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Internationalization of Transnational Entrepreneurial Firms from an Advanced to Emerging Economy: The Role of Transnational Mixed-embeddedness

Abstract

Purpose: This study investigates the role of transnational mixed-embeddedness when transnational entrepreneurial firms (TEFs) become internationalized. First-generation immigrant entrepreneurs who maintain business arrangements in their home and host countries own TEFs. In many cases, they internationalize from emerging economies to advanced economies. Nevertheless, we focus on TEF cases that internationalize from an advanced to an emerging economy, which prior transnational entrepreneurship studies have largely overlooked.

Methodology: This research uses a qualitative approach based on six TEF case studies from Canada and the UK venturing into China to explore TEFs' internationalization.

Findings: The case studies explore the elements that constitute TEFs' cognitive and relational embeddedness — two main types of embeddedness — in home and host countries and how TEFs exploit such embeddedness for their internationalization. The results suggest that high levels of transnational mixed-embeddedness help TEFs reduce resource and institutional distance barriers in home countries, thereby assisting their internationalization. We propose a framework that visualizes the role of transnational mixed-embeddedness in TEFs' internationalization and novel categorizations of transnational mixed-embeddedness.

Originality: Although there has been a growing demand for research on the emergence of internationalized smaller firms, there have been few empirical efforts on TEFs' internationalization. It is still unclear how TEFs internationalize differently than homegrown entrepreneurial firms. This study fills this gap in transnational entrepreneurship literature by examining the influence of transnational mixed-embeddedness on TEFs' internationalization.

Keywords: mixed-embeddedness, transnational entrepreneurship, internationalization, relational embeddedness, cognitive embeddedness

Paper type: Research paper

1. Introduction

Transnational entrepreneurship, which has become an intriguing topic for the research-policy nexus, is primarily concerned with transnational entrepreneurial firms (TEFs) that are "social actors who enact networks, ideas, information, and practices to seek business opportunities or maintain businesses within dual social fields which, in turn, forces them to engage in varied strategies of action to promote their entrepreneurial activities" (Drori *et al.,* 2009, p.1001). They are considered an emerging type of small firm owned by first-generation immigrant entrepreneurs who maintain business arrangements in their home and host countries. While the entrepreneur's home country refers to their country of origin, the host country is where they resettled and started a business venture. They choose to undertake international entrepreneurial tasks, exploring and exploiting opportunities, seeking and accumulating resources, and providing products and services that are often innovative (Bolzani, 2020; Dheer, 2018).

As of 2020, the United Nations reported 272 million first-generation migrants worldwide, accounting for approximately four percent of the world's population. If they were a nation, it would be larger than Pakistan, the fifth most populated country globally. As a transnational phenomenon, migration has been redefined as an ongoing process in which migrants maintain connections between sending and receiving locales (Schiller *et al.,* 1992; Portes *et al*., 1999). Migrants contribute significantly to local and global economies when they internationalize. Kerr and Kerr (2020) report that migrants founded more than half of the high-tech firms in Silicon Valley. Equivalently, migrant entrepreneurs may make immense impacts on their home countries in terms of economic and social development and home countries often welcome and facilitate their return with various incentives as an effort to boost foreign investments (Wright *et al*., 2008). For another example, TEFs quickly responded to the deglobalization caused by the Covid-19 pandemic and restored the international supply chain between host and home countries (Harima, 2022). However, the internationalization of TEFs has received little attention. Consequently, considering the substantial rise of TEFs worldwide and their importance to the global economy, it is important to identify the factors contributing to the sustainable development of TEFs, including their internationalization.

One critical factor influencing the success of TEF internationalization is "*mixed-embeddedness."* Mixed-embeddedness refers to a firm's dual embeddedness in its surrounding institutional environment and social networks (Jones *et al.*, 2014; Kloosterman *et al.,* 1999). Studies argue that embeddedness in the institutional climate helps firms comprehend and comply with the 'rules of the game' (North, 1991), whereas embeddedness in founders' and employees' personal and business networks helps firms mitigate potential risks and access vital resources and capabilities (Bagwell, 2015; Ram *et al.,* 2008; Ram *et al.,* 2011). In the case of TEFs, mixed-embeddedness in both home and host countries is relevant, as TEFs

tend to maintain business relations in both countries (Harima, 2022). By drawing on Bagwell (2018), in this paper, we refer to the degree of mixed-embeddedness in both home and host country as '*transnational mixed-embeddedness*.' Although examining the TEF issue using the mixed-embeddedness perspective has recently received scholarly attention, two research gaps remain.

First, in the extant literature, the mixed-embeddedness framework has been predominantly examined in the domestic context of the host country, ignoring the role of TEFs' transnational mixed-embeddedness. There is a gap in understanding the extent to which TEFs' embeddedness in their home countries' institutional environment and social networks affects their internationalization. In addition to advancing research on transnational mixed-embeddedness, addressing this research gap holds practical significance. Guidance regarding exploiting home country-specific embeddedness, such as ties with family and friends, for entrepreneurial success in the host or home country would significantly benefit migrants and TEFs.

The second research gap is that studies examining the process and drivers of TEF internationalization have been conducted primarily in the context of TEFs from emerging economies entering advanced economies, overlooking the internationalization of TEFs from advanced to emerging countries. Bridging this research gap is important because the results derived from studying cases of TEFs moving from emerging to advanced economies may not apply to TEFs internationalizing in the reverse direction, as the opportunities and challenges posed by emerging economies are usually different from those in advanced economies (Luo and Chung, 2013). Thus, this study aims to answer the following research questions: *RQ1. What are the elements that constitute mixed-embeddedness in the host and home country and what is the relationship between them? RQ2. How does transnational mixed-embeddedness affect the internationalization of TEFs from an advanced to an emerging economy?*

To address these research gaps, we adopt an exploratory, qualitative approach to IT-based Chinese TEFs in Canada and the UK to better understand TEF internationalization by examining the transnational mixed-embeddedness dimension. The (transnational) mixed-embeddedness construct involves a richer ontology than other approaches to transnational entrepreneurship by connecting grounded actor perspectives and opportunity structures, in which TEFs maintain or expand their business in a pluralistic and non-deterministic way (Kloosterman, 2010). This study aims to develop a robust understanding of TEFs by synthesizing home and host country-specific mixed-embedded factors. China is an appropriate research setting like a home country, with many TEF activities (Bai *et al.,* 2021). As an emerging market leader, it has undergone significant institutional changes, transitioning from a planned to a market-based economy. Companies started by overseas Chinese were touted to have "…the formidable economic and

technological power…" and "... have become a major driving force behind China's new entrepreneurial movement" (United Nations, 2021).

This study makes several crucial contributions to the literature and theories. First, we propose a framework for visualizing the impact of transnational mixed-embeddedness (cognitive and relational embeddedness) in both the home and host countries of TEFs on the internationalization of TEFs to their home countries. This framework reinforces the argument that the 'transnational' dimension of mixed-embeddedness should not be overlooked (Bagwell, 2018) when using the mixed-embeddedness perspective to study TEFs. Second, our findings disagree with the general assumption that TEFs tend to enjoy higher levels of embeddedness in their home countries despite varying degrees of embeddedness in host countries. Our findings show that TEFs can lose networks with their home countries if they spend extensive time abroad. As a result, TEFs can have a varying degree of embeddedness in their host and home countries rather than just the host. These results enable the proposal of a novel categorization of transnational mixed-embeddedness that could be of significant interest to researchers and practitioners. Lastly, we contribute a context-specific contribution to the TEF internationalization literature by studying TEFs that internationalize from the host (in this paper, advanced) to home (emerging) countries, on which scant research has focused.

The remainder of the paper is structured as follows. The first section introduces the literature on transnational entrepreneurship and mixed-embeddedness. The following sections describe the methodology and explain the case study findings. This study concludes with implications and limitations for future research.

2. Literature Review

2.1 Transnational Entrepreneurship

Research on TEFs has risen in prominence within international business, economic geography, ethnic studies, and sociology (Schiller *et al.,* 1992; Saxenian, 2006, Yeung, 2009). Within the United States, Portes *et al.* (2002) identify more than half of the enterprises started by immigrant entrepreneurs within their sample as comprising TEFs. They are viewed as an "expanded supply of international entrepreneurs" in globalization (Light, 2014, p.22). Although migrants may not always play a significant role in economic activities, TEFs' international activities are likely to generate benefits for the host and

home countries (Bagwell, 2018; De Lange, 2013; Drori et al., 2009; Gurău *et al.*, 2020; Katila and Wahlbeck, 2012; Ram *et al.*, 2008; Solano, 2020).

While transnational and ethnic entrepreneurship are concerned with immigrants' entrepreneurial activities, it is vital to distinguish between them (Honig, 2020). Although the terms are often conflated, ethnic entrepreneurship emphasizes self-employed or one-person businesses (i.e., micro-firms with fewer than ten employees) and middleman minorities, especially in the local ethnic enclaves of the host country (Baycan-Levent and Nijkamp, 2009). Even when opportunities to capitalize on business ventures outside a host country arise, ethnic entrepreneurs often take a reactive approach, trading only within the cultural/ethnic community they belong to (Wang and Altinay, 2012). A TEF is, however, a combination of both personal and environmental characteristics from the home and host country (Portes *et al.,* 2002; Sequeira *et al.,* 2009). Chung *et al.* (2012) use the term 'immigrant effect' to characterize how TEFs' decision-making impacts their home countries. Building on this effect, Chung and Tung (2013) describe the TEF networks in the host and home countries as forming a "transnational community" to promote their business venturing.

Although examining TEF activities could contribute new insights into the increasing global mobility of entrepreneurs, there is insufficient empirical evidence to provide theoretical developments surrounding the TEF phenomenon in the business management field. Few studies have examined firm-and individual-level transnational business activities, and efforts to synthesize the extant literature for a richer understanding of the TEF phenomenon are limited (Cerdin *et al.,* 2014). Given this limited analysis of TEFs in academic research, practitioners navigate without best practice guidance due to disengaged scholarships (Ram *et al.,* 2017). This is unsurprising given that entrepreneurs from ethnic minorities are generally perceived as different from mainstream entrepreneurs (Light and Dana, 2013). Additionally, state actors may benefit from examining TEFs. Particularly for advanced economies like the UK and Canada, experiencing an aging population and growth slowdown, economic revitalization through immigrant entrepreneurs may be critical.

The literature indicates that TEFs from different home countries often display different levels of entrepreneurship. For example, Wang and Altinay (2012) conclude that UK-hosted Chinese TEFs are more entrepreneurial (i.e., innovative, risk-taking, and proactive) than Turkish equivalents. While this difference and socioeconomic conditions (e.g., structural, political, cognitive, and cultural factors) may be linked, entrepreneurs from different ethnic groups are likely to have different entrepreneurial mindsets. In another example from Chand and Ghorbani (2011), US-hosted Indian and Chinese TEFs were reported to be dissimilar in their human resource management practices, life expectancy, and financial performance.

2.2 (Transnational) Mixed-embeddedness

The concept of embeddedness originates in network research and posits that institutions and social relationships affect economic actions (Granovetter, 1985). When analyzing psychological distance, two types of embeddedness are typically stressed: cognitive and relational. Cognitive embeddedness relates to embeddedness in (or understanding) institutions, including market dynamics, formal regulations, and informal norms and values that shape actors' economic behavior (Dacin *et al.,* 1999). On the other hand, relational embeddedness refers to an actor's embeddedness in the social networks, measured by the size and quality of business networks (Moran, 2005; Simsek *et al.,* 2003).

It has been argued that developing cognition regarding the structural context of markets, competition, and the current political and economic environment is essential for any business to ensure that it understands and abides by the 'rules of the game' (North, 1991). Failure to do so may result in reduced legitimacy in the market (Mueller et al., 2009). In tandem, studies suggest that for a firm to grow and be successful, it must aim to achieve 'mixed-embeddedness,' which refers to the mix of both cognitive embeddedness and relational embeddedness. Relational embeddedness facilitates formal and informal collaboration with the resources and capabilities required to strengthen a firm's products, services, and processes. For instance, Chesbrough (2003) explained the strategic importance of business relationships in acquiring knowledge and developing the ability to innovate.

In the extant literature, substantial interest has been directed towards examining the role of mixed-embeddedness in entrepreneurship, particularly in studying how cognitive and relational embeddedness help identify entrepreneurial opportunities and establish and expand businesses. In the context of TEFs, Jones and Ram (2010) define the mixed-embeddedness concept as a combination of personal resources, the surrounding structural context of markets, competition, and the current political and economic environment, all acting together to facilitate or obstruct TEF activities. Further, high relational embeddedness in a diaspora can also instil values and norms that prevail in the diaspora. Elo and Dana (2019) report that Bukharan Jewish entrepreneurs inherit a strong affinity towards entrepreneurship from their families and diaspora communities carrying entrepreneurship traditions. As Ram *et al.* (2013, p. 338) remark:

"This approach suggests that the nature of new migrant business is shaped not only by diversity but also by migrancy: their dislocation in an alien and often difficult commercial, legal and social environment whose successful enactment requires linguistic and experiential skills which many do not yet possess."

Wang and Warn (2018) emphasize the need to look beyond either broad cultural factors or single factors to analyze such a group of entrepreneurs. In essence, the mixed-embeddedness approach seeks to determine why, how, and where the TEF phenomenon occurs.

Thus far, the body of research examining the influence of mixed-embeddedness on TEFs comprises mainly qualitative evidence. Ram *et al.* (2008) reported that ethnic ties formed by Somali migrants in the UK were a driver of the emergence of Somali businesses in the city of Leicester. They found that the friends and families of Somali migrants in the UK provided support in cheap or unpaid labor, interest-free capital, and training, which contributed significantly to the early stages of business development. In the same vein, Bagwell (2015) examined how Vietnamese entrepreneurs in London utilize different forms of mixed-embeddedness to enhance their business expansion. Bagwell (2015) also suggested that TEFs can show nominal degrees of mixed-embeddedness in host countries, ranging from high to none. More recently, Zhu *et al.* (2019) studied how rural migrants from less-developed areas survive the hurdles of starting businesses in China as the host region, albeit in a domestic setting. Finally, Solano (2020) employed the mixed-embeddedness perspective to study the growth of Moroccans' businesses in two European cities, Amsterdam and Milan. They found that local and overseas institutions, heterogeneous contacts, and human capital influence TEFs' business patterns. Overall, the mixed-embeddedness concept is appropriate for analyzing ethnic or immigrant minority entrepreneurs (Nazareno *et al*., 2020).

It is helpful to consider the "transnational dimension" for targeting immigrant businesses' assessment in their broad and embedded structure (Jones and Ram, 2010). TEFs tend to maintain business networks with both their home and host country (Harima, 2022; Sequeira *et al.,* 2009), and hence their performance is likely to be affected by 'transnational mixed-embeddedness' or "transnationalism" (Schiller et al., 1992) or the 'global diasporic embeddedness' (Elo and Dana, 2019), i.e., cognitive and relational embeddedness in both and host countries (Bagwell, 2018). De Lange (2013, p. 18) recognized the positive effects of TEFs in building links and reducing gaps between the host and home country, "…relationship tie building enters a positive feedback loop where more ties and familiarity are built until the level of embeddedness between the two nations reduces the perceived hierarchical differences, and they feel a greater sense of homophily." On the other hand, Bagwell (2018) argues that transnational cognitive and relational embeddedness can help TEFs access international financial and human capital, supporting their internationalization process, but claims that validating such claims will require additional empirical research.

Although the potential influence of transnational mixed-embeddedness has been well accepted in the literature, surprisingly, only a few studies have presented the same evidence. Consequently, two

important research gaps remain in the literature. First, in the current literature, mixed-embeddedness has been applied primarily in the domestic context of the host country, particularly to study how the varying degrees of embeddedness of migrants in the host country's institutional environment and their networks in the host country affect migrants' entrepreneurial success. In these discussions, the influence of migrants' cognitive embeddedness on institutional and relational embeddedness in the personal spheres of their home countries has largely been overlooked (Solano, 2020). For example, while studying the growth of Somali enterprises in the UK, Ram *et al.* (2008) paid little attention to whether the personal ties of Somali migrants from their home countries influenced their businesses.

On the other hand, while Katila and Wahlbeck (2012) examined the criticality of the ethnic ties of Turkish and Chinese migrants in both home and host countries for their success in the restaurant business in Finland, they ignored the impact of migrants' cognitive embeddedness in their home country institutions. Likewise, Ohlsson *et al.* (2012) found that, in Sweden, ethnic contexts (i.e., country of birth) and the economic environment of immigrants' home countries show limited influence in understanding individual differences in the degree of entrepreneurial engagement. However, even though "the country of origin" implies the ethnic origin of an individual, it may not indicate whether the individual is embedded in that ethnic context. For example, Elon Musk was born and raised in South Africa until the age of 17 but was more embedded in the North American context.

The second research gap is that, although TEFs could operate between advanced economies, emerging economies, and vice versa (Drori *et al.,* 2009), most studies investigating the role of mixed-embeddedness have been carried out in the context of TEFs coming from emerging to developed economies.

As one of the few exceptions, Gurău *et al.* (2020) investigated the internationalization of Israeli TEFs in China and reported that mixed-embeddedness in both Israel and China helped develop a dual entrepreneurial habitus in both countries, which ultimately guided the recognition and exploitation of entrepreneurial opportunities in both countries. The different starting points likely involve other challenges for the TEFs. For instance, social embeddedness established in an advanced economy may not be an appropriate resource for an emerging economy as a TEF moves in. For another instance, the institutional settings are likely to be distinct so that TEFs must legitimatize their ventures accordingly (Bolzani *et al*., 2020). Little is known about entrepreneurial firms operating in emerging economies, characterized by a growing market orientation and an expanding economic foundation (Bruton *et al.,* 2008).

As a result, little understanding exists in the literature on how mixed-embeddedness affects the internationalization of other types of TEFs such as TEFs internationalizing from advanced to emerging economies. This research gap needs to be addressed because different starting points (i.e., an emerging country versus a developed country as the home country) are likely to pose additional challenges for TEFs. For instance, on the one hand, TEFs moving from an advanced to an emerging country are likely to experience "the lack of market supporting institutions such as market intermediaries and legal protection of shareholder" (Luo and Chung, 2013, p. 591) in the emerging country, also known as "institutional void."

On the other hand, although TEFs moving from emerging to advanced economies are unlikely to come across any institutional void, they may face challenges in comprehending and implementing the strict requirements of the formal regulatory system in the advanced economy (Gaffney *et al.,* 2014). Additionally, they may struggle to establish legitimacy and build networks in the advanced economy, known as the "liability of emergingness" (Madhok and Keyhani, 2012).

In summary, transnational mixed-embeddedness serves as a unique construct for TEFs unavailable to other types of international small firms. They may face reduced liability for foreignness when entering the home-country market. This study addresses these research gaps by examining how mixed-embeddedness in home and host countries affects TEFs' internationalization from advanced (in this study, home country) to emerging countries (home country).

3. Research methods

An exploratory qualitative approach was employed as the research strategy, focusing on words, speech, and context (Plakoyiannaki *et al.,* 2019; Gephart, 2004) rather than quantification in the collection and analysis of data considering the absence of substantial previous work on TEF internationalization. The case study approach is "…a strategy that examines, through the use of a variety of data sources, a phenomenon in its naturalistic context, with the purpose of 'confronting' theory with the empirical world" (Piekkari et al., 2009, p. 569). Specifically, we adopted a multiple case study method for three reasons. First, it is appropriate to address *how* questions (Plakoyiannaki *et al.,* 2019; Yin, 2017). Second, in the entrepreneurship literature, Urbano *et al.* (2011, p.123) find that case studies have become "increasingly discussed and accepted frequently in the field of TE [transnational entrepreneurship]". Third, compared to single-case studies (Szulanski and Jensen, 2006), Eisenhardt and Graebner (2007, p. 27) believe that theory building from multiple cases "…typically yields more robust, generalizable, and testable theory than single-case research." It also may not be possible to identify single cases that are extreme or crucial

to theory "… adding three cases to a single-case study is modest in terms of numbers but offers four times the analytic power."

Eisenhardt (1989) suggests that four to ten cases should work somewhat with substantial generalizability concerning the number of cases. In this study, six cases from the IT industry were proposed: three TEFs from the UK and Canada. These cases generated sufficient raw data (246 pages of documented materials) for data analysis. During the data analysis stage, a replication logic was adopted to check whether data saturation had been reached; in other words, whether additional data from additional sources would generate new findings. This check confirmed that the six firms were sufficient to provide robust evidence.

3.1 Research setting

Cross-country case studies may promote a comprehensive analysis of social phenomena (Buck, 2011). This study focuses on TEFs in the UK compared to matched pairs of counterpart firms in Canada. Julien (2019) used the same strategy as in the qualitative part of a mixed study. Matched pairs may offer effective theoretical development in the flexible contexts of case studies by holding certain variables constant (Buck, 2011). Thus, the differences and similarities between the findings of these two countries can be investigated.

It would be interesting to examine whether TEFs exhibit the same behavioral patterns in different host environments. Both Canada and the UK are rich in the TEF phenomenon. Also, both countries have various institutions in the form of immigration policies. Canada is a long-standing immigrant country with an average of 42,000 entrepreneur-class immigrants per annum (Statistics Canada, 2018). Its business immigration program is the most successful of over 30 national programs, aiming to attract high-net-worth entrepreneurs with substantial financial and human capital (Ley, 2013). In the UK, immigrant entrepreneurs tend to be hyper-productive and net contributors to the economy (Wang and Warn, 2018). The UK's immigrant businesses grew three times faster than their domestic counterparts (Ram *et al.,* 2011). However, the UK has been unsuccessful in securing a higher share of business-class immigrants but has received more asylum-related immigrants than Canada (World Bank, 2022). Although it should not be the primary reason, the Canadian economy has outperformed its British counterpart in recent years in terms of GDP growth (World Bank, 2022). Entrepreneurial immigrants in Canada have contributed to its lead.

Information Technology (IT) was chosen as the industry sector to avoid cross-industry variance in this study. It is suitable to study TEFs (Brzozowski *et al.,* 2017) representing high-tech, fast-growing industries. Some may consider the IT industry a 'footloose' industry, located anywhere without affecting

factors such as resources or transportation (Buckley and Ghauri, 2004). Companies in such an industry do not depend heavily on their location and do not need to be near an input or market. Thus, the IT industry's selection includes two more variables: industry and distance on internationalization. The designated *Standard Industry Classification* codes are 7721 and 62020 in Canada and the UK. The IT industry has a substantial presence in both nations. To triangulate findings from the primary respondents, we conducted interviews with three experienced Canadian IT business consultants with intensive experience using a different set of semi-structured questions.

3.2 Selection of cases

TEFs that fit our selection criteria should: employ between 10-250 people (also recommended by Dimitratos *et al.,* 2016) in the IT industry, be established in Canada or the UK, and be owned and controlled by an entrepreneur born in China who has engaged in outward international activities. We followed a purposive sampling strategy (Groenland and Dana, 2020) because we sought data from a specialized population (e.g., small firms); that is, we purposefully screened a sample that reflected the theoretical focus and considered variation across different contexts. This technique is a typical sampling strategy in international business studies (Fletcher *et al.,* 2018). Specifically, the company directory of the relevant business associations was utilized for screening and making contacts, such as *the China-Scotland Association, Scottish Development International, Business Club Scotland, Canada China Business Council, and the Chartered Institute for IT*. Potential candidates were contacted via telephone and email to confirm their information and verify whether their company met the selection criteria. Once the company met all the selection criteria, they were invited to participate in the study. As a result, 112 eligible firms were screened and contacted, of which eight were willing to participate, thus meeting the study design. Three TEFs of Chinese origin were selected from each country. Three Chinese TEFs in the IT industry in Canada were chosen with a matching number of cases from the UK.

UK-based TEFs are all based in Scotland, which has many IT companies. Many studies have adopted a subsample of Scottish high-technology firms to represent their UK-context research (e.g., Johnson, 2004). Situated in the central belt with the highest population density in Scotland, the three TEFs are headquartered in Edinburgh and Glasgow, the two largest Scottish cities. All three Canadian TEFs are in Vancouver, British Columbia. Vancouver has a high concentration of IT companies in Canada, with over 6,500 high-tech companies and 49,000 employees (Statistics Canada, 2018).

Table 1 provides detailed profiles of case firms.

Insert Table 1 here

3.3 Data collection

Following Groenland and Dana (2020) and Yin (2017), the data collection instrument comprised semi-structured interviews with owners, senior managers, expert consultants, examinations of company histories, media reports, websites, financial data, and so forth. The semi-structured format ensured that each interviewee's key questions were answered and encouraged the researcher to interject additional questions as appropriate. All interviews were conducted face-to-face in English, so there was no meaning lost in the translation. Interviews contained the personal background (to ensure the suitability of the study), business conditions, motivations, and networking relationships required. We used several guiding questions to elicit interviewees' perceptions of doing business in both countries. The guiding questions act as a frame to gather information covering the different aspects of embeddedness applied to TEFs. In addition to guiding questions, interviewees were encouraged to express themselves. The interview schedule also included a series of open-ended questions, such as the interviewees' experiences of settling in the UK or Canada, establishing a business, and their experiences of taking their business to China. As a result, we conducted 15 interviews (interviews with the owner and one senior manager from each of the six firms, plus interviews with three expert consultants); each interview was voice-recorded and transcribed, varying from 75 to 90 minutes.

Recommended practices from the literature were adopted to improve the validity and reliability of the case study evidence (Yin, 2017). We collected both primary and secondary data. In each case, two owners/managers were interviewed separately to validate their arguments, extract more empirical evidence, and find alternative explanations (Borah *et al.,* 2019). Dana and Dumez (2015) mentioned that qualitative researchers often face a risk of involving "abstract actors" as respondents, who may not have a sound understanding of the topic in question despite being associated with the target organization. To avoid this problem, we interviewed only the owners and senior managers from each case who oversaw the internationalization process in the respective TEFs. To further triangulate the data and understand TEFs' mixed-embeddedness in their entrepreneurial activities, interviews were conducted with three expert business consultants who had assisted TEFs in the past.

3.4 Data processing and analysis

The Gioia methodology (Gioia *et al.,* 2013) was used, as this methodology has been used extensively for analyzing data in qualitative research on small firms to analyze the data (e.g., Kimmitt and Muñoz, 2018). This method recommends analyzing qualitative data in three stages. The first stage involved the

identification of first-order codes from the interviews. At this stage, all interviews were imported and processed using NVivo. NVivo is specialized software that manages, stores, and analyzes a large quantity of qualitative data (Jackson and Bazeley, 2019) to be coded into nodes. The nodes created on NVivo were then 'axially coded' (Strauss and Corbin, 1998) into first-order codes, that is, merged by drawing on the resemblances in their meanings. Axial coding significantly reduces the number of nodes, thereby helping achieve a manageable number of first-order codes (Borah *et al.,* 2019; 2021).

Gioia et al. (2013) recommend using theory and conceptual frameworks to identify second-order themes from first-order codes in the second stage. The data were read thoroughly in light of the research questions and existing approaches and conceptual frameworks generally used in international business and entrepreneurship literature to create appropriate second-order themes for each first-order code. Regarding the relevance of different theories, we kept an open mind, which Dana and Dumez (2015) also recommend for avoiding the "risk of circularity" in qualitative analysis. This stage was performed in the presence of all co-authors to capture multiple and contrasting perspectives on the suitability of different theories to our first-order codes and avoid the "risk linked to equifinality" (Dana and Dumez, 2015), which is often present in qualitative research and refers to situations where researchers show bias towards a specific theory and ignore other relevant theories possibly due to their lack of knowledge. We found that the institutional distance framework (Kostova *et al.,* 2020; Xu and Shenkar, 2002) from the institutional theory (North, 1991), the resource-based view (Barney, 1991), and the cognitive versus relational embeddedness framework (Simsek *et al.,* 2003) from the embeddedness literature can help explain our first-order codes; hence, they were used to derive the second-order themes. Second-order themes were clubbed together in the third stage to generate third-order constructs.

Two coding sheets were prepared. The first coding sheet was used to understand the elements of transnational mixed-embeddedness. Here, the second-order codes were: "generic cognition of home and host country institutions", "industry-specific cognition of home and host country institutions", "generic relational ties in the home and host country," and "industry-specific relational ties in the home and host country". These second-order constructs were then combined to form "transnational cognitive embeddedness" and "transnational relational embeddedness". The second coding sheet mapped how such embeddedness helped TEFs internationalize in their home country. The second-order constructs are: "acquiring financial resource in the home country", "acquiring human resource in the home country", "achieving localization of employee-centric strategies in the home country", "achieving localization of customer-centric strategies in the home country", and "achieving localization of regulatory strategies in the home country". The first two second-order themes were then combined to form a third-order construct "reducing resource barriers to internationalization in the home country", and the latter two second-order

themes were merged to form a third-order construct "reducing institutional distance barriers to internationalization in the home country".

The data structures are reported in Figures 1 and 2, whereas Tables 2 and 3 shed light on how first-order codes were derived from interview quotes by sharing some examples. It should be noted that all the themes identified as a part of the second coding sheet (Figure 2 and Table 3) refer to issues in the home country only. This is mainly because of the limited scope of our second research question, through which we aim to study the role of transnational mixed-embeddedness on the internationalization of TEFs from host to home country only, not the internationalization activities occurring in the opposite direction[1].

Insert Figure 1 here

Insert Figure 2 here

Insert Table 2 here

Insert Table 3 here

4. Findings

4.1 Elements of transnational embeddedness and relationships among the elements

4.1.1 Elements of transnational relational embeddedness

The interviewees outlined two types of relational embeddedness important for the internationalization of TEFs in their home countries: generic and industry-specific relational embeddedness. Generic relational embeddedness of a TEF founder refers to ties with individuals in the wider business sphere who may not have any significant association with the focal industry (in which the TEF operates) in both home and host country. Examples of generic ties mainly include founders' ties with family and friends. Most interviewed founders mentioned having generic ties back home, which they formed during their stay in

[1] As discussed in the literature review section, the role of transnational mixed embeddedness on the internationalization of TEFs to host countries has already received some scholarly attention.

their home countries. For instance, for Alpha, the founder of TEFUK1, an important source of social capital came from his family, which he maintained despite his immigration to the UK. As Alpha reflected:

"Although I moved to the UK, I always had friends and family back home. I had no problem talking to them or asking them to do me a favor because I knew them when I was young. Magically, it ends up that they are all powerful people now…it just happened to be this way."

However, not all TEFs are able to maintain high generic relational embeddedness in their home countries. This was mainly the case for those TEFs, who moved at a very early stage. For such TEFs, generic relational ties in home countries were maintained mainly through their parents and other older family members, and these ties become weaker over time, as Gamma from TEFUK2 commented:

"When my parents were alive and living here [in the UK] with me, they [relatives in China] would call us every week. Ever since my parents died, we have not been in touch. No phone calls and emails from them in the last five years. I should not blame them entirely for this. I also have not been very proactive in contacting them."

In such cases, TEFs attempted to use the relational embeddedness developed in the host countries, particularly ethnic ties developed through education, business activities, and residence, as a channel to bolster their generic relational embeddedness in their home country. For instance, Epsilon, the founder of TEFUK3, shared good relationships with some Chinese students enrolled in UK universities. Following his graduation from a UK university, many of his classmates returned to China to start a business. With Epsilon remaining in the UK, these classmates became the primary source of TEFUK3's social capital. These returnee entrepreneurs greatly facilitated TEFUK3's market penetration in China. Returning the favor, Epsilon also assisted the alumni of his Chinese *alma mater* when they attempted to enter the UK market from China by imparting them with local knowledge of the UK. Further, after graduation and initial start-up success in the UK, Epsilon was invited regularly by his UK *alma mater* as a guest lecturer for one postgraduate module in business and management, which provided Epsilon with networking opportunities with Chinese scholars studying there.

Likewise, Alpha, the founder of TEFUK1, worked for several years at the Glasgow City Council before starting his venture in the UK as a Chinese translator. Alpha was the only Chinese-speaking employee, so he was often assigned to serve as an interpreter for Chinese officials and business delegations (the English translator from China could not understand the Glaswegian accent). Through these translations, Alpha interacted with several Chinese officials and businesspersons who later became friends, inviting him to do business in their regions of China. Thus, such ethnic ties with the Chinese diaspora living in the UK and

Canada ultimately helped entrepreneurs bolster their relational embeddedness in China. TEFs also tried attending events organized by the Chinese diaspora in their host countries to strengthen their ethnic ties. For instance, Gamma would go to all the cultural functions hosted by the association for overseas Chinese residents in the UK.

Alongside generic relational ties, these activities also facilitate opportunities to strengthen industry-specific relational embeddedness in the home country. Industry-specific relational embeddedness refers to relational ties in the specific industry (in these cases, the IT industry), where the TEF operates. For instance, the cultural events attended by Gamma in the UK are also attended by professionals and policymakers from the IT industry. Gamma mentioned that during the event, he had the opportunity to meet the advisor to the IT minister in one of the regions in China. Similarly, a businessperson, whom Alpha met during his tenure as a translator at the Glasgow City Council, introduced him to an industry association as a member. This membership significantly benefitted Alpha in terms of opportunities to approach potential clients who were also members of the same association. Thus, these generic ties act as "network brokers" (Knight and Harland, 2005) between them and individuals working in the IT sector, helping the founders of TEFs develop more industry-specific relational capital.

Gamma, however, recognized the importance of wider networks (i.e., networks in other industries). According to Gama, these wider networks are sometimes helpful in understanding business scenarios in related sectors and may prove to be quite valuable for their TEF. In particular, technologies such as AI and big data, in which TEFUK2 specializes, are cutting across multiple industries (Borah *et al.,* 2019). As a result, entrepreneurial opportunities for TEFUK2 are no longer only limited to the IT sector. Gamma further noted:

"Although people don't think much of the necessity of having networks outside of their area of specialization, I do know that it does not hurt to have them. Now I try to attend local networking events and cultural functions, try to meet people, and introduce my firm to them. Some of them even have a more expansive inter-industry network in China than I do, so why not seek a partnership with them to explore opportunities in other industries?"

Another interesting approach to using relational embeddedness in host countries to build relational embeddedness in home countries, particularly industry-specific embeddedness, was observed in the case of TEFCA1's Eta. Eta added all his Chinese contacts in the IT industry to *LinkedIn*, most of whom he met in the UK. He then scanned each of their *LinkedIn* connections (or friends on *LinkedIn*). If any of the

relationships were influential in Chinese business or the socio-political sphere, he would ask his Chinese contact to introduce him virtually or in person. Eta said:

"I first added all my existing Chinese friends on LinkedIn. Then, I would spend hours looking at their first-degree LinkedIn connections to see if any of these connections could be helpful for my business. For example, are they big names in the Chinese IT industry? If they are, I would send them a connection request on LinkedIn, along with a recommendation from one of our common Chinese friends. If the connection request is accepted, I would then start conversations with them about my company and our internationalization plans and seek advice on internationalization as well as how to adapt to the local institutional norms in China."

Thus, social media platforms, particularly *LinkedIn*, helped bridge the 'structural holes' (Ahuja, 2000) in the case of TEFCA1's Eta. This finding also highlights the process of diaspora network formation, which has been relatively underexplored in the literature despite the efforts made by prior studies to recognize the importance of forming diaspora networks for the growth of TEFs (Elo and Dana, 2019; Elo *et al.,* 2019) and different categories of diaspora networks (Elo *et al.,* 2021).

4.1.2 Elements of transnational cognitive embeddedness

Similar to relational embeddedness, cognitive embeddedness can be categorized into generic and industry-specific cognitive embeddedness. Generic cognition refers to the understanding of general formal and informal institutions that are common to all industries, whereas industry-specific cognition refers to the understanding of industry-specific formal and informal institutions necessary for doing business in a specific industry (in the context of this paper, the IT industry). For example, in this case, generic cognitive embeddedness in the home country would refer to the TEFs' knowledge of Chinese cultural norms and practices (informal institutions); and knowledge of Chinese legal, political, and economic norms, structures, and practices (formal institutions).

Almost all interviewed entrepreneurs studied in this paper were born and brought up in China. They reflected how companies and institutions work in China and felt 'psychically close' (Baronchelli *et al.,* 2016) to China, suggesting that they possessed adequate cognitive embeddedness in the home country. For example, Ni from TEFCA3 was familiar with the weak intellectual property regulations and the 'copycat' culture (Peng *et al.,* 2017) in China. He knew that to survive in the Chinese market, he would have to form trustworthy 'guanxi' (Keupp *et al.,* 2009) with local partners.

We envisaged that TEFs, who emigrated to their home countries at an early stage, may lose cognitive embeddedness in their home countries, just like their relational ties. We found partial support for this. On the one hand, the interviewed entrepreneurs mentioned that despite their emigration to foreign countries at an early age, they were still able to connect with the informal institutions in China, particularly the cultural norms and practices. Kappa from TEFCA2 commented:

"I have no problems in working with Chinese people because I am also one of them and I completely understand how they behave in particular situations or what their expectations are."

This finding aligns with studies that tend to argue that it takes generations to change cultural values in a society[2]; hence, the Chinese cultural values and routines experienced by TEFs during their teenage are still relevant today. On the other hand, interviewees revealed that they did not possess adequate cognition of formal institutions, both generic and industry-specific, before starting their operations in China. This is mainly because formal institutions such as economic policies, labor laws, and immigration laws change regularly. For instance, compared to informal institutions, formal institutions in the IT sector in China have undergone more changes in recent years, particularly in big data, artificial intelligence, and the Internet of Things (Roberts *et al.,* 2021). Thus, the cognition of the formal institutions in the Chinese IT industry developed by the entrepreneurs before leaving China is irrelevant today.

To strengthen generic and industry-specific cognitive embeddedness, these entrepreneurs consulted people in their diaspora and socio-professional networks, suggesting that relational embeddedness also supported them in maintaining cognitive embeddedness in the home country. For instance, conversations with Chinese officials and businesspersons, whom he met during his tenure at the Glasgow City Council, helped Alpha stay up-to-date with the policy changes in the Chinese business environment and the challenges and opportunities they present to TEFs coming to China. Alpha recalled one of his conversations with a Chinese official about the changing immigration regulations, which taught him about the appropriate visas and approvals required for him and his non-Chinese employees to do business in China. He could also fast-track the visa application and other approval processes with the help of an official. Another businessperson introduced Alpha to an industry association as a member, which significantly benefitted Alpha in terms of opportunities to approach potential clients who were also

[2] For instance, international business and management scholars still use Hofstede's and Globe's cultural scores while explaining the culture of countries, which were calculated decades ago (e.g., see Borah et al., 2022; Kostova *et al.,* 2020).

members of the same association and participate in quarterly conferences where issues such as regional growth and policy changes in the IT sector, new digital start-ups, and IT capabilities were discussed.

Similarly, Ni from TEFCA3 had a good understanding of the culture and policies in China, particularly the IT industry, which he developed through frequent interactions with his friends currently holding top-level positions in Chinese IT firms. Such understanding helped Ni acquire relevant certifications easily (e.g., company registration, ethical sourcing, and data security and privacy certifications) and enabled Ni to find potential collaborators. For instance, through his contacts within the Chinese IT industry, Ni hired a reputed social media influencer with more than 50,000 followers to promote mobile applications developed by TEFCA3. Likewise, connections with university professors in computer science at prominent Chinese universities helped Gamma know more about the government funding landscape in China, particularly for small firms operating in the IT sector.

TEFs also tend to keep themselves up-to-date with the policy changes in their home country through extensive reading and using the internet. A year before internationalizing in China, both Eta and Theta started reading policy and company reports available on the internet to familiarize themselves with the Chinese business policies and environment. They also subscribed to the Twitter handles of all major Chinese corporations and regulatory bodies in the IT sector to track recent policy changes in the industry. A similar practice was also adopted by Zeta from TEFUK3, who commented:

"Before returning to China, I researched the Chinese software industry thoroughly: the policies, work culture, competition, suppliers, clients everything. I read books, subscribed to Chinese newspapers, and invested a significant amount of time on the internet."

We also asked about the interplay between cognitive embeddedness in home and host country. Unlike how relational embeddedness in the host country helps develop ties in the home country, cognitive embeddedness in the host country is not useful for developing cognition of the home country and vice versa. In fact, more proximity to the host country's culture and other institutional norms may make it difficult for an individual to develop cognition of the same in the home country. Eta immigrated to Canada with his family when he was a teenager and considered himself to be "more Canadian than Chinese," suggesting that Eta was able to identify more with the Canadian institutional values than that of China; and this presented a reverse culture shock when Eta extended the business to China.

4.2. The role of transnational mixed-embeddedness in the internationalization of TEFs

We found that transnational mixed-embeddedness helps TEFs in reducing two key barriers to internationalization: resource barriers and institutional distance barriers, as explained below.

4.2.1 Reducing resource barriers

Earlier research shows that firms often experience difficulties accessing resources in a new foreign country, mainly because of the lack of understanding about the quality of the resources and processes involved in acquiring them (Cuervo-Cazurra *et al.,* 2007; Gassmann and Von Zedtwitz, 1998). We found that mixed-embeddedness in the home and host country can help reduce such difficulties, particularly in acquiring financial and human resources.

In the cases that we studied, in terms of financial resources, transnational mixed-embeddedness helped TEFs to understand the funding landscape in the home country and then to approach appropriate sources for funding. For instance, in conversations with a professor of computer science, whom Eta met through LinkedIn, he not only accessed information about the various public and private grant opportunities available for software firms in China but also co-developed a grant application. Similarly, Zeta mentioned that he did not encounter any difficulty in acquiring funding from venture capital (VC) firms for TEFUK3 as his contacts sat on the board of directors in VC firms. In one case, TEFCA2's founder's contacts in China helped them land a multi-million-dollar project by organizing meetings with clients. Likewise, TEFCA1's product offerings ranged from in-home displays and consumer energy engagement products to advanced data analytics for utilities. Its primary current and potential customers in China were high-end real-estate developers. All orders received from China came from its founders' university friends, who returned to work in China after their Canadian post-secondary education. These friends were typically in management positions at (sometimes state-owned) real estate corporations in China and made critical purchase decisions for large-scale development projects. Likewise, in terms of human resources, transnational mixed-embeddedness played a significant role in familiarizing TEFs with the recruitment processes, opportunities and challenges in China, particularly within the IT sector. For instance, Alpha from TEFUK1 mentioned:

"I would sit down with my friends for hours to understand how to identify and recruit employees in the Chinese IT industry; for example, the job sites that I should use to post advertisements and strategies to tackle the high employee attrition problems in China."

In addition, academic connections in China helped Eta to gain access to the start-up center and a "joint industry-university laboratory" (Borah and Ellwood, 2022) of the university and receive some incubation and accelerator services offered by the center and the lab, such as office space at the university campus

for the first year of internationalization at a subsidized rate. Further, since Eta did not initially move to China, he hired two graduates from that university to work on part-time contracts in the university office space. In the meantime, Eta and his employees benefitted from the virtual incubation services offered by the university, particularly training sessions with venture capital firms and successful entrepreneurs in the Chinese IT industry that were aimed at increasing familiarity with Chinese institutions and ways of doing business, e.g., IP rights, emerging start-up ecosystems in different regions of China, tax policies, and subsidies.

From such evidence, it is clear that relational embeddedness in the home country plays a crucial role. Relational embeddedness in the host country is also important because relational embeddedness in the home country can be established through the TEFs' ties in the host country, as discussed earlier. In most cases, TEFs use transnational relational embeddedness to strengthen their cognitive embeddedness in their home country, for example, to understand what resources could be helpful and what processes need to be followed to acquire such resources. Then, the TEFs acquire those resources, either by themselves or through relational ties.

However, a question remains unclear: what type of relational embeddedness matters the most for acquiring resources: generic or industry-specific? We found that industry-specific relational embeddedness tends to be more useful because the resources themselves are often specific to the industry, and to access such resources, one needs contacts within the industry. For instance, a TEF would likely seek advice from someone from IT on hiring freelance software engineers for outsourcing. This argument was also raised by Gamma. Rather than utilizing any family network resources, Gamma calculated that two considerations were essential for venturing into China: choosing the right industry on the rise, and knowing the right people. Gamma commented:

"Network resources are useful only when the right people are known. You need to network with people holding good positions in the industry who have gained a sound knowledge of market demands and how business is done in the industry. Relying only on family ties will not facilitate many benefits in the internationalization process."

That said, occasionally, TEFs may benefit from their generic relational capital if the resources they aim to acquire are generic, e.g., grants which may be common to all industries.

Overall, these findings agree with the conclusions of prior studies (e.g., Elo and Dana, 2019; Elo *et al.,* 2019; Ram *et al.,* 2008), that relational embeddedness in host and home countries facilitates international trade by helping access key resources and identifying entrepreneurial opportunities. However, earlier

literature tends to conceptualize that all relational ties help to acquire resources; nevertheless, we maintain that TEFs tend to acquire resources through using their industry-specific relational connections only as industry-specific associations have the first-hand knowledge of the type and level of resources necessary for TEFs to identify and exploit opportunities (Clough *et al.,* 2019) in the industry. On the other hand, generic relational ties are essential for introducing industry-specific connections and developing generic cognitive embeddedness in the home country.

4.2.2 Reducing institutional distance barriers

In international business literature, institutional distance refers to differences in formal and informal institutions between countries of origin (in this case, the host country) and the destination country (in this case, the home country), and it has long been seen as a critical barrier to the internationalization of firms (Gaur *et al.,* 2007; Xu and Shenkar, 2002). Researchers argue that when there are high institutional differences, firms' strategies do not fit with the new destination country as these strategies are often inspired by the country of origin (Borah *et al.,* 2022). Our interviewees also expressed similar views and mentioned challenges created by institutional differences between their host and home countries and the need for reducing these differences by developing strategies in line with local institutional norms. Alpha from TEFUK1 elaborated on his perception of the Hong Kong-Scotland entrepreneurial cultural difference:

"Hong Kong is so small that if you don't try to trade with other people, you won't survive. There is a significant difference in Scotland: everyone is looking for a job. However, people in Hong Kong are different. They try to create a job for themselves and create something to do. Two different things."

We found that transnational mixed-embeddedness, particularly cognitive embeddedness, played a crucial role in reducing the institutional distance for the interviewed TEFs. One of the strategies that TEFs used to reduce institutional distance was to align their business practices with the local institutional norms, known as the "isomorphism strategy" (Salomon and Wu, 2012) or "localization strategy" (Jarillo and Martíanez, 1990).

The interviewed TEFs admitted to using three types of localization. The first, employee-centric localization, is where TEFs offer a workplace for local employees that resonates with the cultural values of the home country and expectations of the home country employees. To achieve employee-centric localization, cognition of the local cultural norms is important. As discussed earlier, most TEFs interviewed in this study had sound generic cognition of the Chinese culture and language and, therefore, did not experience difficulties integrating Chinese cultural values into the work culture of their Chinese

offices. On the other hand, TEFs also mentioned the significance concerning the cognition of the expectations of local employees in designing localized human resources management practices. Prior research shows that localized human resource practices effectively attract and retain talent (e.g., Borah *et al.,* 2022). Consequently, the interviewed TEFs had to develop cognition at the country-level, regional-level, and industry-level of taxation policies, salary caps, and expectations of employees. For instance, Iota from TEFCA2 commented:

"Understanding better the taxation policies, salary caps, and expectations of employees from various backgrounds ultimately helped us design competitive salary and bonus schemes for employees."

Epsilon also stated that he researched the Chinese education system, particularly the quality of universities in different cities and the recruitment practices of rival firms, to design suitable practices for enticing fresh graduates to work for TEFUK3.

The second type of localization that TEFs implemented was offering products that cater to customers' needs, which we call customer-centric localization. For example, Kappa from TEFCA2 offered the following advice to foreign firms entering China:

"To move to a market with a completely different culture, you have to get the input of the locals—understanding cultural differences. You have to show them [local consumers] that your product is integrated into their lifestyle."

Prior cognition of the needs of different customer segments is a prerequisite to implementing such a strategy. However, interviewees suggested that customers' needs may vary across industries, and as a result, they aimed at developing cognition about customer needs in the focal industry only. However, for those TEFs that are involved in B2B business (e.g., offering IT solutions to other businesses), it was also crucial to have an understanding of customer needs in the wider market (e.g., the automobile, pharmaceutical, and real estate industries). Furthermore, the interviewed founders revealed that prior cognition helped them to choose appropriate channels for reaching out to customers. Epsilon, for instance, from TEFUK3 admitted to possessing prior knowledge of the social media platforms and online communities that should be used for promoting products in China.

The third type of localization that TEFs aimed to achieve was regulatory localization, where TEFs design regulatory strategies in line with local legal and regulatory norms. In particular, the TEFs needed to ensure that their products matched the local standards set by the industry associations. So, prior cognition of industry-specific standards such as data privacy standards, and sustainable sourcing policies helped in

achieving the localization of regulatory strategies. On the other hand, TEFs also discussed the importance of having cognition of country-level legal institutions, such as the judiciary systems, to design intellectual property protection strategies. For instance, Delta mentioned that even before launching TEFUK2 in China, he developed high familiarity with the challenges and strategies for protecting intellectual property in China. To develop such familiarity, Delta studied extensively the intellectual property protection reports published by international agencies, academic researchers, and companies in China. He commented:

"When my firm was developing the first product in China, I said we are not going for patents because it is very difficult to win lawsuits here. We will try to keep the product development process secret and aim for first-mover advantage."

To summarise, cognitive embeddedness in the home country helped TEFs reduce institutional distance by enhancing their ability to design localized employee-centric, customer-centric and regulatory strategies. Both generic and industry-specific cognitive embeddedness is vital. However, our interviews did not reveal any influence of cognitive embeddedness in the host country on reducing the institutional distance from the home country. Overall, these findings corroborate the results of studies from the international business domain (Meyer *et al.,* 2011; Raziq *et al.,* 2021), which view cognitive embeddedness in the destination country as a crucial factor for diminishing the challenges posed by institutional distance. In the context of TEFs, our findings confirm that Gurău et al. (2020) observed that cognitive embeddedness helps TEFs overcome the 'liability of foreignness' (Zaheer, 1995) when internationalizing to new institutional settings.

5. Discussion and Conclusion

5.1 Implications for research

This paper advances the literature on several fronts. First, our findings help us propose a novel typology of transnational mixed-embeddedness (Figure 3) which, in the extant literature, has mostly been defined at a more abstract level as a combination of relational and cognitive embeddedness in home and host countries. However, in this paper, we offer a more nuanced typology by claiming that relation and cognitive embeddedness can be either generic or industry-specific.

Insert Figure 3 here

Second, our findings also challenge the assumption that TEFs always enjoy high mixed-embeddedness in their home country. Drawing on empirical evidence collected from Vietnamese TEFs in the UK, Bagwell (2015) found that Vietnamese TEFs' embeddedness in the host country (UK) varied from high to moderate, to low. Based on this, Bagwell (2015) suggests that mixed-embeddedness in host countries should be categorized as high, moderate, and low. Bagwell's (2015) categorization seems to assume that all TEFs possess high embeddedness in their home countries. However, this is not always the case. We argue that the degree of mixed-embeddedness in home countries can also vary. Specifically, we found that although TEFs may possess high generic relational ties and cognition in the home country, they may lack industry-specific relational and cognitive embeddedness. Similarly, if individuals move to foreign countries at an early age and do not keep themselves up-to-date with the institutional changes in their home countries, their generic cognitive embeddedness in their home countries is also likely to reduce with time. This is the case with the cognition of formal institutions, as regulatory and economic policies tend to change frequently.

Based on such evidence, this study extends the mixed-embeddedness theory by forming a new, comprehensive, and nuanced typology of transnational mixed-embeddedness (Figure 4), where we present nine degrees of transnational mixed embeddedness accounting for embeddedness in both home and host countries. This comprehensive framework will provide a valuable platform for future studies to examine whether different degrees of mixed-embeddedness in home and host countries lead TEFs to take different transnational entrepreneurship routes or pose various opportunities and challenges for TEF internationalization. Simultaneously, researchers studying migration issues can use this categorization to review migrants' attachment to home and host countries (Toruńczyk-Ruiz and Brunarska, 2020) and investigate how the dynamics of embeddedness change in their home and host countries over time.

Insert Figure 4 here

Third, our findings contribute to the literature on the formation of relational embeddedness. We know little about how relational embeddedness developed in one country (in this case, the host country) can assist in establishing relational embeddedness in another country (home country) and thereby facilitate the internationalization of TEFs, to which we have contributed. We respond to Gurău *et al.*'s (2020) call for further research to explore the importance of immigrants' embeddedness in their country of origin (host country) networks for their entrepreneurial success in the host (home) country. In addition, the observations on the formation of relational embeddedness via social media platforms like LinkedIn also highlight the process of diaspora network formation, which has been relatively underexplored in the literature despite the efforts made by prior studies to recognize the importance of forming diaspora

networks for TEFs' growth (Elo and Dana, 2019; Elo *et al.,* 2019) and different categories of diaspora networks (Elo *et al.,* 2021). We contribute to bridging this gap and recognize the need for more in-depth research to explore de facto ways of extending embeddedness in diaspora networks in TEFs in home and host countries.

Fourth, we develop an integrative model of how mixed-embeddedness in host and home countries helps TEFs internationalize to their home countries (Figure 5). We argue that transnational mixed-embeddedness helps TEFs internationalize to home countries by reducing resource and institutional distance barriers. Particularly, relational embeddedness helps overcome resource barriers, while institutional distance can be overcome using cognitive embeddedness. We also found that high relational embeddedness leads to high cognitive embeddedness, suggesting an indirect effect of relational embeddedness on reducing institutional distance barriers. Finally, our findings indicate that relational embeddedness in the host country helps TEFs develop ties in home countries, thereby playing a role in reducing barriers to internationalization in home countries. Overall, this model strengthens the literature on the TEF internationalization process by facilitating an understanding of how cognitive and relational embeddedness in home and host countries helps TEFs exploit entrepreneurial opportunities in their home countries. So far, most of the extant literature has examined the influence of mixed-embeddedness on the performance of TEFs in host countries, ignoring the transnational dimension of mixed-embeddedness (Bagwell, 2018; Solano, 2020), and we have bridged this gap.

Insert Figure 5 here

Moreover, in the extant literature on diminishing institutional distance for firms, while the role of generic cognitive embeddedness has been acknowledged (Raziq *et al.,* 2021), the importance of industry-specific cognitive embeddedness has hardly been discussed. We argue that industry dynamics and regulations could differ from the overall institutions in a country, which also conforms to Peng *et al.*'s (2019) strategy tripod that considers industry dynamics and country institutions to be separate forces. Studies (Pogrebnyakov and Maitland, 2011; Xu and Shenkar, 2002) have urged researchers to investigate ways to separately mitigate national and industry-level institutional distance. In response, we argue that a TEF or any business entity cannot grow by relying solely on generic cognitive embeddedness. Developing industry-specific cognition is vital for TEF internationalization in reducing institutional distance at the industry level, which must be studied.

Finally, this study makes a context-specific contribution by examining the internationalization of TEFs from advanced to emerging countries. TEFs moving from less developed to more advanced economies

have been the preferred empirical setting in extant literature investigating the drivers of TEF internationalization (e.g., Ram *et al.,* 2008; Elo and Dana, 2019; Solano, 2020). Thus, our findings provide evidence that emphasizes the need for fine-grained consideration of different internationalization elements between different types of international entrepreneurial firms in terms of varying degrees of transnational mixed-embeddedness and their entrepreneurial origins and destinations. Thus, this study responds to calls for a further understanding of contextual entrepreneurial behavior (Wright and Stigliani, 2013).

5.2 Practical implications

TEF practitioners should strategically draw upon their cross-country and cross-cultural experiences. They may overlook opportunities and network advantages back home and often overinvest in the industry's primary market. Instead, we argue that TEFs should balance their resource allocation between home and host countries and devote even more resources to their home country's market for international success if they feel distant from the home country regarding cognition and relational ties.

Furthermore, this study demonstrates unique patterns in which TEFs can develop relational embeddedness in their home country. It is common that second-generation and even first-generation migrants lose relational embeddedness in their home countries after spending a significant amount of time abroad. Our study suggests that TEFs founded and managed by such migrants should first try to develop networks with the diaspora in the host country. Through this diaspora network, they may receive access to political and business connections in their home country. Social media platforms such as *LinkedIn* can further be used to develop relational embeddedness. Participation in events organized by the diaspora and extensive interactions with diaspora members on home country-related issues can help TEFs develop cognitive embeddedness in the home country.

From a policy perspective, home-host country interface government agencies — such as UK Research and Innovation China and Canada China Business Council — may implement adjustment programs and hold workshops to help bolster transnational entrepreneurs' cognitive embeddedness in the home country (China). TEFs may understand their home country's generic institutional mechanism well, but they may know little about the institutions specific to particular industries. Such workshops may also unveil opportunities for entrepreneurs to strengthen their generic and industry-specific relational embeddedness in their home country.

5.3. Limitations and future research avenues

This study has some inherent limitations, which provide helpful directions for future research. The sample firms studied in this paper are of Chinese origin. Also, there is little diversity in the personal backgrounds of the transnational entrepreneurs, e.g., education or work experience in the home/host country. Future studies could consider transnational entrepreneurs with diverse personal backgrounds. However, one caveat is that transnational activities are not always comparable among the TEFs of various origins (Kariv *et al.,* 2009). Similarly, the institutional environments of both the home and host countries are yet to be examined for comparison, which may be of interest to policymakers.

Additionally, scales measuring mixed-embeddedness using a quantitative method have not been developed. A comprehensive measurement scale may be devised based on the overlap between strategic management, organizational psychology, and international business. Finally, although the firms are selected using clear criteria with a purposeful sampling strategy, they might introduce self-selection bias because only firms willing to participate are included. Nevertheless, this research aims not to achieve statistical but somewhat analytical generalization.

Future studies can attempt to collect empirical evidence to test our framework on the typologies of transnational mixed-embeddedness, particularly in instances when TEFs experience low embeddedness in both home and host countries. The investigation of strategies that can help TEFs overcome the low embeddedness barrier in home and host countries could also contribute significantly to the mixed-embeddedness and TEF internationalization literature. In particular, it is possible that the founders' behavioral factors could influence the TEF's propensity to develop relational and cognitive embeddedness in home and host countries. Therefore, these behavioral factors should be examined. Furthermore, as we only examined TEFs in the IT industry, their counterparts in different industries may have different levels of mixed-embeddedness. Comparison and contextualization studies can further validate our proposed framework and categorization.

Finally, our sample comprised mainly "privileged" migrants, i.e., migrants who possess connections to people affiliated with universities, industry bodies and the government. Future studies could investigate the role of transnational mixed embeddedness in the internationalization of TEFs owned by non-privileged migrants. Studies should also compare the influence of mixed-embeddedness on the internationalization of TEFs across different generations of immigrants. We believe that different generations of immigrants are likely to reflect varying levels of embeddedness in the home and host countries, thereby causing other impacts on TEFs' internationalization.

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Tables

Table 1 Descriptive summary of case collection

Firm ***Subjects***	**Founding year** **Internationalization year**	**Products/Services**	**Mode:** **Countries**	**Size (number of employees)**	**Years since immigration**
TEFUK1		Software design, IT consulting	Exporting: China, Hong Kong SAR; Sales office: Hong Kong SAR; Joint venture: Middle East	24	
Alpha	1996				39
Beta	2000				8
TEFUK2		IT consulting, Database creation	Sales office & subsidiary: China	34	
Gamma	2007				7
Delta	2010				3
TEFUK3		Application R&D	Licensing & subsidiary: China, Hong Kong SAR	32	
Epsilon	2003				13
Zeta	2006				13
TEFCA1		Utility-related hardware and software development	Exporting: China, Hong Kong SAR, US; Licensing: Australia, US	30	
Eta	2005				20
Theta	2007				25
TEFCA2		E-health solution provider	Franchising: US (15 locations), China (1)	50	
Iota	2001				15
Kappa	2010				18
TEFCA3		Wireless sensor network, digital signal processing, health data analysis platform	Licensing: US, China, Hong Kong SAR; Representative office: US (New York)	15	
Ni	2010				5
Xi	2010				5

Note: (1) Unless otherwise specified, the first subject in each firm is the founder/primary co-founder, and the second is a senior staff member/secondary co-founder. (2) Respondents were given pseudonyms in the Greek alphabet.

Table 2 Example quotes for first-order codes in the data structure for identifying elements of transnational mixed-embeddedness

Firt-order codes	Example Quotes
Relational ties in the wider business sphere of the host country	*"During my initial years in Canada, I was a partygoer [laughs]. The bright side of this was that I was able to meet young professionals from different backgrounds and disciplines. Some of them became friends for life, particularly those who have embarked on an entrepreneurial journey like me. Even now, we occasionally meet and share our wisdom"* — Iota, TEFCA2
Relational ties in the wider business sphere of the home country	*"I come from a collectivistic society [China], where people prefer to stay connected and hold on to relationships. So, it is quite natural for me to keep in touch with my family members and friends back home"* — Xi, TEFUK1
Relational ties in the host country's IT industry	*"Canada's digital industry is growing at a rapid pace, and policymakers and industry bodies have responded well by organizing workshops, networking sessions, summits and round table discussions. These present opportunities to meet some powerful people in the industry and that's why I hardly skip such events when invited"* — Eta, TEFCA1
Relational ties in the home country's IT industry	*"It is vital for a small firm like us to participate in the IT-related business events in the UK because these events present opportunities to network with firms that are either already in China or planning to internationalize and benefit from their experience and learning"* — Epsilon, TEFUK3
Cognition of formal and informal norms and practices that are common to all industries in the host country	*"Of course, we all get accustomed to the culture and regulations of the business environment of the country where we reside. Some businessmen take time to get accustomed and some do not. For me, working in the Glasgow City Council really helped fastrack this process*" — Alpha, TEFUK1
Cognition of formal and informal norms and practices that are common to all industries in the home country	*"Understanding the culture of your target country is the first step and then the next step is to align the business practices and workplace culture of your subsidiary to the culture of the new country"*— Iota, TEFCA2
Cognition of formal and informal norms and practices that are specific to the host country's IT industry	*"The regulations around new technologies like AI, blockchain and big data vary from country to country. One needs to understand the regulations of all countries he/she wants to do business"* — Xi, TEFCA3
Cognition of formal and informal norms and practices that are specific to the home country's IT industry	*"Before returning to China, I researched the Chinese software industry thoroughly: the policies, work culture, competition, suppliers, clients everything. I read books, subscribed to Chinese newspapers and invested a significant time on the internet"* — Zeta, TEFUK3

Table 3 Example quotes for first-order codes in the data structure for identifying the role of transnational mixed-embeddedness on TEFs' internationalization in home countries

Firt-order codes	Example Quotes
Understanding the funding landscape in the home country	*"I had several conversations with the Professors in X university about potential funding opportunities in the IT sector for the type of work that I do"* — Eta, TEFCA1
Acquiring public grants in the home country	*"Finally, I applied for a government grant in collaboration with the Professor of computer science. It was not a massive grant, but adequate for some pilot projects to start our operations in China."* — Eta, TEFCA1
Acquiring private grants available in the home country	*"Acquiring funding from venture capital (VC) firms was not a problem for me as my friends knew somebody who sat on the board of directors in the VC"* — Zeta, TEFUK3
Acquiring client deals in the home country	*"One of my friends, who holds a high-level position in a major IT firm in China, recommended his employer that they should consider my company as a potential supplier. Following his recommendation, I was invited to give a presentation and submit a quotation. I do not know what happened in the background but I got a deal worth a few million dollars"* — Xi, TEFCA3
Understanding the recruitment landscape in the home country	*"Understanding the recruitment practices in a new market is so vital, for example, you need answers to the following questions when it comes to graduate recruitment: what are the mechanisms to recruit fresh graduates? Do the quality of the graduates and their salary expectations vary significantly across universities? If we recruit graduates from medium to low-quality universities as their salary expectations may be lower, would they need longer and more costly on-the-job training? To answer these questions, you need to speak with experienced people in that country"* — Epsilon, TEFUK3
Recruiting employees in the home country	*"It is pretty difficult for start-ups in a foreign country to entice talent. We avoided this problem through my networks with Professors in some top Chinese universities. Using their help, I marketed my firm to their students in Computer science and invited them to do their internship with us. In the first year, two students joined and the number increased in subsequent years."* — Theta, TEFCA1
Recruiting social media influencers in the home country	*"The idea of hiring a social media influencer was not mine. It was brought up by a fanily member, who does lots of digital marketing, in an informal meeting. He even introduced me with a Youtuber with more than 50,000 followers."* — Ni, TEFCA3
Recruiting collaborators for outsourcing software development activities in the home country	*"He introduced me to this fascinating online sommunty of freelance freelance software designers and explained how to identify and approach competent members of the community for outsourcing software development tasks."* — Beta, TEFUK1
Developing organizational culture in line with the local cultural norms in the home country	*"We had to make sure that the culture of our company matches the culture that the local Chinese employees would prefer. The distinctions between Chinese and UK culture and strategies to reduce these differences were discussed in the industry meetings organized by the overseas Chinese residents in the UK."* — Gamma, TEFUK2
Developing human resource management strategies in line with the local norms in the home country	*"Prior research and company reports have found that employee attrition is a big challenge in China and psychological contracts like non-compete agreements are not effective in reducing the attrition rates. So, looking at such evidence, we decided to take advantage of the situation by hiring from our main competitors"* — Iota, TEFCA2
Developing products in line with the local customer needs in the home country	*"Of course, customer expectations are different in China. The new Chinese generation seems to be obsessed with Western products and is not afraid of spending money. By interacting with experts, it was clear that our company should market itself as a luxury western brand that offers attractive and innovative products designed in Canada"* — Theta, TEFCA1

Developing sales and marketing strategies in line with the local customer needs in the home country	*"You need to be aware of what social media platforms are more popular in China. In the UK, you rely on Facebook, Twitter etc. for promoting your apps, but in China, most of them are blocked".* — Epsilon, TEFUK3
Developing intellectual property protection strategies in line with the local regulatory norms in the home country	*"Even before launching my company in China, I developed high familiarity with the challenges of protecting intellectual property in China through extensive reading and discussion with the managers of multinational firms. When my firm was developing the first product in China, I said we are not going for patents because it is very difficult to win lawsuits here. We will try to keep the product development process secret and aim for first-mover advantage."* — Delta, TEFUK2
Developing products in line with the local regulatory norms in the home country	*"One needs to make sure that their products are manufactured in a way that complies with the regional or national standards. These standards differ across countries. Look at the data privacy and security laws. Western countries are tougher than emerging countries on these issues."* — Ni, TEFCA3

Figures

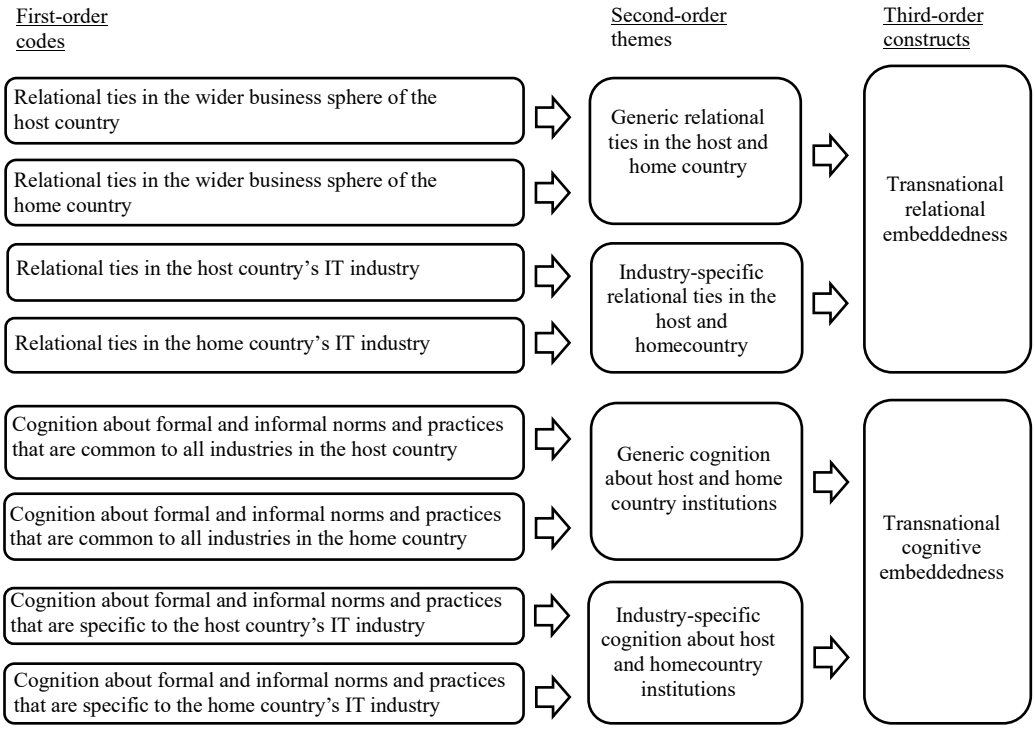

Figure 1 Data structure to identify the elements of transnational mixed-embeddedness of TEFs

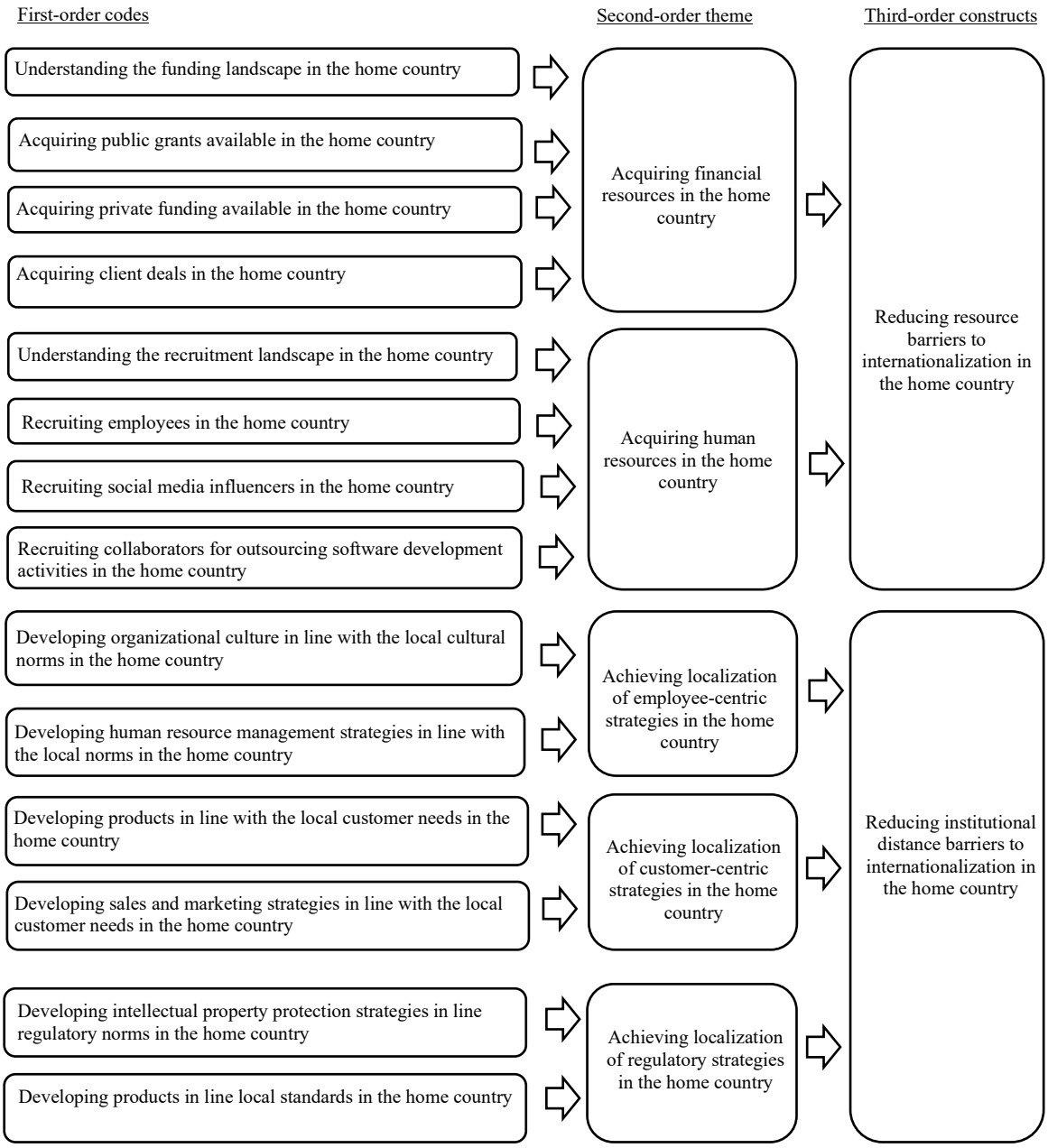

Figure 2 Data structure to identify the role of transnationa mixed-embeddedness on TEFs' internationalization in home countries

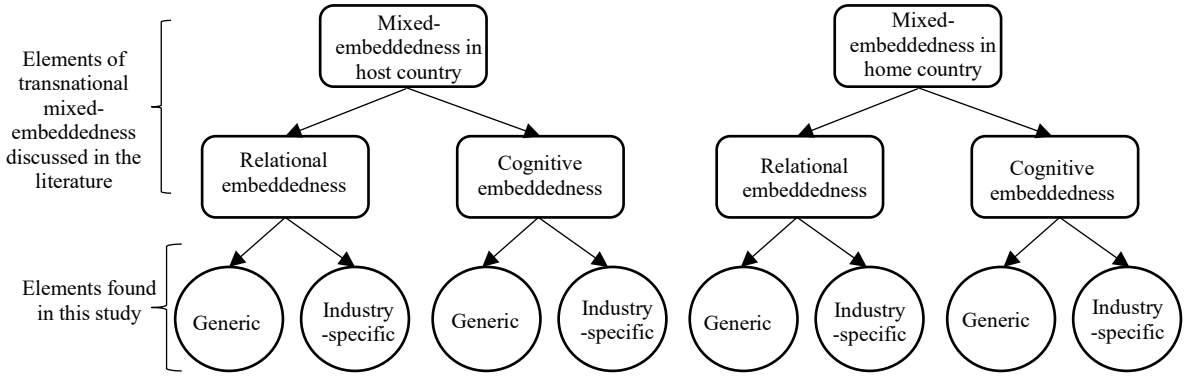

Figure 3 A framework on the types of transnational mixed-embeddedness

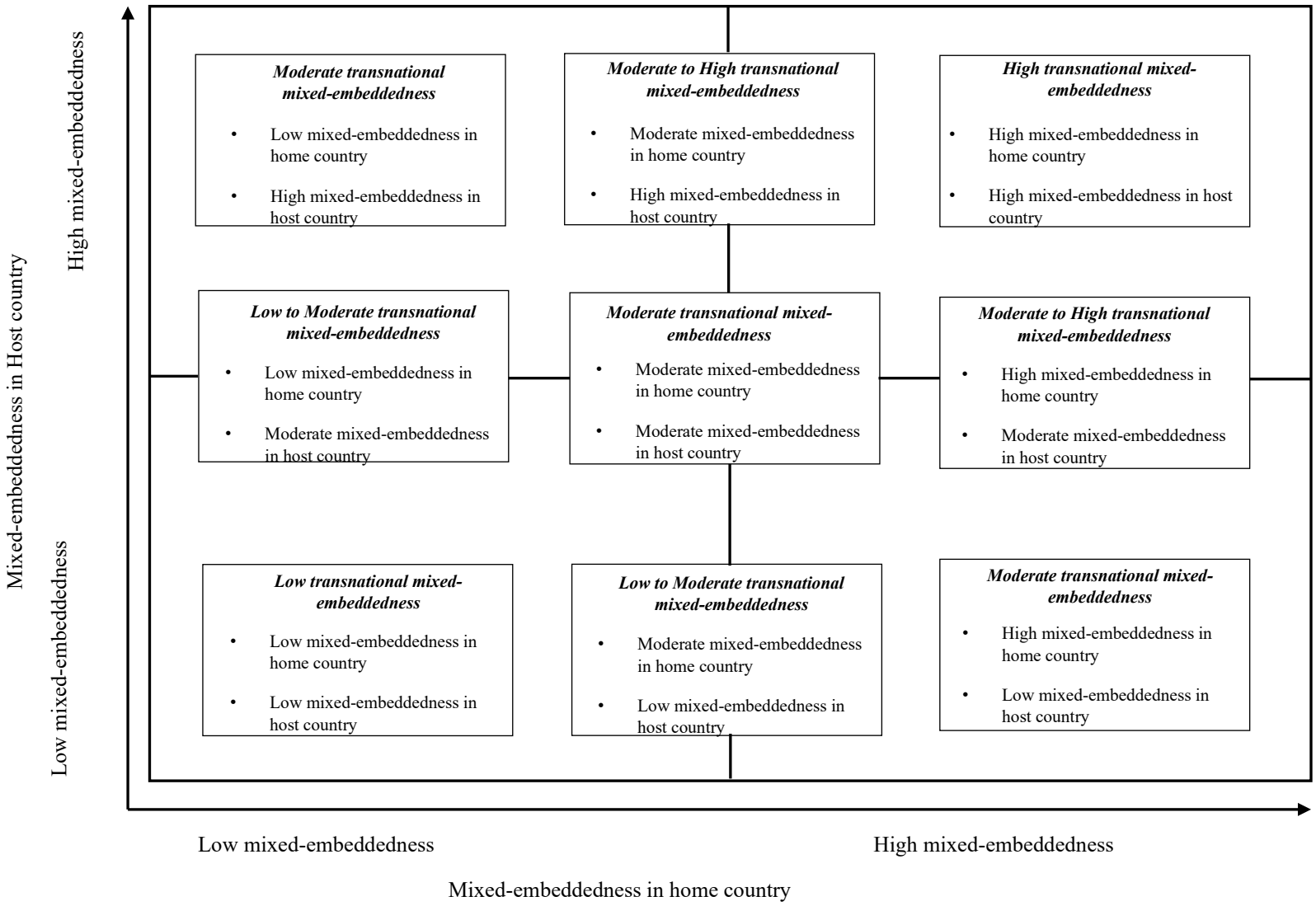

Figure 4 A framework on the degree of transnational mixed-embeddedness; moderate mixed-embeddedness in a country refers high (or low) relational embeddedness and low (or high) cognitive emdbeddness in that country

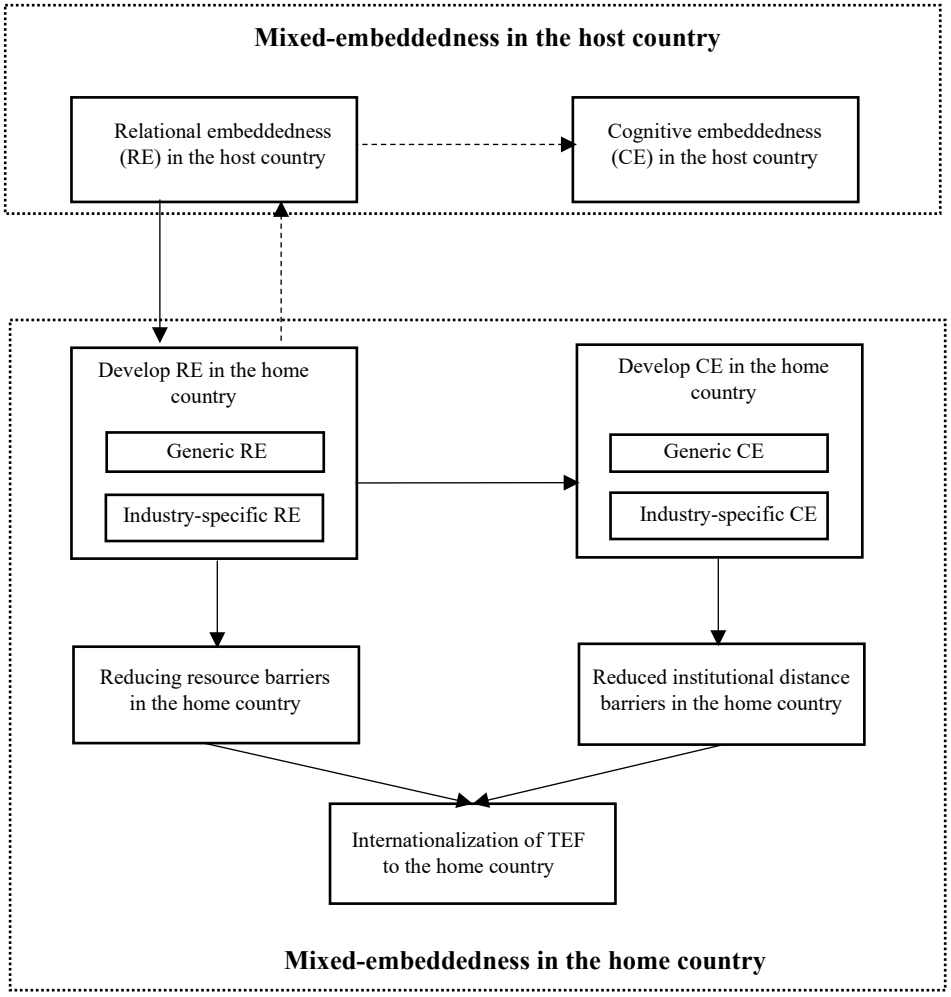

Figure 5 A framework on the impact of transnational mixed-embeddedness on TEFs' internationalization in home countries; the dashed lines represent relationships that have not been studied in this paper, but they constitute promising avenues for further research.