Social Networks and Internationalization of SMEs: The Mediating Role of Market Knowledge and Opportunity Recognition

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Abstract
Drawing insight from social network and internationalization theory perspectives, our study develops a conceptual model and test hypothesis using structural equation modeling by Smart PLS software, relying on a sample of 145 Iranian exporter SMEs obtained using a constructed questionnaire. Firstly, firms were placed in 5 categories, based on the classification of the Trade Promotion Organization of Iran (ITPO), to categorize the field of export activity. Then, the sample was selected via simple random sampling method. Values of the research model fitness fit the data well and the model exhibited an acceptable fit. Concerning the research results, the first hypothesis (which predicted that the greater the level of social networks, the higher the internationalization) was not supported by data. Nonetheless, our findings confirmed that social networks have a significant effect on both market knowledge and opportunity recognition in international markets. In addition, the study results confirmed the mediating role of opportunity recognition in the relationship between social networks and internationalization. Finally, we might recommend government institutions and SMEs managers to pay particular attention to the structures and relationships in social networks for developing international business.

Keywords: social network, market knowledge, opportunity recognition, internationalization

1. Introduction

Small and medium-sized enterprises (SMEs) make contributions to the expansion of international business activity and are developed as a driving component of the world economy. Accordingly, in Iran, the problems caused by the single-product economic system and reliance on oil revenues along with the international sanctions have moved government policy to empowering SMEs for expansion of export activities. SMEs have become substantial in international development; however, SMEs typically do not analyze the international environment attentively and therefore would possibly lack the information and knowledge necessary for international opportunities (Buckley et al., 1978). SMEs are largely affected by the lack of knowledge regarding foreign markets (Hånell & Ghauri, 2016) and recognizing/exploiting market opportunities throughout their overseas expansion (Melén & Ghauri, 2015). Resulting from this, the concept of market knowledge has become central to internationalization research. In the opportunity recognition process, social network has been referred to as a key matter (Lim & Xavier, 2015). There has been little empirical evidence to date about the mediating role of opportunity recognition between social network and internationalization. Thus, in this paper, we aim at adding to the literature on international

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opportunity recognition via the exploitation social network perspective. This study illustrates how a firm's relationships with social network actors enhance its opportunity recognition throughout the internationalization process. Over time, several theoretical views have been developed within the international business literature and networks have emerged as significant theoretical frameworks to elucidate internationalization phenomena (Johanson & Kao, 2010). Among all the theories on internationalization, the network perspective is most appropriate from the point of view of SMEs internationalization (Rutashobya & Jaensson, 2004).

In the past few decades, social networks have given rise to a particular perspective in the specific field of management and organization development, marketing strategy, resources management, and logistics research (Carter et al., 2007; Nobre & Silva, 2014; Prell et al., 2009; Tichy et al., 1979). In addition, many studies have highlighted the importance of networks throughout the internationalization of SMEs (e.g., Ibeh & Kasem, 2011; Karami & Zhengang, 2018; Salvador et al., 2014; Senik et al., 2011; Zain & Ng, 2006). Despite extant literature on the impact of networking and internationalization, there is still very little empirical evidence from emerging economies (Ghauri et al., 2003; Musteen et al., 2014; Senik et al., 2011). Among emerging economies, the Middle East region has received very little attention in the academic literature, and international business researchers have not considered so far a comprehensive conceptual model that brings together multiple mediating variables to explain the social network effects on internationalization within such a context. On the other hand, few studies have analyzed SMEs, and most research examining the influence of networking on internationalization has been conducted in large companies (Stoian et al., 2017). Despite the fact that SMEs sector has a crucial role in propping up the international economy, most researchers and practitioners have considered large companies in their researches. Nonetheless, due to the various kinds of challenges facing SMEs – such as the lack of market awareness, the identification and evaluation of business opportunities, tangible and intangible resource problems, etc. – research conducted in large companies has been of little value for the analysis of SMEs business performance, and there is a need for specific research on this sector. The motivation behind conducting this study is improving and extending the internationalization process of SMEs in Iran. In particular, we aimed at analyzing the ways in which social networks directly and indirectly affect this process.

Success in the internationalization strategy for SMEs depends on the cooperation and commitment between network actors and organization because few SMEs have capacity to develop appropriate strategies (Pinho & Prange, 2016). The network approach assumes markets as a web of connected relationships, and corporations are engaged in a long-term relationship with varied actors in their respective networks (Johanson & Kao, 2010, p. 120). Networks are an element of access to the intangible assets of the corporations and enable them to attain market knowledge available in network actors (Forsgren, 2017; Johanson & Kao, 2010). Despite the increasingly substantial role of SMEs in emerging markets (Senik et al., 2011), evidence from SMEs internationalization among in economies is restricted (Ghauri et al., 2003; Kim, 2017).

Different types of networks have been recognized, which have assisted the internationalization process. Examples include social network, business network, hybrid arrangements, intra-organizational network, strategic alliances, international network, and reputational networks. Network varieties are often categorized into two types, namely social and business (Jeong, 2016; Tajeddini et al., 2020). Recently, researchers focusing specifically on SMEs internationalization and the literature on international business (IB) have confirmed the lack of knowledge and lack of opportunity recognition as earnest barriers for the internationalization of SMEs, and network relationship will facilitate them to overcome these limitations (Chetty & Agndal, 2007; Clarke et al., 2016; Pangarkar, 2008). Networking

facilitates SMEs gaining of capabilities and provides them with access to restricted resources, consequently increasing the possibility that opportunities will be adopted (Nowiński & Rialp, 2016). Firm internationalization researchers largely agree on the importance of network relationships concept in the internationalization process; however, the role of social network is not well understood within the SMEs context (Ibeh & Kasem, 2011; Zhou, 2007). Although many previous studies have emphasized the importance of business networks in internationalization, few studies have focused on the interactions of SMEs with social network actors (Ibeh & Kasem, 2011; Pinho & Prange, 2016). This gap suggests that little is still known about how the social network actors to which SMEs are connected can increase opportunity recognition during their internationalization process. Therefore, this research essentially uses social network theory to examine the internationalization process of SMEs (Chen & Chen, 1998; Pinho, 2016; Pinho & Prange, 2016).

Although researchers use many definitions for social networks, for the purpose of this study and alignment with measurement scales we use the following definition: A social network can be defined as a set of personal ties among actors, like families, employees, colleagues, and acquaintances. Social networks are mainly defined as "relationships that are developed from personal connections" (Chen & Chen, 1998; Jeong, 2016; Pinho & Pinheiro, 2015; Salvador et al., 2014; Yli-Renko et al., 2002).

The majority of previous studies regarding internationalization have focused on giant companies from developed countries (Ibeh & Kasem, 2011). The Middle East is one of the regions with the largest reserves of natural resources and oil production and export are among the sources of government power in these countries. On the other hand, the single-product economies and their dependence on exports of fuel commodities, as well as political tensions, terrorism, corruption, and authoritarianism have diminished the presence of some of these countries in the global economy (Luft, 2009). Changes in global market competition and demographic factors make economic diversification urgent, especially these days. Historically speaking, Middle East policymakers turn to diversification during periods of low oil prices or international sanctions and encourage SMEs to make significant value added in economy (Alsharif,et al., 2017; Lashitew et al., 2020). Accordingly, the need to look for and exploit the factors that cause the stronger presence of the Middle East enterprises in global markets is essential. This paper assumes that far less attention has been paid to the network theory as a preferred paradigm of SMEs internationalization in the Middle East countries. As mentioned by Stoian et al. (2018), social and person-to-person activities in the Middle East are much more important; thus, presence in social network structure is very important in this region. Therefore, the aim of this study is investigating the influence of social networks on the internationalization process in the context of a Middle East country with the mediating role of market knowledge and opportunity recognition. This study is unique in its evaluation of the SME internationalization process in a special environment and society like Iran. We do so by analyzing a sample of Iranian SMEs active in the export arena. Our study contributes to the literature on SME internationalization and the practical relevance of this study provides implications to managers and policymakers to help improve the international activity of SMEs in Iran. The originality of this work is on the fact that there is little knowledge regarding how SMEs in Middle East economies extend networks to assist their internationalization process, as former studies have not sufficiently considered social network capabilities in this region.

The rest of the paper is organized as follows. After a brief review of Iran's economy, we elaborate on the theoretical background of the study, and hypotheses are developed and a research model is proposed. We then discuss the research methodology utilized in the study. This section provides empirical data collected from Iranian SMEs. Then, the paper validates the hypotheses through structural equation modeling. Finally, the conclusions and implications are presented.

2. Research Context

In recent years, the importance of small and medium enterprises in industrial and developing nations has been enhanced, and with the advent of new methods in manufacturing and communications, the importance of SMEs has increased (Clark et al., 2016; Lin & Zhang, 2005). Foreign trade contains a crucial role in every country's economy. A large number of small enterprises in emerging economies are moving into international markets through export activity (Yiu et al., 2007), since exporting is a low-risk strategy for internationalization and needs fewer resources (Gaur et al., 2014).

Currently, the role and importance of SMEs in developing countries is increasing (Ibeh & Kasem, 2011). In Iran, although over 95 percent of all manufacturing units are in the small and medium enterprise category, these firms do not have a substantial contribution to total export value. Accordingly, Iranian SMEs should realize that competitiveness in foreign markets is not an option, but an compulsion. If the Iran nuclear deal succeeds, a new perimeter in political-economic interaction with other countries will open and increased presence in global markets will become more prominent. In this case, if Iranian SMEs do not use the advantage of new opportunities in the new space, the level of their internationalization would possibly keep low.

Iran is a founding member of the Economic Cooperation Organization (ECO) and Organization of the Petroleum Exporting Countries (OPEC). Emerging economies are commonly faced with challenges affiliated with weak institutional relationships that support international business activity (Clarke et al., 2016). In the process of globalization, the biggest challenge for Iran is its economic dimension. The share of Iranian companies is comparatively small compared with that in other countries participating in global trade. In total, Iran's share in world trade is about 0/5 percent (The World Bank, 2017). Generally, export activity in Iran is divided two categories: exporting oil and non-oil products. Oil export is always a major part of the country's income, and one of the most necessary features of Iran's economy is dependence on oil export. It should be noted that if we reduce the share of oil and gas from total exports, the share of Iran in global trade would be much lower. In recent years, Iran's economy has declined as oil export fell considerably following international sanctions (International Trade Centre, 2017). One of the factors that have a substantial impact on economic growth in some developing countries is foreign trade. Currently, many developing countries have a single product economy and one of the most important plans that they follow is getting away from a single-product economy. The foremost disadvantage of these economies is that with the fluctuations in product markets, the economy of those countries gets additional fluctuations. Therefore, emerging economies seek to diversify their exports. The internationalization of SMEs in these countries plays an essential role in driving the global market (Senik et al., 2011).

3. Literature Review and Research Hypotheses

3.1. Networks and Internationalization

Internationalization is a complex phenomenon (Mejri & Umemoto, 2010; Shih, 2017) and attempts to understand internationalization are multitudinous (Ghanat-Abadi, 2005; Ratten & Tajeddini, 2018). The internationalization process of firms is a core subject in the international business field of study (Kraus et al., 2018; Park & Rhee, 2012). The roots of internationalization theories could be traced back to the 1930s when research projects studied large corporations in developed countries (Bužavaitė & Korsakienė, 2018; Johanson & Kao,

2010). In recent decades, traditional focus has been shifting from large manufacturing firms toward SMEs (Rietveldt & Goedegebuure, 2014). As a multifaceted phenomenon, several perspectives explain the concept of internationalization (Ribau et al., 2018). Calof and Beamish (1995, p. 116) defined internationalization as "the process of adapting firms' operations (strategy, structure, resource, etc.) to international environments." However, internationalization has been generally defined as a process of going beyond domestic markets and operating in the international arena (Bose, 2016).

The network perspective on internationalization (Johanson & Mattson, 1988) has been adopted as a significant framework to study the international business sphere (Johanson & Kao, 2010). The reason for many scholars to investigate the networking approach is the restriction of some internationalization theories (Bužavaitė & Korsakienė, 2018). This approach assumes that businesses are engaged in long-term relationships with very different actors and views a market as a web of connected relationships (Johanson & Kao, 2010). According to Ferro et al. (2009), three roles are played by networks: information attainment, linkage to opportunities, and leverage during the possession of resources. In addition, Shane and Stuart (2002) claim that social networks will facilitate business with opportunity recognition and access to market knowledge. International enterprises cannot be viewed as islands, and social networks are a progressively central concept in understanding inter-personal and inter-organizational dynamics (Pinho & Pinheiro, 2015). Social networks are delineated as personal ties and connections built upon trust and closeness (Salvador et al., 2014, p. 373).

International markets for SMEs are rather extensive and diverse (Zain & Ng, 2006). However, SMEs face many constraints and restrictions in their way to internationalization (Hsu et al., 2020; Pangarkar, 2008). SMEs can employ social network relationships in the same way as a large company, because the barriers to engage them are low (Franco et al., 2016). Recent research has illustrated that companies can acquire resources and enhance their performance in international markets via networks (Johanson & Mattson, 1988; Sharma & Blomstermo, 2003; Udani et al., 2016). One solution for these firms to overcome this restriction is by networking. From some authors' viewpoint, networks have a positive impact on SMEs internationalization process (e.g., Hånell & Ghauri, 2016; Ibeh & Kasem, 2011; Melén & Ghauri, 2015; Zain & Ng, 2006).Tang (2011) studied the influence of networking on the internationalization of Chinese SMEs. His findings indicated that the ability of SMEs to set up networking with key partners is useful for the internationalization process. Salvador et al. (2014) further investigated the effectiveness of networking for European SMEs in the Brazil market. The results highlighted the importance of social networks for successful internationalization processes. Investigating small and medium-sized Portuguese exporters, Pinho and Prange (2016) indicated that social networks have a positive influence on the internationalization of SMEs in low-tech industries.

Given the above arguments, we posit the following hypothesis:

Hypothesis 1: Social networks have a positive impact on internationalization.

3.2. Market Knowledge

Nowadays knowledge plays a considerable role in management of the economies of the world (Hosseini et al., 2019). In addition, information and market knowledge is an important part of internationalization process (Johanson & Vahlne, 2009) and knowledge shortage as an obstacle to SMEs internationalization (Kenny & Fahy, 2011a; Loane & Bell, 2009). Although SMEs are willing to interact in international markets through exporting activities, they encounter some barriers like insufficient international market knowledge that hinder

integration in world markets. These conditions imply that SMEs should overcome major challenges in the process of market knowledge acquisition during their internationalization. Knowledge about foreign markets enables firms to perceive uncertainty involved in the internationalization process (Hånell & Ghauri, 2016). There are two types of knowledge indispensable in the internationalization process. The first is objective knowledge, which refers to explicit information and experiential knowledge and can be acquired only via practice and personal experience on the field (Bagnaia, 2013; Johanson & Vahlne, 1990), and the second is market knowledge, which refers to objective or explicit information about foreign markets (Mejri & Umemoto, 2010, p.162). "Generally knowledge is defined as the understanding originated from the combination of data, information, experience, and interpretation. Also market knowledge is a semi proper concept that can describe how to deal and interact with the market" (Aghazadeh, 2016, p. 65). Since knowledge is created as a result of the interplay between employee and organization, it is a dynamic capability driven by human interaction (Stoian et al., 2018). Lavanya (2012) argues knowledge sharing refers to transfer or propagation of knowledge from a source unit to a recipient unit. At present, competitive advantage is more based on particular knowledge and technologies, which are not so easily attainable (Bužavaitė & Korsakienė, 2018). Given the active and social dimension, knowledge flows among organization members and passes on through social interactions rather than information held on databases and papers (Bagnaia, 2013). Networks have an effect on the flow of knowledge among individuals (Arenius & Clercq, 2005). In addition, Tajeddini et al. (2020) confirms that social network relationships act as a critical source of knowledge for individuals and organizations.

Social network theory studies the relationships among individuals and the way a person interacts with others and spreads knowledge (Lim & Xavier, 2015). According to Johanson and Vahlne (2009), networking provides companies with necessary knowledge on internationalization, which might be accessible to the network partners. The main argument of social networks is international contacts, which offer considerable information and knowledge regarding foreign markets and facilitate the internationalization process (Bužavaitė & Korsakienė, 2018; Musteen et al., 2014). Investigating three different types of knowledge sharing and based on internationalization theories, Magni et al. (2021) examine the role of network ties in SMEs' internationalization. Their research outcomes confirm the importance of knowledge sharing in reducing the criticality issues of SMEs internationalization.

The SME internationalization literature mostly concentrates on internal actors, such as knowledge generated by a firm's managers and key individuals (Stoian et al., 2018). Studying the employees of high-tech firms, Podolny and Baron (1997) confirm that social networks enhance knowledge about foreign markets. Networks will facilitate firms to increase knowledge and awareness of current rules and create market intelligence that helps them with the internationalization process (Senik et al., 2011). It has been noted that some researchers argue that social networks are the most important source of knowledge, and actors in social network structure are able to access and share international market knowledge (Eberhard, 2013). Andersen (2006) develops a conceptual framework for assessing the importance of social networks for international knowledge generation for the sake of internationalization of SMEs.

Some researchers demonstrate that knowledge of the foreign market positively influences the internationalization process (Akbar et al., 2017; Jonsson & Elg, 2006; Oviatt & McDougall, 2005a). Basle et al. (2018) conceptualized market knowledge and tested the dependence of internationalization of Slovenian SMEs on market knowledge. Results of their study showed that the export mode of internationalization depends on the market knowledge that SMEs possess. SMEs encounter serious challenges in accumulating and analyzing international market knowledge, and SMEs can rise up their internationalization process by

providing knowledge about the global environment. One of the most necessary parts in the internationalization of firms is knowledge (Oviatt & McDougall, 2005b). In addition, foreign market knowledge enables SMEs in developing countries to better cope with the drawback of their small size to access global markets (Musteen et al., 2014). A basic assumption of internationalization theory is the importance of knowledge in international activity (Clarke et al., 2016). Many studies argue that knowledge among network actors plays a crucial role in improving the foreign expansion (Udani et al., 2016). According to Jonsson and Elg (2006), the increase in knowledge about foreign markets has a positive impact on the retail firms' internationalization. Investigating 334 family firms and offering a conceptual model, Cesinger et al. (2016) confirm that international market knowledge mediates the relationship between collaborative intensity and multinationality of firms.

To provide support for the mediating role of market knowledge, we referred to the previous research suggestions and an indirect relationship between networks and internationalization. The study of Musteen et al. (2014) based on a sample of 169 SMEs in Czech Republic found that foreign market knowledge acts as a mediator between international networks and internationalization. Stoian et al. (2017) highlighted the indirect influence of inter-organizational networks on the internationalization of the UK-based SMEs via the mediating role of innovative behavior and foreign market knowledge. In addition, offering a conceptual model and empirical analysis of 105 SMEs, Jin and Jung (2016) confirmed the mediating role of market knowledge in the relationship between business networks and internationalization. However, their findings indicated that personal networks have no important role in providing market knowledge for SMEs.

Hence, we propose the subsequent hypotheses:

Hypothesis 2: Social networks have a positive impact on market knowledge.

Hypothesis 3: Market knowledge has a positive impact on internationalization.

Hypothesis 4: The impact of social networks on internationalization is positively mediated by market knowledge.

3.3. Opportunity Recognition

SMEs increasingly fuel economic growth and innovation, and these orientations are presenting opportunities to SMEs in the international markets (Dabić et al., 2019).The network perspective argues that opportunity development cannot happen within the vacuum (Bai & Johanson, 2018). Foreign market opportunities are assumed to be contingent upon the idiosyncratic benefits of social networks. Accordingly, the growing attention of social networks in internationalization is supported (Ellis, 2000). Over the past decades, social networks have been contained in entrepreneurship studies as the primary driving force in opportunity recognition (Lim & Xavier, 2015). Kontinen and Ojala (2011) confirm that opportunity recognition is completely associated with social networks and ties. One of the most important factors for explaining firm internationalization is opportunity recognition (Bai & Johanson, 2018; Nowiński & Rialp, 2016; Oviatt & McDougall, 1994). However, research about opportunity recognition faces some challenges like conceptual ambiguity and methodological challenges (Gregoire et al., 2010; Lim & Xavier, 2015), and the question of how opportunities are recognized in international markets remains under-explored (Ellis, 2011; Styles & Seymour, 2006). A firm unable to recognize international opportunities can have difficulty growing, while identifying opportunities is a prerequisite for the firm's continued growth and development (Bai & Johanson, 2018). On the other hand, connection made through social networks can translate into international opportunity (Bai et al., 2021).

As Ellis (2011) suggests, traditional models of the firm internationalization process routinely attribute expansion decisions to the perception of foreign market opportunities, but the way these opportunities come to be recognized is scarcely addressed. Providing a conceptual model, Lim and Xavier (2015) demonstrate that social networks have a positive influence on opportunity recognition and business performance.

Foreign market opportunities have a critical role in the internationalization process (Evers & O'Gorman, 2011). In recent years, opportunity recognition has attracted plentiful attention from researchers, and international business studies have viewed networks as facilitating internationalization by assisting SMEs to identify opportunities in foreign markets (Ellis, 2011; Musteen et al., 2014). The core performance of networking in the internationalization process is the co-creation of an opportunity for internationalization (Karami & Zhengang, 2018; Sarasvathy et al., 2014). Ellis (2011) claims that opportunity recognition in international markets is a subjective process, shaped by social ties with other individuals.

Some argue that opportunities are objective artifacts that rise out of market dynamics, while others assert that opportunities rise out of the subjective interpretations and inventive actions of individuals (Gregoire et al., 2010). Opportunity recognition plays a central role in the internationalization of firms (Kontinen & Ojala, 2011, p. 45; Lindstrand & Hånell, 2017) and has fully grown as an elementary facet of international entrepreneurship (Brettel & Rottenberger, 2013; Ciravegna et al., 2014). One of the main definitions of opportunity is the one offered by Sarasvathy et al. (2010, p.79): "a set of ideas, beliefs and actions that enable the creation of future goods and services in the absence of current markets for them." The term opportunity recognition is difficult to define, and numerous researchers have tried to define the meaning in various ways (Lim & Xavier, 2015). Within the international business context, an opportunity is an unfilled or imperfectly filled demand in a foreign market (Toyne, 1989). Opportunity can be defined as a perceived means of generating economic value that previously has not been exploited and is not currently being exploited by others. In turn, opportunity recognition can be defined as the cognitive process (or processes) through which individuals conclude that they have identified an opportunity (Baron, 2006, p.107).

This study is concerned with international market opportunities, which are viewed as opportunities for establishing new business activities in foreign markets (Johanson & Vahlne, 2009). SMEs are restricted in their strategic options because they are not able to exploit several international opportunities (Eberhard & Craig, 2013). According to Vasilchenko and Morrish (2011), business and social networks might appreciably ameliorate the ability of SMEs to rapidly explore and exploit international opportunities. According to social network theory, firms that have a relationship and are an actor of networks are more likely to identify opportunities (Bai & Johanson, 2018). Previous research sees a link between social networks and opportunity recognition in international markets (Arenius & Clercq, 2005; Kontinen & Ojala, 2011; Nowiński & Rialp, 2016; Ozgen & Baron, 2007; Singh, 2000). Thus, opportunity recognition will motivate SMEs to better perform in their internationalization process.

Presenting a conceptual model, Andersson and Evers (2015) have demonstrated the role of international opportunity recognition as a mediator between dynamic managerial capabilities and international development and growth. Some studies have pointed out that networks affect internationalization through other factors. Only a few of them consider opportunity recognition as a mediator variable in this regard (Kiss & Danis, 2010; Pinho & Prange, 2016; Stoian et al., 2017; Zain & Ng, 2006). For example, Zain and Ng (2006) have argued that network relationships impact the internationalization process of SMEs through many mediating factors, with one of them being the foreign market opportunity. In addition, Hånell and Ghauri (2016) confirm that firms that have relationships with business, social, and political networks enhance their internationalization process via the mediating role of opportunity recognition.

Based on the foregoing discussion, we propose the following hypotheses:

Hypothesis 5: Social networks have a positive impact on opportunity recognition.

Hypothesis 6: Opportunity recognition has a positive impact on internationalization.

Hypothesis 7: The impact of social networks on internationalization is positively mediated by opportunity recognition.

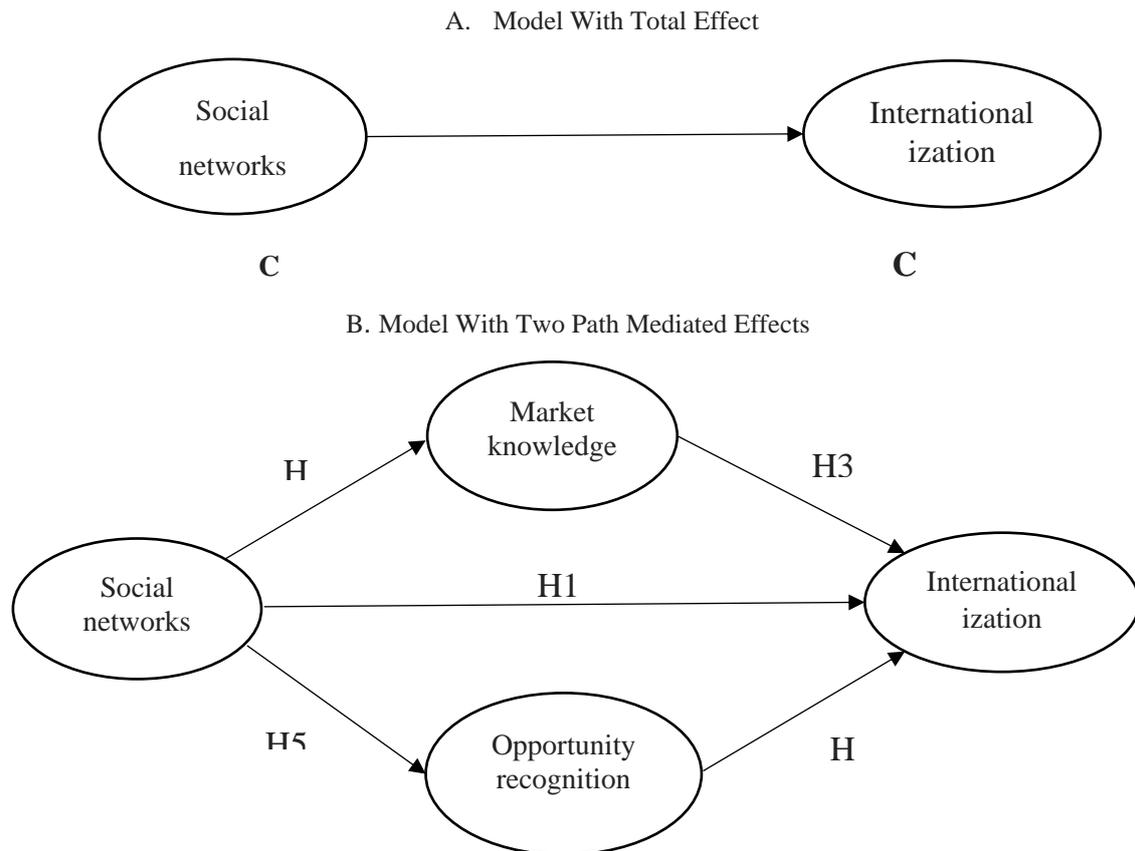Based on the arguments presented above, we developed the following research model (Figure 1).

A.   Model With Total Effect

B. Model With Two Path Mediated Effects

Figure 1. Conceptual Model[1]

4. Research Methodology

4.1. Sample and Data Collection

Studies on internationalization preponderantly use quantitative ways such as surveys to study pertinent phenomena (Kenny & Fahy, 2011b). Consequently, the quantitative survey technique was utilized in this study. The empirical research was based on data from the SMEs located in Iran. In order to obtain an appropriate sampling framework, the research population was obtained from the Trade Promotion Organization of Iran (ITPO)[2]. ITPO disseminates information on foreign markets and business opportunities to Iranian SMEs. ITPOs functions include promoting, facilitating, informing, and administrating, and giving support for the business community. Representing a broad range of business sectors, the study included firms

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1. We illustrate the main hypothesis on conceptual framework and mediational hypotheses (H4,H7) offered in the text.
2. http://eng.tpo.ir/

from agriculture and food products, chemicals, electronic and IT, traditional industries, and engineering and technology. SMEs in this database should have met some criteria to determine their eligibility for the sample. Initially, a firm should have belonged to export activity. Second, they should have had 10-250 employees to be considered an SME. Moreover, they should have had either an annual turnover not exceeding 50 million Euros or an annual balance sheet not exceeding 43 million Euros as outlined by the European Union Commission (2003). To achieve the purpose of the study, our research population covered 1400 Iranian exporter firms from ITPO database as they had sold to international markets during the last 24 months. Firms were placed in 5 categories (Table 1) based on the classification of the (ITPO) to be grouped in their export activity field. Then, the sample was selected via the convenience sampling method. The investigation of the whole population is often inopportune and inconceivable because of its size as well its accessibility. Thus, in this study we used Cochran Formula (at the 95% confidence interval) to calculate a representative sample. This way, the optimal sample size was determined to be 301 firms. A questionnaire could be an applicable tool to collect the eligible information of this study because obtaining information from non-listed companies is difficult (Alayo et al., 2019). Data was acquired through self-administered questionnaires that were distributed among executives and exporting managers. Those respondents with knowledge of the firm's export operations were qualified to complete the questionnaire (Bianchi & Mathews, 2016). We consulted the prior literature and did a systematic review in order to assure the Construct validity of the measurement instrument. The recommended time for the compilation was fifteen minutes. Using an online survey in 2018, the questionnaire was emailed to 301 people, and after two reminders, 160 questionnaires were returned, gaining a response rate of 53%. Previous studies recognized the difficulties in collecting data from Iranian firms. To increase response rates, this study implemented some procedures and in order to remedy this problem, pre-notification emails were first sent to population firms to inform them of their selection as respondents to the study, explaining the main objectives of the study and notifying them that they will receive a package in a few days. Then, respondents were asked to complete the questionnaire at the appropriate time. After that, we contacted them in person or through phone calls in order to increase the response rate. This response rate approximates the rates obtained in other internationalization research studies (e.g., Jin & Jung, 2016; Pangarkar, 2008; Stoian et al., 2017). After eliminating incomplete questionnaires, the final sample was made of 145 questionnaires. To determine the effectiveness of the survey questionnaire, we pre-tested the questionnaire with executive and export specialists from several firms. Pre-testing did not show any problems in the final questionnaire. All firms in the sample were classified in the five different industry types, including agriculture and food products (n=43), chemicals (n=29), electronic and IT (n=22), traditional industries (n=39), and engineering and technology (n=12).

A non-response bias test was conducted through comparing responses from the early respondents with those from late respondents. No essential differences were found across the two groups when compared using t-test in terms of key variables and firm sector. Thus, non-response bias was not a trouble in our study (Alayo et al., 2019; Jin & Jung, 2016).

Table 1. Categories, Population, and Sample Size

Categories	Population	Sample size
Agriculture and food products	370	43
Chemicals	295	29
Electronic and IT	260	22
Traditional industries	325	39
Engineering and technology	150	12
Sum	1400	145

4.2. Measures

We used a survey instrument to gather information concerning the important constructs, and the questionnaire items were adapted from other measurement scales to be right for the present study (see Table 2). In line with Pinho and Prange (2015), we adopted a reflective measurement scale. Items measuring social networks were borrowed from Elis (2011) and Pinho and Prange (2016) studies. Social networks appeared as a top manager's strength of networks with relatives, friends, former classmates in other countries, other executives in the same sector, and other firms (supplier, business partner, etc.). We measured social networks using five items. This construct was measured using a five-point Likert scale ranging from 1 "not very significant" to 5 "very significant." The dimension of market knowledge in this study was measured using seven items adapted from Jin and Jung (2016) and Zhou (2007). Another five-point Likert scale (1= lacking to 5= sufficient) assessed the extent of knowledge about foreign laws and regulations, customers, distribution channels, and so on. Six items measuring opportunity recognition were adapted from Ma et al. (2011) and Song et al. (2017). Another five-point Likert scale (1= weak to 5= strong) was used to measure this variable. In line with Gilbert et al., (2008) and Eberhard and Craig (2013) a well-established measure for evaluation of SMEs internationalization is export intensity and most SMEs typically doing international business in the form of export (Fernhaber et al., 2014; Eberhard & Craig, 2013) and this measure indicates an increasing level of reliance on exporting (Hall & Lee, 2008). Following the previous criteria and different studies, the four items for measuring internationalization were adapted from Bianchi and Wickramasekera (2016) and Pinho and Prange (2016). This variable entailed a five-point Likert scale starting from 1 "extremely negative" to 5 "extremely positive." In the questionnaire of study, we did not use vague and equivocal concepts. In line with (Stoian et al., 2017), the questionnaire was attentively constructed in order to avoid comprehension issues.

Table 2. Measures

Measures	Item (scale)	Cronbach'sα	Source
Social networks	a- Strength of top managers network with the following people in other countries a1- Relatives. a2- Friends. a3- Former classmates. a4- Top manager's contact with other executives in the same sector. a5- Top manager's relationships with other firms (supplier, business partner, etc.).	0.7377	Elis (2011); Pinho & Prange (2016)
Market knowledge	b- Our firm has knowledge about: b1- Foreign language and cultural norms. b2- Foreign business laws and regulations. b3- Host government agencies. b4- Foreign competitors. b5- Demands of foreign clients/customers. b6- Foreign distribution channels. b7- Effective marketing in foreign markets.	0.7985	Jin & Jung (2016); Zhou et al. (2007)
Opportunity recognition	c1- While going about day to day activities, I see potential new ideas (e.g., on new marketing tools, new products, and new business solutions). c2- I have special alertness or sensitivity toward new opportunities (as mentioned above). c3- Seeing potential new opportunities (as mentioned above) does not come very naturally to me. c4- My business item can be used to solve the problems of the targeted international market. c5- Applying my business item with individuals/ firms constitutes a feasible opportunity. c6- The proposed business solution is sufficiently developed to be applied with individuals/firms in targeted international markets.	0.7083	Ma et al. (2011); Song et al. (2017)
Internationalization	d1- Increase in foreign market sales revenue. d2- Export profit. d3- Export market's share of growth. d4- Number of international countries entered	0.7540	Pinho & Prange (2016); Bianchi & Wickramasekera (2016)

5. Data Analysis and Results

We analyzed the data using the statistical package for social science (IBM SPSS 19) and tested the model using partial least squares (PLS) technique with SmartPLS 2.0 (Pinho & Prange, 2016). The usage of PLS-SEM was the most appropriate for this study because this approach has additionally been implemented in earlier research wherever sample size has not been large (Länsiluoto et al., 2019, p. 7). Second, this approach can include both reflective and formative measurement models, whereas covariance-based SEM suffers limitations in this regard (Henseler et al., 2009; Wilden & Gudergan, 2015). In addition, PLS methodology is being progressively employed in international business studies (Pinho, 2016). PLS path-modeling approach has two stages: (1) evaluating the reliability and validity of the measurement model, and (2) testing the structural model and the predictive ability of the model (Pinho & Prange, 2016; Takata, 2016).

5.1. The Measurement Model

In the PLS-SEM approach, the primary step was to ensure the reliability and validity of measurement scale (Pinho, 2016). In line with other studies (Tang, 2011; Wilden & Gudergan, 2015), we assessed and examined the construct validity. Construct validity regards how well a test or experiment measures what it is supposed to measure. For this object, both convergent validity and discriminant validity were used. We performed Cronbach's alpha, average variance extracted (AVE), factor loading, and composite reliability (CR) tests. Cronbach's alpha is the most typically used technique for estimating internal consistency. As suggested by Vinzi et al. (2010), alpha values of 0.7 or above mean that the indicators are performing well in capturing a particular construct. The results of composite reliability were above the required thresholds of 0.7 (Hair et al., 2016). Chen and Singpurwalla (1996) maintain that this test is a measure of the overall reliability of a collection of heterogeneous but similar items.

We proceeded to assess the discriminant validity after confirming the convergent validity. In line with Fornell and Larcker (1981), the average variance extracted (AVE) was used to evaluate discriminant validity. As Magner et al. (1996) assert, the score for AVE should be greater than (0.4). The value of AVE was above the required threshold of 0.4, too. Table 3 provides the descriptive statistics and correlations associated with study variables. The measures of social networks, market knowledge, and opportunity recognition are positively correlated with the measures of internationalization. Therefore, by increasing or decreasing each of them, the amount of the other variable is increased or decreased. In addition, the mean value indicates that Iranian SMES in our sample have had a reasonably good mean score on social networks. It can be seen in Figure 3 that we have conceptualized social networks and internationalization.

Table 3. descriptive statistics, reliabilities, and correlations

Constructs	mean	SD	AVE	CR	Social Network	Market knowledge	Opportunity recognition	internationalization
Social networks	2.18	0.69	0.4877	0.8262	**0.698****			
Market knowledge	2.32	0.58	0.4503	0.8501	0.37**	**0.671****		
Opportunity recognition	2.75	0.69	0.4073	0.7965	0.33**	0.23**	**0.638****	
internationalization	2.88	0.78	0.8784	0.8443	0.33**	0.33**	0.50**	**0.761****

Notes: Correlation is significant at the *0.05 and * *0.01 levels

5.2. The Structural Model

The proposed hypotheses were estimated using PLS-SEM. To check the hypothesized relationships and the significance of the weight, bootstrapping technique was used (Pinho, 2016). The bootstrap is an extremely versatile method for statistical inference (Ranganathan et al., 2018). We used non-parametric bootstrapping for testing the mediating path. In this method, a sample of the same size as the data is taken from the data with replacement. Using a bootstrapping technique with a re-sampling of 5000, the path estimates and t-statistics were calculated for the hypothesized relationships as advised within the literature (Hayes, 2017). In line with Castro and Roldán (2013) and Pinho (2016), we examined the direct, indirect, and total effects of the independent variable on the dependent variable. Table 3 and Figure 2a depict the direct impact of social networks on internationalization, in the absence of any path mediated effects. Since in this hypothesis we measured the individual effect of social networks on the dependent variable, we used unstandardized coefficients. The common method for testing mediating hypothesis has been Sobel test (Sobel, 1986). However, this approach has low power compared to the modern approaches such as non-parametric bootstrapping, and Sobel test is not suitable for PLS-SEM because path coefficients are not independent when computed using PLS and PLS does not provide raw unstandardized path coefficients required by the Sobel test (Castro & Roldán, 2013, p. 1042). So, non-parametric bootstrapping technique was adopted for testing of mediating effects. Results of direct and indirect effects are shown in Table 4 and Table 6.
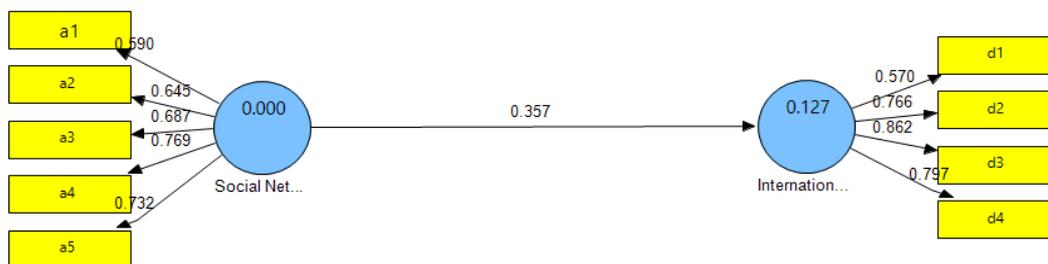

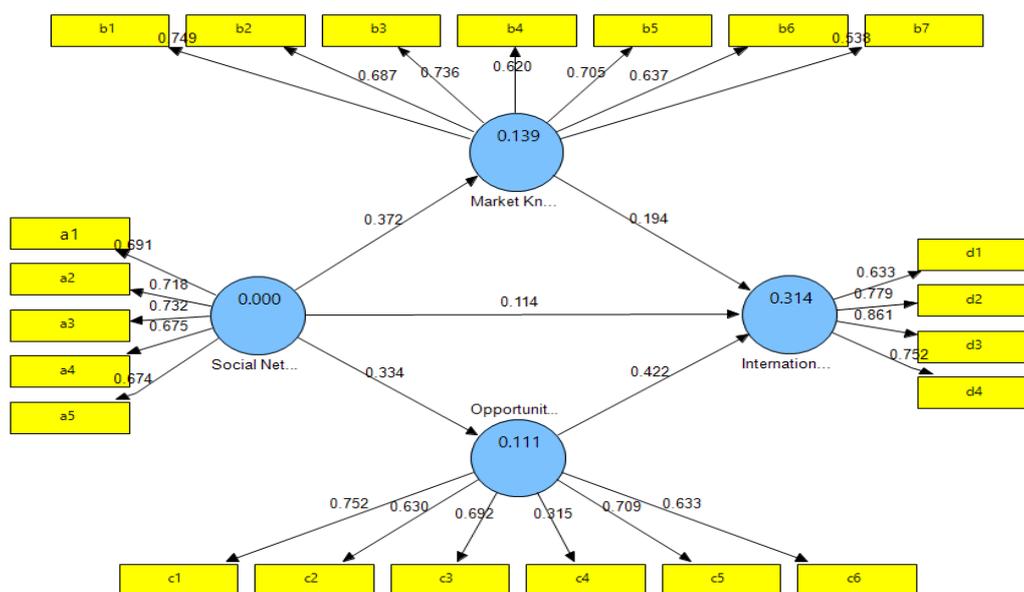**Figure 2a.** Structural Model With Direct Effect

Figure 2b. Structural Model With Mediating Effect

Table 4. Effect on Endogenous Variable

Effect on endogenous variable	Direct effect	T-value (bootstrap)	Sig.	Percentile bootstrap 95% confidence interval		Confirmation of hypothesis
				Lower	Upper	
H1	0/114	1/706	$0/05>p$	0/013	0/35	Not Supported
H2	0/372	2/865	$0/01<p$	0/086	0/423	Supported
H3	0/194	6/818	$0/001<p$	0/271	0/558	Supported
H6	0/422	5/307	$0/001<p$	0/04	0/511	Supported
H5	0/334	4/307	$0/001<p$	0/148	0/549	Supported

According to the results presented in Table 5, the fitness indices are acceptable, because the index values are higher than required standard values.

Table 5. Values of Research Model Fitness

Research values	Standard values	Fit indices
0.94	AGFI > 0.9	AGFI
0.92	GFI > 0.9	GFI
0.96	CFI > 0.9	CFI
0.94	RFI > 0.9	RFI
0.94	IFI > 0.9	IFI
0.93	NFI > 0.9	NFI
0.042	RMSEA < 0.05	RMSEA
2.06	$\chi^2/df < 3$	χ^2/df

Figure 2b as well as tables 4 and 6 show the structural model analysis. Results suggest that social networks have a major impact on internationalization. However, when two path mediators were included within the model, the path coefficient became non-significant. A shown in Table 6, the mediation effect of opportunity recognition is significant and this variable has a full mediating effect on the relationship between the independent and dependent variables. The analyses showed that social networks were positively related to internationalization. With the path analysis, the relationships could be conceptualized as, direct, indirect, and total effects. The total effect of one variable on another one is the sum of its direct and indirect effects (Länsiluoto, 2019, p.10). As shown in Table 6, the total effect (C) of social networks on internalization is positive and significant. To test the mediating effects of opportunity recognition and market knowledge, indirect effects were calculated. The results are shown in Table 6.

Table 6. Summary of Indirect Effects of Both Mediators

Hypothesis	Percentile bootstrap 95 %confidence interval		Sig	T-value (bootstrap)	Mediating effects	Confirmation of hypothesis
	Upper	Lower				
H 4	0/155	0/007	$0/05>p$	1/76	0/072	Not supported
H7	0/26	0/057	$0/01<p$	2/59	0/141	Supported

Table 7. Total Effect of Social Networks on Internationalization

Percentile bootstrap 95 %confidence interval		Sig	T-value (bootstrap)	Total effect	Confirmation of hypothesis
Upper	Lower				
0/355	0/104	$0/01<p$	3/103	0/33	Supported

6. Discussion and Conclusion

Although the literature on network theory demonstrates a positive impact on internationalization, these claims are not well documented explicitly in emerging markets. This study strengthened the earlier findings by highlighting the importance of social networks for market knowledge and opportunity recognition in a Middle Eastern context. Our study provided empirical evidence based on data related to a sample of Iranian SMEs with export activity. This study expanded network and internationalization performance literature in the context of SMEs, developed a research model to examine the impact of social networks on internationalization with the mediating role of market knowledge and opportunity recognition, and identified specific ways through which this impact occurred. To attain this goal and analyze the relationships, a quantitative research approach was adopted, and then the research hypotheses were tested. Research hypothesis 1 (which predicted that the greater the level of social networks, the higher the internationalization) was not supported by data. Despite the considerable amount of literature supporting the positive role of social networks and internationalization, this study found no relationship between social networks and internationalization. Nonetheless, this path was significant in the absence of two mediators in the model when social networks directly enhanced SMEs internationalization. These findings could support Pinho's (2016) similar notion that a greater level of social capital leads to a better internationalization performance (though this path was not significant in the presence of multiple mediators in his research model). The rationale behind this is that even if there is a positive direct relationship between social networks and internationalization, the significance of this relationship may change when several mediational effects are taken into account.

Drawing on the evidence from this study, it is reasonable to argue that the confirmation of the total (c) and direct effect of the independent variables on the internationalization illustrated in an SME from a Middle Eastern country could corroborate that social network relationships will help suchlike firms to perform better in the internationalization process. This finding is consistent with the previous studies that found social networks have enhanced internationalization (Pinho & Prange, 2016; Salvador et al., 2014; Söderqvist, 2011). The developed countries have more formal sources of knowledge about foreign markets than less developed countries, and this is one of the reasons that SMEs in less developed countries such as China (Zhou et al., 2007) and Portugal (Pinho, 2016) are more reliant on social networks. The significant relationship among social networks and internationalization indicates that SME decision-makers in Iran should be attentive to the impact of relationships between social network actors and internationalization performance. The decision to interact in social networks affects opportunity recognition and access to overseas market knowledge. However, our findings revealed that neither opportunity recognition nor market knowledge lead indirectly to internationalization.

The relationship between social networks and market knowledge was found to be significant, so Hypothesis 2 was supported. This finding is in line with the previous research, which determined that social networks have increased market knowledge in foreign markets (Bužavaitė & Korsakienė, 2018; Johanson & Vahlne, 2009; Jonsson & Elg, 2006; Musteen et al., 2014). For example, Udani et al., (2016) found that social networks serve a source of market knowledge in international markets. This can be justified by the reality that communication and relationships between social network partners contribute to the collection of information regarding norms, regulations, cultural differences, clients' needs, and distribution channels in international markets. For this reason, the top managers of SMEs are suggested to see social networks as devices that enhance international market knowledge and expand their international operations. Research hypothesis 3 (which predicted that the greater

the level of market knowledge, the higher the internationalization), was supported by the data. International business literature emphasizes accomplishing market knowledge as pivotal for successful internationalization. Consequently, the positive impact of market knowledge on internationalization found in this research is in agreement with the previous studies (Jonsson & Elg, 2006; Oviatt & McDougall, 2005b; Udani et al., 2016). Additionally, Musteen et al. (2014) showed that international networks provide foreign market knowledge for SMEs, which might be leveraged to reinforce the performance of the internationalization process.

This study further analyzed the mediating function of market knowledge in the relationship between social networks and internationalization (Hypothesis 4). In a study of emerging markets, Altnaa et al. (2021) found SMEs rely on knowledge collected by social network partners to bring about their internationalization process. Concerning the mediating role of market knowledge, our results did not confirm this variable to be a mediator of the relationship between social networks and internationalization. We found that networking with a number of personal ties does not lead to favorable performance in the internationalization of SMEs. This finding demonstrated that the nurturing of market knowledge with social networks is not vital for successful internationalization. This may suggest that international market knowledge provided through Iranian social network actors' and managers' relationships may not pragmatically exercise the goals of internationalization of SMEs. We believe that the existence of social network relationships as perceived by the decision-makers is required for obtaining market knowledge but is not sufficient for them to perform better in the international markets. Accordingly, SMEs managers need to attentively evaluate the quality of the information they receive from their social network partners.

On the contrary, the study found support for Hypothesis 5, which predicted the positive effect of social networks on opportunity recognition. For this reason, it can be said that social networks with relatives, friends, etc., may assist SMEs with accessing opportunity recognition. This result is in line with the findings of several previous studies (Lim & Xavier, 2015; Singh, 2000; Nowiński & Rialp, 2016). As recommended by Kontinen and Ojala (2011), social networks performed a central function in international opportunity recognition. Additionally, Nowiński and Rialp (2016) indicated that social networks facilitate corporations to assess international opportunities. This finding implies that social networks can assist SMEs with providing new plans and business solutions, seeing a potential new opportunity, and solving the problem of international markets. In other words, those decision-makers who engage in the relevance of their social networks for internationalization operations find them beneficial for opportunity recognition and foreign market knowledge. Similarly, Hypothesis 6 (which predicts that the greater level of opportunity recognition, the higher the internationalization) was also supported by the data. The finding of our study is in line with Hånell and Ghauri (2016), Jonsson and Elg (2006), and Kontinen and Ojala (2011). In addition, the empirical study of Lindstrand and Hånell (2017) determined that the ability of SMEs to recognize and exploit new opportunities determines the firm growth of internationalization. This study suggests that SMEs managers must permanently look for international opportunities that will enable their firms to successfully internationalize. Additionally, our study found support for Hypothesis 7 through confirming the mediating function of opportunity recognition. The results indicated that there is an indirect link between social networks and internationalization via opportunity recognition. We found that SME decision-makers who engaged in social network structure are close to those partners that possess the foreign opportunity and are more likely to be successful in their internationalization process. Consequently, we learned that opportunity recognition is the key component for Iranian SMEs. Even though they have weaknesses in recognition of opportunity in foreign activities, they must acquire it to extend involvement in international markets.

7. Contribution, Limitation, and Future Research

The findings of this study contribute to the relative lack of empirical research that tests the relationship between social networks and SMEs internationalization. The results proposed that researchers should not assume that SMEs in Middle East countries are not utilizing the benefits of social networks.

In today's economic world, the production and export of products and services play an important role in the economic success of countries, and export are known as the easiest way for businesses, especially for SMEs, to attend in global markets. Given the unique environment of Iran (which faces some difficult challenges in its internationalization efforts), the fact that many managers in developing countries such as Iran have limited access to knowledge and opportunities in international markets, and the existence of international sanctions against some government institutions in these countries, we suggest that SMEs managers pay special attention to the structures and relationships in social networks and formulate internationalization strategies. International marketing managers are advised to initially pay special attention to the functions of social networks, and then design the relevant strategies accordingly. Additionally, many theoretical and practical implications can be presented based on the conceptual model and the consequences. We tend to believe that the consequences of this research contribute precious understanding to both social network theory and worldwide business fields. This study was an effort to investigate the internationalization of Iranian SMEs in the context of social network theory and identify specific ways as to how social networks influence internationalization in particular. It is necessary to mention that although in some countries there are differences in the definitions and functions of social networks (e.g., social networks are known in China as *guanxi*), the findings of this study suggest that the nature and definition of social networks in Iran is almost similar to the relationships that exist in other countries.

This study confirmed that Iranian SMEs use social network relations in their internationalization process, corroborating the findings of some earlier studies and showing that interacting within social network partners can provide the essential backgrounds for improving the performance of Iranian exporting firms in the internationalization process by providing international opportunities for network partners. SMEs play an important role in the economics of a developing country. However, they have major challenges in their internationalization process, such as the lack of market awareness, identification and evaluation of business opportunities, tangible and intangible resource problems, and so on. Therefore, SMEs as well as other companies that face similar problems can use the results of this study to improve their performance in foreign markets.

This knowledge can be useful for assisting governmental and nongovernmental agencies that are responsible for developing international business in Iran and similar countries. Many managers of SMEs in Iran and some Middle Eastern countries have not yet paid considerable attention to the importance of networking in international interactions and are still seeking international markets using traditional approaches. Therefore, it is recommended that these managers try to identify the functions of social networks, enhance their interaction with these network actors, and gain a better understanding of both direct and indirect effects of social networks on internationalization, which is especially important to strengthen the competitiveness of Iranian SMEs or similar countries. Furthermore, our analysis illustrated the role of social networks in acquiring intermediate outcomes such as market knowledge and opportunity recognition, which, in turn, influence internationalization. From a managerial point of view, SMEs that are affected by the lack of knowledge about foreign markets and restriction in international opportunities recognition should concentrate on actively looking

for social network ties that will provide them with novel opportunities to engage in international markets. Hence, managers of SMEs should focus on enhancing their relationships with social network actors to attain a better presence in worldwide markets. Our results suggest that despite several constraints faced by SMEs located in the Middle East, decision makers should concentrate on leveraging the recognition of opportunities from their social network partners.

Today, emerging economies are very open to global trade and have an outsized rate of growth in international business. However, some SMEs in these countries lack adequate competence to launch their internationalization activities. SMEs play a vital role in most economies, and exporting is usually a dominant factor in such firms' approaches. However, natural-resource-based economies, such as Iran, do not have a considerable share of total export in the world trade. Therefore, policy makers are advised to adopt appropriate strategies for increasing internationalization activities of SMEs. To this end, it is necessary to pay more attention to the function of networks and constructive interaction with their actors. The contribution of our research for policymakers and export assistance agencies is important, particularly in some high-risk countries in the Middle East region. They need to support roles and platforms that encourage the use of social network functions for the internationalization of SMEs such that these firms achieve sustainable development in international markets.

Although this study provides the literature with a substantial insight, it has some slight limitations. The economy of the Middle East is very diverse, and it is a potentially unique region with a common set of challenges and different characterization. However, this study was carried out in a single country, and due to the lack of access of researchers to managers of SMEs in other countries in the Middle East, the empirical evidence was obtained only from Iranian exporter SMEs. This makes generalizing our finding limited in comparison with a cross-country investigation. To address this limitation, future research should thus be tested in other Middle East countries with different environments to verify and generalize our results. In this study, we measured internationalization by export intensity. Nonetheless, it would be interesting to measure how social networks have an effect on internationalization of SMEs in later stages like subsidiaries, joint ventures, or foreign production.

Another limitation of this study is that it does not consider different sorts of network relationships. Therefore, future studies could examine these networks so as to focus on the relationship between networks and SMEs internationalization. Finally, this study relies on cross-sectional research, and this type of research cannot infer how social networks impacts the internationalization process in over time. To attain a deeper insight, longitudinal studies should be conducted to assess social networks' perceptions over time.

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