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OVERCOMING GEOGRAPHICAL BARRIERS TO INTERNATIONAL PRESENCE. THE CASE OF THE EMERGING ROMANIAN TUSCANY WINE CLUSTER

Manuel Expósito-Langa
Business Administration Department, Universitat Politècnica de València, 03801 Alcoy, Spain
maexlan@doe.upv.es

Oana Bărbulescu
Faculty of Economic Sciences and Business Administration, Transilvania University of Braşov, Braşov 500036, Romania
oana.barbulescu@unitbv.ro

José-Vicente Tomás-Miquel
Business Administration Department, Universitat Politècnica de València, 03801 Alcoy, Spain
jotomi@doe.upv.es

Abstract:

This research contributes to the debate on the determining factors that support access to global value chains by companies belonging to emerging clusters in transition economies. The role of these economies is becoming increasingly relevant in a global world, where discovering new opportunities is focused on increasing market knowledge in order to offer the appropriate products. From a geographical approach, managing both the knowledge flows circulating within the cluster and those coming from external sources can have a positive effect on the companies' international presence. To analyse these research questions, the wine industry cluster in the Muntenia-Oltenia region of Romania was studied. This wine-growing territory is also known as Romanian Tuscany due to its geographical location. In this area, the wineries have different characteristics depending whether or not they have international projection. The results suggest that local knowledge of the cluster, managed through the network of connections, is necessary for the international presence of the cluster. Moreover, there is a multiplier effect in those wineries where there is foreign ownership, due to their international entrepreneurial character. In summary, this paper contributes to a better understanding of how companies in an emerging cluster work in order to access global value chains.

Keywords: Emerging clusters; Transition economies; International presence; Foreign ownership; Wine industry

INTRODUCTION

Transition economies are playing a fundamental role in the development of the global economy. This phenomenon, which refers to a process of transformation that occurs in some countries in Europe and Western Asia, is taking place mainly through the reallocation of resources to productive sectors and the improvement of the aggregate product in the regions in which they are located (Plechero and Chaminade, 2016).

Furthermore, clusters are considered centres of economic activity and a key in economic development in general, and in regional development in particular (Porter, 1990). Industrial clusters are considered to be a set of interlaced networks between stakeholders, such as competitors, customers, suppliers and local institutions (Porter, 1998; Morrison and Rabellotti, 2009). Geographical proximity and a strong sense of belonging represent the main factors that facilitate the emergence of such relationships, based on common norms and values (Antonelli, 2000). Giuliani (2008) described emerging clusters as those that are not as "vibrant" or leading as for example Silicon Valley, but yet strive to emerge in the international competition.

Based on these perspectives, emerging clusters in transition economies represent an opportunity for the development of international activity in these countries (Rabellotti and Schmitz, 1999; Morosini, 2004; Bhattacharya and Michael, 2008; Giuliani, 2013; Plechero and Chaminade, 2016). Nevertheless, for companies in an emerging cluster, and more specifically, for those of small and medium size, crossing of the country's geographical border in order to gain international presence is not an easy step (Belussi, 2018). Limitations established by a range of characteristics such as size, human resources, technology, financial resources or the international entrepreneurial spirit of their managers are fundamental issues in this process. In addition, it is worth highlighting that one of the main barriers is the lack of knowledge about how to operate in international markets (De Martino et al., 2006).

Recent studies on emerging clusters in transition economies (Ciravegna et al., 2009; Giuliani, 2013; Plechero and Chaminade, 2016; De Marchi et al., 2018) have led researchers to reconsider the main driving forces in the cluster's ability to access global value chains, focusing on the role of local knowledge and the fact that businesses under foreign ownership act as gatekeepers of external knowledge. In this vein, managing both the knowledge flows circulating within the cluster and those coming from external sources can have a positive effect on the company's international presence. Despite the

importance of the internationalization for the companies from transition economies countries, the research regarding business networks and foreign investment as a support to internationalisation has been limited (Coviello, 2006; De Propris and Driffield, 2006). In particular, few attempts have been made to analyse in depth in these contexts the interaction between companies' internal and external resources and their influence on export capacity (Boehe, 2013; Giuliani, 2013). Additionally, the literature that studies in depth the interactions between companies in an international trade context focuses on vertical relationships, upstream and downstream (Redding, 2011; Bernard and Moxnes, 2018; Bernard et al., 2019). However, this research focuses on better understanding how horizontal peer-to-peer relationships are developed, an issue less explored in the literature. Therefore, a more complete view of the factors that influence the international presence of the companies in emerging clusters within transition economies is required.

Considering the theoretical premises outlined above, the aim of this paper is to offer a better understanding of the mechanisms that support the internationalization of cluster companies in the context of emerging economies. To be more specific, in the authors' opinion, interactive effects between networks relationships, internal capabilities, technical institutions and foreign ownerships are key factors that lead to internationalisation.

The theoretical framework used in this work assumes firstly, the internal heterogeneity of the cluster, emphasizing the importance of the individual characteristics of each business as is supported by authors such as Boschma and Ter Wal (2007) and secondly, the significance of the relationship portfolio of a clustered company determined by its network location (Boari et al., 2002; Molina-Morales and Martinez-Fernandez, 2009, Li et al., 2013).

Additionally, the relevant role of foreign investors is considered (Bevan and Estrin, 2004; De Propris and Driffield, 2006; Cook et al., 2012; Bathelt and Li, 2013; Farole and Winkler, 2014).

With the aim of deepening the understanding of these arguments, the wine industry cluster in the Muntenia-Oltenia region of Romania (Tomás-Miquel et al., 2018), also known as Romanian Tuscany due to its geographical location was studied. In this area, wineries have different characteristics depending whether or not they have international projection. This cluster, containing a number of wine cellars of different sizes and in the growth stage of its lifecycle, is the biggest group of wine producers in Romania. Furthermore, it is the wine cluster with the largest presence of foreign investors.

We are aware that applying this research to a cluster of these characteristics is relevant, as it is more common to find literature on knowledge networks in clusters that are more intensive in the use of knowledge. Therefore, the study of whether these networks behave in the same way in agricultural clusters may arouse the interest in the literature.

By using different analysis techniques, the results suggest that the local knowledge of the cluster, managed through the network of connections, is necessary in order to gain international presence. Additionally, there is a multiplier effect on those wineries where there is foreign ownership, due to their international entrepreneurial character. In contrast, local technical support organizations do not represent a key element for the international presence of wineries.

In this paper we present the theoretical background, followed by the research hypotheses, the research setting and the empirical results. Finally, recommendations, implications and limitations of our findings are given.

THEORETICAL FRAMEWORK

Emerging clusters and international presence

A cluster is recognized as a network within a manufacturing context in a geographically limited region (Boschma and Ter Wal, 2007; Parrilli and Sacchetti, 2008). Due to geographical proximity, knowledge exchanges between cluster´s actors become more intense. Therefore, the concept of collaborative networks can be identified as the space within which the members of the cluster transfer knowledge (Boschma and Ter Wal, 2007). Collaborative networks can be considered as networks of dense and overlapping links in which flows of knowledge are rapidly spreading, resulting in low search costs within the cluster (Maskell, 2001).

This paradigmatic vision of clusters can be found in emerging clusters within transition economies, and as such, these contexts offer a particular view of the reality of clusters.

Traditionally, small businesses in emerging clusters from transition economies, which are predominant in these contexts, operate in markets with a restricted geographical horizon and rarely use external services from other organizations beyond local boundaries.

Therefore, the internationalization process of these companies is difficult mainly due to the fact that they have restrictions on their internal capabilities, such as material and human resources, time, management, knowledge, experience, etc. (Lin and Chaney, 2007; Belussi, 2018; Montoro-Sanchez et al., 2018). For companies with limited resources,

internationalization involves the assumption of large initial costs and competition in a more complex environment.

Nevertheless, these difficulties and the consequent poor international presence have led researchers to examine the main drivers for boosting cluster international presence in these contexts (Zhou et al., 2007; Boehe, 2013; Giuliani, 2013) and to focus on the role of companies' internal and external resources and capabilities (Hassink, 2008). In this regard, the theoretical approach used in this work stresses the internal heterogeneity of the cluster, focusing on the individual companies (Boschma and Ter Wal, 2007). Specifically, internal capabilities lead to improvements in technical and marketing processes and in the quality of final products, while facilitating access to foreign markets. Secondly, this work assumes the importance of the relationships established by cluster companies (Capaldo, 2007; Molina-Morales and Martinez-Fernandez, 2009) and also the presence of specific external resources provided by local technical institutions supporting cluster companies. Therefore, the lack of technical, human and financial resources, as well as the size limitation to obtain economies of scale, can be offset by establishing collaborative networks with other entities (Johanson and Mattsson, 1988). In this regard, collaborative networks may facilitate access to a range of resources, such as political influence or specialized capabilities, even mutual trust and emotional support (Oh et al. 2006; Boehe, 2013).

Chetty and Blankenburg (2000) emphasize that entering foreign markets through inter-company collaboration allows for cost and risk sharing and easier access to resources and markets. At the same time, this is considered a useful solution for the process of penetrating foreign markets by small companies (Ibeh, 2005). In addition, certain authors have stated that the more active the company in local networks is, the less time and managerial resources will be left to cultivate international customer relationships (Boehe, 2013). However, it is also noteworthy that collaborative networks cannot completely replace the lack of internal capabilities, as these are also necessary in order to assimilate and exploit knowledge from external sources.

Last but not least, this work also considers in its theoretical framework the significant relevance that foreign ownership may have in the internationalization strategy of the emerging cluster in the context of a transition economy. Therefore, foreign ownership can create ideal conditions in local cluster companies to shift from an internal market orientation to a more international orientation. This change may facilitate local companies

to focus on the creation of a superior value for their customers in foreign markets (Narver and Slater, 1990) and also to improve the local economy and trade balance.

All of these factors are specifically analysed in the research hypotheses discussed below.

Research hypotheses

The literature on industrial clusters has given empirical support to the benefits that inter-organizational relationships have on various performance indicators of their companies. Collaborative networks that are formed internally in these territorial systems allow the heterogeneous distribution of knowledge among their companies enabling the acquisition and exploitation of this knowledge.

Although the improvements linked to collaborative cluster networks have been commonly presented in the form of increases in the innovative performance of their companies from multiple aspects such as process or product (Bell 2005; Schilling and Phelps 2007; Coombs et al., 2009), there are several contributions that from large-scale surveys support the notion that linkages between cluster companies and local support organizations are also important for international market access (Johanson and Mattsson, 1988, Zhou et al., 2007, Mesquita and Lazzarini, 2008, Boehe, 2013; Bettiol et al., 2019). As argued in the previous section, collaborative networks have a distinctive influence to the companies in emerging clusters in transition economies, as they can provide cluster companies with those tangible and intangible resources. However, these resources are not available to the small companies, which creates difficulties for those to start or expand the internationalization process.

Additionally, authors such as Serrano et al. (2016) emphasized that size limitation, the scarcity of financial, human and technical resources and the lack of size to take advantage of economies of scale can be counteracted by establishing collaborative networks with other companies. These networks and knowledge flows allow cluster companies to obtain information about foreign markets and customers, to adapt the product easier to the needs and demands of the target market (Karelakis et al., 2008), to share some of the expenses required for internationalization (logistics and distribution, presence in trade fairs, etc.) and ultimately to improve export performance.

In consequence, and on the basis of the previous arguments, we can propose the hypothesis (Figure 1):

Hypothesis 1. *The level of a cluster company's network connectedness has a positive influence on company's international presence in emerging clusters in transition economies.*

In addition to the above arguments, the cluster's influence on international presence is accompanied by the set of valuable internal resources that the companies located in a cluster have (Díez-Vial and Fernández-Olmos, 2014). Therefore, factors such as Research and Development (R&D) expenditure, reputation or human resources have a positive relationship on international presence (Malmberg et al., 2000; Majocchi et al., 2005).

In global competition, it is well known that producing higher quality products requires a broad knowledge of manufacturing and R&D processes. Therefore, technical employees are specialised knowledge workers with the scientific understanding of production activities (Giuliani and Bell, 2005; Giuliani, 2007). These professionals provide specialized technical knowledge to the companies' organizational routines, facilitating the improvement of manufacturing and R&D processes.

The presence of these professionals represents a leap in quality and professionalization, especially for those located in economies in transition. In this sense, we can expect that those companies with high technical capabilities will have easier access to foreign markets thanks to their greater ability to produce products that satisfy demanding international standards.

Therefore, and based on the previous premises, we can formulate the following hypothesis (Figure 1):

Hypothesis 2. *Technical capabilities have a positive influence on company's international presence in emerging clusters in transition economies.*

The effect of technical support organizations on international presence

Cluster literature highlights the role of local knowledge spill-overs in the development of clusters (Audretsch and Lehmann, 2005). Local support organizations in the cluster can be seen as intermediary agents that can mediate between external network resources and the company's internal capabilities, enhancing the knowledge to increase the international presence of a company (McEvily and Zaheer, 1999). On the other hand, these local

institutions can also provide key information on short-term export opportunities (Boehe, 2013).

Additionally, it is worth noticing that different support organizations play different roles, providing specific external resources to the cluster company (Hipp and Grupp, 2005). Technical support organizations can operate as an interface between their associates' knowledge and the external sources of companies (Expósito-Langa et al., 2015). Therefore, these supporting organizations can help companies to develop and commercialize new, higher quality products (Muller and Doloreux, 2009) in a context of industrial cluster, acting as knowledge gatekeepers.

To improve these products so that they are competitive in international markets, technical support organizations include technical and consultancy services, among others, to support their associates.

Currently, companies in emerging clusters often have difficulty in identifying external sources of knowledge due to the lack of resources. In these cases, technical support organizations should play a key role in innovation processes as knowledge conveyors in these regional economies (Hipp and Grupp, 2005; Strambach, 2008). For this reason, these local institutions are expected to be centrally involved in the development and commercialization of new products and services (Muller and Doloreux, 2009), complementing with specialized knowledge that cluster companies own.

The more a company intensifies its connections to cluster's local technical support organizations, the more opportunities it will have to combine internal and external resources. As a result, this will have a positive effect in its product portfolio, allowing easier access to international markets. Therefore, we can formulate the following hypotheses (Figure 1):

Hypothesis 3a. *Local technical supporting organizations would positively moderate the relationship between the emerging cluster company's network and company's international presence.*

Hypothesis 3b. *Local technical supporting organizations would positively moderate the relationship between technical capabilities and the company's international presence.*

The effect of foreign ownership on international presence

Generally, foreign investment flows from a developed country to a developing country. On the one hand, recent studies (Liu et al., 2016) reflect the fact that technologically advanced countries invest in the primary sector in developing countries in order to exploit the natural or human resources of these countries. On the other hand, there is evidence to suggest that inward foreign investment in transition economies may facilitate growth, promote technical innovation, and reduce the capital account deficit (Buch et al. 2003; Boehe, 2013). At the same time, foreign investors can accelerate the transition process by providing a more efficient corporate governance, thus enhancing corporate restructuring (Djankov and Murrell, 2002; Cook et al., 2012).

Additionally, some authors have shown that foreign ownership subsidiaries and cluster companies share knowledge and also contribute to creating new knowledge in co-located companies (De Propris and Driffield, 2006; Bathelt and Li, 2013). Through the links that foreign investors create within clusters, as well as those that they have with their home country, they can exploit both spatial proximity within local clusters and organizational proximity within remote networks; as a result, generating more opportunities to gain an international presence.

Foreign investors, who act as gatekeepers, also help to facilitate knowledge flows in the local labour market in emerging clusters. As a result, foreign investment strengthens the company's technical capacities especially those related to knowledge, which is necessary for product development. Consequently, the product development leads to better competitiveness of cluster companies and offers the possibility of opening up new international markets (Bathelt and Li, 2013).

Therefore, we can expect foreign ownership to strengthen the relationship of a company's network connectedness, and technical capabilities, with international presence (Figure 1).

Hypothesis 4a. *Foreign ownership would positively moderate the relationship between the emerging cluster company's network connectedness and its international presence.*

Hypothesis 4b. *Foreign ownership would positively moderate the relationship between technical capabilities and the company's international presence.*

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INSERT FIGURE 1

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METHODOLOGY

Research setting

Wine production in Romania has a long tradition, dating back to ancient times. In the late 19th century, after the phylloxera epidemic destroyed most of the wine grapes in Europe, the existence of close relationships which had been previously established with France, allowed Romanian vineyards to be replanted with noble vines brought from there. At this time, the first scientific steps were taken to develop the native grape varieties. Later, the communist period (1948-1989) was characterized by the existence of some production structures belonging to the state, where the focus was on quantity rather than quality. This caused the vineyards to experience an absence of advanced productive technologies. All these aspects were corroborated when the absence of a coherent strategy caused Romania to disappear for some years from the world wine map.

Nevertheless, the beginning of the twenty-first century marked a rebirth of the Romanian wine industry. The application of new technologies and innovations led to an increase in wine quality and its international competitiveness.

This change was possible thanks to the proliferation of investments that established new production plants in those areas, to the appearance of foreign investors who brought new technical and management knowledge and finally, to co-financing through competitive funding schemes, all of which have sustained the restructuring and conversion of vineyards. The permanent growth of the production and the continuous improvement in quality have been achieved in the years since then, and now, Romania has modern wineries comparable with the wineries in more advanced countries, where up-to-date technologies and qualified employees are present in companies.

Therefore, in spite of the fact that Romania differs historically from traditional wine producing countries, nowadays it is becoming competitive on the international premium wine market and is now ranked the thirteenth largest wine producing country in the world and is challenging its competitors in terms of quality. Thus, the dynamic growth experienced by Romanian's wine industry has drawn attention from around the world.

In addition, nearly 20 years of constant investment are reflected in the increasing number of medals obtained at international competitions, such as Chardonnay du Monde, Decanter World Wine Awards, Mondial du Bruxelles and International Wine Challenge,

among others. More and more wines are being praised in international specialized wines journals (e.g. there are 41 Romanian wines in Wine Spectator in 2016).

Nevertheless, it is noteworthy that this fact has not been sufficiently communicated to the consumer from abroad, and the absence of a country brand means that international presence is still weak.

The Muntenia-Oltenia wine cluster

Identifying sectors with growth potential is a crucial factor for the economic recovery of mature declining industries in a transition economy. The fast dynamic that in recent years Romania's wine industry has experienced is drawing attention to this sector. The empirical study presented in this work is set in the Muntenia-Oltenia cluster, a region with a long tradition of winemaking, which, in recent years, has triggered the interest of many foreign investors. This area is not far from Bucharest, the capital of the country, and is located in the Southern of Romania along the 44° parallel, the same as Tuscany and Bordeaux, and which is also known as "the quality wine parallel". Due to these circumstances, the region is sometimes referred to as the Romanian Tuscany.

Stretching over a favourable terroir[1] in the proximity of the Danube, the Muntenia-Oltenia region has at least 1440 hours of sunshine annually, which particularly favours the red varieties, while still offering good conditions for the whites. The geo-climatic conditions allow the cultivation of a considerable number of foreign varieties together with local Romanian ones (Johnson and Robinson, 2015).

Consisting of different size winemakers, this cluster, which is in the growth stage of its lifecycle, is the biggest group of wine producers in the country.

Four national associations and a regional association have an influence on cluster activity, supervising production processes and guaranteeing quality products or providing technical and commercial assistance to wine producers. However, it is worth noting that none of them has played a leading role in the growth and modernization of the wine sector in the region.

The expansion of the producers in recent years has meant that the reduced number of oenologists trained in the Romanian universities were not enough to meet the needs of the cluster, which convinced the producers to take the following steps: firstly, to hire

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[1]Terroir represents the totality of all elements that define the character of the wine, that is, the entire geographical area consisting of soil, hill, slope, wind, sun exposure, varieties that are appropriate for cultivation in the area as well as the influence of the man, his care, picking and winemaking habits.

oenologists from abroad mainly from Italy, France and Australia, countries with a rich winemaking tradition; secondly, to share a specialized oenologist between several small producers as a technical consultant (Veseth, 2011).

The empirical study, based on company level data, was carried out in two different phases between July and September 2016. In the first step, primary company level data was collected applying the roster-recall methodology. According to Ter Wal and Boschma (2009) this method is suitable when the size of cluster population is small. The complete list of the companies in the cluster was obtained from National Office of Vine and Wine Products, an institution operating under the supervision of the Ministry of Agriculture and Rural. From this sample, 42 companies agreed to collaborate, which meant a 93.3% response rate. This coverage rate is considered representative in research on Social Network Analysis (Wasserman and Faust, 1994; Scott, 2000) and is comparable with other studies in wine clusters such as Giuliani and Bell (2005), Giuliani (2007) or Morrison and Rabellotti (2009). According to the roster-recall method, each interviewee was shown a list with the other companies in the cluster while being asked to identify the companies that provided technical and commercial support.

To extend the analysis, the authors undertook a qualitative research and the method that was chosen was the semi-structured interview. Using an interview guide as an instrument during the in-depth interview with some of the company's managers allowed us to benefit from a detailed understanding of company information such as background, innovation performance, chief oenologist, business owners or top-level managers.

Table 1 shows the main characteristics of the cluster's companies.

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Variables

Dependent variable

- International Presence (IP). To measure this variable, we have used the winery's international sales specified by each manager during the interview. In this way, the value of export sales has been proxied as international presence (Sing, 2009; Ciravegna et al., 2014a; Ciravegna et al., 2014b).

Independent variables

- Network Connectedness (NC). This variable is based on the concept of collaboration (Molina-Morales and Expósito-Langa, 2012). Considering a social network as a set of actors and the ties among them, Network Connectedness measures the number of connections in the social network developed by an actor (ego). By applying social network analysis techniques, UCINET v.6 software (Borgatti et al., 2002) was used to compute this variable. This technique allows the structural properties of a network to be explored, encompassing theories and models in terms of relational concepts or processes (Wasserman and Faust, 1994). Specifically, the ties of the companies concerning their knowledge network were requested, due to the fact that the knowledge network indicates the nature of the transfer of knowledge, mainly tacit, related to business issues (Giuliani and Bell, 2005; Morrison and Rabellotti, 2009, Ramírez-Pasillas, 2010). In this case, companies were asked to select from the listing those actors that had provided them with relevant knowledge in the recent years. This dependence of the winery with respect to others in the cluster in obtaining key resources is an adequate indicator of intensity in network interactions (Tsai and Ghoshal, 1998; Yli-Renko et al., 2001).

- Technical Capabilities (TC). This variable is intended to represent the capability of a winery to acquire and apply technical resources and technology for research and development processes to improve the portfolio of products. Since wine production has considerably increased regarding the use of technology and knowledge, professionals in the sector have improved their skills through university qualifications in technical and agri-food aspects. Workers with specialized knowledge now play a key role in wine innovation (Giuliani and Bell, 2005). In consequence and according to Giuliani (2007), technical capabilities were measured as the number of companies' skilled workers in charge of the production process (oenologist).

- Technical Support Organizations (TSO). Local supporting organizations operate as an interface between wineries' knowledge base and the wider knowledge base of the economy. By providing specialized knowledge, the organizations play an important role in the development of new products or processes (Muller and Doloreux, 2009). Examples include R&D services, consultancy activities and technical services. Particularly in emerging clusters, regional institutions can offer services to help companies to improve the quality of their products connecting them with global value

chains. We asked companies to evaluate the collaboration agreements with these local actors to boost their international business. To measure this, we use the number of direct contacts with technical support organizations in the cluster, that is, the number of organizations in the cluster from which the winery has received relevant technical support in the last three years.

- Foreign Ownership (FO). Foreign ownership is based on the control (total or majority) of the winery's resources by an investor outside the country. The variable is measured as the part of the winery's capital that is owned by an external investor. The variable adopts values in the range [0, 1].

- Control variable. To complete the model, Age is used as control variable. This non-hypothesized variable can be expected to be related to international presence, since literature suggests that temporary evolution in clusters could affect performance (Pouder and St. John, 1996). Thus, the age of the winery can be expected to influence the investment of more resources to obtain new knowledge sources to explore new markets.

EMPIRICAL RESULTS

Network analysis

The structure of the knowledge network of the cluster is represented in Figure 2. In the network, each node represents one winery, and a line between two actors indicates a relationship between them. Moreover, the size of the nodes represents their level of relational activity, that is, the larger the size of the node, the higher their degree of interaction. This is an indicator of the Network Connectedness variable of each company in the cluster. On average, the number of connections established by each actor is (3.167), with a standard deviation of (3.635). The above results show that there is interconnectivity in the sample and that this interconnectivity is not homogeneous across companies. In this way, we observe actors that take advantage of their connections in the network and others that are not integrated in the same way. In short, there is a certain variability of the Network Connectedness variable which is necessary to address the subsequent analysis of this variable in the regression models.

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Regression models

Table 2 summarizes basic statistics and the Pearson's correlation for independent variables. Detailed analysis of the results in Table 2 confirms the non-existence of significant correlations between them.

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To test the hypotheses, a stepwise hierarchical regression approach was carried out (Dawson, 2014) to assess the explanatory power of each set of variables and the effect of the interactions. The models are as follows[2]:

Model 1: $IP = \alpha_1 + \beta_1 NC + \beta_2 TC + \beta_3 TSO + \beta_4 FO + \beta_5 Age$

Model 2: $IP = \alpha_1 + \beta_1 NC + \beta_2 TC + \beta_3 TSO + \beta_4 FO + \beta_5 Age + \beta_6 NC*TSO + \beta_7 TC*TSO$

Model 3: $IP = \alpha_1 + \beta_1 NC + \beta_2 TC + \beta_3 TSO + \beta_4 FO + \beta_5 Age + \beta_6 NC*TSO + \beta_7 TC*TSO + \beta_8 NC*FO + \beta_9 TC*FO$

Model 1 represents how international presence is controlled by the linear effect of network connectedness, technical capabilities, technical support organizations, foreign ownership and the control variable. Models 2 and 3 reflect moderating effects of the variables technical support organizations and foreign ownership. In order to deal with multicollinearity, variables included in the interaction terms were z-centered previously to be included into the regression models (Aiken and West, 1991). To ensure that multicollinearity was not a problem, variance inflation factors (VIF) were calculated for all variables in the models. All VIF levels were below the critical threshold of 10, thus indicating that the results were not contaminated by multicollinearity (O'Brien, 2007).

The results of Model 1 (Table 3) showed a significant and positive association between network connectedness on the international presence of the wineries ($\beta = .696$, $p<.01$), thus confirming Hypothesis 1. These results support previous research confirming that the company's relational resources influence its international presence (Zhou et al., 2007; Mesquita and Lazzarini, 2008; Boehe, 2013).

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[2] IP: International Presence; NC: Network Competence; TC: Technical Capabilities; TSO: Technical Support Organizations; FO: Foreign Ownership

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On the other hand, the linear effect of technical capabilities on the international presence of the wineries cannot be contrasted in the regression models. This result is quite surprising. However, as it is an emerging cluster in a transition economy these capabilities may not be sufficiently advanced enough to have a significant effect on the internationalization of the winery. Consequently, it is not possible to confirm Hypothesis 2. Furthermore, the moderating role played by technical support organizations (Model 2) on the individual relationship between network connectedness and technical capabilities on a company's international presence is not supported. Therefore, Hypothesis 3 is also not confirmed.

Finally, the moderating effect of foreign ownership (Model 3) on the individual relationship between network connectedness and technical capabilities on a company's international presence is supported. In this respect, Hypotheses 4a and 4b can be confirmed. Moreover, it should be noted that the explanatory capacity of the Model 3 increased significantly after the introduction of the foreign ownership variable (increase of R^2 of 0.165 with $p < 0.01$).

To sum up this section, the involvement of the winery in the knowledge network has a stronger effect on international presence when the company has high values of foreign ownership. That is, as a company develops cluster relationship capacities, having foreign ownership becomes essential to enhance the international presence of the winery. This may result from the combination of local knowledge with a new culture of international entrepreneurship provided by foreign investors, who in addition to their international entrepreneurial mindset, they are able to act as a bridge to external knowledge and investors to open clusters to external markets in emerging countries. Similarly, technical capabilities are relevant to the winery's international presence when it is foreign-owned. In the same way, the contact of foreign investors with professional spheres outside the country provides oenologists with new technical knowledge to position wines in international rankings.

CONCLUSIONS

Currently, the wine industry is located in different countries throughout the world and its greatest strength is usually linked to factors such as *terroir*. In the context of globalization,

most goods can be produced anywhere, but wine is deeply rooted in a specific place. Furthermore, the development of links between the cluster's wineries in the region is a key element for the competitiveness of the territory itself (Mitchell and Schreiber, 2007). These circumstances are attractive for foreign investment, which through the insertion of new knowledge flows, seeks to find positive returns on the capital invested in the sector, mainly by strengthening the international presence of the winery.

In line with these ideas, this research aims to contribute to the debate on the determinants that favour access to global value chains by companies belonging to emerging clusters in transition economies. The role of these countries is becoming increasingly relevant in a global world, where discovering new opportunities is focused on increasing market knowledge to offer the most appropriate products. In particular, this work has analysed the influence that the interactive effects between network relationships, internal capabilities, technical institutions and foreign ownerships have on the international presence of cluster companies.

The results show that our initial hypotheses are partially supported by the empirical evidence. It is revealed that the involvement of the winery in local networks contributes to its international presence and this effect is enhanced when the company has high values of foreign ownership. It should be noted that wine production with sufficient quality to compete in international markets is an activity that requires a knowledge-intensive processes. Therefore, it is considered that wineries need to be strengthened with new knowledge input to reinforce these capabilities. Additionally, in emerging clusters, empirical results show that technical capabilities are necessary but not sufficient to generate a competitive advantage. In consequence, foreign consultants, from other countries with a longer tradition in the production of quality wines, represent a vehicle for knowledge transfer. Giuliani and Bell (2005) refer to them as "flying winemakers". They travel between the Northern and Southern hemispheres, bringing technical knowledge and modern wine-making techniques to discover the potential of each area, and to help them in their development. Therefore, the role played by these investors is relevant since they promote the creation of new ventures in international marketplaces. Conversely, technical support organizations are not relevant in this case study. As argued in the results section, this situation takes place in emerging economies as they have, in many cases, institutional weaknesses.

The results produced in this work run parallel with previous research in transition economies in different areas. Thus, in line with Zhou et al. (2007), Mesquita and Lazzarini

(2008), Boehe (2013) or, more recently, Plechero and Chaminade (2016) and Serrano et al. (2016), collaborative networks influence international presence overcoming a companies' small size. In addition, local technical institutions do not have the relevance expected in the model. This result does not confirm the initial expectations, however, other research such as Ciravegna et al. (2014a) or Khanna and Palepu (2010), suggest that companies from emerging countries have to face significant challenges to their internationalization process, including the fact that sometimes institutional support is not sufficient. On the other hand, the authors confirm that this problem can be compensated by relational capital (Ciravegna et al., 2014a; Khanna and Palepu, 2010), in this particular case, through collaborative networks.

Nevertheless, and in contrast to past contributions, this current research provides a complete framework for the key factors in clusters necessary to boost internationalization within an emerging economy. The presence of foreign investors in these contexts plays a crucial role. Injecting foreign capital into emerging economies' companies represents not only an economic contribution that will increase investments in assets, but also a contribution of new knowledge flows that will provide the company with an international vision and scope. Successful access of the company to international markets will increase its survival capacity, and at the same time will be a reference for other companies in the country, who will try to copy its path. In addition, these companies will facilitate the export of small producers, following the model of Blum et. al (2011), which predict a pattern of company-to-company matching showing that larger intermediaries match with small producers. We are entitled to assert this because exports involve fixed and variable costs, and the intermediation technology allows to reduce the per-product fixed costs and to exploit the economies of scope in exporting. As a result, these companies will be motivated to act as intermediaries (Bernard and Moxnes, 2018). On the other hand, these companies will demand to their suppliers ensuring higher quality products, which will boost the country's economy and will lead the improvements in the internal quality of the products. Therefore, improving the productive chain of the sector, as well as replicating it in other sectors, will accelerate the economic development of the country. Consequently, the authors consider that this paper contributes to a better understanding of how companies in an emerging cluster work to access global value chains.

Furthermore, it is noteworthy that this study shows that knowledge transfer and networks have not only an effect on knowledge intensive clusters, which are mostly analysed in literature so far, but also on highly localised agricultural clusters.

Complementing the theoretical contribution, this research also provides various managerial implications for managers, entrepreneurs and policy makers about how to create international presence in the cluster companies. On the one hand, we highlight the lack of significance of technical institutions in the international presence of the cluster in this particular case. Undoubtedly, this implies the need for the institutions to establish an internal debate on the role they play in the development of the cluster by helping to internationalize companies by providing both market and technical knowledge. On the other hand, the transition from a centralized economy to a market economy should involve the transformation of tired domestic companies into world-class companies by modernizing productive assets in order to turn the economy into a productive one, which is able to compete with capitalist economies. To this end, policy makers should think strategically by creating, for example, a stable and coherent legal framework, offering tax benefits, so that foreign investment is attracted. At the same time, a strategy, developed by the state, to promote local products abroad is required to help local companies access the international stage.

To conclude, this work is not without limitations that may affect the generalization of the conclusions. First, the external validity of our results is a priori restricted within the scope of the study, particularly in contexts of emerging clusters in transition economies. However, it would be interesting to compare the results with other higher knowledge intensive clusters in developed countries. Secondly, because it is an emerging cluster, considering evolutionary dynamics in the structure of the network would provide new evidence to research in the context of industrial clusters. Thirdly, networks and firm relationships research have a difficult to assess identification problem. In this regard, firms that have relationships choose optimally to have them after considering the implications that this relationship might have on the firm outcomes. This is the so-called selection bias in statistics which is a very complex problem and even though studied in the literature, it requires further research to shed light on this area. Finally, this paper focuses on the cluster from a horizontal, or peer-to-peer, relationships perspective. Incorporating a new approach from network literature in economics (Redding, 2011; Bernard and Moxnes, 2018; Bernard et al., 2019) oriented towards vertical relationships, upstream and downstream, would be a matter of interest for future studies. In short, this

is a first study that covers the objectives initially proposed, but which is open to new enhancements proposed along future lines.

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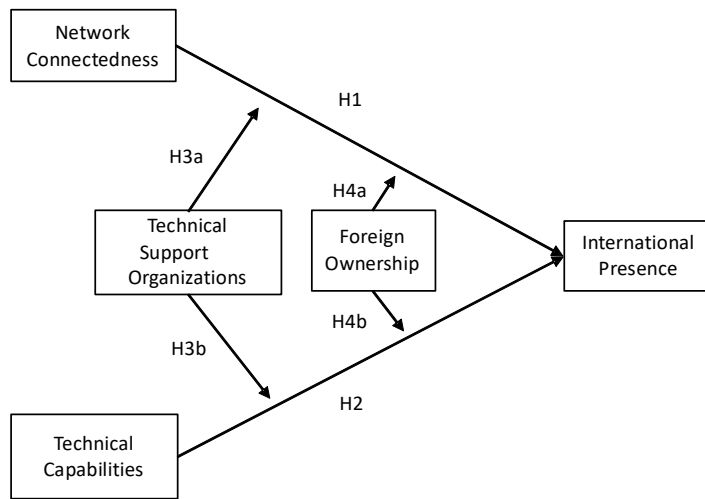
Figure 1. Model proposed
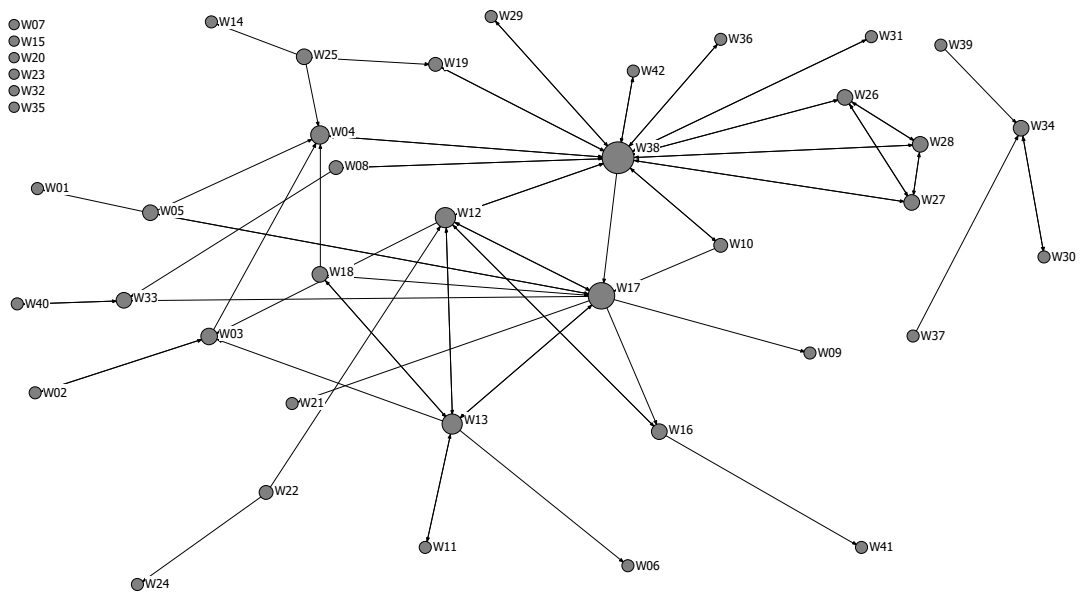
Figure 2. The knowledge network of cluster firms

Table 1. Sample Characteristics

Characteristics of firms by	Number	(%)
Number of employees		
small (1-19)	*26*	(61,90 %)
medium (20-99)	*10*	(23,80 %)
large (≥ 100)	*6*	(14,28 %)
Ownership		
domestic	*29*	(66,66 %)
mixed and foreign	*13*	(33,34 %)
Year of foundation		
before 1990	*2*	(4,76 %)
1990-2000	*4*	(9,52 %)
2001-2010	*19*	(45,24 %)
2011 to today	*17*	(40,48 %)
Wineries category		
large (over 200 ha)	*10*	(23,81 %)
medium (between 20 and 200 ha)	*21*	(50,00 %)
small (under 20 ha)	*11*	(26,19 %)

Table 2. Descriptive statistics and correlations of the independent variables

Variables	Mean	S.D.	1	2	3	4	5	6
(1) International Presence	1.369M	3.861M	1					
(2) Network Connectednes	3.167	3.635	.521**	1				
(3) Technical Capabilities	1.310	1.047	.165	.306*	1			
(4) Tech. Supporting Org.	1.500	1.436	.143	.157	.543**	1		
(5) Foreign Ownership	.285	.457	-.080	.060	-.115	.217	1	
(6) Age	12.830	9.471	-.129	-.155	.052	-.058	.029	1

N=42 ** $p<.01$; * $p<.05$

Table 3. Regression results of models

Dependent variable: International Presence

	M1	M2	M3
Independent and moderating variables			
Network Connectedness (NC)	.696**	.708**	.527**
	(5.824)	(5.672)	(4.801)
Technical Capabilities (TC)	.129	.122	.026
	(.882)	(.776)	(.200)
Technical Supporting Organizations (TSO)	-.031	-.018	-.024
	(-.220)	(-.118)	(-.194)
Foreign Ownership (FO)	-.169	-.173	-.134
	(-1.413)	(-1.404)	(-1.292)
Control variable			
Age	.110	.104	.091
	(.961)	(.882)	(.943)
Linear moderating effects			
NC x TSO		-.084	-.067
		(-.510)	(-.503)
TC x TSO		.040	.083
		(.229)	(.584)
NC x FO			.559**
			(4.370)
TC x FO			.280*
			(2.292)
Model F	9.048**	6.194**	9.412**
Adjusted R^2	.495	.470	.646
Change in R^2		.004	.165**

N= 42; **p< .01; *p< .05
Standardized regression estimates (t-values)