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# THE INTERNATIONALIZATION PROCESS OF TUNISIAN SMALL AND MEDIUM ENTERPRISES (SMES) IN AFRICA

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## **ABSTRACT**

In this paper, the author analyses the role of several determinants in the internationalization process of Tunisian Small and Medium Enterprises (SMEs) in Africa, and consequently their performance. A quantitative study was carried out on 46 companies, operating in the information and communication technologies (ICT). SPSS and Smart PLS analysed the obtained data. The results demonstrate the importance of the total mediating role of international entrepreneurial orientation (IEO) in the relationship between competitiveness and international performance. However, networking generates a direct effect on international performance. Tunisian SMEs in the ICT industry are called upon to review their African market methods of management and inspection to guarantee optimal use of resources on the one hand and to avoid the loss of business opportunities on the other. Besides, according to this research, the weight of the competitive advantage of Tunisian SMEs allows them to adopt an entrepreneurial behaviour characterized by innovation, proactivity, and risk-taking in Africa. This pushes them to adopt a permanent design and adaptation of valuable methods of value creation, innovation, and localization of opportunities. This entrepreneurial behaviour also compels companies to better structure their management, develop skills of intuition and anticipation in the market, take risks as well as initiatives, and consequently achieve greater performance and sustainability.

**Keywords:** International Entrepreneurial Orientation (IEO), International Performance, Environmental Uncertainty, Networking, Competitiveness, Market Standardization.

**JEL Classification:** L26

## INTRODUCTION

Since 1986, when the structural adjustment plan of the international monetary fund was put in place, Tunisian companies have opened up to strategic partnerships, especially with the countries of the Mediterranean basin (Mansour et al., 2014). These partnerships have opened up prospects for great mobility of experts and consultants, by accelerating the transfer of European know-how to Tunisian managers (Mansour et al., 2014), more particularly, companies in the Information and Communication Technologies (ICT) industry which have experienced significant growth since their founders had lived, worked, studied abroad, and especially in Europe. The latter have acquired technological experience and knowledge, enabling them to play

a fundamental role in identifying opportunities, especially at the international level (Mejri & Ramadan, 2016).

On the other hand, the liberalization of the Tunisian economy started gradually in the 90s by signing up to 50 agreements with neighboring countries (especially Europe and Africa), which justifies a foreign policy known for the diversification of export base and business partners. Since the 2000s, the Tunisian government has launched an Export Development Program (EDP) in partnership with the World Bank aimed mainly at facilitating the access of Tunisian SMEs to foreign markets (Tunisian Ministry of Commerce, 2017). Only the values of exports to Africa have been steadily increasing, particularly between 2014 and 2015, despite the economic difficulties experienced during this period. In fact, African countries such as Ghana, Senegal, Cameroon, and Ethiopia attract Tunisian SMEs because of their promising development, particularly in the ICT. According to the National Statistics Institute (NSI, 2017), Europe and recently Africa are considered as the main destinations for Tunisian exports.

Despite these data, several exporting companies considered new in the ICT industry, not always presenting clear objectives, and they try to adopt different structures for export operations (Khemakhem, 2010). Indeed, according to Mejri & Ramadan (2016), Tunisian exporting companies experience flexibility in adapting to the regulatory specificities of each country, and certain aggressiveness in particular on the African market, as well as a complete knowledge of the targeted context.

Currently, Tunisia has not yet reached the objectives in terms of the values of exports targeted in Africa. However, knowing the characteristics of these markets (geographic proximity, growth, and rapid technological development), certain government actors (UTICA - Tunisian Union of Industry, Commerce and Crafts, chambers of commerce, export advisers) have set up a specific national program for Africa to help and to advise Tunisian companies, especially SMEs operating in the ICT industry. These latter are seeking to export to these countries, and are faced with the challenge of accelerating operations towards this market attracting several players from around the world. In 2008, the Microsoft Company and the European Union with a vision to developing the technological environment of African countries sponsored a roadmap. Thus, several countries were engaged in this process, which has contributed massively to the development of ICT in Africa (Dakouré, 2014), in particular thanks to the rapid adoption of technologies, and the orientation of foreign investors towards this continent which now offers great investment opportunities and realize huge profits (Essoungou, 2011).

The venture capital landscape in Africa is growing at an unprecedented rate, as is the number of Africa-based and Africa-focused venture capital firms and funds, with venture capital investments in Africa reaching a high record in 2019. This is what has just revealed a report published recently by Google and the International Finance Corporation (IFC).

Access to a large single market is essential: Nigeria is currently Africa's largest single market and remains the continent's leading investment destination. However, when the AfCFTA is rolled out across the continent, markets should become easier to access.

Africa's attractiveness as a venture capital investment destination continues to grow, attracting investors willing to take up-front risks to expand the digital ecosystem on the continent, based on exciting opportunities and long-term business potential of the market. The positive perception and the investor confidence are supported by encouraging macroeconomic indices and demographic dividends on the continent. The flexibility of undertaking business, improving business environments and the youngest and fastest growing workforce in the world are supporting this growth. Strengthened government policies, promoting better cooperation both

between the regions of the continent and between various sectors of the economy, further enhance investor confidence.

While there are a large number of challenges facing businesses in the African ecosystem, there are also many opportunities. Venture capital funds are growing and expanding across the continent, with existing funds increasing the capital available to them and new funds opening up to target specific sectors and regions. The venture capital landscape in Africa is expanding at an unprecedented rate, as is the number of Africa-based venture capital firms and focused on Africa. According to Ventureburn, more than 20 new funds or financing initiatives were launched or were in the process of being launched in 2019. However, despite this progress, Africa is still at an early stage compared to other emerging multi-country markets such as Southeast Asia. There remain many opportunities for venture capital investments in Africa and for governments to become more investor friendly.

The first quarter of 2020 closed with \$350 million in total funding, according to a study by Briter Bridges, with South Africa (\$112 million), Nigeria (\$74 million), Kenya (\$62 million) and Egypt (\$51 million) in the lead as top funding destinations. These same countries also collectively received the largest share of funding in 2019. While funding figures for January and February in 2020 were mostly in line with expectations, March saw an 80% drop in funding as the pandemic of COVID-19 has reached the continent. Notable rounds in Q1 2020 are Jumo's \$55 million debt and equity financing round in South Africa, Flutterwave's \$35 million round in Nigeria, and Sendy's \$20 million round in Kenya (leManager, 2020).

Currently, and especially with regulatory reforms, several African countries have opened their markets to international competition and private investment in the ICT industry. Thus, Rwanda, Egypt, Kenya, South Africa, Seychelles, and Tunisia are considered the most ambitious countries in Africa in this industry (Essoungou, 2011). The Tunisian vision is the orientation towards external markets mainly Africa, given the considerable growth of these markets in recent decades. Thus, according to statistics from the Tunisian Ministry of Commerce (2017), Tunisia exports mainly to Algeria, Libya, Morocco, Egypt, Ethiopia, but also to other African countries to a lesser extent. In addition, a study by the International Telecommunication Union (ITU) showed that Tunisia occupies the first position of African countries developed in ICT. This ranking was carried out according to indicators that assess the use and skills of ICT in each country (ITU Report, 2016). This gives it certain expertise that it can develop in foreign markets.

In addition, since 2011, Tunisia has drawn up a national strategic plan "Tunisie Digitale 2020" (2014-2020), which mainly aims to develop the various electronic services to make the knowledge industry competitive, especially at the international level (Report on ICT in Tunisia, DG Trésor, 2016). Indeed, the ICT industry employs nearly 9% of the workforce (+86,000 people) and represents 7.5% of the GDP. Tunisia is booming in this industry (nearly 1,600 companies were working in this industry in 2016), while in 2020, there are 2,120 SMEs, of which 632 are fully exporters. Thus, Tunisian SMEs will increasingly have to develop their export activities to African countries.

Knowing that the characteristics of Tunisian SMEs correspond to those observed in all developing countries [e.g. small size, lack of internal and external growth, low qualification of employees, failing financing structures and predominance of the informal sector (Tidjani, 2006; Galiegue & Madjimbaye, 2007), an essential question arises:

Given the promising development of the ICT industry in Africa, how Tunisian SMEs see their perspectives in this continent, especially after the massive adoption of ICTs (Dakouré, 2014) and investment opportunities to make big profits (Essoungou, 2011)?

Consequently, this research aims to study the main motivations for the internationalization of Tunisian SMEs in the ICT sector on the African market. The phenomenon of international entrepreneurial orientation can lead us to understand the process of discovering and exploiting opportunities outside the domestic markets allowing the development of competitive advantage and gaining performance (Zahra & George, 2002).

Thus, our research question is as follows: does international entrepreneurial orientation (IEO) mediate the relationship between the determinants of internationalization and international performance of Tunisian SMEs operating in the African market?

#### LITERATURE REVIEW AND RESEARCH HYPOTHESES

Several studies have highlighted the important role that the IEO can play in improving a company's international performance. Likewise, the IEO can be influenced by both external and internal factors (networking, market standardization, competitiveness, and environmental uncertainty). The author has chosen to stress the role of these factors in determining international performance as well as the mediating role of the IEO in the relationship between these determinants of internationalization and international performance. The study of mediation assumes a role in revealing the nature of the main effect (determinants of internationalization - international performance in this case) as well as the explanation of the reasons for this effect (Hair et al., 2017). Therefore, the first step involves testing the direct effects of the determinants on performance and then testing the indirect effects through the IEO.

#### The Determinants of Internationalization

Among the determinants of internationalization proposed by the literature, the author distinguishes networking, competitiveness, market standardization, and environmental uncertainty.

# Networking

The network is defined as a channel of reciprocal transfer of resources and knowledge between companies. The extent of the benefits of networks depends on the firm's involvement with its partners (Roolaht, 2006).

In the "Uppsala" model of internationalization, the commitment to internationalization is the result of the application of the "networks approach" which is mainly based on quality relationships between companies. The SMEs engaged in the internationalization process try to have good relationships and large-quality networks to succeed in the internationalization operation (Lloyd-Reason & Mughan, 2002). Relationships and networks generate complementarity and competitiveness on an international scale (Ruzzier et al., 2006). The SMEs are becoming more and more capable to acquire new knowledge internationally relating to know-who and know-how (Johannisson & Monsted 1998). In addition, Rothaermel & Deeds (2006) suggest that effective management of networks at the firm level could encourage the entrepreneurial activity of firms, especially those working in the high technology field. These firms often have to rely on extensive inter-firm cooperation to discover, develop, and commercialize new products (Powell et al., 1996). Commonly, there are two types of networks. Personal networks (informal), and business networks (formal) (Jin & Jung, 2016).

International SMEs pay more attention to personal networks because they are usually characterized by strong, cohesive, informal, goodwill, and trust connections (Hite & Hesterly, 2001). A significant number of previous studies highlight the benefits of personal networks for SMEs. These reduce the costs in terms of time and transaction, the risks, the uncertainty associated with entering the foreign market, and the strengthening of credibility and trust between partners. Personal networks facilitate intermediation (Jin & Jung, 2016).

Hence the following hypothesis:

H1a: There is a direct effect of networking on the international performance of Tunisian SMEs

H1b: There is an indirect effect between networking and the international performance of Tunisian SMEs through the IEO.

## **Competitiveness**

Twomey (2002) argues that competitiveness does not come primarily from the market. A firm is said to be competitive if it is able to adapt to its environment and to influence it using its human assets as well as their interactions, relationships, and roles in the application of knowledge. A competitive firm is one that has learning capacities and skills that develop innovation and allows learning and the transfer of knowledge.

The international competitiveness of a firm can be defined as the set of results of a firm (financial and non-financial) having activities in foreign markets hosting companies that offer the same products and services (Rodríguez & Rodríguez, 2005; Toppinen et al., 2007). The results can be expressed in terms of exports, foreign direct investment (FDI), new market shares, etc. (Peña-Vinces et al., 2012). These results come from the resources of firms that opt for internationalization and which are sources of international competitive advantages (Barney, 1996; Rodríguez & Rodríguez, 2005).

Thus, competitiveness in a very specific industry such as that of ICT can play a determining and favorable role in internationalization, and consequently, in international performance (Boter & Holmquist 1996; Wheeler et al., 2008). Thus, the feeling of confidence of certain Tunisian SMEs operating in the ICT industry since they have the conceptual and execution capacities necessary to be competitive, as well as the good reputation they have, constitute an asset for them to approve their competitiveness in the market (African Manager, 2018). Hence the second hypothesis:

H2a: There is a direct effect of competitiveness on the international performance of Tunisian SMEs

H2b: There is an indirect effect between the competitiveness and the international performance of Tunisian SMEs through the IEO.

#### Market Standardization

According to Nkongolo-Bakenda et al., (2010), the standardization of international markets appearing in niches or groups of countries, allows several firms to achieve economies of scale, and consequently to internationalize towards markets which represent the same characteristics (same needs customers, same purchasing, sales, partnerships, same products marketed, etc.). The characteristics of the target market seem to be the most important factor for standardization decisions (Erdogmus et al., 2010). Market segments that share the same demographic and socio-cultural characteristics, and the same homogeneous needs and behavioral

habits of customers in target markets, are considered as an important factor for standardization practices of brands and products (Samiee & Roth, 1992; Craig & Douglas, 2000; Ozomer & Simonin, 2004). The higher the convergence of customer behavior in target markets, the higher the level of standardization, and the greater the incentive to seek opportunities. On the other hand, the greater the intensity of competition in the target markets, the greater the level of standardization (Erdogmus et al., 2010). Therefore, the third hypothesis is as follows:

H3a: There is a direct effect of market standardization on the international performance of Tunisian SMEs

H3b: There is an indirect effect between market standardization and the international performance of Tunisian SMEs through the IEO.

## **Environment Uncertainty**

The entrepreneurial spirit at the international level benefits from the business environment (Mtigwe, 2005). Indeed, when SME managers travel and quickly discover new foreign markets, they are more inclined to internationalize, because they perceive the business environment as less risky than managers who have never traveled (Manolova et al., 2002). In this regard, several studies confirm the positive relationship between the stable environment and the internationalization strategies of SMEs. In addition, technological development can also be a support for the operation of internationalization (Sedoglavich, 2012).

Usually, companies view a target market as uncertain when they do not have sufficient information, or when there is a great geographic or psychic distance (Johanson & Vahlne, 2009). However, the reality of the relations of certain companies with the African market is not the same, given the geographical and psychological proximity between Tunisia and African countries (technical cooperation agreements, exchanges of skills, visits by political leaders, conferences of partnerships, existing commercial exchanges, etc.). This has led to the establishment between these markets, what Johanson & Vahlne (2009) call business relationships of emotional and affective aspects that generate social dynamics of trust, mutuality, dependence, and power between the different markets, especially those that are close. Moreover, the environment plays an important role in the internationalization of firms, especially those operating in a transition economy. Thus, access to technology, interaction with institutions, reduction of corruption, and insecurity are all factors that can reduce uncertainty in the market and subsequently the incentive to adopt entrepreneurial behavior (Lamotte & Calovic, 2015). When the environment is certain, risk aversion decreases, which positively affects performance (Kraus et al., 2012). To this end, the fourth hypothesis is proposed:

H4a: There is a direct effect of the uncertainty of the environment on the international performance of Tunisian SMEs.

H4b: There is an indirect effect between the uncertainty of the environment and the international performance of Tunisian SMEs through the IEO.

## The Mediating Role of International Entrepreneurial Orientation (IEO)

Over the past two decades, many companies have shown a great interest in locating abroad to seek new opportunities. A combination of multiple factors explains the internationalization of the latter. Thus, factors linked to available ICTs, managerial skills, innovation capabilities, and others have greatly affected exports in all industries (Lecerf, 2012).

The competitiveness of the target market, its standardization, and its stable environment has prompted managers to make strategic decisions relating to internationalization. "The relative importance of the various traditional determinants of internationalization remains imperfectly understood" (Lecerf, 2012). This variety of determinants that push any company to internationalize is embodied in a gradual process. Through this process, companies become more and more capable of learning and seizing external market opportunities, develop necessary talents, adapt quickly to needs, and are able to innovate and maintain high quality and competitive products (Johanson & Vahlne, 1977; Kim et al., 1993; Harrison et al., 2000; Olmos & Díez-Vial, 2015).

Thus, driven by opportunities, resources, and international performance objectives, SME managers seem to be forced to adopt entrepreneurial behavior to directly influence global and international performance (Lumpkin & Dess, 1996; Knight, 2000; 2001; Rauch et al., 2009). The IEO (international entrepreneurial orientation) can be defined as being a preliminary and essential phase to internationalization (O'Cass & Weerawardena, 2009) and positively affects the international performance of SMEs (Jantunen et al., 2005; Knight, 2001; Moreno & Casillas, 2008; Ripollés-Meliá et al., 2007; Wang, 2008; Slevin & Terjesen, 2011). The International Entrepreneurial Orientation (IEO), known for its strategic aspect in the entrepreneurship literature (Knight, 2001; Wales et al., 2013), refers to the seizing of opportunities on the international market with a behavior innovative, proactive, and risk-taking (Jantunen et al., 2005; Wang, 2008; Glavas & Mathews, 2014). Innovative behavior mainly refers to the creation of new products or processes. According to Lumpkin & Dess (2001), innovation can be defined as creativity or experimentation when a firm wants to introduce new products or technologies to apply research and development of new processes. As for risk-taking, this mainly refers to the strategic decision-making of entrepreneurs who build a vision towards the future with more optimism and confidence (Wolff et al., 2015). Venkatraman (1989) defined proactivity as the introduction of new products or brands before competitors, while Covin & Slevin (1989) associated proactivity with aggressive action towards competitors when they try to win or retain a competitive advantage.

This international entrepreneurial behavior depends on the internal characteristics of SMEs (profiles of leaders and managers, resources and skills, organizational structure) (Oviatt & McDougall, 2005; Nummela et al., 2004; Mostafa et al., 2005; Weerawardena et al., 2007; Covin & Miller, 2014; Brouther et al., 2014), but also external factors (Business networks, environmental characteristics, etc.) (Miller, 1983; Covin & Slevin, 1991; Zahra, 1993; Zahra & Covin, 1995; Dess et al., 1997; Wiklund & Shepherd, 2005; Mathews & Zander, 2007). Indeed, an SME with an international entrepreneurial orientation will succeed better in turbulent contexts, will internationalize quickly and widely, and will subsequently achieve its international performance (Zahra & George, 2002; Özsomer & Simonin, 2004; Peña-Vinces et al., 2012).

From a general point of view, entrepreneurial orientation is considered as a facilitator of firm performance and growth (Chow, 2006; Carree & Thurik, 2000; Rauch et al., 2009). Several studies indicate that company performance is positively influenced by entrepreneurial behavior (Covin & Slevin, 1989; Lumpkin & Dess, 1996). In addition, the effect of entrepreneurial orientation varies according to the context, the type of industry, the market situation, the size, etc. Hence, the non-obviousness of the results and the relative importance of the effect of a context justify the choice of the Tunisian context, which represents the example of an economy in transition (Grande et al., 2011).

According to Filser & Eggers (2014), it is evident that performance indicators (financial and non-financial) measure the outcome of the internationalization experience. That said, the mediating role of the IEO between the determinants and the performance is explained by the fact that the latter is constantly generated by the determinants of internationalization and pushes companies to adapt more easily to changes, and to proactively shape the environment while fostering their growth and performance potential. In addition, IEO could bring competitive advantages and thus have a positive influence on performance (Hult et al., 2004; Wiklund & Shepherd, 2005). Thus, entrepreneurial orientation leads companies to the development of new opportunities (Lumpkin & Dess, 2001). It includes innovation, risk-taking, and proactivity. They lead companies towards export experiences and therefore towards proactive orientation (Okpara, 2009). Indeed, these companies seek new opportunities in foreign markets and allocate significant resources for information research. They are preparing to accept short-term losses to gain long-term market shares. They seek the information necessary for the development and therefore the achievement of performance. For example, testing the product and carrying out market research in foreign markets, as well as gathering information directly from distributors and suppliers who are important sources of information. Hence, the following hypothesis:

H5: The International Entrepreneurial Orientation (IEO) has a direct positive effect on the international performance of Tunisian SMEs.

# The Conceptual Model

From the above development, the conceptual model (see Figure 1) proposes a causal relationship between the different determinants that influence the company's international strategic decisions (Porter, 1980). Thus, the competitive advantage acquired by companies in the market, the standardization of consumer needs, the low uncertainty, the ease of forecasting, the unstable environment, and the networking, push companies to widely expand their business activities internationally (Ruzzier et al., 2006; Nkongolo-Bakenda et al., 2010; Bianchi et al., 2017). The determinants studied in this research allow, on the one hand, seeing how Tunisian SMEs perceive the African market, and on the other hand, to define the most important determinants that affect the international entrepreneurial orientation of the SME.

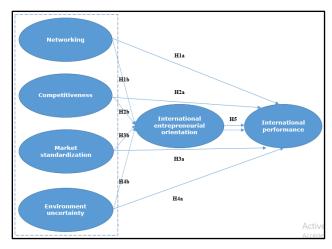


FIGURE 1
THE CONCEPTUAL MODEL

#### **METHODOLOGY**

# **Industry and Sample**

The development of the ICT industry in African countries and the interest of Tunisian companies in these countries have prompted the author to choose this industry as a field of investigation for this research.

The choice of the sample was based on two criteria: being in the ICT industry, and exporting to African countries, which constitutes 6.7% of total exporters in Tunisia. Thus, the author targeted companies to which he sent the questionnaire by email, he was only able to validate 46 responses (see Table 1 for characteristics).

Table 1 CHARACTERISTICS OF THE STUDY SAMPLE							
N valid 46	Mean / Percentage	SD	Skewness	Kurtosis			
N employees	38.39	31.54	0.472	0.688			
N years since the creation	11.65	7.82	1.393	2.810			
N years since the first exportation	6.39	3.19	-0.100	-1.483			
Method of market penetration: - Direct - Via agents / distributors - Subsidiaries	43.5% 34.8% 21.7%	-	0.412	-1.252			
Export phase - Nearby markets - Confirmed exporter - More distant markets	17.4% 30.4% 52.2%	-	-0.698	-0.934			

## **Measures**

The questionnaire is made up of three parts. The first part deals with the motivations for internationalization, as well as the modes of entry into the African market. The second part proposes questions relating to the determinants of internationalization (networking, competitiveness, environmental uncertainty, and market standardization). The third part concerns the mediating variable between the determinants of internationalization and performance, which is the international entrepreneurial orientation.

In order to test our research model and the related assumptions, we operationalized the variables with reference to existing scales that were used in previous work (see Table 2). A five-point scale was used for each dimension ranging from 1 (Strongly disagree) to 5 (Strongly agree). The respondents were asked to indicate their level of agreement or disagreement with each of the proposed statements.

Table 2 RESEARCH VARIABLES AND MEASUREMENT SCALES				
Variables	Scale used	Items		
International performance	Measurement scale developed by Blesa & Ripolles (2008) and Kenny & Fahy (2011) composed of 4 items	There is remarkable growth in sales in the African market over the past three years / Our market share in Africa has improved over the past three years / International profitability has improved over the past three years due to our entry into the African market / We are satisfied with our work in the African market		
International	Measurement scale developed	Our firm sees Africa as a market of opportunities / Our		

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Entrepreneurial Orientation	by Bianchi et al., (2017) composed of 5 items	company culture is to explore and pursue new business opportunities in the African market / Our top management constantly communicates its intention to succeed in the African market / Our top management develops resources to achieve the objectives in the African market / Our top management attaches great importance to entering the African market
Networking	Measurement scale developed by Belso-Marti Nez (2006) composed of 3 items	Public institutions are present in the African market to help businesses and facilitate operations / Contacts of African customers are accessible / The contacts of African suppliers are accessible
Competitiveness of Tunisian SMEs	Measurement scale developed by Belso-Marti Nez (2006) composed of 5 items	Please indicate your level of agreement or disagreement with each of the following statements: There are not many existing competitors in the key African ICT market / Our activities in the African market allow us to achieve economies of scale / Our prices offered on the African market are very competitive compared to our competitors / Our geographic proximity to the African market allows us to have an advantage over other competitors outside Africa / The recognized know-how of Tunisian companies on the African market allows us to gain an advantage over other competitors outside Africa
Market standardization	Measurement scale developed by Belso-Marti Nez (2006) composed of 4 items	The needs of customers in the African market are very similar to those in Tunisia / Purchasing practices among African customers are similar to those of Tunisians / The technologies used in the African market are similar to those that exist in the Tunisian market / Existing competitors on the African market sell standard products
Environmental uncertainty	Measurement scale developed by Belso-Marti Nez (2006) composed of 4 items	We rarely change our marketing practices in the African market / The rate of obsolescence is high for certain products/services on the African market / Competitor actions are easy to predict in the African market / Customer preferences are easy to predict in the African market

The data were analyzed first using SPSS software, and then using SmartPLS software. Indeed, the PLS-SEM method makes it possible to analyze data proposing a limited number of respondents and to solve the problems of non-normality of the data (Hair et al., 2012). In addition, several studies have approved the performance of the PLS-SEM approach when the sample is limited (from 30 observations it is possible to apply the PLS-SEM approach) (Hui & Wold, 1982; Chin & Newsted, 1999; Reinartz et al., 2009; Brouthers et al., 2015; Erdoğmuş et al., 2010; ). Moreover, comparing the PLS-SEM approach to the Covariance Based (CB-SEM) approach, it turns out that PLS-SEM has statistical power when the structural model is complex or the sample is limited (Hair et al., 2017).

## **RESULTS**

In what follows, the measures assessment, descriptive analysis, and finally the analysis of structural links will be presented.

#### **Measures Assessment**

The results prove the consistency of the measurements of the constructs since the values of these indicators for all the variables have an average between 0.7 and 0.9 (or even 0.95, which is considered satisfactory).

For the first variable of the determinants of internationalization "Networking", two items were retained with  $\alpha$ =0.877 and Composite Reliability=0.939. For the variable "competitiveness of Tunisian SMEs", four items were retained with  $\alpha$ =0.730 and Composite Reliability=0.828. For the variable "market standardization", four items were developed but only two variables were retained with  $\alpha$ =0.514 and Composite Reliability=0.790. Finally, four items for the variable "Environmental uncertainty" were developed and only three were retained with  $\alpha$ =0.853 and Composite Reliability=0.899. Regarding the variables to be explained in particular the mediating variable "International Entrepreneurial Orientation", and the dependent variable "international performance", the results showed very good measures of reliability since all the items used are retained (with respectively  $\alpha$ =0.892 and Composite Reliability=0.922 and  $\alpha$ =0.796 and Composite Reliability=0.806).

However, regarding the validity (convergent and discriminant), which is an indication of the ability of an item to represent its construct, the values of the extracted means (AVE) and Fornell-Lacker confirm good results, since the AVEs are greater than 0.5, and the Fornell-Lacker values are all greater than the highest value of the correlation between the items of each construct (Carricano & Poujol, 2008; Hair et al., 2012). All the items retained for this analysis contribute adequately to their constructs since the values of the loadings of each item are generally considered to be satisfactory (Henseler et al., 2009; Hair et al., 2012; Henseler et al., 2012) (see Table 3).

Table 3 VALIDITY AND RELIABILITY RESULTS ACCORDING TO THE SELECTED ITEMS							
	Items	Outer Loadings	Reliability Internal consistency reliability		Validity		
Variables					Convergent validity	Discriminant validity	
			Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Fornell- Larcker Criterion	
Networking	Net2	0.912	0.877	0.939	0.885	0.941	
	Net3	0.969					
Competitiveness	Comp2	0.655					
	Comp3	0.716					
	Comp4	0.721	0.730	0.828	0.548	0.741	
	Comp5	0.855					
Market	Stand1	0.686	0.514	0.790	0.658	0.811	
standardization	Stand3	0.920					
Environment	Env2	0.861					
uncertainty	Env3	0.940	0.853	0.899	0.750	0.866	
	Env4	0.791					
	IEO1	0.779					
	IEO2	0.929					
IEO	IEO3	0.910	0.892	0.922	0.707	0.841	
	IEO4	0.668					
	IEO5	0.889					
International	IP1	0.943					

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performance	IP2	0.793				
	IP3	0.491	0.796	0.806	0.525	0.725
	IP4	0.584				

# **Descriptive Analysis**

According to this actual study (see Table 1), the majority of responding SMEs are rather young (12 years of existence), with an average experience of 7 years in the African market, and an average number of employees of 39 individuals. Thus, the majority of these SMEs (more than 50%) are in an advanced phase of internationalization in Africa, a phase during which the latter seeks to develop export activities towards African countries (psychologically more distant) (Johanson & Wiedersheim-Paul, 1975; Bilkey & Tesar, 1977).

Table 4 shows that the SMEs in the sample consider the African business environment to be uncertain (2.88), with a fairly weak network of contacts (2.69). The market is considered moderately standard, although these companies consider themselves quite competitive in the African market. Moreover, and although these companies have a high entrepreneurial orientation in the African market, their international performance has not reached a high enough threshold. All the distributions of the descriptive results can be considered as normal given the values of "Skewness" and "Kurtosis" lying between -2 and 2 (Carricano & Poujol, 2008).

Table 4 DESCRIPTIVE STATISTICS							
	Means SD Skewness Kurtosis						
Competitiveness	3.41	0.568	0.024	-0.812			
Market standardization	3.04	0.656	0.233	0.300			
Environment uncertainty	2.88	0.839	0.350	0.908			
Networking	2.69	0.931	-0.183	-0.721			
IEO	4.24	0.768	-0.661	-0.872			
International performance	3.13	-0.996	-0.338	-0.437			

From these descriptive results, one can see that the strength of Tunisian SMEs is their competitiveness compared to other competitors existing in the African market, although the expected performance does not seem to be achieved. Indeed, despite the intention to develop resources to invest internationally, and the desire to give more importance to the development of the SME in foreign markets to seize new opportunities, the results achieved are not satisfactory. On the other hand, one can see that the IEO is rather important for Tunisian SMEs (4.24). This means that they have invested in innovation, in discovering new markets, and they are willing to take risks to reach those markets.

# **Analysis of Structural Links**

The validation of the structural model consists of testing the structural links. The lower the statistical significance level (which is the probability of error), the better will be the result. Research generally uses thresholds of 1%, 5%, or even 10%. However, it should be noted that managerial research and more specifically data collected in companies, a threshold of 10% is generally accepted because the number of observations in the sample is close to the number of the population studied. In this study, the results will be validated according to the thresholds of 1%, 5%, and 10% (Thietart et al., 2003).

The tests of structural links show that there are significant links between certain determinants of internationalization and international performance with a significance level of less than 10% and 5%. Thus, networking directly influences performance (p-value 0.040<0.05), however, only competitiveness has an indirect impact on international performance, and this through the IEO (p-value 0.088<0.10). The indirect links are tested through the validation of the effects of the determinants of internationalization on the IEO, and between the IEO and international performance. These indirect links will also be used to test the mediating role of the IEO in the relationship between the determinants of internationalization and international performance. On the other hand, the links, which trace the effects of market standardization and the uncertainty of the environment, are not significant. Thus, these two variables did not play any role in this modeling since their effects on the IEO and international performance were not significant (p-values>0.05 and 0.10). This means that these variables do not explain the international performance, and they do not contribute to the mediation of the IEO in the explanation of the international performance.

The values (f²) indicate how well an exogenous variable explains an endogenous variable. A value between 0.02 and 0.15 indicates a weak effect, while a value between 0.15 and 0.35 indicates a moderate effect. A value of f² greater than 0.35 represents a significant effect (Cohen 1988; Hair et al., 2016). The results presented in Table 5 show a priori that despite the significant direct effect of networking on international performance, the explanation is considered weak. On the other hand, international entrepreneurial orientation moderately explains international performance.

To test the mediating effect of international entrepreneurial orientation between the determinants of internationalization and international performance according to the approach of Zhao et al., (2010), the test of the significance of the indirect effects of the determinants of internationalization on international performance through international entrepreneurial orientation is required. As mentioned before, the results affirm only one significant indirect link (between competitiveness and international performance). Therefore, one can state that international entrepreneurial orientation can play a mediating role in the relationship between competitiveness and international performance.

There is therefore a complete mediating effect of international entrepreneurial orientation at the level of the relationship between competitiveness and international performance since the direct effect of competitiveness on international performance is not significant. Therefore, this competitiveness variable affects international performance only through the IEO. This means that competitiveness develops the spirit of entrepreneurship, innovation, and initiative to achieve good profitability, increased sales, etc. in the African market. These results confirm previous research which considers that entrepreneurial orientation is a facilitator that leads to the performance and growth of companies (Chow, 2006; Carree & Thurik, 2000; Rauch et al., 2009) and that the latter is positively influenced by entrepreneurial behavior (Covin & Slevin, 1989; Lumpkin & Dess, 1996; Becherer & Maurer, 1997; Wiklund, 1999; Galiègue & Madjimbaye, 2007; Lloyd-Reason & Mughan, 2002).

Table 5 RESULTS OF STRUCTURAL LINKS							
N.S.	Original Sample (O)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values	$f^2$		
Networking→International performance	0.300	0.146	2.053	0.040	0.120		
Networking → IEO → International performance	0.033	0.083	0.395	0.693	-		
Competitiveness → International performance	0.290	0.181	1.598	0.110	0.079		
Competitiveness → IEO → International performance	0.211	0.124	1.704	0.088	-		
Market standardization → International performance	0.223	0.199	1.121	0.263	0.045		
Market standardization → IEO → International performance	0.103	0.105	0.985	0.325	-		
Environment uncertainty -> International performance	0.059	0.353	0.167	0.868	0.002		
Environment uncertainty → IEO → International performance	0.117	0.102	1.144	0.253	-		
IEO → International performance	0.384	0.197	1.947	0.049	0.173		

## **DISCUSSION**

In this study, we looked at the mediating role of the international entrepreneurial orientation (IEO) in the relationship between the determinants of internationalization and international performance of Tunisian SMEs operating in the African market. Thus, thanks to this research, three hypotheses (H1a; H2b; H5) were validated (see Figure 2).

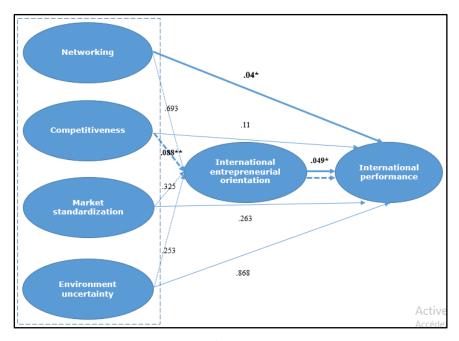


FIGURE 2 FINAL MODEL

Consequently, it appears that the two determining variables relating to the context of the African market and its characteristics (standard market and environmental uncertainty) do not lead Tunisian SMEs to perform well. This means that Tunisian SMEs in the ICT industry see the African market as a difficult market to penetrate and predict, although they benefit from a very competitive image in this market, which also offers them several business opportunities. Indeed, according to Tunisian leaders, the African environment is turbulent, uncertain, and does not have standard operations. In contrast, the other two determining variables of international performance (networking and competitiveness) influence the latter in different ways. Thus, networking directly influences international performance, while competitiveness affects international performance indirectly, through the IEO. This leads to proposing that the leaders of Tunisian SMEs working in Africa adopt two different but complementary management approaches (Jin & Jung, 2016). The first approach is informal, known as the "personal networks" (Hite & Hesterly, 2001). That is to say, the relationship with the outside to develop business relationships and consequently increase profitability and performance on the African market. The second approach is formal, called the "business networks". That is to say, on the effective management of skills that guarantees competitiveness vis-à-vis competitors who are in the same market. In this regard, an important question arises: is the non-effect of uncontrollable variables on performance really due to the African market, and its features, or is it due to the failure of these Tunisian SMEs to perform their market prospection process? Tunisian SME managers must allow great importance to this question knowing that the time factor matters a lot in this emerging market. Otherwise, there is a risk of losing opportunities, which may even have repercussions on their survival.

Moreover, the two determining and controllable variables (networking competitiveness) play their roles appropriately in determining international performance. Thus, a new question arises in this regard: what relationship development program do these companies undertake? In other words, how to guarantee these relationships and how to develop them? Tunisian SMEs must attach great importance to these issues because the African market is attracting more and more new competitors, especially from Asian countries, such as China. Moreover, the competitiveness of Tunisian SMEs and their capabilities in the market has generated an entrepreneurial and innovative spirit, and consequently performance. It must be said that Tunisian leaders benefit from high-level training, as well as an open experience on all continents. According to recent statistics, Tunisia sees around 1000 engineers specializing in ICT per year leaving for Europe (Marrakchi, 2017). The latter return to Tunisia after this experience to launch a new project, or work in a subsidiary of an international firm. In addition, Tunisia is a country that attaches great importance to intellectual capital and which continuously strives to establish a knowledge economy, and catch up with developed countries in this area (El Harbi et al., 2011). It remains to be seen what new skills these companies need to make the best use of resources.

Another finding from these results is that the IEO quite significantly affects international performance. This confirms the ideas of several academics and professionals who claim that several emerging countries are today a world showcase in the field of ICT. Tunisian SMEs are therefore called upon not only to penetrate these emerging African markets but also to seek to conserve them. In addition, they are called upon to review their internationalization approach, especially since the results have shown that 50% of the SMEs in this sample are in an advanced phase in their international development despite their rather short experience (6 years on average).

These results show a specific strategic orientation of Tunisian leaders. In fact, they consider that the African market is not stable, turbulent, and difficult, and at the same time, they persevere to both develop resources and seek new opportunities. Knowing that several African countries are currently undergoing total economic restructuring, Tunisian SMEs are preparing for a new phase full of opportunities based on their positive competitiveness and brand image in these markets. In addition, Tunisia's current difficult economic situation is pushing these SMEs to seek alternative opportunities especially after the 2011 revolution and the global health crisis, COVID-19.

Finally, instilling an entrepreneurial spirit in a company regardless of its activity or field of action remains a key factor in achieving its performance. However, the author assumes that the managerial approach needs to be reviewed to guarantee optimal use of resources and therefore ideal and adequate functioning. The determinants of internationalization do not automatically guarantee the achievement of international performance. Analysis show that there is a fully mediating role embodied in proactive behavior, risk-taking, and development of the necessary resources, to explore new business opportunities which is the international entrepreneurial orientation (Hult et al., 2004; Wiklund & Shepherd, 2005; Filser & Eggers, 2014). Entrepreneurial behavior then becomes a primordial dimension in the economies of the various countries of the world, something that is justified by the occupation of the place of entrepreneurship in the various economic strategies of these countries.

#### **CONCLUSION**

The author concludes that the identification of international opportunities, especially with African markets, becomes an important priority for Tunisian SMEs specializing in ICT. This work attempted to answer the following problem: does international entrepreneurial orientation (IEO) mediate the relationship between the determinants of internationalization and international performance of Tunisian SMEs operating in the African market?

In addition, the author has chosen the variable "international entrepreneurial orientation" because it allows drawing the progressive path of internationalization. It affects the decision-making style, strategic orientation, managerial processes, prospecting for opportunities, developing the necessary resources, etc., while ensuring business behavior of innovation, proactivity, and risk-taking (Covin & Slevin, 1989; Wiklund, 1999; Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003). On the other hand, international entrepreneurial orientation in its various forms (Zahra & Covin, 1995; Wiklund & Shepherd, 2005) plays an important mediating role in the process of internationalization, mainly between the determinants and the results of performance. Indeed, this research confirms the fact that IEO quite significantly affects international performance.

On the other hand, according to this research, the weight of the competitive advantage of Tunisian SMEs allows them to adopt an entrepreneurial behavior characterized by innovation, proactivity, and risk-taking in this market (Wolf et al., 2015). This pushes them to adopt a permanent design and adaptation of the different methods of value creation, innovation, and localization of opportunities. This entrepreneurial behavior pushes companies to better structure their management (Magretta, 2002; Wirtz et al., 2016), develop skills of intuition and anticipation in the market, risk-taking, initiative, and consequently the achievement of performance, and sustainability (Cromie, 2000; Thompson, 2004; Apospori et al., 2005).

Despite these encouraging results, this research remains limited by the number of companies studied. Consequently, the data cannot be generalized, much less juxtapose with other developing countries.

That said, thanks to this research, two important questions could be asked which will serve as research perspectives: 1) are there other mediating factors between the determinants and the results of internationalization?; 2) What type of result is considered by Tunisian ICT SMEs to be the most important? Is it the operating result (results, profit, profitability), or the results with a strategic deadline (survival and continuity in Africa)?

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