesize:

Hypothesis 1. Cultural distance is positively associated with FDI by born digitals.

2.3 | Geographic distance

Research on digitalization emphasizes the various ways in which digital technologies can mitigate the adverse effects of geographic distance by improving information flows and granting instant access to distant markets (A. R. Reuber & Fischer, 2009; Stallkamp & Schotter, 2021; Zaheer & Manrakhan, 2001). Digital tools also allow for the partial automation of previously human-powered business processes involved in (international) business transactions, including some aspects of marketing, sales, and customer service. Notably, these automated processes are increasingly scale free and largely unconstrained by geographic distance (Chalmers et al., 2021; Monaghan et al., 2020).

However, some important activities are not easily automated. Many born digitals rely on marketing, sales, and customer support teams to promote and monetize their products (Domurath et al., 2020; Stallkamp et al., 2022). Further, employees with deep knowledge of the market may be necessary to demonstrate the utility of a product to local customers and to adapt product offerings to local needs. Increasingly, it is imperative for born digitals to build legitimacy and manage relationships with local stakeholders in order to operate in foreign markets (Birkinshaw, 2022; Garud et al., 2022)—as illustrated by the struggles of companies like Uber and Netflix (Brennan, 2018; Stone, 2017). These and other activities require locally embedded human resources, as well as face-to-face interactions, which still play an important role in exchanging tacit knowledge and building trust for major transactions and long-term business relationships (Belderbos et al., 2017; Leamer & Storper, 2001; Marino et al., 2020).

In order to meet the need for in-person interactions and knowledge exchange while remaining asset-light, born digitals often send key personnel to foreign markets on an as-needed basis (Cannone & Ughetto, 2014; Stallkamp, 2018). While this approach can be effective in proximate countries, large geographic distances would lead to long travel times and travel inconveniences (Belderbos et al., 2017; Boeh & Beamish, 2012), which can strain the limited human resources of born-digital firms. Conventional wisdom views geographic distance as raising the costs of traversing spatial boundaries for intermediate products (Dunning, 2009). Although core digital products tend to be scale free and easily transferable to distant countries, they may also consequentially increase the need for distributing complementary assets, including people and skills, more widely. For instance, spreading an executive's attention across projects in distant local markets may reduce the efficacy of managerial capabilities, as transportation costs, long travel times, and communication frictions exacerbate capacity constraints. Reflecting on the key challenges that born digitals faced in international expansion, the former Dropbox VP Chenli Wang noted that (Reforge, 2016):

> ... one that stood out was doing it too fast. For example, let's say you made it your 2017 plan to 'go international' and your goal is to be in Europe in Q1, Japan in Q2, South American in Q3 and Australia in Q4. That's a mistake.

The effectiveness of deploying a born digitals' home country based non-scale-free resources (e.g., sales, customer service, technical support, and executives) will substantially decline as geographic distance increases. Thus, we expect born digitals to be *more* likely to establish a permanent presence in countries that are geographically distant, in an effort to co-locate complementary resources with customers for improved communication and knowledge exchange. Notably, the impact of geographic distance should be distinct from—and in addition to—the effects of cultural distance discussed above. Large geographic distances impose challenges, even when cultural distance is low (e.g., US–Australia), just as cultural differences can complicate expansion into geographically proximate markets. We hypothesize:

> **Hypothesis 2.** Geographic distance is positively associated with FDI by born digitals.

2.4 | Business models

To better understand born digitals' FDI locations, we draw attention to the resource implications of different business models along the two dimensions of fungibility and scalability. Following prior research, we view business models as an architectural blueprint by which the firm creates, delivers and captures value (Amit & Zott, 2001; Zott & Amit, 2008). A key distinction of business model research is to attribute a firm's competitive advantage not only to its core resource position (or firm-specific advantages), but also to the system of activities that it performs to deliver value to customers (Massa et al., 2017). Since global markets are built of differentiated local markets, the MNE needs to adapt the system of activities to the unique context of each country market, so as to deliver on the value proposition and realize the potential customer value that accrues from its core technology assets (Tippmann et al., 2023). Hence, we focus on the varied ways in which different business models involve adaptation and what it implies for the requirement of complementary resources. One important aspect of a firm's business model is its interface with customers. Practitioners and academics commonly distinguish between B2B firms, which sell their products to other business enterprises, and B2C firms, whose customers are end consumers (Amit & Zott, 2001; Hennart, 2019; R. A. Reuber et al., 2022). The distinction between B2B and B2C captures crucial differences in how firms interact with their customers, which in turn shapes the complementary resources they need.

The type of business model—B2C or B2B—has implications for the fungibility of born digitals' resources. As we have argued above, the value of a firm's resources in foreign markets may be impaired when the cultural distance between home and host country is large. However, this may not apply equally to all born digitals. Scholars maintain that cultural distance may be less salient for firms selling to sophisticated customers, such as B2B buyers, which have a high degree of domain-specific knowledge (Fan & Phan, 2007; Hennart, 2014; Hennart et al., 2021). These expert buyers seek highly specialized functionality, and their purchase decisions tend to be influenced more by technical specifications than by cultural differences (Fan & Tan, 2015). Conversely, B2C products and services are often (though not always) culture-specific, thereby suffering from reduced appeal to consumers in culturally distant markets (Fan & Tan, 2015; Stallkamp et al., 2022). As Hennart et al. (2021, p. 1676) point out, "B2C [demand] is more influenced by national culture, thus requiring a more country-by-country marketing mix adaptation." Examples include music, entertainment content, or app-based services predicated on specific lifestyles and customs. Empirical research shows, for instance, that the market for consumer-oriented mobile apps is fragmented along cultural dimensions (Shaheer, 2019).

Similarly, mobile gamers have shown substantial differences in preferred game types and monetization models (AppAnnie, 2019; CNBC, 2018). As a result of the higher culture specificity of many B2C products, compared to B2B products, we expect B2C firms to be—in general—more constrained by a lack of resource fungibility and thus more likely to make bundling investments in local complementary resources (i.e., FDI) in culturally distant markets. We hypothesize:

> **Hypothesis 3.** Cultural distance has a stronger positive effect on FDI by digital B2C firms than digital B2B firms.

B2B firms often sell complex products, such as enterprise-scale software solutions or specialized digital tools. These firms need to demonstrate the utility of their products, and more importantly, provide customized offerings and technical support to business customers (Domurath et al., 2020). This involves the transmission of tacit knowledge across organizational boundaries (from the firm to customers) which, as researchers have long demonstrated, is most efficient through personal interactions in face-to-face settings (Belderbos et al., 2017; Leamer & Storper, 2001; Marino et al., 2020). Personal interaction is also crucial for building trust when high transaction values are involved (Stallkamp, 2018). McKinsey (2017) found in a business survey that most B2B buyers want to be able to interact with a sales representative for new product purchases, in addition to self-service online platforms. In-person interactions are also important for post-sales engagement focused on customer retention (BCG, 2018). Thus, the foreign expansion of many digital B2B firms is critically dependent on non-scale-free resources such as salesforces, account managers, and technical support staff. Digital B2C products, on the other hand, are typically less complex. Transaction values, for example for subscriptions or in-app purchases, are much lower. As a result, digital B2C firms have largely automated most of their interactions with users through self-service transactional platforms, which can scale easily and largely "decouple" expansion from human resources (Chalmers et al., 2021, p. 1040).

Therefore, born digitals with B2B business models are typically more constrained by non-scale-free resources than B2C firms. As a corollary, increased geographic distance should more severely impact their operations, creating a stronger incentive to invest in a physical presence closer to their customers, as compared to B2C firms. We hypothesize:

> **Hypothesis 4.** Geographic distance has a weaker positive effect on FDI by digital B2C firms than digital B2B firms.

Figure 1 shows our conceptual model.

3 | METHODS

3.1 | Sample and data sources

To test our arguments, we compiled a sample of born digital firms, using Monaghan et al.'s (2020, p. 13) definition of firms "with a market offer that is both digital in nature and distributed by digital technology." We focused only on born digitals and excluded legacy organizations with pre-existing brick-and-mortar assets (Monaghan et al., 2020; Verbeke & Hutzschenreuter, 2021). Since born digitals often cut across traditional industry boundaries, they cannot reliably be identified by using conventional industry classification schemes, such as SIC codes (Bharadwaj et al., 2013).

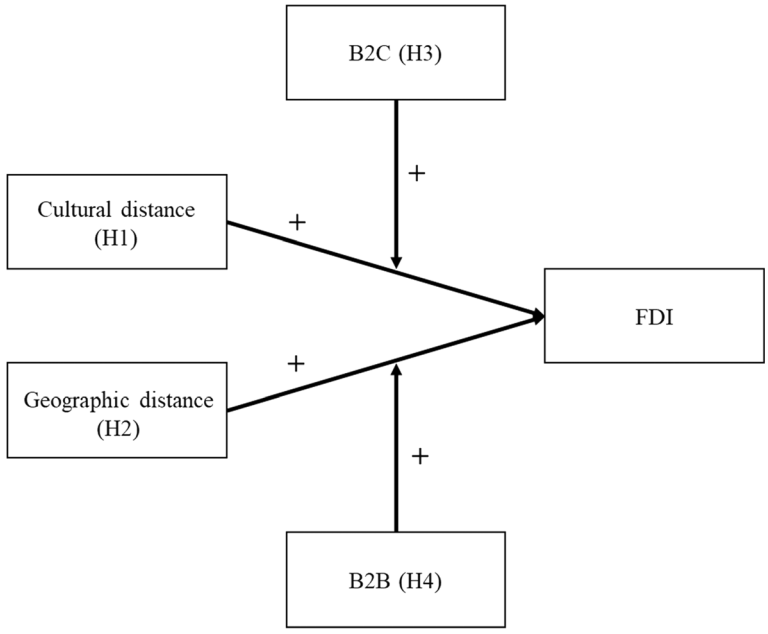

FIGURE 1 Conceptual model.

Hence, we developed a two-step procedure to construct our sample. We first identified *potential* digital firms by collecting data on the broader group of "tech" (i.e., high-technology) firms. We then manually reviewed each firm and removed those not matching Monaghan et al.'s (2020) definition of born digitals (i.e., intangible digital product, distributed through digital channels, no legacy brick-and-mortar business).

In the first step, we used three different data sources to identify US-based technology firms that completed an initial public offering (IPO) during the decade from January 2010 to December 2019. We chose to focus on publicly listed firms with recent IPOs to ensure consistent and complete data availability. In line with prior studies (e.g., Y. Li et al., 2020), we focused on a single home country (the United States) to ensure consistent data and keep home country conditions relatively constant. The first data source was Crunchbase, a commercial database covering technology startups (Cannone & Ughetto, 2014; Miric et al., 2021). We extracted IPOs from 2010 to 2019, excluding firms in the categories "hardware" and "manufacturing." The second data source was the *PWC Global Technology IPO Review*, compiled by Pricewaterhouse Coopers, which was available from 2011 to 2017. We extracted all IPOs in the categories "internet software and service" and "software." Our third data source was a listing of *Internet IPOs* compiled by IPO scholar Jay Ritter (Ritter, 2021). Combining all three sources, we obtained a shortlist of 349 firms.

In the second step, we reviewed the "business description" listed in each firm's S-1 statement (the IPO prospectus filed with the Securities and Exchange Commission), supplemented by additional company descriptions from Crunchbase and Capital IQ. We excluded all firms involved in the manufacturing or handling of physical goods, to focus exclusively on firms with fully digital offerings that can be transmitted over the internet, following Monaghan et al.'s (2020) definition of digital firms. We then removed firms founded before the year 2000 to exclude legacy organizations and focus exclusively on born digitals (Miric et al., 2021; Monaghan et al., 2020). In total, we identified 169 born digitals.

Next, we collected data on greenfield FDI from fDi Markets, and data on foreign acquisitions from SDC Platinum and Crunchbase. As shown in Figure 2, a clear majority of born digitals (132 out of 169) pursued FDI, and practically all firms with substantial foreign sales had one or more foreign investments. After excluding firms without FDI and dropping observations with missing firm-level or country-level data, our final sample consists of 129 born digitals and 804 FDI projects (558 greenfield investments and 246 acquisitions) in 39 countries.

3.2 | Empirical model

We test our hypotheses with a conditional logit model (McFadden, 1974). Commonly used for modeling FDI location choices (Alcácer & Chung, 2014; Buckley et al., 2018; J. Li et al., 2018; Y. Li et al., 2020), this type of model allows us to test the effect of *location-specific* variables (in our case, country characteristics and home-host distances) on firms' investment decisions while controlling for unobserved heterogeneity at the firm level. For each investment, the firm chooses the most attractive location from a choice set of countries. Following prior research (e.g., J. Li et al., 2018), we consider the choice set of countries to be all countries in our sample, that is, all 39 countries that have received at least one FDI from at least one sampled firm over the sample period.

3.3 | Independent variables

To test Hypothesis 1, we use the well-established *cultural distance* measure developed by Berry et al. (2010). For Hypothesis 2, we operationalize *geographic distance* as the natural logarithm of the population-weighted distance (in kilometers), using data from the CEPII database

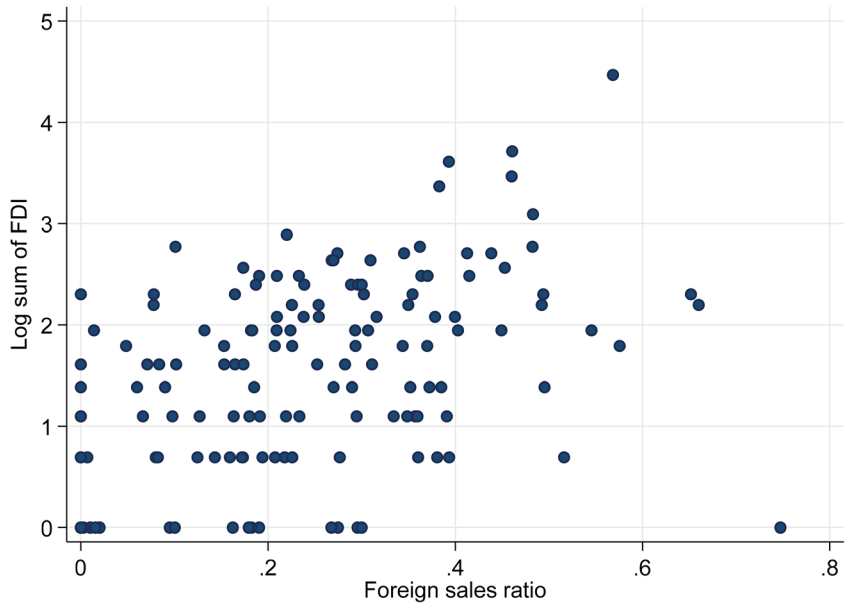

FIGURE 2 Foreign direct investment (FDI) and foreign sales among born digital firms. This figure is based on complete list of 169 firms, not just the analytical sample used for hypothesis testing. The vertical axis shows the logarithm of the number of FDI projects, the horizontal axis shows each firm's foreign-sales-to-total-sales ratio.

(Mayer & Zignago, 2011).[2] The population-weighted measure accounts for the fact that the most relevant distance between a pair of countries is not distance between country centers or country borders, but rather distances between the main population centers in each country (Mayer & Zignago, 2011).

At the firm level, we distinguish between B2C and B2B firms (Amit & Zott, 2001; Hennart, 2019; A. R. Reuber & Fischer, 2011). One author and a research assistant independently coded each firm as B2C or B2B. Discrepancies were reviewed by the author team and resolved by consensus. Coding was based on the firms' business descriptions in their S-1 filings, which provide detailed descriptions of the main customer groups and sales channels. Notably, some firms serve multiple customer groups, for example through multisided platform business models or advertising-supported products (e.g., a mobile game that generates revenue by selling ad space). We coded these mixed cases as B2C, reasoning that their success in foreign markets is critically dependent on gaining B2C customers. We used a dummy variable that takes the value 1 when the firm is coded as B2C and 0 otherwise.

3.4 | Control variables

We include several country-level controls. To account for market size, we use *gdp* and *gdp* per capita (in logarithmic form), using World Bank data. To control for differences in digital infrastructure, we include the variable *mobile broadband*, which measures the number of mobile broadband internet subscriptions per 100 inhabitants in 2010 (data: World Economic Forum). It serves as a proxy for the country's adoption of digital technologies more broadly: Countries with high mobile broadband penetration in 2010 (3 years after Apple released the first iPhone) can be considered early adopters of digital technologies, which should increase their attractiveness as investment locations for born digitals. We chose the year 2010 because it is close to the beginning of our sample period, there is meaningful variance between countries, and consistent data is available for the full sample of countries.

Next, we account for economic ties between countries, which may facilitate FDI by increasing mutual familiarity and spawning social support networks. We include adding controls for *US exports*, which is the logarithm of US exports to the target country (data: UN Comtrade), and *FDI inflows*, which measures annual FDI flows into the country (data: World Bank). We control for preexisting firm-level ties by including *investor ties*, a dichotomous variable that takes the value 1 if the parent firm received venture capital from investors located in the target country (data: Crunchbase, SDC Platinum). We also include several institutional variables. We control for political risks using the POLCON measure of political constraints (Henisz, 2000). A higher value on this metric indicates a greater number of constraints in the political decision-making process, and hence a reduced likelihood of arbitrary rule changes. To account for differences in FDI and trade-related regulations, we include the OECD's *FDI restrictiveness* index and the Fraser Institute's *trade freedom* index.

We further control for *common spoken language*, using CEPII data (Melitz & Toubal, 2014). This continuous variable measures the degree of overlap in spoken languages—rather than official or native languages—between country pairs. In the case of the United States, this measure effectively captures the extent to which English is spoken in the target country (even as a foreign language), and the extent to which there are speakers of the target country's languages in the United States. Finally, as tax considerations might also play a role in digital firms' FDI location decisions (Ting & Gray, 2019), we control for the *tax rate* on corporate profits (data: World Bank).

All independent and control variables (except for the categorial variables) are standardized to allow for comparability of coefficient estimates. Table 1 shows the descriptive statistics, Table 2 shows the correlation matrix.

4 | RESULTS

Tables 1 and 2 show descriptive statistics and the correlation matrix, respectively. Not surprisingly, several country-level variables exhibit relatively strong correlations, such as *gdp* per capita with measures of market-supporting institutions. Variance Inflation Factors for all variables were below 5, with a mean value of 2.3. Tables 3 and 4 present our results. In addition to reporting coefficient estimates, we follow prior research and use odds ratios to interpret our results (Alcácer & Chung, 2014; Dai et al., 2013; J. Li et al., 2018; Useche et al., 2020). Odds ratios (i.e., exponentiated coefficients) represent the *multiplicative* effect of each covariate on the odds of the outcome (i.e., a country being selected for FDI). An odds ratio >1 makes the outcome more likely, while an odds ratio <1 makes it less likely. The advantage of using odds ratios is that the direction, magnitude, and statistical significance of main effects and interaction terms can be directly interpreted without further transformation (Alcácer & Chung, 2014; Reuer & Tong, 2005).[3]

Table 3 presents the results for Hypotheses 1 and 2. Model 1 includes only control variables. Models 2 to 4 introduce the main effects of *cultural distance* and *geographic distance*, individually and jointly. With Hypothesis 1, we predicted a positive relationship between *cultural distance* and FDI, such that born digitals are more likely to invest in more culturally distant countries. Models 2 and 4 support this hypothesis. The odds ratio in the full model (Model 4) is

TABLE 1 Descriptive statistics.

Variable name	Mean	SD	Min.	Max.
Cultural distance	14.99	17.33	2.81	111.06
Geographic distance	8.95	0.51	7.64	9.65
GDP	28.12	1.01	25.74	30.75
GDP per capita	10.38	0.57	8.33	11.17
Mobile broadband	28.78	20.12	0.11	78.04
US exports	24.20	1.14	20.66	26.47
FDI inflows	4.87	9.81	−26.19	80.79
Investor ties	0.08	0.27	0	1
Political constraints	0.77	0.14	0.00	0.89
FDI restrictiveness	0.10	0.09	0.01	0.43
Trade freedom	7.83	0.72	3.85	8.85
Common spoken language	0.59	0.33	0.00	0.95
Tax rate	17.75	7.89	−0.20	33.70
B2C	0.37	0.48	0	1
Greenfield	0.69	0.46	0	1

Note: $N = 804$. Unstandardized variables are shown, while standardized values are used in estimation.

TABLE 2 Correlation matrix.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Cultural distance	1.00													
2. Geographic distance	0.22	1.00												
3. GDP	−0.09	0.05	1.00											
4. GDP per capita	−0.28	−0.30	−0.44	1.00										
5. Mobile broadband	−0.04	0.10	−0.38	0.56	1.00									
6. US exports	−0.22	−0.56	0.57	0.07	−0.12	1.00								
7. FDI inflows	−0.08	−0.06	−0.34	0.20	−0.05	−0.14	1.00							
8. Investor ties	0.03	0.07	0.27	−0.24	−0.10	0.10	−0.07	1.00						
9. Political constraints	−0.10	−0.21	−0.30	0.51	0.31	0.04	0.01	−0.13	1.00					
10. FDI restrictiveness	0.09	0.13	0.29	−0.64	−0.26	0.19	−0.17	0.18	−0.50	1.00				
11. Trade freedom	−0.19	−0.30	−0.44	0.80	0.37	−0.02	0.28	−0.25	0.35	−0.64	1.00			
12. Common spoken language	−0.45	−0.21	−0.47	0.65	0.48	0.04	0.25	−0.18	0.42	−0.32	0.62	1.00		
13. Tax rate	0.05	0.55	0.06	−0.12	0.20	−0.16	−0.05	0.07	0.04	−0.04	−0.07	0.08	1.00	
14. B2C	0.06	−0.03	−0.02	−0.15	−0.14	−0.08	0.00	0.07	−0.09	0.07	−0.12	−0.12	−0.09	1.00
15. Greenfield	0.01	0.20	0.06	−0.12	−0.02	−0.08	0.05	0.02	−0.07	0.08	−0.13	−0.12	0.16	−0.18

Note: $N = 804$.

TABLE 3 Models 1–4.

	Model 1		Model 2		Model 3		Model 4	
	Base model		Cultural dist.		Geographic dist.		Full model	
	Coeff. estimate	Odds ratio	Coeff. estimate	Odds ratio	Coeff. estimate	Odds ratio	Coeff. estimate	Odds ratio
Cultural distance	–	–	0.196	1.216	–	–	0.161	1.175
	–	–	(0.0461)	[.000]	–	–	(0.0459)	[.000]
Geographic distance	–	–	–	–	0.248	1.282	0.227	1.255
	–	–	–	–	(0.0533)	[.000]	(0.0542)	[.000]
GDP	0.996	2.709	1.062	2.893	0.815	2.260	0.891	2.437
	(0.0734)	[.000]	(0.0756)	[.000]	(0.0806)	[.000]	(0.0841)	[.000]
GDP per capita	−0.204	0.815	−0.154	0.857	−0.279	0.756	−0.224	0.799
	(0.0874)	[.019]	(0.0880)	[.080]	(0.0898)	[.002]	(0.0908)	[.014]
Mobile broadband	0.199	1.220	0.172	1.187	0.178	1.194	0.155	1.168
	(0.0507)	[.000]	(0.0517)	[.001]	(0.0507)	[.000]	(0.0516)	[.003]
US exports	0.0825	1.086	0.0734	1.076	0.366	1.441	0.330	1.390
	(0.0643)	[.199]	(0.0651)	[.259]	(0.0896)	[.000]	(0.0906)	[.000]
FDI inflows	0.153	1.166	0.153	1.166	0.123	1.131	0.127	1.135
	(0.0332)	[.000]	(0.0333)	[.000]	(0.0345)	[.000]	(0.0345)	[.000]
Investor ties	0.118	1.125	0.0934	1.098	0.124	1.132	0.102	1.107
	(0.144)	[.414]	(0.144)	[.518]	(0.145)	[.393]	(0.145)	[.482]
Political constraints	0.398	1.489	0.375	1.456	0.385	1.470	0.369	1.447
	(0.0675)	[.000]	(0.0679)	[.000]	(0.0650)	[.000]	(0.0654)	[.000]
FDI restrictiveness	−0.0454	0.956	−0.0390	0.962	−0.133	0.876	−0.118	0.889
	(0.0735)	[.537]	(0.0751)	[.603]	(0.0734)	[.071]	(0.0749)	[.115]
Trade freedom	0.165	1.180	0.149	1.161	0.188	1.207	0.166	1.180
	(0.0795)	[.037]	(0.0798)	[.062]	(0.0780)	[.016]	(0.0784)	[.034]
Common spoken lang.	0.722	2.059	0.828	2.288	0.740	2.095	0.829	2.290
	(0.0497)	[.000]	(0.0578)	[.000]	(0.0496)	[.000]	(0.0576)	[.000]
Tax rate	−0.0827	0.921	−0.0985	0.906	−0.189	0.828	−0.192	0.825
	(0.0371)	[.026]	(0.0378)	[.009]	(0.0443)	[.000]	(0.0445)	[.000]
N	31,356		31,356		31,356		31,356	
Pseudo *R*-square	0.163		0.165		0.167		0.168	
Log-likelihood	−2466.0		−2458.53		−2454.97		−2449.62	

Note: Standard errors in (parentheses); *p*-values in [brackets].

1.175 ($p < .001$), indicating that an increase of one standard deviation in cultural distance is associated with a 17.5% increase in the odds of FDI. With Hypothesis 2 we predicted that *geographic distance* is positively related to FDI by born digitals. The evidence from Models 3 and 4 is consistent with this hypothesis, with positive and highly significant coefficient estimates

TABLE 4 Models 5–8.

	Model 5		Model 6		Model 7		Model 8	
	B2C		B2B		Acquisitions		Greenfield	
	Coeff. estimate	Odds ratio	Coeff. estimate	Odds ratio	Coeff. estimate	Odds ratio	Coeff. estimate	Odds ratio
Cultural distance	0.180	1.198	0.174	1.190	0.356	1.428	0.0890	1.093
	(0.0759)	[.018]	(0.0584)	[.003]	(0.0796)	[.000]	(0.0597)	[.136]
Geographic distance	0.0494	1.051	0.313	1.367	0.0425	1.043	0.298	1.347
	(0.0882)	[.575]	(0.0704)	[.000]	(0.102)	[.678]	(0.0662)	[.000]
GDP	0.818	2.266	1.003	2.728	0.960	2.611	0.904	2.469
	(0.127)	[.000]	(0.117)	[.000]	(0.160)	[.000]	(0.100)	[.000]
GDP per capita	−0.445	0.641	−0.0629	0.939	−0.232	0.793	−0.194	0.824
	(0.140)	[.001]	(0.124)	[.613]	(0.184)	[.206]	(0.106)	[.067]
Mobile broadband	0.0938	1.098	0.182	1.199	0.0395	1.040	0.172	1.188
	(0.0913)	[.304]	(0.0639)	[.004]	(0.109)	[.717]	(0.0602)	[.004]
US exports	0.165	1.180	0.379	1.461	0.224	1.251	0.319	1.376
	(0.138)	[.229]	(0.124)	[.002]	(0.172)	[.193]	(0.108)	[.003]
FDI inflows	0.124	1.132	0.137	1.147	−0.0262	0.974	0.197	1.218
	(0.0546)	[.024]	(0.0447)	[.002]	(0.0672)	[.697]	(0.0405)	[.000]
Investor ties	0.288	1.333	0.0728	1.076	0.479	1.615	−0.0424	0.958
	(0.220)	[.192]	(0.203)	[.719]	(0.285)	[.093]	(0.170)	[.803]
Political constraints	0.277	1.320	0.474	1.606	0.262	1.300	0.396	1.485
	(0.0922)	[.003]	(0.0949)	[.000]	(0.135)	[.051]	(0.0759)	[.000]
FDI restrictiveness	−0.218	0.804	0.0116	1.012	−0.317	0.728	−0.0654	0.937
	(0.108)	[.044]	(0.108)	[.914]	(0.152)	[.038]	(0.0872)	[.453]
Trade freedom	0.102	1.107	0.291	1.337	0.161	1.174	0.151	1.163
	(0.113)	[.367]	(0.113)	[.010]	(0.149)	[.281]	(0.0925)	[.103]
Common spoken lang.	0.810	2.249	0.849	2.337	1.169	3.219	0.714	2.042
	(0.0988)	[.000]	(0.0728)	[.000]	(0.130)	[.000]	(0.0664)	[.000]
Tax rate	−0.256	0.774	−0.164	0.849	−0.371	0.690	−0.110	0.896
	(0.0708)	[.000]	(0.0579)	[.005]	(0.0814)	[.000]	(0.0545)	[.044]
N	11,505		19,851		9594		21,762	
Pseudo *R*-square	0.125		0.206		0.219		0.162	
Log-likelihood	−945.35		−1479.92		−703.88		−1713.95	

Note: Standard errors in (parentheses); *p*-values in [brackets].

($p < .001$). The odds ratio of 1.255 in Model 4 suggests that a one standard-deviation increase in geographic distance (roughly 3500 km) increases the odds of FDI by over 25%.

Next, we split the sample to distinguish between B2C and B2B firms for Hypotheses 3 and 4, following established procedures for conditional logit models (Alcácer & Chung, 2014; J. Li

et al., 2018). In Table 4, Model 5 includes only B2C, while Model 6 includes only B2B. We find that *cultural distance* has a similar-sized positive effect for both B2C (odds ratio: 1.198, $p = .018$) and B2B firms (odds ratio: 1.190, $p = .003$). Thus, Hypothesis 3 is not supported. By contrast, the evidence is consistent with Hypothesis 4, as there is a significant positive association between geographic distance and B2B FDI (odds ratio: 1.367, $p < .001$), yet no significant effect for B2C FDI (odds ratio: 1.051, $p = .575$). Overall, these findings indicate robust positive relationships between cultural/geographic distance and FDI by born digital firms, as well as differential effects of geographic distance when comparing B2C and B2B investment.

4.1 | Robustness tests

We conducted several analyses to test the robustness of our results. First, we examined to what extent our findings with respect to cultural distance were driven by linguistic distance. While our main analysis already controls for common spoken languages (accounting for people who speak English as a foreign language), we added a variable measuring the linguistic distance between English and the predominant local language spoken in each potential location (Dow & Karunaratna, 2006). However, we found no significant effect of this variable, whereas our results with respect to cultural and geographic distance remained unchanged.

Next, we probed our geographic distance findings by accounting for the unique nature of Canada and Mexico from the perspective of US-based firms. While all other major markets are separated from the United States by large distances, Canada and Mexico are geographically contiguous and economically tightly integrated with the United States. We removed Canada and Mexico from the sample and obtained highly consistent results, indicating that our findings are not driven by these countries. We also investigated to what extent time zone differences might account for the effect of geographic distance. We adopted Dow and Karunaratna's (2006) methodology and first regressed geographic distance on time zone differences (i.e., the minimum time difference between the US west coast or east coast to the foreign country's capital). We then included the residuals (representing the effect of distance net of time zones) and a separate time difference variable in our models. The effect of time differences was not significant, whereas the modified geographic distance measure continued to have a significant positive effect. The non-significant effect of time differences may reflect two opposing forces: On the one hand, the traditional FDI literature asserts a negative effect of time differences on FDI (Stein & Daude, 2007); on the other hand, some born digitals are said to seek a presence in diverse time zones to ensure 24-h customer support (Monaghan & Tippmann, 2018). While this is beyond the scope of our study, future research should further explore the effects of time zones in the context of born digitals.

4.2 | Additional analyses: Greenfield investment versus acquisitions

Taking advantage of our unique dataset, we conducted additional analyses to explore differences between greenfield FDI and foreign acquisitions among born digitals.[4] Our theoretical framework suggests that born digitals undertake FDI because profitable exploitation of their digital assets in foreign markets requires certain complementary resources that can be diminished by either limited fungibility (e.g., in culturally distant markets) or limited scalability (e.g., in geographically distant markets), or by a combination of the two. However, not all types

of FDI are alike. Specifically, we propose that greenfield FDI and foreign acquisitions may have different dynamics with respect to fungibility and scalability.

For example, foreign acquisitions may be a particularly salient option for addressing issues of imperfect resource *fungibility* resulting from high cultural distance, such as a lack of locally relevant digital content or the absence of a user base that shares the local culture and language. Acquisitions can deliver locally embedded resources quickly, sidestepping the potentially lengthy and arduous process of gaining local market knowledge and developing complementary assets in-house through greenfield FDI (Anand & Delios, 2002; Harzing, 2002; Miric et al., 2021).

By contrast, greenfield investments may be the more relevant form of FDI when constraints are related to the imperfect *scalability* of certain complementary assets (e.g., in-person sales, support and customer service, executive attention). We contend that greenfield FDI among born digitals usually serves to replicate existing resources in new locations closer to customers, similar to the way "traditional" businesses replicate parts of their value chain (such as manufacturing or sales) abroad to serve foreign markets (Jonsson & Foss, 2011; Winter & Szulanski, 2001). A long research tradition suggests that greenfield investments should be particularly well suited to this type of replication-oriented expansion, as they allow the investing firm to transplant existing routines and procedures onto a blank canvas (e.g., Barkema & Vermeulen, 1998; Dikova & Brouthers, 2016; Harzing, 2002).

While a full theoretical and empirical investigation of establishment modes is beyond the scope of this study, our data is consistent with the idea that born digitals' foreign acquisitions are more closely linked to cultural distance (and thus fungibility) and greenfield investments to geographic distance (and thus scalability). Table 4 shows the results of a subsample analysis that separately models foreign acquisitions (Model 7) and greenfield investments (Model 8). For foreign acquisitions, cultural distance is a strong positive predictor (odds ratio = 1.428, $p < .001$) while geographic distance is not significant ($p = .768$). Conversely, for greenfield FDI, geographic distance is a significant predictor (odds ratio = 1.347, $p < .001$), while cultural distance is not ($p = .136$).

Further, we also considered two-stage Probit models, where the decision to undertake FDI in a particular country (Stage 1) is followed by the choice of establishment mode (Stage 2). To account for possible interdependencies between the two stages, we used the target country's GDP as the exclusion restriction, as it affects the first stage decision (whether or not to do FDI) but not the second stage (which type of FDI). In the first stage, we found significant positive effects of *cultural distance* (odds ratio: 1.06, $p = .002$) and *geographic distance* (odds ratio: 1.10, $p < .001$) on the likelihood of FDI (regardless of FDI type). In the second stage, *cultural distance* had a significant negative effect on the greenfield mode (odds ratio: 0.86, $p = .008$). This indicates that, conditional on FDI taking place, higher cultural distance makes it less likely that this FDI will be in the form of greenfield investment—and therefore more likely to be an acquisition. By contrast, geographic distance has a positive, albeit not conventionally significant, association with greenfield investment (odds ratio: 1.17, $p = .106$). Although these are exploratory and preliminary findings, they suggest important differences between greenfield FDI and foreign acquisitions by born digitals, which future research should examine in greater depth.

5 | DISCUSSION

Recent IB research has highlighted the transformative potential of digital technologies, emphasizing the possibilities of virtual, internet-based market entry and instant access to customers

worldwide. This study instead draws attention to the use of FDI by born digitals and examines its role in bridging cultural and geographic distance. In so doing, our research makes several important contributions to the growing literature on digitalization in international business and global strategy.

First, we develop a theoretical framework that explains why born digitals might pursue FDI, despite the apparent possibility of virtual market access. The extant literature has mostly focused on digital products and has argued that these are easily transferable internationally through online channels, not least platforms (Banalieva & Dhanaraj, 2019; Nambisan et al., 2019; Shaheer & Li, 2020; Stallkamp & Schotter, 2021). While those accounts highlight important aspects of the digital economy, we argue that profitably exploiting digital assets in foreign markets generally requires additional complementary assets, many of which are not fully fungible across different cultural contexts (Anand & Delios, 2002) and are not scale free (Levinthal & Wu, 2010). Thus, we shift the level of analysis from digital products to the firm and its resource base. This is an important extension given the mounting challenges that many highly digitalized firms face in foreign markets, which will require more, not less, local complementary assets in overcoming various barriers to international success (Uzunca et al., 2018; Verbeke & Hutzschenreuter, 2021). We emphasize that the fungibility and scalability of firm resources represent important constraints in the internationalization process of born digitals. In response, these firms undertake bundling investments in support of core transactions, and we argue that they do so to create location-bound resources as the existing resources are not fully fungible (Anand & Delios, 2002), or to replicate certain business processes as the existing resources are non-scale-free (Winter & Szulanski, 2001).

Second, this study advances research on the role of distance in a digital world. Recent research suggests that cultural and geographic distance continue to inhibit international business and other cross-border interactions (e.g., Alaveraz & Martens, 2015; Shaheer & Li, 2020). This is based on the premise that the internationalization of digital *products* is impeded by user adoption barriers, and distance is a key contributor to such barriers. But whether and how distance affects the international strategies of born digital *firms* had thus far an unanswered question. In analyzing born digitals' investment location choices, our research examines how digital service firms can use FDI to mitigate distance-related barriers identified in prior research. Notably, we argue for a *positive* relationship between the two forms of distance and the likelihood of FDI, which is supported by our empirical analysis (Hypotheses 1 and 2). The findings depart from prior research in three aspects and merit further investigation. First, we propose that the ability to serve low-distance foreign markets through online channels implies that FDI is not necessary in all foreign markets, but rather deployed selectively. We thus introduce a boundary condition to previous claims that digital technologies can universally reduce the need for FDI (Nachum & Zaheer, 2005; Zaheer & Manrakhan, 2001). Second, our findings contrast with established research on conventional MNEs which reports a negative relationship between distance and FDI (Y. Li et al., 2020; Nielsen et al., 2017), suggesting distinct attributes of digital businesses that are yet to be fully explored. Third, we offer new evidence that is distinct from the role of distance in digital product internationalization, suggesting different mechanisms at play. A key insight our analysis yields is that born digitals focus FDI in those countries where cultural and geographic distance most severely impair the scalability and fungibility of their existing resource base.

Third, our study contributes to the emerging literature on the role of business models in internationalization, particularly in the context of born digital and potentially "born global" firms (Hennart, 2019; Onetti et al., 2012; Tallman et al., 2018). Scholars have argued that

business models, defined as systems of activities that deliver value to customers (Massa et al., 2017), are an important but insufficiently understood factor in explaining firms' international strategies (Hennart, 2014; Hennart et al., 2021; Tallman et al., 2018). Our arguments center on the supporting activities, namely the locally embedded complementary assets needed to profitably exploit digital assets in foreign markets. We theorize that born digitals with B2C-focused business models and those with B2B-oriented business models face varied resource requirements and are therefore differentially affected by cultural and geographic distance (Hypotheses 3 and 4). The empirical results support our considerations with respect to geographic distance (Hypothesis 4); however, we found no systematic difference in role of cultural distance between B2C and B2B business models (Hypothesis 3). This could suggest that B2C business models in aggregate are less culture-specific than we anticipated or that culture does play a more significant role in digital B2B internationalization. Given the wide range of products and business models subsumed under the B2C and B2B labels, we encourage future research to examine more nuanced business model categories and different empirical settings to better understand these issues.

Finally, this research contributes to building important empirical baseline knowledge with respect to the international activities of born digitals (Verbeke et al., 2018). We seek to inform and advance the scholarly debate on the implications of digitalization for global strategy, a debate which has so far been shaped largely by theoretical papers and small-sample qualitative studies. To the best of our knowledge, this is so far the most comprehensive empirical analysis of FDI by born digitals, comprising virtually all publicly-listed US-based born digital that completed IPOs over the decade of 2010–2019, with over 800 individual FDI projects. In addition to testing our hypotheses, we use our extensive database to demonstrate that FDI is, by any measure, prevalent among born digitals across different sectors. The fact that FDI continues to play an important role in the digital age should be shaping the conceptual discourse regarding digitalization in global strategy. We encourage scholars to delve into the mechanisms underlying born digitals' FDI and the challenges they face, which may or may not fundamentally depart from those of conventional MNEs. While our research aims to inform the ongoing debate on digital internationalization, much remains to be explored.

5.1 | Implications for practice

The primary purpose of this study is to inform and advance the scholarly debate on global strategy in the digital age, particularly with respect to the continued role of FDI in the internationalization of born digitals. For practitioners, such as executives working in born digital firms with international ambitions, the main message is that FDI can still be an important step for successfully capturing value from digital products. Particularly in foreign markets that are geographically distant or culturally very different, born digitals should consider establishing a presence on the ground in order to support their operations, even if it is technically possible to serve these markets through digital channels alone. In doing so, they should carefully analyze their resource needs in terms of fungibility and scalability in order to inform their choice between greenfield FDI and foreign acquisitions.

5.2 | Limitations

Like all research, ours has limitations. Our theoretical framework seeks to explain FDI by born digitals, specifically why and where these firms establish a physical presence. Building on the

emerging literature in digital strategy, as well as resource-based theories of internationalization, we identify resource scalability (Adner et al., 2019; Levinthal & Wu, 2010; Monaghan et al., 2020) and resource fungibility (Anand & Delios, 2002; Rugman & Verbeke, 2001) as key drivers of FDI—but, like most macro-empirical studies in this tradition, we are not able to measure these attributes directly. Instead, we derive predictions from our theoretical framework (with respect to geographic and cultural distance, as well as greenfield and acquisitions), which we then test against our data. While this initial evidence supports our theoretical model with respect to the roles played by resource fungibility and scalability, we encourage future research to adopt different methodologies to build on this research and explore possibilities for operationalizing these constructs more directly.

Further, we collected data from publicly listed firms in a single home country (the United States) to ensure consistent reporting standards and data availability. Future research should also examine firms from other countries to assess the generalizability of our findings. Moreover, as our main research focus was on the role of cultural and geographic distance in explaining FDI by born digitals, other potentially important factors were beyond the scope of this study. These include, for example, the impact of institutions such as internet regulation and data localization, individual-level antecedents (e.g., Domurath et al., 2020), and network-related considerations such as country clout (Chen et al., 2019). Similarly, findings based on a sample of IPO firms, while commonly used in research, may not be fully generalizable to other born digitals. We encourage future research to stress-test our findings on more diverse samples of firms and home countries.

Lastly, this is a highly dynamic research context. Digital technologies are evolving rapidly and business practices change accordingly. As we were writing this manuscript, the COVID-19 pandemic swept the globe and forced companies to adopt digital technologies on a previously unimaginable scale, replacing many in-person interactions with virtual meetings and automated tools. Further improvements in technology and associated changes in social norms, may one day fully replace the need for in-person meetings and thereby obviate one important motivation for FDI. On the other hand, growing geopolitical tensions between the United States and China, and between Russia and the West, are casting doubts on firms' ability to trade and invest across borders. As a result, political distance may eclipse the importance of cultural and geographic distance in future internationalization decisions of born digitals. Thus, our conclusions, which are based on the time period from 2008 to 2018, will need to be revisited in the future.

6 | CONCLUSION

The field of international business is currently engaged in a lively and important discussion on the implications of digitalization for international business. Our study aims to advance this debate by drawing attention to the continued importance—but changing nature—of FDI in a digital world. We present a theoretical framework and empirical evidence to explain how digital firms use FDI to bridge cultural and geographic distance. We hope that this study will stimulate further research on this important topic.

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ENDNOTES

[1] Executive at a US born digital firm, in an exploratory interview with one of the authors.

[2] http://www.cepii.fr/CEPII/en/welcome.asp

[3] An alternative approach for interpreting logistic regression models is to transform results into additive marginal effects and to plot interactions (Ai & Norton, 2003).

[4] We thank an anonymous reviewer for suggesting this line of inquiry.

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How to cite this article: Stallkamp, M., Chen, L., & Li, S. (2023). Boots on the ground: Foreign direct investment by born digital firms. *Global Strategy Journal*, 1–25. https://doi.org/10.1002/gsj.1474