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## Proactive international strategies of cluster SMEs

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## ABSTRACT

In this conceptual paper, proactive international strategies of small- and medium-sized enterprises (SMEs) in the cluster context are discussed. The majority of cluster SMEs assume passive roles as network participants in the process of internationalisation. However, a smaller fraction adopts proactive strategies to foreign expansion acting as leaders of networks. SMEs as network leaders are embedded in the source clusters and dependent on local networks that provide them with complementary resources. We assert that this mutual dependence between a firm's resources and the development of industrial agglomeration should be reflected in the strategic options that SMEs adopt when going international. This paper contributes by synthesising and evaluating a comprehensive range of SME-strategic options and by proposing the proactive competitive strategies of SMEs in the international arena that are both feasible and effective. The feasibility of adopting a specific strategy means the suitability for this group of companies, considering their characteristics. The evaluation of the effectiveness of each strategy was performed according to the objectives of avoiding lock-in and of protecting and developing the core competencies embedded in cluster networks. We address the research gap in evaluating the outcomes of SME international strategies and in synthesising a comprehensive range of cluster SMEs' strategic options.

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## 1. Introduction

This paper focuses on proactive international strategies of small- and medium-sized enterprises (SMEs)<sup>1</sup> in the cluster context. SMEs are considered to be the core of the industrial agglomeration since they form a critical mass of its entities. Their participation in internationalisation processes takes both reactive and proactive forms. A majority of SMEs are reactive participants of the value chains of large firms as cluster leaders. However, recent technological changes, as well as requirements of flexibility and speed to market, make the smaller scale of international operations feasible and effective (Agostino, Giunta, Nugent, Scalera, & Trivieri, 2015; Aslesen & Harirchi, 2015; Massini, Perm-Ajchariyawong, & Lewin,

2010; Cusmano, Mancusi & Morrison, 2010). Consequently, the role of SMEs as active players forming international linkages has increased (Coviello, 2006; Fernhaber, McDougall, & Oviatt, 2007; McDougall, Shane, & Oviatt, 1994). This smaller but increasing population of SMEs undertakes proactive international strategies as network focal companies and shapes the internationalisation path and development prospects of its source clusters (Aslesen & Harirchi, 2015; Biggiero, 2006; De Propriis, Menghinello, & Sugden, 2008; Mazzanti, Montresor, & Pini, 2011). Inclusion into global value chains (GVCs) results in either upgrading or downgrading of clusters' competitive positions and eventually in their decline or renewal and further growth. It is maintained that clusters can prevail only as kernels of knowledge within a range of their specialisation at the country level and in the global division of work (Biggiero, 2006; Sturgeon, 2003).

The international strategies of small- and medium-sized enterprises are more embedded in their parent agglomerations than those of large firms. Scale and scope limitations of SMEs cause a necessary reliance on the resources of local networks. The result is a mutual dependence between the internationalisation path of the cluster as well as its further development prospects and the internationalisation strategies of individual SMEs. The current

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paper asserts that this mutual dependence requires SMEs to embrace competitive strategies that combine two objectives. Namely, they need to protect and develop the core competencies embedded in cluster networks, and to build international networks in order to avoid the lock-in that prevents access to external tangible and intangible resources.

The aim of this paper is to identify and evaluate the options of cluster SMEs' proactive competitive strategies in the international arena according to their feasibility and effectiveness. The feasibility of adopting a specific strategy means the suitability for this group of companies, considering their characteristics. The evaluation of effectiveness was performed according to the objectives of avoiding lock-in and of protecting and developing cluster core competencies.

This paper contributes by synthesising and evaluating a comprehensive range of SME-strategic options and by proposing the proactive competitive strategies of cluster SMEs in the international arena that are both feasible and effective. In doing so, it addresses the research gap in current literature on SME internationalisation, with a focus on the specificity of cluster SMEs. Regarding the research on SME internationalisation, this paper addresses the deficiency of the evaluation of SME-strategic options in this process. Existing studies predominantly focus on the antecedents and drivers of internationalisation rather than on the evaluation of outcomes (Carr, Haggard, Hmieleski, & Zahra, 2010; Hilmersson, 2014; Tang, 2011). With regard to the specificity of cluster SME internationalisation, recent studies analyse some selected strategic options, which calls for integrating the extant evidence (Mariotti, Micucci & Montanaro, 2004; Biggiero, 2006; De Propriis et al., 2008; Mariotti, Mutinelli & Piscitello, 2003; Cutrini, 2011). We respond to this need by synthesising the knowledge on SME and cluster internationalisation from the literature on international entrepreneurship and small business, regional entrepreneurship and regional development.

This article has seven sections. After the introduction, a mutual dependence between SMEs and the cluster governance is discussed in the second section. The third section analyses the essence and objectives of SMEs' proactive strategies in the process of cluster internationalisation. On the basis of these theoretical insights, we present a research framework for evaluating international strategies of cluster SMEs in the fourth section. The following two sections (Sections 5 and 6) systemise and evaluate the cost- and differentiation-based options of cluster SMEs' expansion in the international arena, which results in eight research propositions (two general and six detailed ones). Discussion and implications for further research and practice comprise the seventh section.

## 2. SMEs and the cluster governance

Clusters are geographical concentrations of firms in one or a limited number of related industries that form cooperative and competitive networks together with the institutions of environment (European Commission, 2002; Gancarczyk, 2015; Porter, 1998; Vanhaverbeke, 2001). In this vein, the structural characteristics of clusters are spatial and industrial concentration and network relationships among business, social and public organisations (Gancarczyk & Gancarczyk, 2013). Spatial and industrial concentration is a source of regional specialisation (Bellandi, 2001; Krugman, 1991; Piore & Sabel, 1984; Porter, 1998). It ensures agglomeration externalities, namely the access to specialised suppliers, qualified employees and information spill-overs (Marshall, 1920; Krugman, 1991; Porter, 1998). Network relationships among cluster companies and social and public institutions form a governance system that affects prospects not only for exchanging information but also for generating and transferring knowledge (Asheim & Isaksen, 2003; Brusco, 1982; Markusen, 1996; Porter,

1990; Pyke & Sengenberger, 1992; Saxenian, 2000).

Governance is one of the key concepts describing the regional context of entrepreneurship. It is understood as modes or structures of implementing economic activities that include market, organisational hierarchies (vertical integration) and hybrids, combining the former two modes (Williamson, 1991). In the entrepreneurship and small business literature, the network governance is described as a hybrid being a set of relationships coordinated by key agents based on some form of hierarchy and market transactions (Agostino et al., 2015; Johannisson, 1998). Although the number of entities forming networks is not clearly determined in the literature, we can assume that these relationships are complex and go beyond bilateral business exchange (Johannisson, 1998; Kogut, 2000; Huggins & Johnston, 2010; Jack, Drakopoulou Dodd, & Anderson A.R., 2008).

SMEs form a critical mass of cluster enterprises and they are its specific beneficiaries. Acting in cooperative networks, they achieve scale and scope economies similar to those of large firms (Pyke & Sengenberger, 1992). These cooperative relationships cause a partial inseparability of networking firms' capabilities and, consequently, governance itself (Argyres & Liebeskind, 1999; Aslesen & Harirchi, 2015; Mazzanti et al., 2011). The interrelations and mutual dependence between firm capabilities and governance are reflected in the notions of network resources (Gulati, 2007), network capital (Huggins & Johnston, 2010) and knowledge networks (Hansen, 2002; Owen-Smith & Powell, 2004). Namely, firms' competitive advantage and underpinning core capabilities are not fully appropriated by an individual company, but they are embedded in practices and routines of a network (Nelson & Winter 1982; Nonaka, 1991; Gertler, 2007; Aslesen & Harirchi, 2015).

Considering the above characteristics of firms' resources and governance, the focus of cluster analysis was traditionally not on an individual enterprise but on a local or regional production system embedded in the social and cultural context (Brusco, 1982; Piore & Sabel, 1984; Pyke & Sengenberger, 1992). This systemic approach neglected the role of individual firms and entrepreneurial opportunity seeking. Recent research on clusters in the area of entrepreneurship and small business as well as regional entrepreneurship and regional development aims to fill this gap. It emphasises the growth of entrepreneurial ventures that affect the development prospects of their networks and the entire agglomeration (Alberti, Sciascia, Tripodi, & Visconti, 2008; Best, 2000; Klepper, 2007; Ter Wal & Boschma, 2011; Malipiero, Munari, & Sobrero, 2005; Munari, Sobrero, & Malipiero, 2011; Sornn-Friese & Sørensen, 2005).

The role of individual enterprises in cluster development is grounded in the theory of firm growth (Best, 2000; Penrose, 1959) and the resource-based view (RBV) of the firm that originated from it (Wernerfelt, 1984; Kogut & Zander 1992; Peteraf, 1993; Barney, 1991). Firm growth results from matching enterprise capabilities with environmental chances (Gancarczyk, 2016; Penrose, 1959; Best, 2000). The RBV emphasises the heterogeneity of firms' capabilities, which affects their differing competitive positions. Rare, valuable, inimitable, immobile and non-substitutable resources that underpin the competitive position should be integrated within the company as its core competencies (Barney, 1991; Hamel & Prahalad, 1990; Freiling, Gersch, & Goeke, 2008; Gancarczyk & Zabala-Iturriagoitia, 2015). The capabilities that are non-core can be outsourced to network partners (Kogut, 2000; Huggins & Johnston, 2010; Jack et al., 2008). Relative to large firms, SMEs are less capable of internalising and appropriating the competencies that are the core of their competitive advantage. They are inclined to choose network governance rather than vertical integration, due to resource constraints and willingness to maintain flexibility (Hoetker 2005; Verwaal, Bruining, Wright, Manigart, & Lockett,

2010; Díez-Vial 2010; Liao, Welsch, & Stoic, 2003; Exposito-Langa, Molina-Morales, & Capó-Vicedo, 2011). Consequently, when pursuing growth, SMEs evaluate market chances and formulate strategic objectives based on their own capabilities and on capabilities accessible in the network of cooperating organisations (Francioni, Musso, & Vardiabasis, 2013; Frenken & Boschma, 2007; Frenken, 2007; Ter Wal & Boschma, 2011; Kim & Vonortas, 2014).

The importance of focal, growth firms is specifically emphasised in accessing markets and tangible and intangible resources through their cross-border relationships. Knowledge generation and exchange require deep, long-term relationships that are typical of cluster networking (Alegre, Sengupta, & Lapiedra, 2013; Gancarczyk & Gancarczyk, 2016; Gertler, 2007; Johannisson, 1998; Lisowska, 2015; Maskell & Malmberg, 1999; Nonaka, 1991). On the other hand, the overly local or regional focus leads to technological rigidity, inability to diversify into more prospective industries and to losing opportunities for efficiency increase through external collaboration. The result is lock-in, i.e., isolation that prevents further development (Alberti, 2006; Glasmeier, 1994; Grabher, 1993; Guerrieri & Pietrobelli, 2004; Hsu & Lin, 2011; Sornn-Friese & Sørensen, 2005). To avoid lock-in, internal linkages must be expanded by international or global networks to access markets, cost-effective inputs and sources of new knowledge (Aslesen & Harirchi, 2015; Hassink, 2005). The focal firms act as liaisons by unifying local and global networks.

### 3. The essence and objectives of SMEs' proactive strategies in the process of cluster internationalisation

#### 3.1. Cluster SMEs as proactive international strategists

The search for international cooperation attracted attention to cluster large firms as more capable of participation in foreign expansion and global value chains (GVCs). The GVC governance comprises the coordination of all functional activities that create product value, involving more than one country (Humphrey & Schmitz, 2002; 2004). Drawing upon both transaction cost theory of the firm and the resource-based view, the GVC concept assumes that upgrading and development prospects of a firm depend on its position in the value chain governance, which enables learning and knowledge exchange or inhibits them (Gereffi, Humphrey, & Sturgeon, 2005). In the case of hierarchical or captive relationships, they get stuck in lower value-adding functions. In the case of mutuality-based relationships that enable two-way knowledge exchange, they can upgrade to higher value-adding activities. A firm's position in the global governance depends on the formalisation and complexity of the technology adopted, and on the firm's capabilities. In the global value chain literature, SMEs are described as suppliers that take a reactive role as participants of focal firms' networks (Humphrey & Schmitz, 2002; 2004). This unfavourable position is determined by SME limitations, such as scale and scope disadvantages that do not justify the magnitude of investment in foreign expansion, financial constraints, difficulty in accessing external capital, inadequate knowledge of foreign markets and inexperience in managing foreign exchange (Felzensztein, Ciravegna, Robson, & Amorós, 2015; Francioni et al., 2013). Moreover, they may incur excessive transaction costs from specific investments (in terms of physical capital or intangibles) that demonstrate limited or no capacity to be redeployed in another valuable way (Williamson, 1991). The result is dependence that leads to the opportunism of larger customers, such as unfavourable terms of contracts and externalising costs to suppliers (Humphrey & Schmitz, 2002; 2004).

However, recent advances in technology and access to network resources act in favour of smaller-scale operations (Agostino et al.,

2015; Aslesen & Harirchi, 2015; Massini et al., 2010; Cusmano et al., 2010). As a consequence, cluster SMEs act as network leaders or focal companies, coordinating the value chain of a good (Alberti et al., 2008). SMEs are increasingly perceived as international entrepreneurial firms, proactively exploiting and exploring opportunities in foreign markets (Coviello & Munro, 1997; Coviello, 2006; McDougall & Oviatt, 2000; Oviatt & McDougall, 2005).

Proactive international strategies are those self-initiated by dominant or focal companies that act as cluster network leaders and execute transactions with international business partners directly rather than through intermediaries (Agndal & Chetty, 2007). This is the opposite of reactive strategies, in which cluster SMEs are only participants and followers in focal firms' networks and internationalise indirectly, as suppliers to other cluster firms pursuing international expansion (Agndal & Chetty, 2007; Francioni et al., 2013). Although less popular among SMEs than reactive behaviours, proactive and self-initiated networks are also found to be more sustainable and successful in international expansion (Coviello, 2006; Huggins & Johnston, 2010; Tang, 2011). Direct relationships with customers stimulate firm growth and knowledge exchange resulting in innovation development, as identified by Huggins and Johnston (2010). Moreover, self-initiated and direct interacting with buyers builds loyalty and long-term collaboration, as reports research on both Italian industrial districts and Central European clusters, among others (Alberti et al., 2008; Gancarczyk & Gancarczyk, 2016; Pisoni, Fratocchi, & Onetti, 2013).

SMEs pursuing proactive international strategies are gatekeepers in the access to international markets and technological knowledge (Giuliani, 2011; Malecki, 1990; Wach, 2015). They act as focal companies and agents of change by initiating the cluster evolution in the area of products or services, core competencies, network relationships and the position in the global value chains (Alberti et al., 2008; Malipiero et al., 2005). Being less dependent on the resources of regional networks than SMEs, large firms are more able and inclined to extensively relocate the value chain activities, including knowledge-intensive functions (Cusmano, Mancusi, & Morrison, 2010; Agostino et al., 2015). These processes change the local network configuration and terminate some of its relationships, thus modifying or eliminating existing advantages. Relative to large companies, SMEs need to be more selective in internationalising their activities and oriented towards keeping their core activities within the parent cluster (Cutrini, 2011).

#### 3.2. The governance of cluster internationalisation and competitive strategies of cluster focal firms

Since the 1980s and specifically the 1990s, cluster companies have expanded from exporting to the internationalisation of the production function (Biggiero, 2006; Dana, Welpel, Han, & Ratten, 2008; Lorentzen, 2008; Sammarra & Belussi, 2006; Saxenian, 2007; Zucchella, 2006).

The cluster internationalisation has followed the phases implemented in different governance modes, namely (1) exporting with network governance based on regional outsourcing, (2) offshore outsourcing, (3) captive offshoring (foreign direct investment through own foreign subsidiaries or joint ventures) and (4) reshoring (Mariotti, Micucci & Montanaro, 2004; Biggiero, 2006; Zucchella, 2006; De Propriis et al., 2008; Mariotti, Mutinelli & Piscitello, 2003; Cutrini, 2011). These governance modes are associated with the localisation of the value chain, which ranges from retaining extant activities within the cluster and different forms of relocation, i.e., moving the value chain out of the source agglomeration. The governance and localisation of the value chain are driven by the international strategies of cluster focal firms that are

either cost- or differentiation-oriented (Biggiero, 2006; Cusmano et al., 2010; De Propriis et al., 2008; Giuliani, 2011; Munari et al., 2011; Saxenian, 2007; Zucchella, 2006) (Table 1).

Cluster internationalisation in the form of exporting (Phase 1) was a natural process created by the concentration of a specialised supply in a given region. This option utilised outsourcing and networking relations within the cluster. Naturally, the regional production system imported the necessary inputs unavailable locally. Especially for clusters in emerging economies, these imports were vital to upgrading technology and establishing business links for further internationalisation activities. However, the increasingly globalised value chains made the danger of cluster lock-in even stronger. The fierce cost and technological competition have stimulated the interregional, cross-border sourcing and governance of the dispersed business functions. At the same time, the development of information and communication technologies facilitated the international coordination of logistics, manufacturing and technology development. Consequently, exporting is followed by offshoring (Phases 2 and 3), which means the relocation to a foreign country of the value chain tasks previously delivered by the company itself or by its suppliers in the source cluster (Kirkegaard, 2008; Massini et al., 2010). Offshore outsourcing (Phase 2) consists in subcontracting to foreign non-affiliate suppliers of activities that are non-core to the firm. Captive offshoring (Phase 3) includes ownership involvement, i.e., foreign direct investment in the form of either fully owned subsidiaries or partially controlled joint ventures, which ensures better control over the outsourced activities but implies higher investment risk and organisational effort (Kirkegaard, 2008; Massini et al., 2010). Failure to establish expected terms of cooperation or to achieve appropriate efficiency and quality may lead to reshoring (Phase 5), i.e., bringing the relocated activities back to the source cluster (Bumgardner, Buehlmann, Schuler, & Crissey, 2011; Cutrini, 2011). This strategic move can also be imposed by the stakeholders from the original cluster that expect re-investment to stimulate regional jobs and growth (Agostino et al., 2015).

In the exporting phase, the companies rely mainly upon local production resources with some supporting import of inputs. The scope of relocation connected with offshoring differs. It can be selective relocation, limited to only some parts of the value chain, or replicative relocation, which involves transferring all or majority of the firms' operations out of the parent agglomeration (Gancarczyk & Gancarczyk, 2011). Relocation refers to both higher value-added and lower value-added functions in the value chain (Mudambi, 2008). Higher value-added activities comprise R&D and design, engineering, advanced manufacturing and post-sale services, among others. These activities are either retained in the

parent cluster or moved to advanced economies (Mudambi, 2008; Jenkins & Tallman, 2010; MacPherson & Vanchan, 2010). Lower value-adding activities include manufacturing of raw materials and components, processing, and standardised services (Biggiero, 2006; De Propriis et al., 2008; Sturgeon, Biesebroeck, & Gereffi, 2008). They are prevalently transferred from advanced and high-cost economies to emerging and low-cost economies (De Propriis et al., 2008; Sturgeon, 2003).

Focal firms match their competitive strategies with governance modes and relocation types that enable decreasing costs of production factors (cost leadership) or strengthening the technological capacity and product or service superiority (differentiation) (Brouthers & Nakos, 2004; Francioni et al., 2013). These targets are reflected in the ways of adopting specific governance forms. The cost leadership strategy based on production process efficiency (mechanisation and automation) utilises exporting to achieve the increased volume of sales. Moreover, it adopts offshore outsourcing and captive offshoring of lower value-adding activities that are inefficient in high-cost economies to low-cost and emerging economies. The differentiation strategy applies exporting based on the focus on global niches for branded products with superior technology or upgrading towards higher value-adding activities. Offshore outsourcing and captive offshoring in this strategy consist in relocating higher value-adding activities to advanced economies in search of knowledge sharing and development. The reshoring phase is motivated by an inability to accomplish the advantages expected by the strategies pursued in terms of either costs or differentiation.

The strategies and governance options of internationalisation have different implications for further development of the source clusters. The international expansion may bring positive outcomes, such as the increased efficiency, innovativeness and speed to market for individual firms. On the other hand, it also raises the threat of 'hollowing out' the agglomeration from its unique cooperative relationships and core capabilities. It is argued that, in the context of the globalised production function and dispersed business activities, clusters have a chance to prevail only as kernels of knowledge in their areas of specialisation (Gereffi et al., 2005; Sturgeon, 2003). Therefore, their development prospects depend on the ability to maintain the core knowledge within the agglomeration when pursuing the international cooperation in the search for more efficient resources and production. Considering the necessary reliance of SME core competencies on the networks of their source clusters and the threat of lock-in if these networks are closed to external resources, cluster SMEs should combine the following two objectives when pursuing their international cost or differentiation strategies, namely.

**Table 1**  
The governance modes of cluster internationalisation, localisation of the value chain and the competitive strategies of focal firms.

Phase	Phase 1	Phase 2	Phase 3	Phase 4
Governance mode	Exporting (network governance) proceeded or/and accompanied by importing	Offshore outsourcing	Captive offshoring (foreign direct investment)	Reshoring
Localisation of the value chain	Value chain in the source cluster	Relocation to advanced economies of higher value-adding activities Relocation to emerging economies of lower value-adding activities		Bringing the relocated activities back to the source cluster
Type of strategy	<i>Cost leadership</i> strategy adopts exporting based on the production process efficiency. <i>Differentiation</i> uses exporting based on the focus on global niches or upgrading towards higher value-adding activities.	<i>Cost leadership</i> adopts offshore outsourcing of lower value-adding activities. <i>Differentiation</i> applies offshore outsourcing of higher value-adding activities.	<i>Cost leadership</i> utilises captive offshoring of lower value-adding activities. <i>Differentiation</i> adopts captive offshoring of higher value-adding functions.	Reshoring may be either <i>cost-</i> or <i>differentiation-</i> driven.

1. To avoid lock-in by building international networks that ensure access to external tangible and intangible resources.
2. To protect from imitation and develop the core competencies embedded in the networks of the source cluster.

The strategies and governance options of internationalisation presented in Table 1 are not equally effective in meeting the above goals. Moreover, they are not fully accessible to SMEs relative to large enterprises, due to resource constraints and dependence on cluster governance typical of small businesses. To identify the international proactive strategies that are both effective in implementing the two objectives and feasible for cluster SMEs, we perform a systematic evaluation in the following sections.

#### 4. A framework to evaluate the feasibility and effectiveness of international strategies for cluster SMEs

The evaluation of the effectiveness and feasibility of international strategies for cluster SMEs requires a framework that would specify the evaluation criteria and the way the extant research is reviewed and synthesised in this paper.

Consequently, we specify the effectiveness of SME international strategies as their capacity to meet these two objectives:

1. To avoid lock-in by building international networks that ensure access to external tangible and intangible resources.

This objective can be met by forming collaborative or ownership relationships that enable sourcing knowledge and tangible assets in a more effective way than in the parent cluster. Opening cluster networks is an alternative to excessive inward focus that provides for rigid specialisation and isolation (Alberti, 2006; Glasmeier, 1994; Grabher, 1993; Guerrieri & Pietrobelli, 2004; Hsu & Lin, 2011; Sornn-Friese & Sørensen, 2005). Knowledge exchange is more difficult to accomplish compared to tangible resources. To ensure the excess to intangible resources, the international relationships of focal firms need to demonstrate such characteristics as longer-term duration, intense collaboration due to the complexity of projects undertaken, as well as mutual transfer of technology and know-how between these focal firms and their collaborators in new locations (Nonaka, 1991; Gertler, 2007; Kogut, 2000; Huggins & Johnston, 2010; Jack et al., 2008).

2. To protect from imitation and develop the core competencies embedded in the networks of the source cluster.

This objective can be implemented by maintaining local networks to secure the core competencies, i.e., the advanced, and often tacit technological and organisational knowledge (Nonaka, 1991; Gertler, 2007). Selective relocation of lower value-adding functions of the value chain while retaining the higher value-adding activities represents a favourable solution in this regard. When higher value-adding and knowledge-intensive functions are relocated to seek knowledge exchange, relocating more standardised

and formalised elements of these activities is recommended (Amighini, Leone & Rabellotti, 2011; Saxenian, 2007). Such a pattern of international collaboration would mean that the internal networks within the cluster do not cease to exist, but they are modified and maintained in order to combine with international networks (Aslesen & Harirchi, 2015; De Propriis et al., 2008; Hassink, 2005).

The second major criterion of evaluation is the feasibility of adopting a specific strategic option by SMEs. It is understood as suitability for this group of companies, considering their characteristics relevant for operating in clusters and for international expansion as discussed in Sections 2 and 3. On the basis of the earlier discussion, these characteristics include, among others, limitations of resources and scale and scope disadvantages, difficulty in internalising the activities (vertical integration), flexibility, propensity to operate in networks, ability to utilise network resources and dependence on these resources.

We perform the evaluation and synthesise the research on the international strategies of cluster SMEs according to the framework depicted in Fig. 1.

The analysis is conducted according to the type of competitive strategy (cost or differentiation advantage) and the governance options of internationalisation associated with the relocation method. Further, we assess these choices according to the feasibility of adoption by SMEs and according to the ability to fulfil the two objectives proposed for the internationalisation strategies of cluster SMEs. This evaluation aims to identify strategic options that would demonstrate both the feasibility for SMEs and the effectiveness in addressing the two objectives, compared to the other options considered.

When implementing the above framework, we integrate the literature streams underlying the issue of SME internationalisation in the context of clusters, namely the research in entrepreneurship and small business, regional entrepreneurship, and regional development. The literature search was initially conducted in ABI Inform Complete database within peer-reviewed scientific journals in English, published after 1990, with keywords related to clusters, internationalisation and SMEs. This operation generated a limited number of results that embrace all three topics. Therefore, we decided to conduct a manual search in scientific journals that combine entrepreneurship, small business and regional perspectives (Hoon, 2013). The additional keywords reflected the phenomena and concepts currently widely discussed in the context of internationalisation of cluster companies, such as relocation, cluster evolution or cluster life cycle. Furthermore, by screening the abstracts and article bodies, we purposefully selected some contributions that addressed the topic of internationalisation in clusters and either directly referred to the issue of firm size or offered a possibility to deduce SMEs' competitive behaviours. Additionally, when analysing the articles, we introduced some widely cited contributions in the form of articles, book chapters or monographs. Finally, the basis for our analysis was (1) conceptual and theoretical papers and books or book chapters and (2) empirical studies of SME internationalisation, specifically in the cluster setting. It is worth

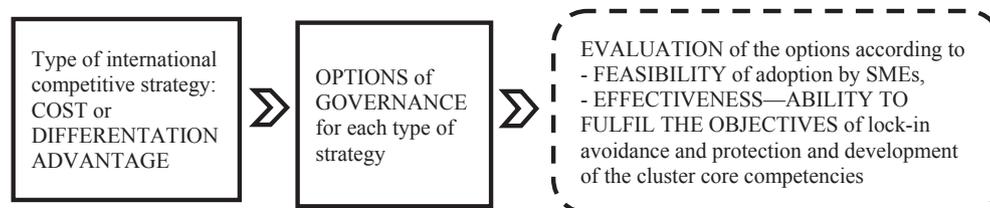


Fig. 1. The framework to evaluate the feasibility and effectiveness of international strategies for cluster SMEs.

mentioning that all the conceptual and theoretical papers were narrative reviews and none of them adopted a systematic literature review, which may prove that this research topic is in a premature methodological phase. Considering the literature search procedure, our study combines narrative and systematic approaches, which differentiates it from the extant conceptual papers.

## 5. Evaluating cost options of the international competitive strategies for SMEs

### 5.1. The evaluation of feasibility of cost options for SMEs

During the last two decades or so, most of the international competitive strategies of cluster firms were directed at cost efficiency (Mariotti, Mutinelli & Piscitello, 2003; De Propriis et al., 2008; Amighini, Leone, & Rabellotti, 2011). The first attempts to achieve this focused on more efficient production methods, such as automation and mechanisation (Zucchella, 2006). These process innovations aimed to maintain the operations within the region and employed internationalisation in the form of exporting. Due to the difficulties in organising international marketing and production and strong embeddedness in local production networks, SMEs are naturally inclined to adopt this method (Mariotti, Micucci & Montanaro, 2004; Hsu & Lin, 2011; Kalantaridis, Vassilev, & Fallon, 2011). However, cost efficiency through mechanisation is not effective in all industries. For instance, in some traditional craft manufacturing, it may harm the perceived quality and brand (Crestanello & Tattara, 2011; Dei Ottati, 2009; Hsu & Lin, 2011). Moreover, becoming standardised and widespread, process innovation cannot outweigh the combined efficiency from applying mechanisation and lower-cost production factors in foreign locations (Ivarsson & Alvstam, 2011).

In searching for cost advantages in production inputs, different forms of relocating the cluster value chain are applied. The general division of relocation modes includes selective or replicative forms (Brouwer, Mariotti & Omeren, 2004; Biggiero, 2006; Mariotti, Micucci & Montanaro, 2005).

Selective relocation relates only to some lower value-adding phases of production, such as standard processing, assembling or manufacturing standard components (Brouwer, Mariotti & Omeren, 2004; Biggiero, 2006). As a consequence, knowledge-intensive and higher value-adding functions of marketing, coordination of the value chain, R&D, design and advanced manufacturing are still performed within the source cluster (Amighini et al., 2011; Cutrini, 2011; De Propriis et al., 2008; Mazzanti et al., 2011). Selective relocation normally evolves from the offshore outsourcing of raw materials and components to the offshore outsourcing of processing and then to captive offshoring, i.e., foreign direct investments in the form of owned subsidiaries or joint ventures (Mariotti, Micucci & Montanaro, 2004; Yamamura,

Sonobe, & Otsuka, 2003; Massini et al., 2010). The options based on equity entry into foreign markets are generally less feasible for SMEs that normally pursue offshore outsourcing in their international expansion (Crestanello & Tattara, 2011; Dei Ottati, 2009; Lee, 2012; Massini et al., 2010; Mazzanti et al., 2011). This choice is also justified by resource constraints in the face of high investment, small scale of operations relative to the investment required and the need to stay flexible in risky or uncertain foreign markets (Verwaal et al., 2010; Díez-Vial 2010; Liao et al., 2003; Exposito-Langa et al., 2011; Agostino et al., 2015; Massini et al., 2010). The exceptions are medium-sized firms, which are more often directed at equity participation (Mariotti, Micucci & Montanaro, 2004). Offshore outsourcing is a highly feasible and natural choice for cluster SMEs. They are experienced in using this governance in their source clusters and tend to replicate it when going international as well (Agostino et al., 2015; Massini et al., 2010).

Replicative relocation takes place when companies move a majority of or the entire value chain to a new location based on offshore outsourcing or captive offshoring (Biggiero, 2006; Semlinger, 2008; Zucchella, 2006). Equity-based modes (captive offshoring) are less feasible in this regard, as discussed earlier. Offshore outsourcing represents moderate feasibility relative to the ownership modes. The feasibility of this option is not high due to the reliance of SMEs upon local links, which makes them less inclined to adopt such a radical separation from their parent agglomerations, compared to large firms (De Propriis et al., 2008; Mazzanti et al., 2011; Sooreea, Sharma, & Luong, 2012).

The options of the international cost-competitive strategies can be applied individually or they can be combined by the companies (Table 2).

### 5.2. The evaluation of cost options regarding the objectives to avoid lock-in and to protect and develop the cluster core competencies

The strategic options presented in Table 2 differ in their capacity to achieve the objectives of avoiding lock-in by accessing tangible and intangible resources out of the region and of protecting and developing the core competencies of the source cluster.

The export option based on the savings from mechanisation and automation normally reduces or even eliminates some phases of the existing organisation of production and replaces it with more technologically advanced and integrated system (Zucchella, 2006). This option protects the cluster stock of knowledge, but it does not build external relationships for knowledge exchange (Felzensztein et al., 2015; Guerrieri & Pietrobelli, 2004; Kalantaridis et al., 2011). Consequently, it does not prevent lock-in or the inability to meet efficiency challenges from low-cost locations, such as in the Shetou Taiwanese hosiery district (Hsu & Lin, 2011). The Shetou district did not change its production system by opening to external innovation and did not withdraw from lower value functions. This led to

**Table 2**  
The cost options, their feasibility to be adopted by SMEs and the implementation of the objectives to (1) avoid lock-in and (2) protect and develop the cluster core competencies.

Option	Production within the cluster	Relocation				
		Selective relocation of lower value-adding functions			Replicative relocation	
	Exporting supported by mechanisation	(1) Offshore outsourcing of raw materials and components	(2) Offshore outsourcing of processing	(3) Captive offshoring (selected operations)	(4) Offshore outsourcing	(5) Captive offshoring
Feasibility for SMEs	HF	HF	HF	LF	MF	LF
OBJ. 1	–	+,–	+,–	+	+,–	+
OBJ. 2	+	+	+	+	–	–

(HF), highly feasible for SMEs; (MF), moderately feasible for SMEs; (LF), less feasible for SMEs.  
(+), the objective implemented; (–), not implemented; (+, –), partially implemented.

damaging cost competition, the inability to invest in product upgrading and the self-exploitation of existing resources (Hsu & Lin, 2011).

Offshore outsourcing based on selective relocation (Options 1 and 2) means that some elements of available activities are no longer implemented within the cluster, but purchased in new locations from suppliers that demonstrate cost advantages in a specific area (Crestanello & Tattara, 2011; Dei Ottati, 2009; Lee, 2012). This option supports the objective to protect and develop the cluster core competencies, since the higher value activities are predominantly retained in the agglomeration (Amighini et al., 2011; Saxenian, 2007). Higher value-adding activities underpin cluster core competencies, as they are conducive for international competitiveness within the regional product or service specialisation, and feature complexity and tacitness (Gertler, 2007; Pavlínek, 2012). Therefore, maintaining them in the cluster protects from knowledge leakage. However, the capacity of offshore outsourcing to avoid lock-in depends on the type of outsourcing (Gereffi et al., 2005). In the case of offshore outsourcing of materials and components, when goods are complex and supplier capabilities are high, partners develop closer and deeper interaction that facilitates knowledge exchange (Amighini et al., 2011; Biggiero, 2006; Cusmano et al., 2010; Semlinger, 2008; Tang, 2011). The threat of knowledge leakage is normally alleviated by retaining the most advanced intermediate goods and services within the source agglomeration (Saxenian, 2007). Following this pattern, the firms in the high-tech industry of Lombardy were selective in using offshore outsourcing and treated it as a third-tier activity—after in-house activities and outsourcing in the parent agglomeration (Amighini et al., 2011). Offshore outsourcing of simple materials and components when goods incorporate low technology and supplier capabilities are moderate usually involves a one-way transfer of technical parameters and the terms of agreement are prescribed from the dominant company to subservient suppliers (Gereffi et al., 2005; Humphrey & Schmitz, 2002, 2004). Such an exchange does not normally involve informal tacit knowledge, but rather formalised information and technological standards (Mazzanti et al., 2011).

Offshore outsourcing of processing consists of exporting inputs abroad, where they are processed to the intermediates and then re-imported to the cluster, to complete the production process or they are traded directly from abroad. It stimulates close cooperation since it requires input from the supplier for manufacturing process development. The opportunities for tacit knowledge exchange also depend on the process complexity and the capabilities of sub-contractors (Gereffi et al., 2005; Humphrey & Schmitz, 2002, 2004). Especially in the case of higher complexity of processes and supplier capability, a foreign partner acquires the knowledge of inputs and the process, as well as the opportunity to improve this process, thus benefitting its customer as well (Crestanello & Tattara, 2011; Cutrini, 2011; Guerrieri & Pietrobelli, 2004; Lyberaki, 2011).

In the case of foreign direct investment (captive offshoring) within the option of selective relocation (Option 3), the company continues to exercise an element of the value chain, but it implements it outside of the parent cluster, where this activity became inefficient (Tang, 2011). Captive offshoring based on foreign investment (joint venture or green field) consists of establishing a corporate network that forms close links with the new local environment (De Propriis et al., 2008). As such, it gives prospects for a long-term and deepened cooperation, thus enabling the access to the external tangible and intangible resources. Lower value-adding activities are transferred out of the region, while the activities that require higher competencies are retained in the source agglomeration. Therefore, the danger of losing the advanced knowledge, critical for competitive advantage, remains limited (Lee, 2012;

Munari et al., 2011; Guerrieri & Pietrobelli, 2004).

The implications of selective relocation are generally positive both for the companies that undertake it and for the entire cluster, as it allows for keeping more advanced activities within the cluster and for local upgrading towards more knowledge-intensive industries that create a durable and difficult to imitate advantage. In the short to medium term, it poses the challenge of losing current suppliers and network partners who need to renew their industrial profile towards higher value-added activities (Amighini et al., 2011). Examples of the positive impact of selective relocation include Montebelluna sportswear in Italy (Sammorra & Belussi, 2006) and the high-technology agglomeration of Silicon Valley in the USA (Lee & Saxenian, 2008; Saxenian, 2007). These cases represent clusters differing in technological advancement, but they feature both offshore outsourcing and captive offshoring of lower value-adding or/and standardised functions to low-cost locations. In the case of Montebelluna, the manufacturing was outsourced to Romania and Greece, while the Silicon Valley electronics and computer companies contracted out to China, Taiwan and India (Sammorra & Belussi, 2006; Sturgeon 2002; Sturgeon 2003; Saxenian, 2007; Lee & Saxenian, 2008). In both cases, the lead firms focused on engineering, design and marketing activities and generating innovative technologies. Captive offshoring to these locations was directed at better control of the production process and the exploitation of local resources. Moreover, firms pursuing internationalisation established intense, two-way exchanges of experience and routines with foreign suppliers that resulted in upgrading their skills and joint innovative output in the areas of cooperation.

Offshore outsourcing and captive offshoring within replicative relocation (Options 4 and 5) provide the possibility of avoiding lock-in; however, they do not meet the objective of protecting and developing the cluster knowledge. The implications of replicative relocation, specifically when it is adopted as a massive strategy by cluster SMEs, are negative. Examples of clusters suffering from replicative relocation include silk clothiers near Lake Como (Alberti, 2006) and clothing manufacturers near Val Vibrata in Italy (Sammorra & Belussi, 2006). In these cases, the lead companies comprehensively moved the production function and transferred the embodied technology (equipment and machinery) to lower-cost locations and did not retain core technologies in their source agglomerations. Knowledge leakage created imitations by rivals from these lower-cost locations and undermined the position of relocating companies and their source clusters (Gancarczyk, 2015).

### 5.3. Development of propositions based on the evaluation of cost strategies

The above assessment of cost options of cluster firms' international competitive strategy enables the identification of an alternative that would demonstrate both high feasibility for cluster SMEs and effectiveness in addressing the two strategic objectives, relative to other options analysed.

**Proposition 1.** *Within the options of the international cost-competitive strategy of cluster firms, offshore outsourcing of lower value-adding functions combines a relatively high feasibility of adoption by SMEs and effectiveness in meeting their strategic objectives. This effectiveness can be described as follows:*

**Proposition 1a.** *Offshore outsourcing of lower value-adding functions ensures protecting and developing the cluster core competencies.*

**Proposition 1b.** *Offshore outsourcing of lower value-adding functions supports the avoidance of lock-in, primarily by the access to low-cost tangible inputs.*

**Table 3**  
Differentiation options, their feasibility to be adopted by SMEs and the implementation of the objectives (1) to avoid lock-in and (2) to protect and develop the cluster core competence.

Option	Exporting with a focus on global niches	Exporting based on upgrading towards higher-technology industries and complex products	Selective relocation of higher value-adding functions	
			Offshore outsourcing	Captive offshoring
Feasibility for SMEs	HF	HF	MF	LF
Obj. 1	–	–	+	
Obj. 2	+	+	+,-	

(HF), highly feasible for SMEs; (MF), moderately feasible for SMEs; (LF), less feasible for SMEs. (+), the objective implemented; (–), not implemented; (+,-), partially implemented.

**Proposition 1c.** *Offshore outsourcing of lower value-adding functions is less effective in accessing new knowledge. However, a higher level of product or process complexity and a higher capability of foreign collaborators increase the probability of accomplishing this objective as well.*

The above propositions build upon the evaluation performed in Points 5.1 and 5.2 and are based on the relative and combined assessment of two major criteria in terms of feasibility and effectiveness. The relative and combined assessment means that we do not focus on the optimal strategic options for each criterion separately (highest feasibility, fully addressing the objectives). Instead, we select the solution that is ranked relatively high in both criteria (combined assessment) compared to other options (relative assessment). Despite high feasibility, exporting does not meet both criteria since it does not protect from lock-in. On the other hand, captive offshoring of lower value-adding functions fully meets the strategic objectives, but it is relatively less feasible for SMEs.

## 6. Evaluating differentiation options of SMEs' international competitive strategies

### 6.1. The evaluation of feasibility of differentiation options for SMEs

As alternative to cost options, differentiation strategies aim at product/service and technological superiority. Companies choose either exporting, while keeping the design and engineering activities in the cluster, or selective relocation by offshore outsourcing, or captive offshoring in the area of higher value-adding and knowledge-intensive functions (Gancarczyk & Gancarczyk, 2013) (Table 3). The above options may be implemented as single choices or a mixture of them can be adopted in the strategies of individual companies.

The exporting option may be implemented to focus on the global niches or to upgrade towards higher-technology industries. Focus on the global niches for branded products requires advanced competencies in the area of design, marketing and engineering (for instance, branded Italian, Greek or Taiwanese consumption goods) (Amighini et al., 2011; Biggiero, 2006; Guerrieri & Pietrobelli, 2004; Lyberaki, 2011). Niche strategies are natural options for small- and medium-sized enterprises if they are capable of producing superior technology and quality (Jenkins & Tallman, 2010). Increasing the scope of the niche to include a large number of countries enhances performance through sales and learning effects (Hilmersson, 2014). Upgrading from low-technology manufacturing and products to higher-technology industries with complex products can be exemplified by Taiwanese SMEs in the electronics industry moving from low-cost manufacturing to knowledge-intensive services (Guerrieri & Pietrobelli, 2004). Other notable examples include Italian SMEs' transition from manufacturing ceramic tiles to the engineering and production of machinery in Emilia Romagna, and the development from food production to packaging materials and

machinery in Parma, Italy (Agostino et al., 2015; Amighini et al., 2011; Sammarra & Belussi, 2006; Zucchella, 2006).

The traditional orientation of international strategies towards cost advantages is now accompanied by looking for sources of knowledge and highly qualified, creative human resources (Aslesen & Harirchi, 2015; Labrianidis, Kalantaridis, & Dunford, 2011). This search for knowledge and talent also stimulates the geographical distribution of higher value-adding and knowledge-intensive functions, i.e., R&D, product design, advanced manufacturing and specialised post-sale services (Cusmano et al., 2010; Mazzanti et al., 2011). Selective relocation in these areas is based on either offshore outsourcing or captive offshoring in the form of foreign direct investment (Menginello, De Propriis & Driffield, 2010; Waxell & Malmberg, 2007; Lam, 2007). This kind of relocation features mainly high- and medium-high-technology industries. Since SMEs in these industries often assume specialised strategies, they need to search for complementary knowledge, specifically in the area of R&D and product design (Cusmano et al., 2010; Fernhaber et al., 2007).

Although not widespread among SMEs, offshore outsourcing of knowledge-intensive functions represents a moderately feasible option, specifically for innovative small and medium firms (Agostino et al., 2015; Cusmano et al., 2010; Mazzanti et al., 2011; Mudambi, 2008). High innovators<sup>2</sup> are also better equipped to exploit the benefits from knowledge sourcing than low innovators (Aslesen & Harirchi, 2015; Libaers & Meyer, 2011). The higher value-adding activities such as R&D and design become dispersed rather than vertically integrated. They are also customised and offered by individuals or small entities, which facilitates superior technology sourcing by smaller buyers (Delerue & Lejeune, 2012; Jenkins & Tallman, 2010; Mudambi, 2008; MacPherson & Vanchan, 2010). On the other hand, as some elements of technology become commoditised and standardised, knowledge-intensive functions can be moved to lower-cost locations without harming the core knowledge of the firm (Saxenian, 2007; MacPherson & Vanchan, 2010).

A less feasible option for SMEs is foreign direct investment in these advanced activities, since equity entry generally represents a high-risk and high-cost way of internationalisation (Sooreea et al., 2012). Large enterprises locate their R&D units and specialised services in all the major clusters such as Silicon Valley, Munich, or Cambridge in order to keep up with the technological changes (Malecki, 2010; Mudambi, 2008).

Table 3 shows the feasibility of differentiation options for SMEs and the evaluation of how these options address the objectives to avoid lock-in and to protect and develop the core competencies of the source cluster.

<sup>2</sup> High innovators are firms that demonstrate R&D intensity and a number of design and engineering personnel above the average of their industries, as well as generate solutions that are new at least to the market (Aslesen & Harirchi, 2015; Libaers & Meyer, 2011).

### 6.2. The evaluation of differentiation options regarding the objectives to avoid lock-in and to protect and develop the cluster core competencies

The differentiation options in Table 3 are not equally effective in fulfilling the two strategic objectives. Focusing on global niches and upgrading to higher-order advantages represent inward options of internationalisation. They are intended to retain the processes of engineering and design within the source region, and as such they protect the cluster's advanced knowledge. In the long run, however, the threat of lock-in arises when these advanced activities are limited to the region and not enriched by the external cooperation (Amighini et al., 2011; Aslesen & Harirchi, 2015; Jenkins & Tallman, 2010; Kalantaridis et al., 2011).

To avoid lock-in, selective relocation of higher value-added activities can be a supplementary option that enables sourcing the external knowledge (Lam, 2007; Lorentzen, 2008; Mudambi, 2008; Pavlínek, 2012; Saxenian, 2007). Selective relocation serves to maintain the technological competitive advantage (Lam, 2007), specifically when it is directed at other foreign clusters with the complementary specialisation in knowledge-intensive functions (Menghinello et al., 2010). In this vein, some clusters may specialise in different elements of R&D, design, engineering, advanced manufacturing or specialised services, and achieve the international recognition in this regard. The example is R&D activity in the electronics, software, pharma and automotive industries. In these high- and medium-high-technology industries, the central R&D unit coordinates its international operations and concentrates on the activities that require more advanced knowledge, thus protecting core competencies (Lorentzen, 2008; Pavlínek, 2012). This strategic choice prevents lock-in and fosters knowledge externalities on a global scale (Huggins & Johnston, 2010; Saxenian, 2007). However, offshore outsourcing or captive offshoring of higher value-adding activities might also lead to knowledge leakage. This threat can be reduced when less advanced and standardised elements of R&D or specialised services are relocated (Pavlínek, 2012). Therefore, selective relocation of knowledge-intensive functions at least partially implements the strategic objective of protecting and developing the cluster knowledge.

### 6.3. Development of propositions based on the evaluation of differentiation strategies

On the basis of the evaluation performed in Points 6.1 and 6.2, the strategic mixture of exporting and offshore outsourcing of higher value-adding activities is relatively feasible for SMEs and effective in meeting the strategic objectives stated earlier. First, the cluster core competencies are maintained. Second, although exporting alone does not ensure the avoidance of lock-in, it is supported by offshore outsourcing of knowledge-intensive functions, which positively affects the infusion of external technology and know-how. Below, we synthesise this argumentation as a set of propositions.

**Proposition 2.** *Within the differentiation options of the international competitive strategy of cluster firms, a combination of exporting and offshore outsourcing of higher value-adding activities is relatively feasible for SMEs and is effective for meeting their strategic objectives. This effectiveness can be described as follows:*

**Proposition 2a.** *The exporting with a focus on the global niches or development towards higher-technology industries ensures effectiveness in protecting and developing the cluster core competencies.*

**Proposition 2b.** *Lock-in avoidance is achieved by offshore outsourcing of higher value-adding activities.*

**Propositions 2c.** *The offshore outsourcing of higher-value-adding activities is less effective for protecting and developing the cluster core competencies. However, outsourcing of more standardised and formalised elements of these activities supports the implementation of this objective as well.*

As in the case of the evaluation of cost options, we developed the propositions upon the relative and combined assessment of feasibility and effectiveness of differentiation-oriented strategies. The joint implementation of exporting and offshore outsourcing of knowledge-intensive functions has been ranked relatively high in both criteria. Captive offshoring of higher value-adding functions meets two strategic objectives, but it is less feasible for SMEs. Highly feasible exporting would not prevent lock-in if adopted individually. Therefore, it needs to be matched with offshore outsourcing as a solution that is effective in terms of strategic objectives and is moderately feasible relative to other options.

## 7. Discussion and conclusion

Our research synthesis of a variety of cluster SMEs' international competitive strategies and their outcomes offers theoretical and practical contributions.

### 7.1. Theoretical contribution

This paper expands the literature on the internationalisation of SMEs, with a focus on cluster SMEs. It contributes by synthesising and evaluating a comprehensive range of SME-strategic options and by proposing the proactive competitive strategies of SMEs in the international arena that are both feasible and effective. The extant studies in SME internationalisation focus on the conditions and drivers of internationalisation rather than on the outcomes of specific strategies (Carr et al., 2010; Hilmersson, 2014; Tang, 2011). Therefore, this paper addresses the research gap of the evaluation of SME-strategic options in internationalisation. In the area of cluster SME internationalisation, recent studies analysed some selected strategic options (Mariotti, Micucci & Montanaro, 2004; Biggiero, 2006; De Propriis et al., 2008; Mariotti, Mutinelli & Piscitello, 2003; Cutrini, 2011). This study responds to the call for a systematic analysis and synthesis of the extant research evidence.

Moreover, SME proactive behaviours as cluster network leaders rather than reactive participants are under-researched relative to those of large companies (Agostino et al., 2015; Alberti et al., 2008). Proactive strategies are a challenge for SMEs, considering their potential. However, SMEs operating in clusters are well equipped to utilise networks to alleviate size and scope disadvantages in this process. Proactive strategic behaviour, based on self-initiated networks of regional and international relationships, is more favourable than reactive strategies for this group of companies (Agostino et al., 2015; Alberti et al., 2008; Francioni et al., 2013). The latter makes them dependent on decisions and objectives of large dominant companies, which often externalise costs and risks to smaller suppliers (Sturgeon et al., 2008; Humphrey & Schmitz, 2002; 2004). On the other hand, proactive strategies are also beneficial for the parent agglomerations of SMEs. SMEs as focal companies are strongly anchored in the source agglomerations and usually determined to secure their continuous upgrading and competitive edge.

As the outcome of the present research synthesis, we formulated two general propositions and six detailed propositions regarding proactive competitive strategies of cluster SMEs in the international arena. The first general proposition and three detailed propositions state that within the options of the international cost-competitive strategy of cluster firms, offshore outsourcing of lower

value-adding functions combines a relatively high feasibility of adoption by SMEs and effectiveness in meeting the objectives of protecting and developing the cluster core competencies and lock-in avoidance. The second general proposition and three detailed propositions assert that within differentiation options of the international competitive strategy of cluster firms, a combination of exporting and offshore outsourcing of higher value-adding activities represents a relatively high feasibility for SMEs and likely achievement of the stated objectives.

Knowledge exchange and lock-in avoidance can also be accomplished through international equity-based expansion (captive offshoring) with the use of selective relocation. However, this option is better suited to large firms and less feasible for SMEs due to the associated high risk and high cost. Moreover, captive offshoring by large firms often involves the full relocation of selected functions, without retaining the outsourcing connections in parent clusters. This leads to losing the adequate competencies and network relations in the region (Cusmano et al., 2010; Mazzanti et al., 2011).

The active strategic behaviours of small- and medium-sized companies are also concentrated on more internally oriented options, i.e., exporting based on efficiency-seeking mechanisation and exporting with a focus on global niches or on the development towards higher-technology industries and complex products. Such competitive behaviours maintain the existing embedded linkages in clusters and thus they address the objective of retaining and protecting the cluster core competencies. However, they are less capable of lock-in avoidance by the infusion of new knowledge.

This paper draws upon the growing but dispersed published research in cluster and SME internationalisation included in the literature on international entrepreneurship and small business, regional entrepreneurship, and regional development. Therefore, another contribution from this study is the knowledge accumulated for further research in this area. Our findings provide a research framework for future empirical investigations. Especially, the research propositions can be operationalised as hypotheses in the empirical studies to test feasibility and effectiveness of the proposed SME strategies. Overall, these studies could be directed at exploring the impact of international competitive strategies of SMEs on their competitive positions and on the development prospects of their source industrial agglomerations.

## 7.2. Practical contribution

This research synthesis can guide SME entrepreneurs and decision-makers responsible for regional development. Individual SMEs may benefit by recognising a range of strategic options in terms of their rationale and outcomes, and choose those that fit their capability base and that address the strategic objectives. The outcomes of this analysis are also relevant for regional decision-makers to promote SME behaviours towards the options favourable for regional development. Moreover, the findings can inform the design of support measures tailored to enterprises with different targets and needs. Policymakers should also consider large firms and SMEs as complementary but different actors of development and change in the internationalisation processes of their agglomerations.

## 7.3. Limitations and implications for further research

The qualitative analysis and stylised approach to generalising may be considered a limitation of this paper. Such an approach was motivated by an emerging phase of the research in the area of cluster SMEs' international competitive strategies. Considering this, we drew upon several streams of literature that necessarily relied

upon a variety of methods, including theoretical research and empirical qualitative and quantitative research. Another justification of the stylised approach was the variety and complexity of the major phenomena studied, namely clusters and SMEs. Both clusters and SMEs differ in technological advancement, age and life cycle, as well as socio-cultural and economic environments. In order to alleviate the problem of the methodological diversity of the literature reviewed and the phenomena under study, we sought rigour in developing the argumentation. Therefore, the argumentation was based on a review of the theoretical background and on a theory-driven framework for synthesising the research.

Nevertheless, the limitations acknowledged suggest further research that would apply a more nuanced approach to differences among clusters and SMEs. Additional literature reviews and syntheses might focus on such moderators of cluster SME strategies as the age and life cycle stage (e.g. new ventures, often 'born global', or established firms, growing or mature enterprises), technology level and size (micro, small, or medium enterprises). Similar moderators might be recognised in the case of clusters, namely their age and life cycle stage (emerging, growing or declining clusters), technology level and location (in developing or developed economies). Regarding the location of clusters, another extension of this research might explore how the international strategies of cluster lead firms affect the development of the regions to which they relocate the value chain activities—their firms, networks and clusters. Relocation processes may result in the emergence of new clusters or in the upgrading of the existing regional clusters, thus changing the geography of production and innovation worldwide.

The propositions generated by the outcome of the strategies' evaluation are general assumptions that need further operationalisation in the form of research hypotheses. These should take into account the current methodological approach, which is qualitative and adopts a relative evaluation of strategies. Namely, we applied qualitative criteria, and future research might seek quantitative measures for these factors. For example, feasibility can be approached as the amount of investment required to adopt specific options. Objectives 1 and 2 may be evaluated by the number of innovations and sales from innovations, as well as patents and licenses generated in different governance forms. Moreover, it should be considered that our evaluation is relative and not absolute. Therefore, future research needs to perform the assessment of the proposed strategies and other strategies as well.

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