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Innovation and internationalization in an emerging market context: Moderating effects of interpersonal and organizational social networks

Hoa Do^a, Bach Nguyen^{b,c,*}, Helen Shipton^d

^a Aston Business School, Aston University, UK

^b University of Exeter Business School, Exeter, UK

^c Centre for Business Prosperity, Aston University, UK

^d Nottingham Business School, Nottingham Trent University, Nottingham, UK

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ABSTRACT

This study draws upon the social network theory to understand under what conditions innovation influences firm internationalization in the context of Vietnamese small and medium-sized enterprises (SMEs). We theorize that different types of social networks play varying roles in moderating the relationship between innovation and firm internationalization. Using a panel dataset of more than 15,800 observations of SMEs, we found that high levels of interorganizational social networks positively moderate the relationship between innovation and firm internationalization. However, there is no such relationship for interpersonal social networks for the studied firms. Our findings will allow SME managers to better understand the crucial role that interorganizational social networks can play in their successful internationalization.

1. Introduction

Since the early days of international business (IB), pioneering scholars such as [Oviatt and McDougall \(1994\)](#), [Knight and Cavusgil \(2004\)](#), and [Coviello and Munro \(1997\)](#) have recognized the importance of innovation as a basis for the internationalization of small firms (SMEs). Indeed, SMEs tend to internationalize in order to increase the returns on their innovations ([Hitt et al., 1994](#); [Kyläheiko et al., 2011](#)). However, firms that are internationalizing also face certain challenges, including resource constraints ([Verbeke et al., 2019](#); [Verbeke and Ciravegna, 2018](#)). Given their resource limitations, SMEs often rely on their social networks to mitigate risks and enable internationalization ([Wong and Ellis, 2002](#); [Ellis, 2011](#)). This is because social networks play an instrumental role in firms' acquisition of new market knowledge ([Puthusserry et al., 2019](#); [Autio et al., 2000](#); [Yli-Renko et al., 2002](#)) as well as internationalization ([Karami and Tang, 2019](#); [Sadeghi et al., 2018](#)). This study therefore highlights the vital importance of social networks as potential moderators that drive the innovation–internationalization relationship in an emerging context: Vietnam.

Despite the long-standing interest in SME internationalization, it is not clear whether social networks and innovation have a positive interaction effect (i.e., they complement rather than substitute for one another), nor whether there are differential moderating effects for interorganizational and interpersonal relationships. Scant attention has been given to exploring an interaction between innovation and social networks that may influence internationalization, nor to whether the results of such interaction effects vary for

* Corresponding author at: University of Exeter Business School, Exeter, UK.

E-mail addresses: doh2@aston.ac.uk (H. Do), b.nguyen@exeter.ac.uk (B. Nguyen), helen.shipton@ntu.ac.uk (H. Shipton).

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different country contexts (Raisch and Birkinshaw, 2008). Furthermore, most of the early works only examine interorganizational networks and fail to consider interpersonal relationships (Ma et al., 2009). More research is needed, not only upon the interaction effects between innovation and social networks, but also for theorizing how and when different types of networks (e.g., interorganizational and interpersonal) may affect firm internationalization. Finally, there is much that we do not understand about the impact of social networks on internationalization in emerging markets. This is important since firms in this context are at a disadvantage by following patterns of international growth that differ from those operating in developed economies (Oura et al., 2016; Ellis, 2011; Boso et al., 2013). While internationalization has universal importance, this is perhaps even more the case in emerging countries where firms are more dependent on social networks or network relationships (Khanna and Palepu, 2010). As such, the study of social networks is likely to have heightened relevance in an emerging economy context (Chiva et al., 2014).

Targeting the above gaps, the study aims to address one overarching research question: What are the boundary conditions of interpersonal and interorganizational social networks in explaining the relationship between innovation and internationalization in Vietnamese SMEs? We answer this question by drawing on the underpinnings of social network theory¹ (Burt, 2007; Granovetter, 1973; Mitchell, 1969) and using a sample of 15,851 firm-year observations of Vietnamese SMEs over the period between 2005 and 2015. We examine whether (and if so, why and when) the relationship between innovation and internationalization is conditional on interpersonal and/or interorganizational social networks. We thus go beyond the idea that bridging the ties enables young ventures to “go global”.

This study contributes to the IB literature in several ways. *First*, our study is among the first to test the joint effect between innovation and social networks on SME internationalization. In so doing, this study, rather than relying mainly on the direct effect of innovation on internationalization, attempts to connect with a proliferation of work that highlights the importance of boundary conditions in understanding the interplay between innovation and internationalization (Raisch and Birkinshaw, 2008; Do and Shipton, 2019; Mitchell and Boyle, 2019). *Second*, we draw on social network theory to argue that different kinds of social networks (interorganizational and interpersonal social networks) generate differential outcomes for Vietnamese SME internationalization. This study is among the first to test the influence of both interorganizational and interpersonal social networks as potential drivers of internationalization. It therefore augments the growing interest in the effects of social network types on performance outcomes such as internationalization (Ma et al., 2009). *Third*, our study makes a contribution to theory by contextualizing the IB literature. Vietnam is a unique but under-explored context that is characterized by a fast-growing economy, a one-party state, and successful implementation of pro-export and pro-FDI policies. By focusing on Vietnam, we respond to the pleas of scholars who have argued that prior work has given insufficient attention to theorizing within a specific research context (Welter et al., 2016; Kiss et al., 2012; Verbeke and Ciravegna, 2018) even though unique institutional conditions may influence how SMEs treat social ties or the network relationships with others as a precondition for international growth (Prashantham and Birkinshaw, 2015; Ellis, 2011).

2. Theoretical background

2.1. Social network theory

The key focus of social network theory is on transmitting knowledge and useful information via interpersonal ties and social contacts (Mitchell, 1969; Rogers and Kincaid, 1981; Zhou et al., 2007; Granovetter, 1973). It is clear that individuals play a central role in building and maintaining network relationships. This is because social networks entail and facilitate “social relationships” that may have an impact on formal business relationships (Zhou et al., 2007: 677; Tang, 2011). The underlying premise of the theory is that personal ties and connections play the role of “infomediary” in facilitating the exchange of the most valuable information (Zhou et al., 2007: 677), which in turn contributes to the internationalization of SMEs.

In this regard, we argue that social networks are essential ingredients for SMEs that are striving for international development (Coviello and Munro, 1997; Lu and Beamish, 2001; Hadley and Wilson, 2003; Zhou et al., 2007). In particular, social networks are the key to SMEs gaining access to foreign markets, detecting new opportunities, and gaining competitive advantages via the acquisition of international knowledge and the construction of formal business channels across borders (e.g., Ellis and Pecotich, 2001; Ellis, 2000; Sapienza et al., 2005; Styles and Ambler, 1994; Zhou et al., 2007). Scholars therefore conclude that developing and retaining social networks is essential to the process of SME internationalization (Liesch et al., 2002; Zhou et al., 2007; Tang, 2011). Zhou et al. (2007) provide empirical support to the social network theory by looking at the relationships between outward/inward internationalization orientation and firm performance through the mediating mechanism of Guanxi-related social networks, based on a sample of Chinese SMEs.

Along the same lines but from a firm perspective, firms themselves now tend to regard their social networks or relationship ties as one of the key aspects driving their organizational innovation process or internal change. Social networks theorists therefore argue that social networks offer the means of supporting and promoting both firm innovation (e.g., Perry-Smith and Mannucci, 2017) and firm internationalization (e.g., Zhou et al., 2007). In support, there exists a number of empirical studies highlighting the effect of social networks on firm international growth and/or firm performance (e.g., Ellis, 2000; Ellis, 2011; Zhou et al., 2007; Liesch and Knight, 1999; Ciravegna et al., 2014; Prashantham and Dhanaraj, 2010; Puthusserry et al., 2019). Drawing upon the grounded theory and longitudinal case studies, Prashantham and Dhanaraj (2010) find that network learning is instrumental for new ventures to understand

¹ In this study, the term “social network theory” is used interchangeably with “social capital theory”.

the important contribution of social capital to international expansion. Moreover, in their qualitative study of 30 pairs of Indian and British SMEs, Puthusserry et al. (2019) highlight that the phases of network development occur at the same time as discrete phases of internationalization. We therefore argue that social networks are important to the successful internationalization of Vietnamese SMEs.

In light of the above arguments, we view social network theory as underpinning the transmission of information about opportunities through entrepreneurs' interpersonal relationships/networks (Ellis, 2011; Ellis, 2003; Morrison, 2002). This helps to address the mechanisms by which innovation may influence such interaction processes. In particular, we emphasize the role of social networks in the innovation-internationalization relationship. We then extend the theory in order to fully account for the said relationship.

2.2. Innovation and SME internationalization

Scholars such as Golovko and Valentini (2011) and Filipescu et al. (2013) view innovation and internationalization as complementary strategies for SMEs, each positively reinforcing the other. Thus, we now discuss the two constructs in turn. Innovation is often associated with the firm's ability to (i) make use of its existing knowledge base, and (ii) acquire knowledge from external sources by means of imitation, licensing, partnerships, or acquisitions (Kyläheiko et al., 2011; Prashantham et al., 2019). Although small firms may lack the financial resources and infrastructure of larger firms, they nevertheless have the option of deploying a resource common to all businesses—the innovative management practices or management initiatives they mobilize (Sels et al., 2006; Sheehan, 2014). Furthermore, SMEs are argued to have an advantage over their larger counterparts in terms of their faster decision-making, hunger for risk-taking, and flexible reactions to external market environments (Love and Roper, 2015). As such, SMEs that desire to innovate are likely to make use of different strategies in order to develop and progress; they might capitalize on their existing products/services or develop new ones, and they may focus on their present markets or search for new ones (Do et al., 2018).

By this logic, organizations that pursue innovations and emphasize the importance of changes in products, market orientation, and administrative processes often do so by going beyond their domestic markets, which fuels their higher internationalization. Put differently, in order for firms to internationalize quickly and effectively, it is imperative that they innovate themselves and change internally (Damanpour, 1988; Sadeghi et al., 2018). It is for this reason that firms that cling to their existing structures, systems, and management practices when they grow and internationally expand may be unable to adapt to the global environment, creating in turn slow and ineffective international growth (Ruigrok and Wagner, 2003). As such, organizations desiring to innovate tend to design and implement their strategies by orienting toward and supporting the processes of change and internalization. Such organizations will act as pioneers, initiators, and explorers in the process of internationalization. In particular, they start to explore and establish relationship ties with different partners, especially foreign ones, by making use of their existing social networks. In this regard, we argue that internationalization should be viewed as a salient opportunity for SMEs to grow and create value because operating in open economies with limited domestic markets will urge innovative SMEs to trigger international expansion so as to enlarge their markets (Kundu and Katz, 2003; Manolova et al., 2010).

Furthermore, internationalization enables SMEs to learn new skills, improve existing products, and develop new ones if possible (Kyläheiko et al., 2011). This means that new knowledge relative to the international markets or partners is an integral part of firms' international expansion agenda as they may realize the learning advantages of newness (Autio et al., 2000). Hence, SMEs often consider innovation as a critical strategy that can help them to succeed in "going global". This is in alignment with the view that SMEs are willing to internationalize in order to increase the returns on their innovations (Hitt et al., 1994; Kyläheiko et al., 2011). Therefore, we argue that innovation lays the foundation for SMEs to establish network relationships, and also to internationalize to overcome threats and resource scarcity (Oviatt and McDougall, 1994; Knight and Cavusgil, 2004; Coviello and Munro, 1997). Despite this grounding, the interaction effects between innovation and social networks remain unclear and have yet to be robustly examined. Scholars generally argue that the results of the innovation–internationalization relationship are mixed and conflicted because the field has yet to reflect wider developments within the "when" (i.e., the boundary condition that determines when innovation influences firm internationalization, see Mitchell and Boyle, 2019; Do and Shipton, 2019; Raisch and Birkinshaw, 2008). We believe that these conflicting results derive from the fact that early studies have yet to devote sufficient attention to examining the moderating effects or boundary conditions of innovation on firm internationalization. More importantly, much of the focus on earlier studies has been on new ventures rather than on mature SMEs (e.g., Al-Laham and Souitaris, 2008; Fernhaber et al., 2007; Prashantham, 2008). This gap matters since the interaction effects between innovation and social networks on internationalization may vary depending on whether the research is in the context of new ventures or mature SMEs. More research is therefore needed to reveal the potential boundary conditions of interorganizational and interpersonal networks in explaining the relationship between innovation and internationalization in the context of mature SMEs rather than the widely investigated new ventures. On this basis, the next section will discuss the interaction between innovation and social networks and its combined effects on firm internationalization.

2.3. Toward theorizing social networks as interpersonal and interorganizational social networks and their potential

Social networks are widely described as a web of connections and relationships with a view to seeking favors in personal and organizational actions (Granovetter, 1985; Burt, 2009; Zhou et al., 2007). Despite their wide recognition in the IB literature, we do not know exactly how the different types of social networks should be termed and classified, and the study of these networks from the point of view of internationalization remains underexplored, despite suggestive hints (Boso et al., 2013; Ellis, 2011; Ma et al., 2009). For example, Boso et al. (2013) theorize networks as social ties and business ties that drive firm performance. Ellis (2011) classifies networks into social networks and business networks, mainly according to the level of analysis. Furthermore, building upon the network approach, Ciravegna et al. (2014) position networks as personal contacts and interorganizational networks. A stream of

theorizing that is relevant to this research regards social networks as interpersonal or interorganizational by reference to the nature of firms' business activities (Ma et al., 2009; Hung, 2006). More research is needed not just for theorizing the network types but also to explore how and why social networks matter for internationalization. We now discuss the role of social networks.

Social networks are widely accepted as essential for SMEs to successfully internationalize (e.g., Hadley and Wilson, 2003; Ellis, 2011; Ciravegna et al., 2014). In particular, social networks offer a number of useful properties for SMEs such as external finance, know-how, business opportunities, and better understanding of the industrial sector (Blau, 1977; Burt, 2009; Granovetter, 1977; Greve and Salaff, 2003). They also offer a means whereby SMEs can mitigate the liabilities that derive from constraints on their size, positioning, and relationships. With respect to size, SMEs could widen their network ties to acquire necessary information and other resources from knowledgeable others. In terms of positioning, SMEs may position themselves within a set of social networks to shorten their path to what they want (Blau, 1977; Burt, 2009; Granovetter, 1977). As regards relationship structure, social contacts might be associated with stakeholders or to wider societal communities through several types of relations or interactions. When these useful properties are obtained by SMEs, they will likely act as important building blocks for enabling the SMEs to internationalize (Manolova et al., 2010). It is also noteworthy that extant literature has consistently highlighted the importance of social networks as key ingredients that help internationalization-oriented firms to get where they want to be in terms of expanding their business activities internationally, initiating exports, and exploiting foreign market opportunities (Ellis and Pecotich, 2001; Tang, 2011; Gould, 1994).

From the above, we argue that social networks play a vital role in enabling SMEs to understand and search for foreign market opportunities to promote their exporting activities. By doing so, SMEs have the opportunity to internationalize quickly and effectively, thriving by positioning themselves in the global environment. As such, firms that effectively invest in social networks or network relationships are more likely to enhance their internationalization because they have more opportunities to connect and co-operate with foreign partners. In other words, by effectively investing in social networks, firms will likely be more informed and knowledgeable about the foreign markets and competitors, and will be able to promote their exporting activities in these markets (Yli-Renko et al., 2002; Zucchella et al., 2007; Tang, 2011).

Following this line of logic, we suggest that social networks play a potential moderating role in the relationship between innovation and firm internationalization. This study builds on the view that there is a dual set of social networks within which an organization is embedded: interorganizational and interpersonal (Ma et al., 2009; Ellis, 2011; Chetty and Agndal, 2008). From this understanding, we theorize both the interorganizational and interpersonal networks as potential boundary conditions that amplify such a relationship. This theorization is in line with other social network theorists who have distinguished between interorganizational and interpersonal social networks in terms of how opportunities for internationalization are recognized and identified by individuals (e.g., Zhou et al., 2007; Singh, 2000; Ozgen and Baron, 2007). In what follows, we discuss, in turn, the vital importance of these constructs as contingencies.

3. Hypothesis development

3.1. *The moderating role of interpersonal and interorganizational social networks*

As touched upon earlier, social networks involve two types of network: interorganizational and interpersonal. Interorganizational social networks are thought to entail the social relationships among individuals that are embedded in a formal structure of business connections; thus, they include buyer-supplier relationships, professional business associations, and strategic alliances (Björkman and Kock, 1995; Zhou et al., 2007; Manolova et al., 2010). In other words, interorganizational networks are characterized by interfirm collaborations and industry associations (Ma et al., 2009). By contrast, interpersonal social networks are positioned as informal structures of personal ties rooted in geographical, social, or institutional attributes/environments, such as political connections and personal relationships with banking officials (Hitt et al., 2002; Sorenson, 2003; Zhou et al., 2007). Supporters of interpersonal networks argue that interpersonal social networks may support and define internationalization, i.e., identifying the foreign markets that firms are going to target (Ciravegna et al., 2014; Ellis, 2000). In particular, Harris and Wheeler (2005) find that the personal networks of SME managers allow for the detection of new foreign market opportunities and for the development of market knowledge. As such, interpersonal social networks intertwine with interorganizational networks of business relationships in facilitating firms' access to foreign markets, as well as establishing exporting relationships (Chen, 2003; Chen and Chen, 1998; Ellis, 2000; Ellis and Pecotich, 2001).

However, it is noteworthy that interpersonal social networks are a necessary but insufficient first step. The reason is that interpersonal networks are usually informal; the scope and the reliability of information in these networks may help entrepreneurs set up an initial understanding of business opportunities but will likely fall short at transforming these opportunities into internationalization projects (Luo et al., 2012). This is especially true in the case of Vietnam, where the institutions are deemed to be weak or incomplete (Nguyen and Do, 2020; Do et al., 2020), and thus entrepreneurs often treat social ties or network relationships (as opposed to interpersonal relationships) as a prerequisite for developing their foreign markets (Ellis, 2011). As such, individual or interpersonal networks are thought to be less important in the Vietnamese context and might even harm firms (Sapienza et al., 2006). Indeed, path dependence theory suggests that entrepreneurs who are highly embedded in their local markets in the long term may lose their interest in going global, and thus their networks become increasingly domestic and less beneficial to their successful internationalization (Aulakh and Kotabe, 1997; Madhok, 1997). This is because the interpersonal networks that help them expand their business locally may dissipate their motivation for internationalization (Aulakh and Kotabe, 1997; Madhok, 1997). This is very much in alignment with the early empirical evidence of Ellis (2011), who finds in his qualitative study of 41 Chinese managers that managers' idiosyncratic connections with others both enhance and hinder international exchange. In their study of 623 SMEs in Bulgaria, Manolova et al.

(2010) found that personal networks were positively related to internationalization. This is mainly because entrepreneurs operating in a less open environment often experience their networks as more complex, domestic, and less beneficial to the identification of international exchange opportunities (Ellis, 2011).

Meanwhile, interorganizational social networks help formalize the opportunities recognized by individuals for developing business relationships and export relationships in foreign markets (Dasgupta and Serageldin, 2000). In short, two key ingredients for the successful international growth of SMEs are (i) the interpersonal networks and/or relationships that foster the identification of opportunities, and (ii) the interorganizational/formal social networks that allow them to develop networks of business and exporting relationships. These networks are an integral part of firms' larger agenda for the pursuit of international growth.

This study highlights that interorganizational and interpersonal social networks are equally important to SMEs if they are to achieve quick and effective international expansion, from which they can enter and compete in the global market. Interpersonal social networks are argued to lay the foundation upon which interorganizational social networks can expand firms' foreign markets and establish exporting relationships with foreign partners or companies (Ellis, 2000; Ellis and Pecotich, 2001; Zhou et al., 2007). This is because SMEs that operate in a complex institutional environment such as Vietnam capitalize on information and knowledge acquired from entrepreneurs' interpersonal networks or social ties with bank officials, businesspeople, and politicians to make on-time investment decisions (Nguyen, 2019). This is evidenced by Nguyen (2021), who shows that interpersonal social networks in the form of informal connections with politicians (e.g., Guanxi in the context of China) might enable SMEs to gain access to scarce resources such as special treatment (lower levels of intervention from local governments with respect to their operations). Furthermore, Ruzzier and Antoncic (2007) show that personal networks are positively related to internationalization through a study of 165 Slovenian SMEs. By this logic, interorganizational networks that span national borders are likely to influence firm internationalization or international growth (Ellis, 2011).

On the basis of the above theorizing, we draw upon social network theory (Granovetter, 1973; Mitchell, 1969; Rogers and Kincaid, 1981) to argue that the value of innovation as an internal change that lays the foundation for the internationalization of SMEs may be conditional on social (e.g., interpersonal and interorganizational) networks. Interpersonal and interorganizational networks that are highlighted as key boundary conditions may impact the efficacy with which SMEs' innovation capability can promote their internationalization. We therefore argue that the SMEs that manage to enlarge and diversify their network relationships are likely to translate their innovation strategies into higher international expansion. Social network theory, therefore, acts as a key channel that can facilitate examination of the complex innovation-internationalization relationship, and the boundary condition amplifying such a relationship. We therefore hypothesize as follows.

Hypothesis H1. *Interpersonal social networks moderate the relationship between innovation and firm internationalization, such that the relationship is stronger when interpersonal social networks are higher.*

Hypothesis H2. *Interorganizational social networks moderate the relationship between innovation and firm internationalization, such that the relationship is stronger when interorganizational social networks are higher.*

Fig. 1 summarizes the key relationships between the constructs tested in this study.

4. Data and estimation

4.1. Data

To test the proposed hypotheses, this study employs the SME dataset published by the Central Institute for Economic Management (CIEM) of Vietnam. This dataset was the product of a collaboration between CIEM, the Institute of Labor Science and Affairs of Vietnam (ILSAA), and the Development Economics Research Group (DERG) of Copenhagen University.

The SME survey covers information on several operational aspects of small ventures in Vietnam, including their production, sales structure, investment, and employment. In addition to formally registered enterprises, the survey samples a substantial number of

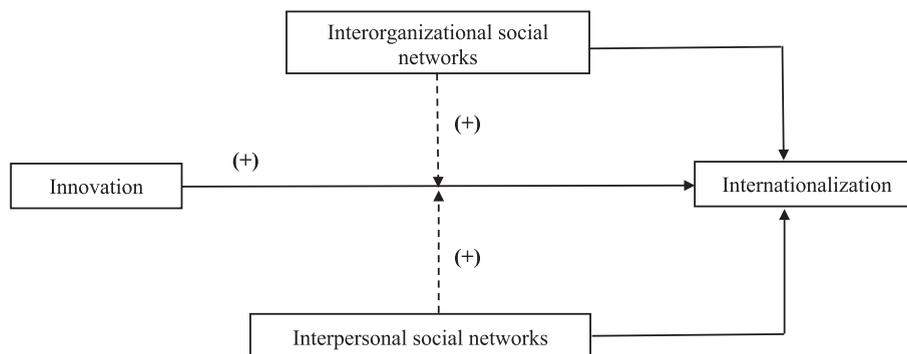


Fig. 1. Theoretical framework.

household businesses to gain a comprehensive understanding of firm dynamics in Vietnam, a country where the informal sector is particularly relevant (Carbonara et al., 2019). As well information on ventures, the characteristics of the owner-managers and their social network information are also extensively surveyed. The first full investigation was conducted in 2005 and it has been carried out every two years thereafter. Approximately 2800 small businesses in 10 provinces across Vietnam are randomly selected to participate in each survey. In this study, we employ the dataset over an 11-year period, from 2005 to 2015 (6 surveys in total).

It is noteworthy that this is an unbalanced panel as some firms may exit and other new firms may join into the surveys. The data structure is reported in Appendix 1. The unbalanced nature of the dataset is shown in column 2, in which the frequency of firm-year observations changes from as low as 16.16 % (2561 observations) in 2013 to as high as 17.80 % (2821 observations) in 2005. Also from the table, we see that 38.76 % of firms have a full set of observations (six years) and that more than 90 % of firms have more than one year of observations over the study period. As such, even though the panel is unbalanced, the high number of repeated observations allows us to control for potential endogeneity, which will be explained in more detail in the next section.

The survey sample was randomly drawn using the stratified sampling technique to ensure that an adequate number of businesses with different ownership structures was included for each province. We thus have private firms, partnerships, cooperatives, limited liability companies, and joint-stock companies. For a comprehensive understanding of the survey, see Rand and Tarp (2007).

In cleaning the data, we excluded firms without identification codes and firms with unmeaningful accounting information. Moreover, the outliers are controlled for by censoring the top and bottom 1 % of observations in each variable, leaving a final sample of 15,851 firm-year observations in the regression.

4.2. Variables and summary statistics

4.2.1. Dependent variable

The primary dependent variable in this study is firm internationalization. As SMEs usually prefer internationalization activities with low-cost and low-risk entry modes (Golovko and Valentini, 2011), export is typically one of the most popular initial internationalization activities of small businesses. In this study, *export* is measured by a dummy variable, which takes value 1 if firms have exported their products to foreign customers in the last period (two years), and value 0 if firms have no export activities in that period. While export as a dummy variable indicates the status of internationalization, it cannot capture the quantity of exporting activities. For this reason, we employ a second measure of internationalization, which is the number of foreign customers an exporting firm has.

To summarize, examining the export dummy variable could tell us the differences between non-export and export firms, whereas investigating the number of foreign customers allows us to examine firms that have different export quantities. The two measurements are thus complementary in nature.

4.2.2. Independent variables

The first independent variable of interest in this study is innovation. Consistent with the extant literature, we measure firm innovation as two different types: product innovation and process innovation. We use three questions in the dataset: “Has the firm introduced at least one new product in the last two years?”², “Has the firm made any improvements to existing products or changed the specification in the last two years?”; and “Has the firm introduced a new production process in the last two years?”. Firms that answer ‘yes’ to any of the three questions are identified as innovative in this study. As such, innovation is treated as a dummy variable, which takes value 1 if firms introduced new products, improved current products, or changed their production process, and 0 if firms did not make any of these innovations over the last two years.

The second independent variable of interest is social networks. In this study, social networks are classified into two tiers: interpersonal and interorganizational. *Interorganizational networks* are measured by a dummy variable, which takes value 1 if firms are members of at least one local industry association, and 0 otherwise. We use this operationalization for two reasons. First, industry association members must be legally-recognized organizations. As such, this variable is a firm-level construct. Second, membership of local industry associations allows firms to establish a web of connections and relationships with other members (who are, by definition, also organizations). These social networks may help firms to acquire knowledge of foreign market opportunities, assist them to identify foreign exchange partners, and thus impact their entry to exporting. Also, in the robustness check, we use the number of association memberships as an alternative measure.

We measure interpersonal social networks by the number of network ties with which an entrepreneur is effectively connected. Specifically, we make use of the following item in the questionnaire: “Approximately, how many people do you currently (at present) have regular contact with? (i.e., at least 3-monthly contact which you find useful for your business operations) in each of the following categories: (1) Businesspeople in the same sector (same product as the reported industry codes); (2) Other business people in a different sector; (3) Bank officials (including both formal and informal creditors); (4) Politicians and civil servants.” As such, the survey provides information on three types of social ties: business-specific networks, financing-specific networks, and political-specific networks. Within the scope of this study, we are interested in the impact of social networks in general. We therefore construct the *interpersonal networks* variable, which is the sum (count) of social ties in the four categories. In the robustness check, we investigate each of the three categories of networks.

² A product is classified as a new product when it has an ISIC four-digit code different from the current products.

4.2.3. Control variables

The model also controls for covariates that may influence firm internationalization. At the firm level, it includes conventional variables such as firm age, firm size, and types of ownership. These variables represent firm-specific characteristics that significantly determine entry modes and the speed of internationalization (Xuan and Xing, 2008).

At the entrepreneurs' individual-level, the model includes entrepreneurs' gender and age as control variables. These individual-specific factors play an essential role in investment decisions because they indicate the individual-specific characteristics of entrepreneurs, which may markedly influence their ability to recognize and evaluate business opportunities (Du and Nguyen, 2018). Moreover, individuals' previous start-up experience and education may also affect their ability to recognize business opportunities (Ulvenblad et al., 2013; Nguyen, 2019). Therefore, the model controls for entrepreneur start-up experience and educational background, which are measured by a set of dummy variables.

Finally, at the regional level, the model controls for provincial consumption power and local institutional settings. Firms located in provinces with stronger consumption power, measured as the average consumption value per capita, may find it less necessary to go global than firms located in provinces with weaker consumption power. We also control for local institutional settings measured by the Provincial Competitiveness Index (PCI). This index is a joint product of Vietnam Chamber of Commerce (VCCI) and the US Agency for International Development (USAID). The dataset is a panel of provincial governance quality. The quality is scored from 0 to 100, with the higher scores denoting better governance quality. The PCI index is calculated based on a survey of more than 17,000 domestic firms and 1700 foreign firms across provinces in Vietnam. The pilot study was conducted in 2005 across one-third of the total provinces of Vietnam (63 provinces in total). From 2006, the PCI index became available for all provinces and is updated annually.

Variable definitions and summary statistics are reported in Table 1. The correlation matrix is reported in Appendix 2. On average, only 6 % of small businesses in Vietnam are engaged in export activities. This statistic is understandable since more than 60 % of the studied firms are household businesses (i.e., micro firms). Meanwhile, 38 % of small businesses conduct innovation activities, and only 23 % of them have membership of at least one industry association. Also note that the average number of social networks per entrepreneur is 32.5 with a large standard deviation of 30.5, indicating that some entrepreneurs have rich social networks while some others have barely any.

To illustrate the trends of innovation and internationalization of Vietnamese firms by year, we provide Fig. 2, in which the average (mean) of innovation, export status, and the number of foreign customers per firm are plotted against the years of study. Note that we divide the number of foreign customers by 100 to fit into the unit scale of the other two variables. The figure shows that, in general, the number of Vietnamese firms engaging in innovation and internationalization activities increases by time. The local peak point was achieved in 2009, followed by a sharp decline both in terms of innovation and the number of foreign customers in 2011 and 2012. Firms regained momentum in 2013 and have since continued to improve their innovation and internationalization.

4.3. Empirical specification and estimation

Following the firm internationalization literature, we propose the following reduced-form firm export equation:

$$\begin{aligned} Internationalization_{igt} = & \beta_0 + \beta_1 (Innovation_{igt-1}) + \beta_2 (Interorganizational\ networks_{igt-1}) + \beta_3 (Interpersonal\ networks_{igt-1}) \\ & + \beta_4 (Control\ variables_{igt}) + v_i + v_t + v_j + \mu_{it} \end{aligned} \quad (1)$$

where i denotes an individual venture, g is the province, and t a year. Thus, $Internationalization_{igt}$ is either the export status or the number of foreign customers of firm i in province g in year t . The term $Innovation_{igt-1}$ indicates whether the firm introduced new products or production process or not. The term $(t - 1)$ indicates that the variable is lagged one period to mitigate issues related to reverse effects (i.e., endogeneity). The terms $Interorganizational\ networks_{igt-1}$ and $Interpersonal\ networks_{igt-1}$ are the two types of social capital (the variable of interest). The term $Control\ variables_{igt}$ is a matrix of the following variables: firm age, lagged firm labor size, seven types of firm ownership,³ owners' gender, age, start-up experience, and education, provincial consumption power, and provincial governance quality.

The internationalization equation also includes a time-specific component v_t , accounting for macro-business cycle effects, and an industry-specific component v_j , which accounts for industry-specific business cycle effects. These effects are controlled by corresponding dummy variables. Firm-specific time-invariant characteristics are captured by v_i . Finally, μ_{it} is the idiosyncratic component of the error term.

In addition to the benchmark equation, we investigate the moderation effects of social networks on the relationship between innovation and firm export status, and between innovation and the number of foreign customers by including the following corresponding interaction terms into the model: $Interorganizational\ networks_{igt} \times Innovation_{igt}$ and $Interpersonal\ networks_{igt} \times Innovation_{igt}$. It is expected that the odds ratios (regression coefficients) associated with these terms are greater than one (positive) and statistically significant, in accordance with Hypotheses H1 and H2.

This study controls for the longitudinal structure of the dataset by estimating the equations using a fixed-effects (FE) technique. The use of FE could, to some extent, reduce concerns related to potential endogeneity due to missing relevant time-invariant variables. This is done by including a set of dummy variables for each firm; this set of dummies thus absorbs all unobservable time-invariant characteristics of the firms.

³ Refer to Table 1 for a detailed summary of the seven types of ownership.

Table 1
Variable definitions and summary statistics.

Variable	Definition	Mean	SD	Min	Max
Export	A dummy variable, which takes value 0 if firms did not export, and value 1 if firms have done exports since the last survey	0.06	0.24	0	1
Number of foreign customers	The number of foreign customers that a firm have in a particular year	0.22	2.45	0	99
Innovation	A dummy variable, takes value 1 if firms introduce new products or improve production process in the last two years (from the last survey), 0 otherwise	0.38	0.48	0	1
Interorganizational networks	A dummy variable with value 0 if firms do not join any local industry association, and value 1 if firms hold membership in at least one association.	0.23	0.42	0	1
Interpersonal networks	A count variable, indicating the number people that an entrepreneur currently has regular contact with in the following four areas: (1) business people in the same sector, (2) business people in other sectors; (3) bank officials, including both formal and informal creditors, and (4) politicians and civil servants	32.51	30.47	1	203
Owner gender	Takes value 1 for male, and 0 for female	0.64	0.48	0	1
Owner age	Age of the owners	45.65	10.48	25	73
Start-up experience	A dummy variable, which takes value 0 if the current business is the first venture and value 1 if the current business is not the first one	0.03	0.16	0	1
Owner education	Take value 1 no degrees, 2 junior technical degrees, 3 senior technical degrees, 4 professional vocational degrees, 5 college degrees, 6 bachelors, 7 for masters, 8 for doctoral level	3.15	1.86	1	8
Firm age	The number of years since the initial establishment of the firms	19.09	12.86	3	86
Firm size	The natural log of the number of employees (report here the number of employees)	16.51	30.52	1	199
Provincial consumption	Provincial consumption value per capita, in million VND	27.55	22.84	2.45	89.12
Local governance quality	The Provincial Competitiveness Index (PCI). The quality is scored from 0 to 100, the higher the score, the better the governance quality (law enforcement efficiency at the local level).	59.14	3.75	45.12	73.53
Household business	Take value 1 for household business, and 0 otherwise	0.66	0.47	0	1
Sole proprietorship	Take value 1 for sole proprietorship business, and 0 otherwise	0.08	0.28	0	1
Partnership	Take value 1 for partnership business, and 0 otherwise	0.00	0.05	0	1
Cooperative	Take value 1 for cooperative business, and 0 otherwise	0.03	0.17	0	1
Limited Liability Company (LLC)	Take value 1 for LLC, and 0 otherwise	0.19	0.39	0	1
Joint stock company (JSC)	Take value 1 for JSC, and 0 otherwise	0.03	0.17	0	1
Joint venture with foreign capital	Take value 1 for joint venture with foreign capital business, and 0 otherwise	0.00	0.01	0	1

Note: The number of observations is 15,851 firm-year. Firm-level variables are constructed using the SME dataset. Provincial level variables are constructed using Annual Provincial Report published by GSO. Local governance quality variables are obtained from the PCI dataset.

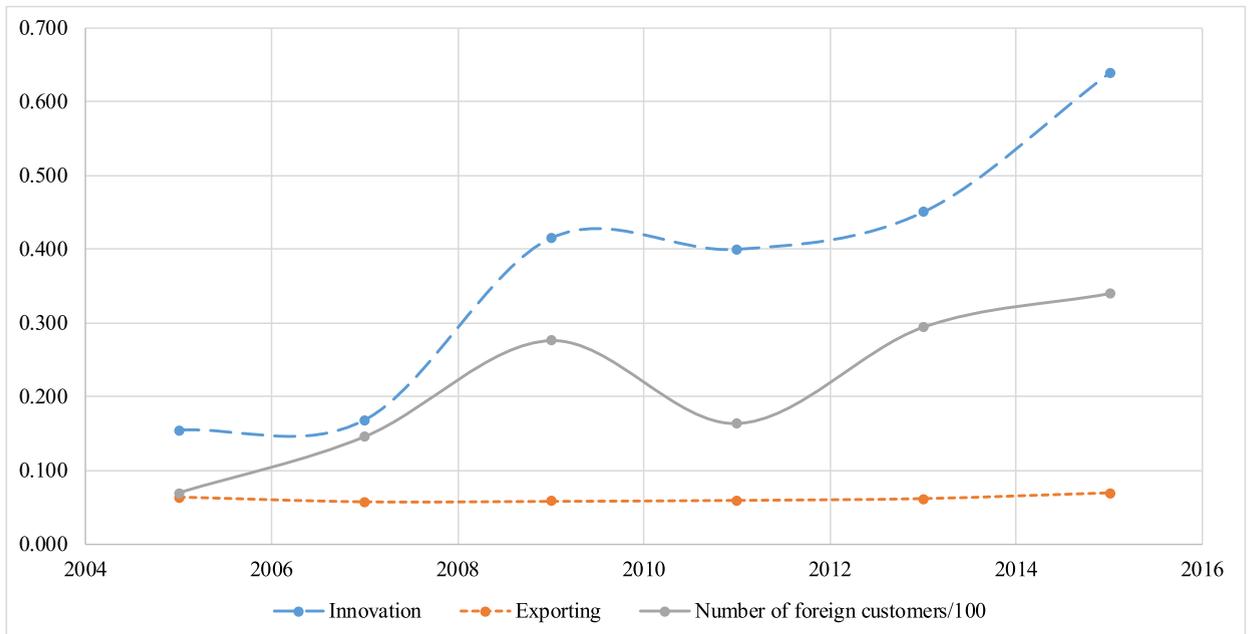


Fig. 2. Trends of innovation and internationalization of Vietnamese SMEs from 2005 to 2015.

Specifically, for the export status (dummy independent variable), we employ a panel FE logistic estimator. The probability of a positive outcome is assumed to be determined by the logistic cumulative distribution function. The fixed-effects logistic estimator allows us to examine the determinants of within-subject variability in the model of dummy-dependent variables. Meanwhile, for exporting performance (i.e., the number of foreign customers), we employ the conventional FE estimator with both firm ID and province ID, which are clustered to be asymptotically robust to heteroskedasticity.

5. Results

5.1. Main results

The regression results for export status are reported in Table 2 and the results for the number of foreign customers are shown in Table 3. In Table 2, we report the odds ratios instead of the regression coefficients for the sake of interpretation. The Variance Inflation Factor (VIF) test shows that there is no serious issue related to multicollinearity in our model specifications.

The odds ratios associated with the innovation variable are greater than one and statistically significant in all specifications in Tables 2 and 3. As such, the initial result is consistent with the literature showing that innovation is an essential facilitator of firm internationalization. Since innovation helps improve firm productivity, competitiveness, and economic performance, innovative firms are likely to be able to afford the initial high costs of internationalization (e.g., learning to export).

It is interesting to note that only interorganizational network (association membership) is positively associated with exporting in columns (1) and (3) of Table 2 (the odds ratios in all specifications are greater than one), and with the number of foreign customers in columns (1) and (3) of Table 3. Interpersonal networks, however, are negatively associated with exporting in Table 2 (the odds ratios in all specifications are smaller than one), and the number of foreign customers in Table 3. These findings indicate the pattern effects in expanding businesses: entrepreneurs are keen to expand their business domestically when their social ties are strongly bounded to local businesspeople, local financiers, and local authorities.

In terms of the moderating effects, the odds ratios associated with the interaction term between interorganizational networks and innovation in columns (2) and (4) in both Tables 2 and 3 are greater than one (positive in Table 3) and statistically significant. This

Table 2
Results on export decision (reported the odds ratios).

	(1)	(2)	(3)	(4)
Innovation	1.460** (0.150)	1.270** (0.155)	1.326* (0.192)	1.409** (0.215)
Interorganizational networks	1.428** (0.175)	1.037 (0.199)	1.426** (0.175)	1.339 (0.258)
Interorganizational networks × Innovation		1.601** (0.351)		1.827** (0.432)
Interpersonal networks	0.996** (0.001)	0.996** (0.001)	0.995** (0.002)	0.996* (0.002)
Interpersonal networks × Innovation			1.003 (0.003)	1.000 (0.003)
Owner gender	1.083 (0.109)	1.078 (0.108)	1.082 (0.109)	1.064 (0.107)
Owner age	1.001 (0.005)	1.001 (0.005)	1.001 (0.005)	0.999 (0.005)
Start-up experience	1.495* (0.362)	1.515* (0.371)	1.487 (0.360)	1.486 (0.373)
Owner education	1.109*** (0.033)	1.109*** (0.033)	1.109*** (0.033)	1.107*** (0.032)
Firm age	0.995 (0.004)	0.995 (0.004)	0.995 (0.004)	0.995 (0.005)
Firm size	3.428*** (0.156)	3.458*** (0.159)	3.430*** (0.156)	3.299*** (0.159)
Provincial consumption	1.018*** (0.003)	1.017*** (0.003)	1.018*** (0.003)	1.019*** (0.003)
Local governance quality	1.020 (0.016)	1.021 (0.016)	1.020 (0.016)	1.028* (0.017)
Pseudo R ²	0.312	0.313	0.309	0.178
LR chi ² p-value	0.000	0.000	0.000	0.000
VIF	1.886	2.072	2.093	3.774
Observations	15,851	15,851	15,851	15,851

Note: The dependent variable is firm export dummy. The estimator is fixed-effects logit model (*xlogit* with *fe* option in Stata), clustering both firm ID and province ID. A set of 7 types of ownership, 6 year dummies, and the interaction terms between year dummies and 2-digit industry dummies are included. Standard errors and test statistics are asymptotically robust to heteroskedasticity.

* Indicates 10 % significant level.

** indicates 5 % significant level.

*** indicates 1 % significant level.

Table 3
Results on the number of foreign customers (reported the regression coefficients).

	(1)	(2)	(3)	(4)
Innovation	0.108** (0.050)	0.006 (0.041)	0.103* (0.059)	0.101** (0.047)
Interorganizational networks	0.141* (0.080)	0.054 (0.080)	0.176** (0.085)	0.045 (0.083)
Interorganizational networks × Innovation		0.244* (0.147)		0.243* (0.146)
Interpersonal networks	-0.001* (0.000)	-0.001* (0.000)	-0.001 (0.001)	0.000 (0.000)
Interpersonal networks × Innovation			0.000 (0.001)	0.002 (0.001)
Owner gender	-0.063 (0.047)	-0.059 (0.047)	-0.062 (0.047)	-0.060 (0.047)
Owner age	-0.005* (0.003)	-0.005* (0.003)	-0.005* (0.003)	-0.005* (0.003)
Start-up experience	-0.006 (0.078)	-0.010 (0.079)	-0.007 (0.079)	-0.011 (0.079)
Owner education	0.010 (0.010)	0.011 (0.010)	0.010 (0.010)	0.009 (0.010)
Firm age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Firm size	0.217*** (0.030)	0.219*** (0.029)	0.214*** (0.029)	0.211*** (0.028)
Provincial consumption	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Local governance quality	0.007 (0.008)	0.008 (0.008)	0.007 (0.008)	0.008 (0.008)
Pseudo R ²	0.074	0.075	0.074	0.075
LR chi ² p-value	0.000	0.000	0.000	0.000
VIF	1.985	1.524	2.625	3.127
Observations	15,851	15,851	15,851	15,851

Note: The dependent variable is the number of foreign customers. The estimator is panel fixed-effects (*xtreg* with *fe* option in Stata), clustering both firm ID and province ID. A set of 7 types of ownership, 6 year dummies, and the interaction terms between year dummies and 2-digit industry dummies are included. Standard errors and test statistics are asymptotically robust to heteroskedasticity.

* Indicates 10 % significant level.

** Indicates 5 % significant level.

*** Indicates 1 % significant level.

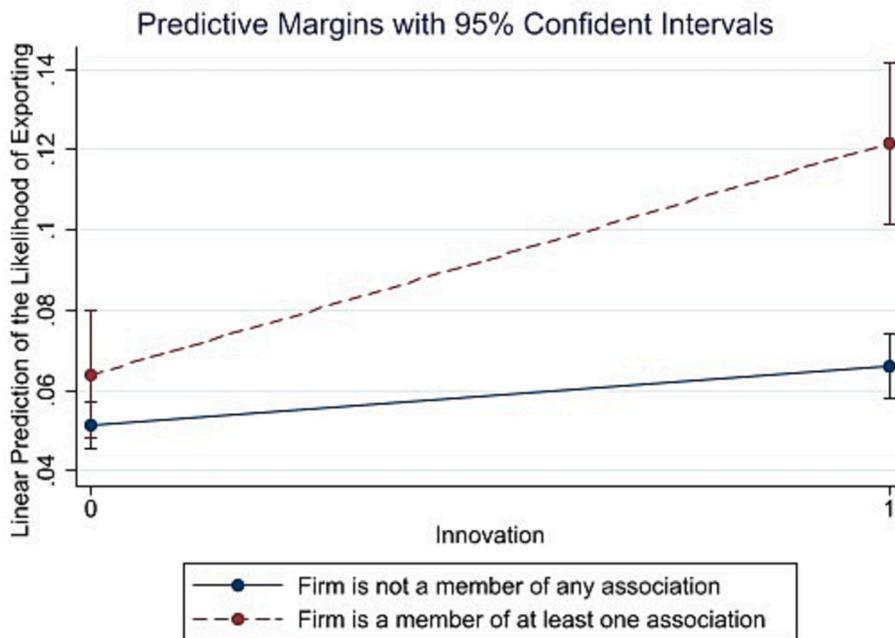


Fig. 3. Marginal prediction of the effects of interorganizational networks on exporting.

finding implies that social capital extracted from interorganizational networks is able to enhance the relationship between innovation and firm internationalization, both in terms of exporting and the number of foreign customers. As such, [Hypothesis H2](#) is supported.

To illustrate the moderating effects of interorganizational networks in a more intuitive manner, we provide the marginal prediction graphs in [Figs. 3 and 4](#). The figures show that the relationship between firm innovation and internationalization (export status in [Fig. 3](#) and the number of foreign customers in [Fig. 4](#)) is positive in general. However, this positive relationship is much stronger when a firm becomes a member of at least one association.

Meanwhile, the odds ratios (coefficients) associated with the interaction terms between interpersonal networks and innovation in columns (3) and (4) in [Table 2](#) ([Table 3](#)) are insignificant. The strength of the effect (the economic meaning) of the odds ratios in [Table 2](#) (coefficients in [Table 3](#)) are also trivial (slightly larger than one in [Table 2](#), and slightly larger than zero in [Table 3](#)). These findings indicate that the social capital extracted from interpersonal networks has no moderating effect on the relationship between innovation and firm internationalization. Therefore, [Hypothesis H1](#) is not supported.

Taken together, findings in this study highlight the importance of interorganizational networks as an important driver of internationalization. However, it is also noteworthy that interpersonal social ties may also have impact on firm performance, albeit domestically rather than internationally. This is because the domestic markets in Asian emerging countries are arguably less developed and profitable than the international markets ([Prashantham and Birkinshaw, 2015](#); [Filatotchev et al., 2009](#)). This also accords with the view that some network relationships are conducive to international growth while others may direct an SME's focus toward the domestic markets ([Prashantham and Dhanaraj, 2010](#); [Prashantham and Birkinshaw, 2015](#); [Puthusserry et al., 2019](#); [Ciravegna et al., 2014](#); [Chetty and Agndal, 2007](#)).

Another explanation for the insignificant moderating effect of interpersonal networks on innovation may be related to the characteristics of the sampled firms in our study. It is noteworthy that the firms under investigation in our study are relatively mature and well-established, with the average firm age being 19 years ($N = 19$ years old) and the firms having, on average, 17 employees ($N = 17$). Therefore, unlike newly established business ventures where the distinction between the entrepreneur's identity and that of their business is blurred or even identical ([Nguyen et al., 2020](#)), the firms in our sample are relatively independent of entrepreneurs, not only in terms of their legal status but also their operations. As such, the role of entrepreneurs' social networks may become less critical to the decisions of their relatively old firms ([Du and Mickiewicz, 2016](#)), which includes decision related to innovations. Meanwhile, organizational networks, which are associated with firms' self-identity, become gradually and unsurprisingly important to their operations and growth ([Ma et al., 2009](#)).

In terms of the control variables, entrepreneurs with start-up experience are found to be more likely to engage in export activities. Also, entrepreneurs with higher education show a higher tendency to go global. In addition, firm age and firm size appear to be essential determinants of firm internationalization: older and larger firms are more likely to participate in exporting. Finally, firms that operate in provinces with stronger local consumption power are more likely to go global. This finding contrasts with our initial expectation that firms may not go global if their local market is large enough. As such, the positive association between provincial consumption power and internationalization may indicate that firms export to expand their market size (opportunity-seeking) rather than simply to maintain survival.

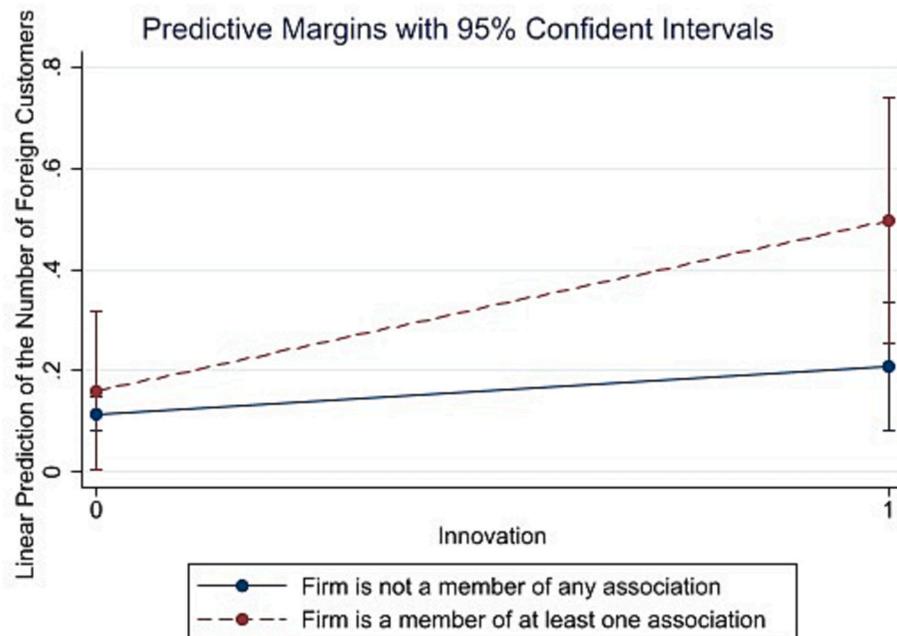


Fig. 4. Marginal prediction of the effects of interorganizational networks on the number of foreign customers.

5.2. Robustness check

5.2.1. Alternative measures of interorganizational networks

In the main test, we employ a dummy variable to indicate the membership status of firms in industry associations. For the sake of robustness checks, we also employ the count number of memberships as an alternative measure of interorganizational networks. The higher the number of memberships, the wider/stronger the interorganizational social ties. The regression results using the number of association memberships are reported in Table 4.

The results show that the number of industry associations is positively associated with both export status and the number of foreign customers. More importantly, the results also show that the higher the number of memberships, the stronger the moderating effects on the relationship between innovation and firm internationalization. As such, the robustness test confirms our main findings.

5.2.2. Types of interpersonal networks

In the main specifications, for the sake of interpretation, we take the lump-sum number of interpersonal networks, namely business ties, political ties, and social ties with bank officials. In this section, we investigate the effects of these types of interpersonal networks separately. The regression results of the respective networks are reported in Table 5.

The results show that business networks are negatively associated with the likelihood of firm exporting. Also, political networks are adversely associated with the number of foreign customers. Meanwhile, networks associated with bank officials have no significant impact on firm internationalization. This elaborated examination thus shows that interpersonal networks, especially ties built upon businesspeople and politicians, may harm the go global activities of firms. This finding thus implies that there are pattern effects in expanding businesses. Specifically, entrepreneurs are less likely to go global when their social ties are strongly linked to local businesspeople and authorities.

Table 4
Number of associations (columns 1–3 are odd ratios; columns 4–6 are regression coefficients).

	(1)	(2)	(3)	(4)	(5)	(6)
	Export decision	Export decision	Export decision	No. foreign customer	No. foreign customer	No. foreign customer
Innovation	1.452***	1.328*	1.508***	0.051	0.104*	0.105**
	(0.160)	(0.207)	(0.226)	(0.045)	(0.059)	(0.047)
No. Associations	1.200*	1.475***	1.204*	0.010	0.146**	0.017
	(0.131)	(0.095)	(0.134)	(0.033)	(0.059)	(0.055)
No. Associations × Innovation	1.293*		1.307*	0.194*		0.148*
	(0.176)		(0.179)	(0.106)		(0.077)
Interpersonal networks	0.996***	0.995**	0.996*	-0.000	-0.001	0.000
	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.000)
Interpersonal networks × Innovation		1.001	0.999		-0.000	0.002
		(0.003)	(0.003)		(0.001)	(0.001)
Owner gender	1.060	1.054	1.053	-0.021	-0.063	-0.062
	(0.107)	(0.114)	(0.106)	(0.043)	(0.047)	(0.047)
Owner age	0.999	0.998	0.999	-0.004**	-0.005*	-0.005*
	(0.005)	(0.005)	(0.005)	(0.002)	(0.003)	(0.003)
Start-up experience	1.359	1.310	1.355	-0.051	-0.010	-0.033
	(0.360)	(0.360)	(0.360)	(0.092)	(0.079)	(0.079)
Owner education	1.108***	1.093***	1.108***	0.004	0.010	0.009
	(0.033)	(0.033)	(0.032)	(0.011)	(0.010)	(0.010)
Firm age	0.995	0.993	0.995	-0.001	-0.001	-0.001
	(0.005)	(0.005)	(0.005)	(0.001)	(0.001)	(0.001)
Firm size	3.326***	3.212***	3.326***	0.186***	0.210***	0.210***
	(0.156)	(0.162)	(0.157)	(0.036)	(0.029)	(0.029)
Provincial consumption	1.018***	1.019***	1.019***	-0.000	-0.001	-0.001
	(0.003)	(0.003)	(0.003)	(0.001)	(0.001)	(0.001)
Local governance quality	1.025	1.019	1.025	0.003	0.008	0.008
	(0.017)	(0.021)	(0.017)	(0.008)	(0.008)	(0.008)
Pseudo R ²	0.232	0.203	0.237	0.129	0.121	0.196
LR chi ² p-value	0.000	0.000	0.000	0.000	0.000	0.000
VIF	1.856	1.325	3.254	1.557	1.052	3.369
Observations	15,851	15,851	15,851	15,851	15,851	15,851

Note: The dependent variable in columns 1–3 is firm export dummy. The dependent variable in columns 4–6 is the number of foreign customers. The estimator in columns 1–3 is fixed-effects logit model (*xtlogit* with *fe* option in Stata), the estimator in columns 4–6 is panel fixed-effects effects (*xtreg* with *fe* option in Stata), clustering both firm ID and province ID. A set of 7 types of ownership, 6 year dummies, and the interaction terms between year dummies and 2-digit industry dummies are included. Standard errors and test statistics are asymptotically robust to heteroskedasticity.

* Indicates 10 % significant level.
 ** Indicates 5 % significant level.
 *** Indicates 1 % significant level.

Table 5

Types of social networks (columns 1–3 are odd ratios; columns 4–6 are regression coefficients).

	(1)	(2)	(3)	(4)	(5)	(6)
	Export decision	Export decision	Export decision	No. foreign customer	No. foreign customer	No. foreign customer
Innovation	1.314* (0.205)	1.283* (0.177)	1.442*** (0.191)	0.109* (0.058)	0.089* (0.046)	0.007 (0.040)
Business networks	0.994** (0.003)			-0.001 (0.001)		
Business networks × Innovation	1.001 (0.004)			-0.000 (0.001)		
Political networks		0.967 (0.036)			-0.013** (0.006)	
Political networks × Innovation		1.032 (0.047)			0.008 (0.013)	
Bank networks			1.000 (0.035)			-0.014 (0.011)
Bank networks × Innovation			0.970 (0.045)			0.089** (0.044)
No. Associations	1.468*** (0.095)	1.463*** (0.096)	1.455*** (0.095)	0.146** (0.059)	0.146** (0.059)	0.141** (0.058)
Owner gender	1.048 (0.113)	1.069 (0.116)	1.063 (0.115)	-0.063 (0.047)	-0.061 (0.047)	-0.062 (0.047)
Owner age	0.998 (0.005)	0.999 (0.005)	0.999 (0.005)	-0.005* (0.003)	-0.005* (0.003)	-0.005* (0.003)
Start-up experience	1.281 (0.352)	1.251 (0.355)	1.244 (0.351)	-0.010 (0.079)	-0.014 (0.080)	-0.017 (0.081)
Owner education	1.091*** (0.033)	1.080** (0.033)	1.085*** (0.033)	0.010 (0.010)	0.010 (0.010)	0.009 (0.010)
Firm age	0.993 (0.005)	0.993 (0.005)	0.994 (0.005)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Firm size	3.201*** (0.161)	3.152*** (0.159)	3.139*** (0.160)	0.210*** (0.029)	0.209*** (0.029)	0.199*** (0.027)
Provincial consumption	1.019*** (0.003)	1.018*** (0.003)	1.017*** (0.003)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Local governance quality	1.019 (0.021)	1.025 (0.021)	1.023 (0.021)	0.008 (0.008)	0.008 (0.008)	0.008 (0.009)
Pseudo R ²	0.199	0.205	0.208	0.114	0.117	0.123
LR chi ² p-value	0.000	0.000	0.000	0.000	0.000	0.000
VIF	2.651	2.331	2.214	2.364	2.669	2.214
Observations	15,851	15,851	15,851	15,851	15,851	15,851

Note: The dependent variable in columns 1–3 is firm export dummy. The dependent variable in columns 4–6 is the number of foreign customers. The estimator in columns 1–3 is fixed-effects logit model (*xtlogit* with *fe* option in Stata), the estimator in columns 4–6 is panel fixed-effects effects (*xtreg* with *fe* option in Stata), clustering both firm ID and province ID. A set of 7 types of ownership, 6 year dummies, and the interaction terms between year dummies and 2-digit industry dummies are included. Standard errors and test statistics are asymptotically robust to heteroskedasticity.

* Indicates 10 % significant level.

** Indicates 5 % significant level.

*** Indicates 1 % significant level.

5.2.3. Before and after the 2009 crisis

Our sample of study spans from 2005 to 2015 and covers the 2009 financial crisis. It is thus interesting to explore how firm innovation and internationalization patterns change by this external shock. Also, it is important to figure out the relative importance of interorganizational and interpersonal networks before and after the shock. To conduct such an analysis, we investigate two sub-samples (observations in 2005, 2007, and 2009 are grouped in sample 1 – before 2009; and observations in 2011, 2013, and 2015 are grouped in sample 2 – after 2009). The regression results are presented in Table 6.

The results show that innovation is particularly important to firm internationalization after the 2009 crisis. This is probably due to the pressure associated with the shock on firm performance. We find no evidence that interpersonal networks are important to internationalization either before or after the crisis. Interestingly, we find that while interpersonal networks exert no impact on the relationship between innovation and internationalization, interorganizational networks remain essential in both periods. This finding thus implies that social networks at the organizational level play an essential role in helping firms expand their business internationally, regardless of changes in the external environment.

5.3. Supplemental qualitative data analysis

Because our findings show that interorganizational networks significantly moderate the relationship between innovation and internationalization whereas interpersonal networks do not, we added insight to these interesting findings by analyzing a sample of 11

Table 6

Before and after the 2009 crisis (columns 1 and 3 are odd ratios; columns 2 and 4 are regression coefficients).

	(1)		(2)		(3)		(4)	
	Before 2009				After 2009			
	Export decision	No. foreign customer						
Innovation	1.299	1.098			1.515**		0.121**	
	(0.319)	(0.111)			(0.297)		(0.059)	
Interpersonal networks	0.997	1.001			0.996		0.000	
	(0.004)	(0.001)			(0.002)		(0.001)	
Interorganizational networks	0.799	1.183			1.611**		0.096	
	(0.312)	(0.395)			(0.356)		(0.082)	
Interpersonal networks × Innovation	1.000	1.002			0.998		-0.003*	
	(0.005)	(0.003)			(0.004)		(0.002)	
Interorganizational networks × Innovation	2.785**	1.285*			1.651*		0.520***	
	(1.209)	(0.169)			(0.497)		(0.198)	
Owner gender	0.959	0.833*			1.108		0.010	
	(0.160)	(0.085)			(0.140)		(0.032)	
Owner age	1.001	0.995			0.998		-0.002	
	(0.008)	(0.005)			(0.006)		(0.002)	
Start-up experience	1.885**	4.344			0.947		-0.210***	
	(0.599)	(4.535)			(0.412)		(0.070)	
Owner education	1.237***	1.014			1.086**		-0.012	
	(0.087)	(0.052)			(0.035)		(0.011)	
Firm age	0.993	0.995			0.997		0.001	
	(0.008)	(0.003)			(0.005)		(0.001)	
Firm size	3.455***	1.461***			3.179***		0.266***	
	(0.273)	(0.153)			(0.195)		(0.049)	
Provincial consumption	1.029***	0.999			1.021***		0.000	
	(0.011)	(0.006)			(0.004)		(0.001)	
Local governance quality	1.020	0.998			0.971		-0.002	
	(0.025)	(0.011)			(0.040)		(0.004)	
Pseudo R ²	NA	0.249			NA		0.172	
LR chi ² p-value	0.000	0.000			0.000		0.000	
VIF	3.624	3.665			3.965		3.512	
Observations	4405	3498			6266		3457	

Note: The dependent variable in columns 1 and 3 is firm export dummy. The dependent variable in columns 2 and 4 is the number of foreign customers. The estimator in columns 1 and 3 is fixed-effects logit model (*xtlogit* with *fe* option in Stata), the estimator in columns 2 and 4 is panel fixed-effects effects (*xtreg* with *fe* option in Stata), clustering both firm ID and province ID. A set of 7 types of ownership, 6 year dummies, and the interaction terms between year dummies and 2-digit industry dummies are included. Standard errors and test statistics are asymptotically robust to heteroskedasticity.

* Indicates 10 % significant level.

** Indicates 5 % significant level.

*** Indicates 1 % significant level.

qualitative interviews conducted in 2022 as a follow-up research stage. We followed other qualitative researchers' methods and procedures to conduct the interviews in order to ensure that our collected data would be in-depth, reliable, and valid for our analysis purposes (O'Dwyer, 2004). As our quantitative study used data collected from Vietnamese SMEs, we interviewed managers of Vietnamese SMEs to ensure consistency between the quantitative and qualitative data. Drawing on our established networks with SMEs in Vietnam, we contacted the managers/CEOs of 20 companies requesting their participation in the study. Eleven companies agreed to

Table 7

Interviewee's role and firm industry and size.

No	Firm industry	Firm size	Role
1	Manufacturing	150 employees	Head of Planning and Development Department
2	Manufacturing	90 employees	Head of Production Department
3	Manufacturing	35 employees	Head of Operation Department
4	Trading	20 employees	Deputy CEO
5	Trading	15 employees	Head of Marketing Department
6	Manufacturing	25 employees	Founding entrepreneur and CEO
7	Manufacturing	130 employees	Deputy CEO
8	Service	45 employees	Manager
9	Service	20 employees	CEO
10	Education	21 employees	Manager
11	Manufacturing	179 employees	Manager

Note: All the interviewees were from small firms in Vietnam, which ranged from 20 to 179 employees. Of which, there were 7 male managers and 4 female managers.

Table 8
Summary of interview findings.

No	Interview coding	What social networks are important to the internationalization of Vietnamese SMEs: interorganizational or interpersonal social networks?	Why? Please give more explanation and examples
1	MAN1	Both are important but at different stages of development.	<ul style="list-style-type: none"> • First, we use personal networks. This helps bring about initial information, thanks to trust we could obtain essential information to kick off some international activities. Also, personal networks bring about some very quick contracts but likely be small. However, personal networks are very limited and cannot lead to bigger and long-term contracts. • Up to a particular point, we must use organizational networks to get broader networks that will lead to “real” (i.e., big and sustainable) contracts.
2	MAN2	First, use personal networks to get some initial information; then switch to organizational networks to obtain formal information for “actual” actions.	<ul style="list-style-type: none"> • Personal networks will be used first to obtain initial information and experiences of others → to confirm the feasibility of the ideas. • Personal networks are only used to get some references. The information given might be biased. People might also be reluctant to tell the whole story but to keep some secrets for themselves. • Organizational networks will be used later to do international businesses, especially to gain access to customers. • Formal information obtained through organizational networks is more reliable to make decisions.
3	MAN3	Definitely organizational networks	<ul style="list-style-type: none"> • Organizational networks could bring you more trustable information; we cannot trust personal networks because we don’t know whether the information they give is correct or not, especially when it comes to legal information or market information. • Personal networks are only useful for local business activities.
4	CEO4	Definitely organizational networks	<ul style="list-style-type: none"> • Organizational networks provide you with much more useful information. Organizational networks could provide you with open information, ready to use information, and easy to access with lower costs. • Personal networks are very limited for small firms. It is also sometimes very costly to get the information (need to invest in building the relationships to extract useful information). • Each type of networks has its own value, but in terms of going international, organizational networks are much more beneficial.
5	MAN5	Firm size determines the importance of types of networks	<ul style="list-style-type: none"> • Use personal networks first because this type of networks could bring more insights to the international markets. The requirement here is that you must find the people that you can trust. This type of networks is suitable for smaller firms. • Organizational networks are useful for larger firms. For smaller firms like this one, the use of organizational networks may come with substantial costs (i.e., membership fees, registration fees)
6	CEO6	Definitely organizational networks	<ul style="list-style-type: none"> • Personal networks are not very helpful. Most personal networks are domestic. They do not understand the international markets. • Organizational networks are much more important to go international. The reason is that they can provide you with up-to-date information and the assistance that you need. An example is that: when Korean and Japanese companies open their plants in Vietnam, they create several associations to help members. This proves the importance of organizational networks.

(continued on next page)

Table 8 (continued)

No	Interview coding	What social networks are important to the internationalization of Vietnamese SMEs: interorganizational or interpersonal social networks?	Why? Please give more explanation and examples
7	CEO7	Both personal networks and organizational networks are important to the company's internationalization activities. However, organizational networks are more important and productive than personal networks.	<ul style="list-style-type: none"> Organizational networks are a system of formal networks with other organizations and partners that have existed for a long time and have had deeper relations, while personal networks are just informal, and temporary relations. For example, organizational networks help create a prestigious destination and brand for the company while personal networks mainly provide the company with initial information about potential partners and markets.
8	MAN8	Of course, organizational networks are more important than personal networks/contacts	<ul style="list-style-type: none"> Organizational networks allow the company to establish formal business activities with other companies and partners while personal networks just provide initial information for reference about potential partners and markets.
9	CEO9	To foster our internationalization activities, organizational networks are more important	<ul style="list-style-type: none"> Personal networks are only essential for domestic business activities. However, we need to use our organizational networks, when doing business with foreign partners.
10	MAN10	Organizational networks are certainly more than personal networks based on my experience	<ul style="list-style-type: none"> Personal networks are useful in terms of supporting and enabling the company to understand our potential customers, partners and/or markets as well as build/establish relations with other organizations and partners. Organizational networks are really integral to the international businesses and activities of the company because they are legal to allow us to do business with our partners and customers. For example, when we signed a contract with a foreign company, organizational networks as the firm were legal to help us to reap the successful transaction.
11	MAN11	Doing international business requires organizational networks rather than personal networks	<ul style="list-style-type: none"> Personal networks only provide some useful information about our potential customers, partners and markets. However, when officially doing business with partners or customers, we need organizational networks to legally transact business with them, i.e., signing contracts, MOUs....

take part and informed us about the times and virtual platforms for when and where the interviews could take place. Details of the participatory firms' industries and sizes, and the roles of the interviewees are presented in Table 7. An interview schedule was developed and shared with each participant for confirmation and reminder purposes. As the object of the interviews was to verify whether the interviewee considered interorganizational networks or impersonal networks to be crucial to their firm internationalization, and to elaborate upon why, the interviews were rather short, ranging from 10 to 20 min in duration (contingent on the interviewee's interest).

Before commencing with each interview, the purpose and nature of the study was explained to each interviewee. We underscored that there were no right or wrong answers to the questions; we just needed the interviewees to share their opinions, experience, and understanding with respect to the questions (O'Dwyer, 2004). During the interviews, some direction and/or clarification was provided to the interviewees to ensure the clarity of responses. The interviews were not permitted to be recorded because of the studied firms' norms, hence a form was designed to capture and log the responses from the interviewees. Once each interview was done, an outline of the interview was created and sent to the interviewee for verification and further comment (Do et al., 2019).

For the purpose of our study, we employed the content analysis technique to analyze the data and interpret its meaning (e.g., Hsieh and Shannon, 2005). The interview data was noted, summarized, and subsequently translated into English for the purposes of analysis. We followed O'Dwyer (2004) to carry out three stages of data analysis: data reduction, data display, and data interpretation.

Our findings indicate that both organizational and interpersonal networks are more or less instrumental to firm internationalization. However, the majority of the interviewees highlighted that it was the interorganizational networks rather than the interpersonal networks that were really the key drivers of their internationalization activities. The following explanation of CEO6 is typical of the responses given (see Table 8 in the Appendix for further responses):

Personal networks are not very helpful. Most personal networks are domestic. They do not understand the international markets. Organizational networks are much more important to go international. The reason is that they can provide you with up-to-date

information and the assistance that you need. An example is that when Korean and Japanese companies open their plants in Vietnam, they create several associations to help members. This proves the importance of organizational networks (CEO6).

The above comment shows that interorganizational networks play a bigger role than interpersonal networks in internationalization because interorganizational networks are the formal channels that can allow the company to access the latest information, knowledge, and resources, as well as to find assistance when needed. Interpersonal networks, on the other hand, are only useful for the early stage of international growth and/or for inward orientation. There is support for this in the literature, with scholars arguing that interpersonal networks enhance the inward-orientation of SMEs (Sapienza et al., 2005). This argument is further supported by the following representative quotes:

Personal networks are useful in terms of supporting and enabling the company to understand our potential customers, partners and/or markets as well as build/establish relations with other organizations and partners. Organizational networks are really integral to the international businesses and activities of the company because they are legal entities that allow us to do business with our partners and customers. For example, when we signed a contract with a foreign company, organizational networks made it clear our firm was legal and helped us complete a successful transaction (MAN10).

Organizational networks could bring you more trustable information; we cannot trust personal networks because we don't know whether the information they give is correct or not, especially when it comes to legal information or market information. Personal networks are only useful for local business activities (MAN3).

These qualitative findings provide more in-depth empirical support for the study's quantitative results that interorganizational social networks positively moderate the relationship between innovation and firm internationalization when interorganizational social networks are higher. However, this relationship disappears when we have interpersonal networks as the boundary conditions between innovation and firm internationalization. We therefore conclude that the results of the quantitative study are robust and reliable.

6. Discussion

Drawing on a panel dataset of more than 15,800 observations of SMEs based in Vietnam, our study speaks to the need of these firms to continuously expand their networks of business relationships to increase their exporting outcomes. Through this, they can overcome competitive pressures and resource deficits via the effectiveness of internal change and product innovations. Our findings demonstrate that innovation is an essential determinant of internationalization within small businesses, to the extent that the process serves as a powerful mechanism as well as the driver that facilitates and promotes firm internationalization (Oviatt and McDougall, 1994; Knight and Cavusgil, 2004). The effect of innovation on firm internationalization is moderated through interorganizational networks. Given the extension of social network theory (Mitchell, 1969; Rogers and Kincaid, 1981; Zhou et al., 2007; Granovetter, 1973) in our model, our study contributes to a deeper understanding of the antecedents of internationalization where smaller firms are concerned, and this also offers important insights for larger businesses.

6.1. Theoretical implications

The current study contributes to the extant literature in multiple ways. Firstly, our work demonstrates that there is a differential moderating effect for interorganizational versus interpersonal networks in the relationship between innovation and internationalization in Vietnamese SMEs. Interorganizational networks are central to compounding the association between SME innovation and internationalization, but interpersonal networks fail to boost SME internationalization in our study. In other words, our findings suggest while interorganizational networks are especially integral to Vietnamese SME internationalization, interpersonal networks do not enhance and/or may even harm SMEs' international growth. This might be because interpersonal networks increase the inward-orientation of SMEs (Sapienza et al., 2005). As mentioned, Vietnam is a one-party state and thus less open than is often the case in more developed economies, meaning that entrepreneurs tend to be less international and less open to international exchange opportunities (Ellis, 2011). This suggests that SMEs must innovate in order to engage in and make use of interorganizational social networks to achieve their international expansion and develop exporting relationships with international partners (Ciravegna et al., 2014; Zhou et al., 2007). Social network theory addresses the means by which innovation and interorganizational social networks are intertwined. These, in turn, develop the business information benefits and the international business exchanges (e.g., exporting relationships) that SMEs need to foster their international growth (Ellis, 2011; Zhou et al., 2007). Furthermore, our study builds on prior work that suggests that personal connections are integral to international growth (Prashantham and Dhanaraj, 2010; Yli-Renko et al., 2002), while adding to it by showing that this is not inevitably the case. In some settings, firms may find that interpersonal networks are less important than interorganizational networks. For example, when firms are mature and their formal networks are established, they are no longer dependent on interpersonal or informal networks. Once firms have enough resources (e.g., they have their own networks), they tend to pursue more formal networks or alliances with their partners to expand their international markets. Although interpersonal networks are crucial to the internationalization of newly established firms, there is a point after which the effect of interpersonal networks becomes less significant. Our study shows that for well-established firms (firms in our sample are on average 19 years old), the role played by entrepreneurs' personal networks is less important than that played by the networks associated with the organization itself.

Secondly, although interpersonal networks are not evidently instrumental for Vietnamese SME internationalization, they have

implications for the IB literature. We therefore extend social network theory by arguing that interpersonal social networks may play a complementary or supporting role in the early process of firm internationalization. This extension starts with positioning interpersonal social networks as the conduit for identifying/recognizing opportunities that act as a salient precursor for interorganizational social networks (e.g., Zhou et al., 2007; Singh, 2000; Ozgen and Baron, 2007). Interorganizational social networks then involve the development of networks of business and exporting relationships (Chen, 2003; Chen and Chen, 1998; Ellis, 2000; Ellis and Pecotich, 2001). We, therefore, theorize interorganizational social networks as the key player in the process of firms' successful internationalization in an emerging market context - Vietnam.

Finally, we contribute to the theorization of context by taking into account an emerging and understudied country: Vietnam. For the last few years, Vietnam's economy has been one of the most entrepreneurial in Asia, while also having the lower salaries, weaker environmental and labor regulations, and institutional barriers for exporters that are characteristic of many emerging economies. The country is ruled by a one-party state that continues to be rather undemocratic but which, like China's, has implemented successful pro-export and pro-FDI policies. Although Vietnam has unique implications for IB research, this context is under-researched. This study thus sheds new light on the IB literature by providing empirical evidence about firm internationalization in emerging markets (Puthusserry et al., 2019; Ciravegna et al., 2014).

6.2. Practical implications

Given that SMEs often face challenges such as external pressures and limited resources and capabilities, this study has several practical implications. First, internationalization is a central requirement for SMEs in the global business landscape, and thus it has implications not only for organizations but also for policymakers who can propose policies that enable SMEs to gain access more easily to foreign markets or to form foreign strategic alliances. Attaining international growth is likely to help SMEs to survive, thrive, and stay competitive in the global environment. It is therefore important that the appropriate resources and support are made available, both within and beyond the organization, to assist with developing the necessary networks. According to the results of this study, helping senior leaders to network across organizations may be especially valuable for enabling internationalization. Offering guidance and support to senior leaders about how to build the kind of networks that will give concrete internationalization help (i.e., not simply interpersonal networks) would be an important practical step for helping Vietnamese SMEs to become more international in their orientation.

Second, our findings suggest that innovation and social networks interact. The interaction of these two constructs is found to jointly influence the level of firm internationalization. Thus, SMEs will get more bang for their buck from innovating when they expand their organizational networks. From this viewpoint, innovation and network strategies should be intentionally pursued in tandem. In particular, firms must focus on internal change as well as the innovation process; doing both will stimulate and facilitate them to widen their social networks with a view to establishing networks of business and exporting relationships. These network relationships are the key to enhancing the international expansion of SMEs.

Third, while we do not find that interpersonal networks are important to innovating and exporting, we think that this finding is more likely to be applicable for well-established SMEs rather than for newly emergent SMEs. Only when firms are matured and have their own organizational networks does the role of entrepreneurs' individual social capital start to become gradually less significant. As such, we suggest that SMEs whose organizational networks remain weak and underdeveloped should not ignore the contributions of interpersonal networks associated with their owner-managers. Abandoning interpersonal networks at too early a stage may cost firms substantial opportunities to innovate and internationalize.

6.3. Limitations and future directions

This study is not without limitations, many of which are suggestive of avenues for future research. First, the generalizability of this study may be limited because the sample was restricted to Vietnamese SMEs that are exposed to Vietnamese management styles, so that the generalizability of the findings might be hindered (Chang and Chen, 2011). Future studies, therefore, should extend the proposed theoretical framework and re-test it in other contexts. Second, the sampled firms in this study are relatively well-established and mature. This could be an explanation for the insignificance of interpersonal network in our models. We caution again generalizing this result to newly established ventures. Future studies, however, might expand the analytical framework proposed in this paper and test its validity in the context of nascent or newly-born business ventures. Moreover, due to the limited information available in the SME survey, we are mostly restricted to the use of dummy variables in this study. Future research may design questionnaires that capture the count values of types of innovation and social networks, which would allow a deeper understanding of the impact of these variables on firm internationalization. Another limitation of this study is that our operationalization of networks is rather coarse-grained and not consistent with the sophisticated techniques used by social network researchers like Burt (2007). However, this limitation is by no means new. Burt (2007) advances this stream of research by using network data underpinned by social network theory. We suggest that its use would also address this imperfection in our study. A final limitation is that this study focuses only on measuring the quantity (not quality) of social capital using the number of network ties. This may well be a factor in the insignificant impact of interpersonal networks on firm internationalization. As such, the implications of this study should be employed and interpreted with care.

7. Conclusion

The primary purpose of this study is to address important gaps in the IB literature by taking into account the boundary conditions for the impact of interpersonal and interorganizational social networks on the relationship between innovation and internationalization in the context of Vietnamese SMEs. Our findings show that while interorganizational networks play a salient moderating role in amplifying the relationship between innovation and internationalization, interpersonal networks have no role to play in the relationship. This interesting finding has two important theoretical implications for IB research. On the one hand, our finding further reinforces the school of thought that argues that interpersonal networks do not enable and may even harm SME internationalization. On the other hand, our finding challenges another line of work that theorizes interpersonal networks as an essential enabler of SME internationalization. Our study therefore lays the foundation for future IB studies to further advance this stream of research.

Appendix 1. Panel structure

(1)	(2)	(3)	(4)
Year	Frequency	Percentage	Cumulative percentage
2005	2821	17.80 %	17.80 %
2007	2633	16.61 %	34.41 %
2009	2657	16.76 %	51.17 %
2011	2532	15.97 %	67.14 %
2013	2561	16.16 %	83.30 %
2015	2647	16.70 %	100.00 %
<i>Total</i>	<i>15,851</i>	<i>100 %</i>	
Years per firm	Frequency	Percentage	Cumulative percentage
1	1412	8.91 %	8.91 %
2	2060	13.00 %	21.90 %
3	2367	14.93 %	36.84 %
4	2188	13.80 %	50.64 %
5	1680	10.60 %	61.24 %
6	6144	38.76 %	100.00 %
<i>Total</i>	<i>15,851</i>	<i>100 %</i>	

Appendix 2. Pairwise correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Export (1)														
Number of foreign customers (2)	0.33													
Innovation (3)	0.11	0.06												
Interorganizational networks (4)	0.06	0.03	0.24											
Number of associations (5)	0.18	0.04	0.11	0.05										
Interpersonal networks (6)	0.07	0.05	0.05	-0.03	0.14									
Owner gender (7)	-0.04	-0.02	0.07	0.03	0.04	-0.04								
Owner age (8)	-0.05	-0.03	-0.09	-0.01	0.04 [#]	-0.04	0.15							
Start-up experience (9)	0.02	0.03	0.04	0.06	0.14	0.02	0.05	0.04						
Education (10)	0.19	0.05	-0.03	-0.12	0.02 [#]	0.16	-0.05	-0.08	0.00 [#]					
Firm age (11)	-0.07	-0.04	-0.12	-0.07	0.01	-0.04	0.03	0.32	-0.04	-0.09				
Firm size (12)	0.40	0.18	0.22	0.32	0.16	0.20	-0.07	-0.13	0.06	0.39	-0.17			
Provincial consumption power (13)	0.11	0.00 [#]	-0.16	-0.30	-0.05	0.12	-0.09	-0.04 [#]	-0.05	0.39	0.00	0.21		
Local governance quality (14)	0.08	0.01 [#]	-0.08	-0.27	-0.01	0.03 [#]	-0.08	-0.04	0.00	0.19	-0.05	0.14	0.47	

Note: Coefficients marked with # are not statistically significant at 5 %.

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Hoa Do (doh2@aston.ac.uk) is a Lecturer/Assistant Professor in HRM/OB at Aston Business School, Aston University, UK. His areas of expertise include strategic HRM, Leadership, creativity, innovation and SMEs. He has published in such journals as *Human Resource Management*, *Journal of Business Research*, *Journal of International Management*, *Human Resource Management Review*, *International Small Business*.

Bach Nguyen (b.nguyen@exeter.ac.uk) is an Associate Professor in Entrepreneurship at University of Exeter Business School and a research fellow at Centre for Business Prosperity, Aston University. His main research interest is understanding the economics and management of new ventures and small businesses. His research interest lies in several aspects of small businesses, including entrepreneurial financing, investment decisions, and institutional settings on firm investment and performance.

Helen Shipton (helen.shipton@ntu.ac.uk) is a Professor of Human Resource Management and the Director of the Center of People, Work, and Organizational Practice, Nottingham Business School, UK (Aston Business School 2003–2013). Helen's current projects include investigating employee voice (in partnership with the Chartered Institute of Personnel and Development) and the effect of reward on employee creativity (British Academy/Leverhulme Trust). Helen recently coedited a book entitled *Human Resource Management, Innovation, and Performance* (Palgrave Macmillan, 2016) and has published in top journals such as *Human Resource Management Journal*, *British Journal of Management*, *Human Resource Management*, and *Journal of Organizational Behavior*.