Archetypes of SME internationalization

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Abstract

This paper presents a framework for identifying different archetypes of firm internationalization, building on the recognition of the variety of aspects associated with international expansion. Specifically, our framework is based on six indicators of multinationality: Internationalization from demand/market side, Resources located abroad, Geographical scope, International orientation, Internationalization of the business network, Financial internationalization. Drawing from data on a sample of Italian SMEs of the machine tools industry, four archetypes of SMEs in terms of internationalization strategy and presence abroad are identified through a cluster analysis: 'marketer', 'investor', 'networker', and 'home country oriented'.

1. Introduction

Description and measurement of internationalization are central in international management research. Existing approaches in this field adopt either single or composite index-based measures of the degree of internationalization of the firm. Both of them show limitations. Single measures are considered not to capture the complexity of internationalization processes. On the other hand, the opportunity of adopting aggregate indexes that summarize multiple indicators is questionable as they allow compensation among measures quantifying different sides of internationalization.

The main aim of this study is to provide a methodological contribution to literature on the analysis of internationalization at the firm level (Sullivan, 1994; Ramaswamy et al., 1996). Drawing from the multidimensional nature of multinationality, we shift the focus from the quantitative measurement of the degree of internationalization to the analysis of the internationalization profile of the firm. Our framework is based on six dimensions that globally allow the identification of different archetypes in terms of internationalization strategy and firms' presence abroad.

On the empirical side, this paper proposes an application of the framework for identification of internationalization profiles to a sample of 33 Italian SMEs operating in the machine tools and mechanical industry. Proxies of the theoretical multinationality traits are processed through a two-stage cluster analysis in order to group firms according to their approach towards foreign markets. Four archetypes of internationalization are therefore identified and their key characteristics are discussed.

The paper is structured as follows. The next section reviews literature on the measurement of the degree of internationalization and highlights the main issues related to traditional measures of multinationality. Section three introduces the approach based

on the six-dimensional internationalization profile of the firm and illustrates its theoretical background and operational implications. Section four describes the sample selection and data collection. The application of this framework to a sample of Italian SMEs in machine tools industry is developed and discussed in section five and six. In the last section the contribution of this methodology to international business literature is discussed and a research agenda is designed.

2. Measuring the degree of internationalization of the firm: a literature review

The degree of internationalization of a firm has been quantified in literature by several measures, both unidimensional and aggregate.

Typical unidimensional measures are ratio of foreign sales to total sales, share of foreign employees, number of foreign subsidiaries, and number of countries in which a firm operates. The ratio of foreign sales over total sales is the most widely adopted measure in the studies about the relationship between degree of internationalization and firm performance. The adoption of a single, sales-based measure is a common choice especially in the less recent studies (Vernon, 1971; Grant, 1987, Grant et al., 1988; Geringer et al., 1989; Qian, 2002; Capar & Kotabe, 2003). Its main advantage is to be an objective measure. However, it captures only the 'performance' attribute of multinationality, thus ignoring the multidimensional nature of the phenomenon. Another group of studies have adopted one or more count-based measures, like number of foreign countries and/or number of subsidiaries (Ramaswamy, 1995; Delios & Beamish, 1999; Lu & Beamish, 2001; Pantzalis, 2001). The significance of count-based measures is questionable as they ignore possible differences in the importance of each country/subsidiary as well as in firm's commitment.

Some authors have pointed out the limited significance of unidimensional measures of the degree of internationalization as they do not capture the complexity of internationalization processes and do not take into account that internationalization can be achieved in different domains and business functions. These studies call for a greater accuracy in operationalizing internationalization (Geringer et al., 1989). The inconsistent results of the studies about the internationalization-performance relationship (Li, 2007) also call for further methodological developments in the measurement of the degree of internationalization (Lu & Beamish, 2004).

In order to overcome the above limitations, different methodological refinements have been proposed. They can be summarized according to three approaches.

A first empirical approach proposes the analysis of a few unidimensional measures of multinationality to be examined separately (Tallman & Li, 1996; Zahra et al., 2000).

A second approach has led to the introduction of some entropy measures of international diversification so as to consider both the number of markets in which a firm operates and their relative importance (Kim et al., 1993; Hitt et al., 1997; Hitt et al., 2006). Similarly, Katrishen & Scordis (1998) develop an index of international diversification based on the sum of the number of national markets, weighted by the firm's commitment in each market, in terms of entry mode.

A third methodological approach is based on the construction of aggregate indexes that involve either the summation or the mean value of multiple indicators. Several aggregate indexes have been proposed to improve the validity of the measurement and, consequently, the quality of empirical research. However, the construction of an index that synthesizes multiple indicators is a risky process. In fact, the aim of reducing different indicators to one only should be pursued without losing important information

(Hassel et al., 2003). Allowing compensation among measures capturing different dimensions of internationalization would probably lead to a poor indicator, because behind the same index we could have quite different firms in terms of internationalization strategies and activities abroad. Examples of such aggregate multidimensional indexes are Sullivan's (1994) degree of internationalization scale (DOI), the Transnationality Index, published by UNCTAD, and the Transnationality Spread Index, introduced by Ietto-Gilles (1998)[1]. Sullivan develops a measure of internationalization based on summing up five ratios: foreign sales/total sales, foreign assets/total assets, number of foreign subsidiaries/total number of subsidiaries, time of top managers' international experience to total years of work experience, and psychic dispersion of international operations, measured by the dispersion of the subsidiaries of a firm among ten psychic zones of the world as identified by Ronen & Shenkar (1985). The critical issue of this index, among others, is substitutability. Ramaswamy et al. (1996) argue that, as the summed index score reflects an implicit compensation effect which balances low scores on some variables with high scores on others, the conceptual meaning of each variable is lost. The Transnationality Index, given by the average of the foreign share in sales, employment and assets, distinguishes only between national and foreign activities without giving any information about how widely foreign operations are spread. Therefore, this index cannot distinguish between companies whose foreign activities are concentrated in one or few countries and those whose activities are spread in many countries. In addition, in order to capture the distinction between locations where markets are and those where production takes place, the different components of

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[1] Other examples of aggregate indexes can be found in Sanders & Carpenter (1998), Gomes & Ramaswamy (1999), Contractor et al. (2003), Lu & Beamish (2004), George et al. (2005).

the index should be considered separately (Ietto-Gilles, 1998). Similar drawbacks are also associated with the Transnationality Spread Index.

To sum up, though representing an improvement with respect to unidimensional indicators, aggregate indexes take only partially into account the multidimensional nature of internationalization. Researchers adopting this approach recognize the multidimensional nature of internationalization, but implicitly assume that the multiple dimensions of multinationality can be reduced to one only. All of the above considerations suggest that, rather than selecting a single trait or pursuing the best definition of a synthetic quantitative measure of internationalization, research efforts should respect the complexity and many facets of internationalization processes and point to qualitative analyses of the *internationalization profile* of a firm.

3. From the degree of internationalization to the internationalization profile of the firm

Internationalization is a complex phenomenon that passes through multiple stages (Johanson & Vahlne, 1977) and follows multiple paths. It may involve different business functions. However, the view of the firm as a mere sum of functional areas (marketing, production, R&D, etc.) is not appropriate for the purpose of this paper because the analysis of internationalization, like any firm strategy, calls for a systemic view of the firm. If we just considered all the business functions of a firm separately, we would lose the strategic meaning of internationalization. Thus, we need to look at the firm as a whole, rather than as a mere sum of functions.

The configurational theory of strategy (Meyer et al., 1993) provides the theoretical background of this study. According to this theory, a firm's strategy or archetype can be

described as a combination of multiple dimensions, rather than as a function of a single dimension. The search for strategic archetypes characterizes a well consolidated stream of research in management literature (Miles & Snow, 1978; Miller & Friesen, 1978), but still represents a promising research approach. In a recent paper, Lim et al. (2006) identify three distinct international marketing archetypes, moving from a conceptualization of international marketing strategies grounded in configurational theory. They provide important support to the theoretical value and the empirical usefulness of a configuration approach in international marketing research.

The basic assumption behind this approach is that internationalization, like any other concept of strategy, is of a multidimensional nature. From this perspective, the analysis of internationalization builds on the identification of key attributes and traits which are not necessarily correlated to one another. Their meaning should then be separately considered in order to have an exhaustive picture of the internationalization profile of a firm.

In the following, we proceed firstly to the identification of internationalization dimensions on a theoretical basis and, secondly, to the choice of correspondent indicators consistent with previous empirical studies. This represents a central point in our research strategy.

From the classical economic perspective, a firm is an input-output function (production function) where labor, land and capital are the inputs. *Latu sensu*, in a modern view of the firm, land recalls tangible assets/resources and labor refers to people or human resources. At the output side of the firm there are products, which originate a firm's revenues. While assets give a measure of the structure of the firm, revenues indicate about its operating activity. In a modern corporation, knowledge and intangible

resources, on the one hand, and relationships, on the other hand, are relevant resources. We take this into account by considering 'attitudes' and 'relationships' as further relevant aspects for the analysis of a firm. Finally, when internationalization is concerned, such framework has to be extended by adding the dimension 'geography'. As a result, we identify six dimensions, which turn into internationalization dimensions when focusing on international management (Figure 1).
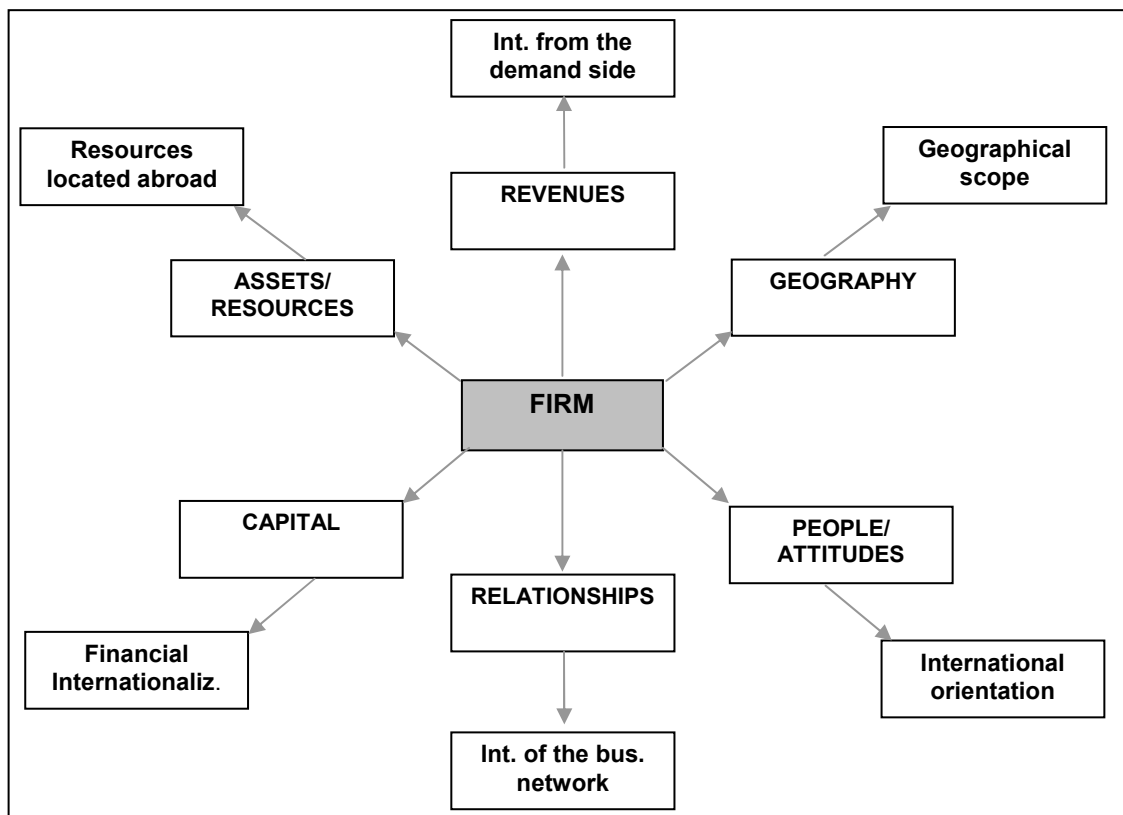

Fig. 1 The six dimensions of the internationalization profile of a firm.

This process of identification of the internationalization dimensions is also consistent with the resource-based view of the firm (Wernerfelt, 1984) which emerged as dominant paradigm in strategic management literature in the 90s and provided new insights for the analysis of strategies and configurations of modern MNEs (Cerrato,

2006). In fact, four dimensions are specifically related to resources: resources located

abroad (tangible resources), financial internationalization (financial resources),

internationalization of the business network and international orientation (intangible and

human resources).

Table 1 The internationalization profile of a firm: dimensions and measures.

Dimensions	Possible measures
Internationalization from demand/market side	- Foreign sales/total sales
Resources located abroad	- Foreign assets/total assets - Overseas subsidiaries/total subsidiaries - Share of foreign employment
Geographical scope	- Number of countries in which a firm operates - Variance of the country-specific (economic, political, and cultural) factors of the different national environments
International orientation	- Number of top managers with international work experience/total number managers - Cumulative duration of top managers' international assignments/total number of years of work experience of the top management team (Sullivan, 1994)
Financial internationalization	- Foreign owners (share of foreign ownership) - Foreign debts (as percentage of total debts)
Internationalization of the business network	- Number of international alliances and partnerships

The possible measures for each of the identified dimensions are summarized in

Table 1 and discussed in the following sections. Most of the proposed measures are

ratios, consistently with the view that internationalization decisions are not absolute, but

relative to domestic environment (Welch & Luostarinen, 1988; Sullivan, 1994).

3.1 'Performance' dimension and 'structural' dimension of internationalization

The ratio between foreign sales and total sales is the most widely used measure of internationalization in studies focusing on the impact of internationalization on firm performance. This measure is typically considered to capture the *performance* attribute of internationalization (Sullivan, 1994). On the other hand, measures like foreign assets/total assets, overseas subsidiaries/total subsidiaries, foreign employees/ total employment attain to the *structural* attribute of internationalization (Sullivan, 1994), i.e. the amount of resources that are located overseas.

3.2 Geographical scope

Geographical diversity is an important component of internationalization strategy. International business literature has largely analyzed the challenges that geographic diversification imposes on MNEs (Rugman, 1979; Geringer et al., 1989; Hitt et al., 1997). According to recent empirical evidence, most of the world's largest MNEs are not global in the sense of having a broad and deep penetration of foreign markets across the world (Rugman & Verbeke, 2004). Instead, they are mainly home-region based, realizing the large majority of their sales within their home region of the 'triad', namely in North America, European Union or Asia. Rugman & Verbeke (2004, 2007) ascribe these results to the effect of the *liability of inter-regional foreignness*. In other words, distance among countries still plays an important influence on the internationalization patterns of the firm (Ghemawat, 2001). This research suggests that not only the country-level but also the regional level is relevant for the analysis of the dispersion of a firm's activities.

3.3 International orientation

International business research emphasizes that the degree of internationalization of a firm includes an *attitudinal* component, which is represented by top management's international orientation. In fact, top management's experiential, motivational, and attitudinal resources deeply affect the internationalization process of a firm (Zou & Stan, 1998; Jones, 1999; Ibeh, 2003). More specifically, international orientation correlates positively with the extent of top management international experience (Perlmutter, 1969; Sullivan, 1994) as management overseas experience plays a role in affecting a firm's predisposition to future international activities. Furthermore, international experience allows a better comprehension of the foreign market dynamics and enables managers to better understand which markets are best to enter and have greater profit potential (Bloodgood et al., 1996; Reuber & Fischer, 1997). Finally, top management teams with international experience are able to draw upon their network ties to develop international partnerships.

Sullivan (1994) operationalizes international orientation as a ratio between cumulative duration of top managers' international assignments and the number of years of work experience of the top management team. Bloodgood et al. (1996) use the total number of persons rather than the percentage of persons with foreign experience as a proxy of top management international orientation. Other scholars have introduced the concept of international entrepreneurial orientation and global mindset (Kedia & Mukherji, 1999; Gupta & Govindarajan, 2002) to indicate a manager's ability to handle with cultural diversity, as well as the proactive attitude and the capacity to take risks in developing cross-border initiatives.

3.4 Internationalization of the business network

The internationalization of a firm's business network is another key component of the internationalization profile of a firm as it affects the range of opportunities a firm can access and the resources and competencies it can leverage in its international activities. The inclusion of this component reflects the shift from a traditional view that looks at internationalization essentially in terms of the amount of a firm's resources and assets allocated abroad, to a perspective emphasizing the importance of a firm's network for its foreign activities (Coviello & Munro, 1997). From this perspective, the degree of internationalization of a firm reflects the degree of internationalization of the business network in which it is embedded (Bjorkman & Forsgren, 2000).

As previously stated, a measurement based exclusively on the structural components of internationalization would not be suitable for the analysis of firms that, though highly internationalized in terms of foreign sales and markets served, rely more on network resources rather than on foreign direct investments (FDI) to enter foreign markets. Moreover, besides the firm and the entrepreneur, also network relationships are sources of knowledge (Hadley & Wilson, 2003; Johanson & Vahlne, 2003). According to the network approach to internationalization, relationships and networking skills primarily drive international business opportunities and decisions (Johanson & Mattsson, 1988), thus enabling firms to leverage critical external resources. In particular, networking plays a very important role for small firms since they may exploit networks to mitigate the limitations due to their size or little experience (Zou & Stan, 1998).

3.5 Financial internationalization

Internationalization of firms does not only take place in the area of production, but also involves a corporate governance dimension, based on the type of investors firms look at (Hassel et al., 2003). Internationalization should be therefore evaluated also in financial terms, rather than just real, measuring the extent to which a company internationalizes its financing or ownership structure by approaching international investors. Hassel et al. (2003) refer to the share of foreign activities as the *real* dimension of internationalization and to the orientation towards international capital markets as the *financial* dimension.[21] Drawing on data from a sample of the 100 largest German companies, they show that the two dimensions do not co-vary. Thus, since financial internationalization and real internationalization do not follow the same reasons, a combination of real and financial components in one, global, index would distort the measurement of internationalization itself. This empirical evidence further supports a research approach that shifts the focus from measuring the degree of internationalization to identifying the internationalization profile of a firm.

4. Data description

The framework for identification of internationalization profiles is applied to 33 Italian small and medium-sized enterprises (SMEs) operating in the machine tools and mechanical industry. Both the size and the industry of these firms are particularly noteworthy in the Italian economy. In Italy, international competitiveness of SMEs is

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[2] Hassel et al. (2003) identify three measures of internationalization from a financial point of view:
- foreign owners as percentage of total ownership, to estimate the extent of foreign shareholders of companies and, as a result, the openness to international capital markets;
- the number of listings in foreign stock exchange, which signal the firm's attempts to attract foreign shareholders;
- the adoption of international accounting standards rather than uniquely accounting rules derived from national legislation; such indicator shows the firm's need to communicate effectively with international investors.

greatly debated among managers, politicians, and academics since SMEs constitute the dominant part of the country's industrial system. Furthermore, changes in the world economy related to the role of emerging economies over the last years have raised new challenges especially for these firms, which are experiencing increasing competitive pressures. The machine tools industry is one of the so called *Made in Italy* industries. Focusing on the machine tools therefore reflects the outstanding position Italian SMEs of this sector occupy in the worldwide scenario. Moreover, the structural characteristics of the Italian machine tool, robot, and automation industry are much the same as those of Italian industry as a whole: small firms that are strongly geared to exports and with a high-quality product range on offer.

The selection of firms is based on multiple steps and criteria. The starting point was the list of firms belonging to UCIMU, the Association of Italian Manufacturers of Machine Tools, Robots, Automation Systems. Of these 202 firms, 119 are international (i.e. have foreign sales).

Primary data were collected through direct interviews to the 33 firms (representing 27,8% of international firms) that accepted to participate in the research project. A questionnaire was submitted to either the entrepreneur or the managing director so as to collect not only quantitative data, but also qualitative data through the gathering of opinions, expectations, and perceptions of managers interviewed. All interviews were recorded and transcribed.

We also collected secondary data about business background at the firm level from several sources. In particular we were able to draw a company profile with specific reference to ownership structure, financial performance, firm size, activities, products

and foreign activities consulting websites, annual reports, and other publicly available corporate documents.

The average sales and number of employees of sample firms are 21 million euros and 115 respectively (year 2006). On average, foreign sales account for 55.6% of total sales, ranging from 8.2% up to 93%.

The dimensions of the internationalization profile of the firm are measured by the following variables: foreign sales/total sales ('internationalization from the demand side'); number of foreign subsidiaries/total number of subsidiaries ('resources located abroad'); number of managers with international work experience/total number of managers ('international orientation'); number of international partnerships/total number of partnerships ('internationalization of the business network'). Due to the difficulty of collecting detailed data about the number and the name of countries in which firms operate, the measure of geographical scope is based on the number of regions where a firm is present. Countries are grouped in 6 regions: 1) Western Europe (the 15 States which formed the UE from its institution); 2) Eastern Europe (including Russia and Turkey); 3) North America; 4) Central and South America; 5) Asia; 6) Africa and Australia. Thus, this variable is therefore computed as the ratio between the number of regions in which a firm has sales and 6, i.e. the maximum number of regions in which a firm could have sales. Our approach is consistent with recent literature stating that, when the international scope of the firm is concerned, regions, rather than countries, are the relevant units of analysis (Rugman and Verbeke, 2004, 2007; Cerrato, 2009). None of the sample firms has foreign shareholders. 'Financial internationalization' is therefore not included in the present analysis.

5.1 Cluster identification

Our aim is to investigate whether appropriate proxies of the above internationalization dimensions may be exploited to define alternative configurations of firms' approach towards foreign markets. A popular technique to do so is cluster analysis (Everitt, 1980), an explorative multivariate technique largely implied in strategic management literature because it allows to recognize aggregations of entities which naturally characterise the underlying data structure.

In doing so, we follow a deductive approach, proceeding to group firms on the basis of our theoretical framework, thus overcoming the lacking of a theoretical rationale behind the cluster identification (Ketchen & Shook, 1996). Other critical issues have been posed on the use of cluster analysis in management research, mainly related to its inherent reliance on researcher judgment.[3] The main causes of concern related to the methodology are the multicollinearity of variables, the choice of the clustering algorithm, the determination of the number of clusters and the validation of clusters. Our study intends then to proceed with the analysis tackling the above critical points with adequate methodological tools.

Multicollinearity is always relevant in order not to double-count common pieces of information among clustering variables. In our case it is even fundamental, since the key of our approach is the need for a multifaceted representation of firms. The absence of significant correlations among the selected proxies (see Table 2) is thus a good starting point for our analysis. As can be seen, we obtain fairly low correlation coefficients accompanied by high p.values. The only exception is the null hypothesis of

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[3] For a thorough review of applications, pro and cons of cluster analysis in this field see Ketchen & Shook (1996).

a direct relationship between Internationalization demand side and Geographical scope

(0.438) which can be rejected at 1% level of significance only.

Table 2 Pearson coefficient of correlation between clustering variables (p. values in brackets)

Variables	Geographical scope	Resources located abroad	International orientation	Int. Business network
Int. demand side	0.438 (0.013)	0.305 (0.080)	0.135 (0.450)	-0.092 (0.608)
Geographical scope		0.170 (0.317)	0.010 (0.913)	-0.041 (0.822)
Resources located abroad			0.096 (0.597)	0.000 (0.992)
International orientation				-0.207 (0.248)

We run a two-stage procedure (Punj & Stewart's, 1983, Lim et al., 2006). First, in

order to determine the number of clusters, a hierarchical algorithm based on Ward's

method was applied. Secondly, once the most suitable number of clusters was

determined through multiple criteria (Milligan & Cooper, 1985, Ketchen & Shook,

1996), firms were reallocated in clusters via the k-means method. Both clustering

procedures were performed through R-project routines, `agnes` (Kaufman & Rousseuw,

1990) and `k-means` (package cluster).

The output of `agnes` routine is reported in figure 2. The usual (rotated) dendrogram

appears in the right panel, while the left panel depicts the banner, an additional

graphical tool proposed by Rousseuw (1986). The banner contains the same information

as the clustering tree but organized differently, and may thus be of some use in

determining the appropriate number of clusters. Firms are listed vertically on the right,

according to the order of merging, and successive mergers are represented by horizontal

grey bars. The length of the white bars corresponds to the between-cluster dissimilarity.
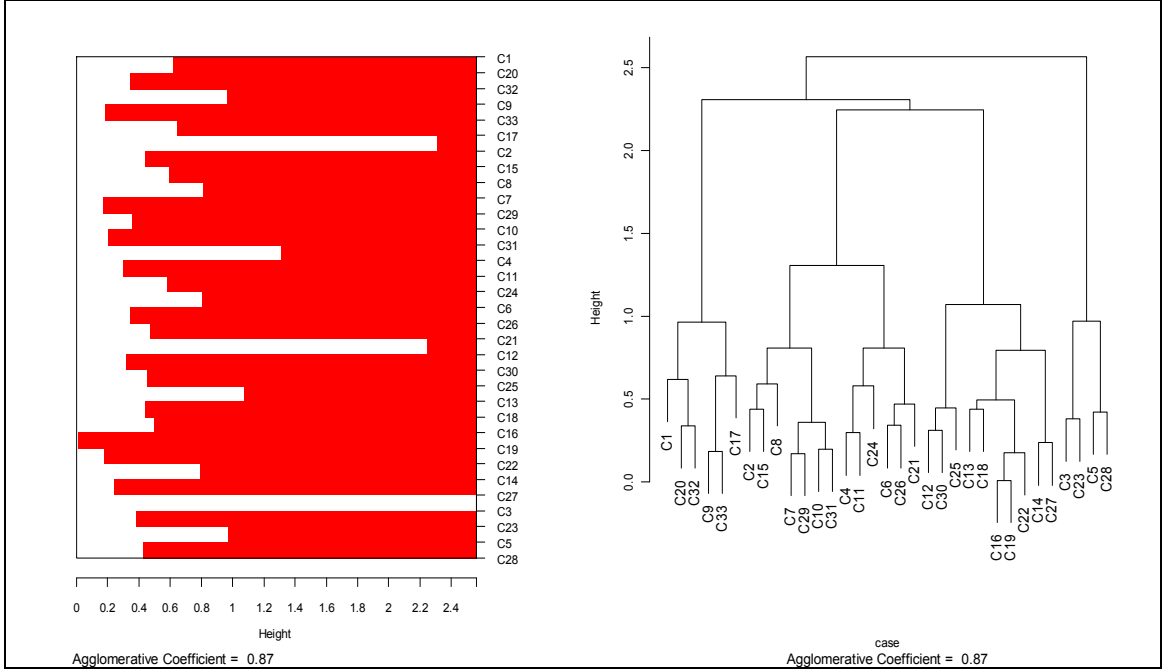
Fig. 2 Banner plot and clustering tree

Before turning to discuss about the number of clusters, it is worth considering the

overall amount of clustering structure underlying our dataset. The overall width of the

banner is useful to catch the degree of structure revealed by the algorithm. Looking at

the left-hand panel of figure 2, it is easily seen that our data possess a rather clear cluster

structure, since the between-cluster dissimilarities (white bars) become much larger than

the within cluster dissimilarities as the white bars grow longer. As a numerical

evaluation of the global amount of structure, `agnes` returns the agglomerative

coefficient[4] (AC) which can be seen as the average width of the banner. AC ranges from

0 to 1, with low values of AC pointing to a poor structure and high values of AC to a

clear one. In our case the agglomerative coefficient, printed on the bottom of figure 2,

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[4] For each firm *i*, let *d(i)* be its dissimilarity to the first cluster it is merged with, divided by the dissimilarity of the merger in the last step of the algorithm. AC is given by the average of all *1 − d(i)*. AC tends to increase with the number of observations and should not thus be used for comparisons of datasets largely differing in size (Kaufman & Rousseeuw, 1990).

equals 0.87 and therefore confirms that agglomeration represents the inherent nature of our data.

Visual inspection of either the clustering tree or the banner suggests a four-cluster solution, since four dense branches of firms may be spotted. In particular, the banner plot is divided in four distinct flags by three long white bars (between cluster dissimilarities), which means that we have to reach quite a far distance in order to mix the flags up.

Other stopping rules confirm the above pattern. In table 3 we report values for the Pseudo-F statistics and change in R-squared corresponding to increasing numbers of clusters. The latter index shows that the larger gain in the total variance explained by partitions is achieved moving from two to three and from three to four clusters, the remaining gains being negligible. The pseudo-F statistic has a peak in the four cluster solution, which therefore we decide to rely on.

Table 3 Pseudo-F and R-squared for subsequent cluster solutions

Number of clusters	pseudo_F	Change in R-squared (from n to n+1 clusters)
2	9.863	0.196
3	11.641	0.185
4	15.927	0.063
5	15.226	0.042
6	14.386	0.035

Since both visual inspection and statistics point toward the same solution, we do not need to advocate subjective criteria in order to fix the number of clusters. Note that what appears to be the natural number of clusters underlying our data closely matches the number of variables we used. A four cluster configuration seems therefore consistent with our theoretical approach, for we intended not to reduce original variable dimensionality but to explore the strength of original variables in shaping clusters.

Relying on the four cluster configuration, we move now to reallocate firms around the previous stage centroids through an iterative k-means algorithm, as suggested in Punj & Stewart (1983) and Ketchen & Shook (1996). The final cluster configuration is shown in Table 4, which reports the centroids coordinates along the five variables together with the corresponding standard deviations.

Table 4 Means and standard deviations of the variables used for cluster identification

Cluster	International demand side	Geographical scope	Resources located abroad	International orientation	Int. business network
1	0.673 (0.084)	0.692 (0.246)	0.083 (0.204)	0.832 (0.281)	0.000 (0.000)
2	0.615 (0.209)	0.622 (0.202)	0.620 (0.136)	0.226 (0.244)	0.028 (0.095)
3	0.542 (0.179)	0.632 (0.181)	0.298 (0.296)	0.106 (0.152)	0.900 (0.224)
4	0.415 (0.269)	0.446 (0.176)	0.000 (0.000)	0.098 (0.162)	0.058 (0.124)

6 Internationalization archetypes

In this section we describe and interpret the four internationalization archetypes identified through the cluster analysis.

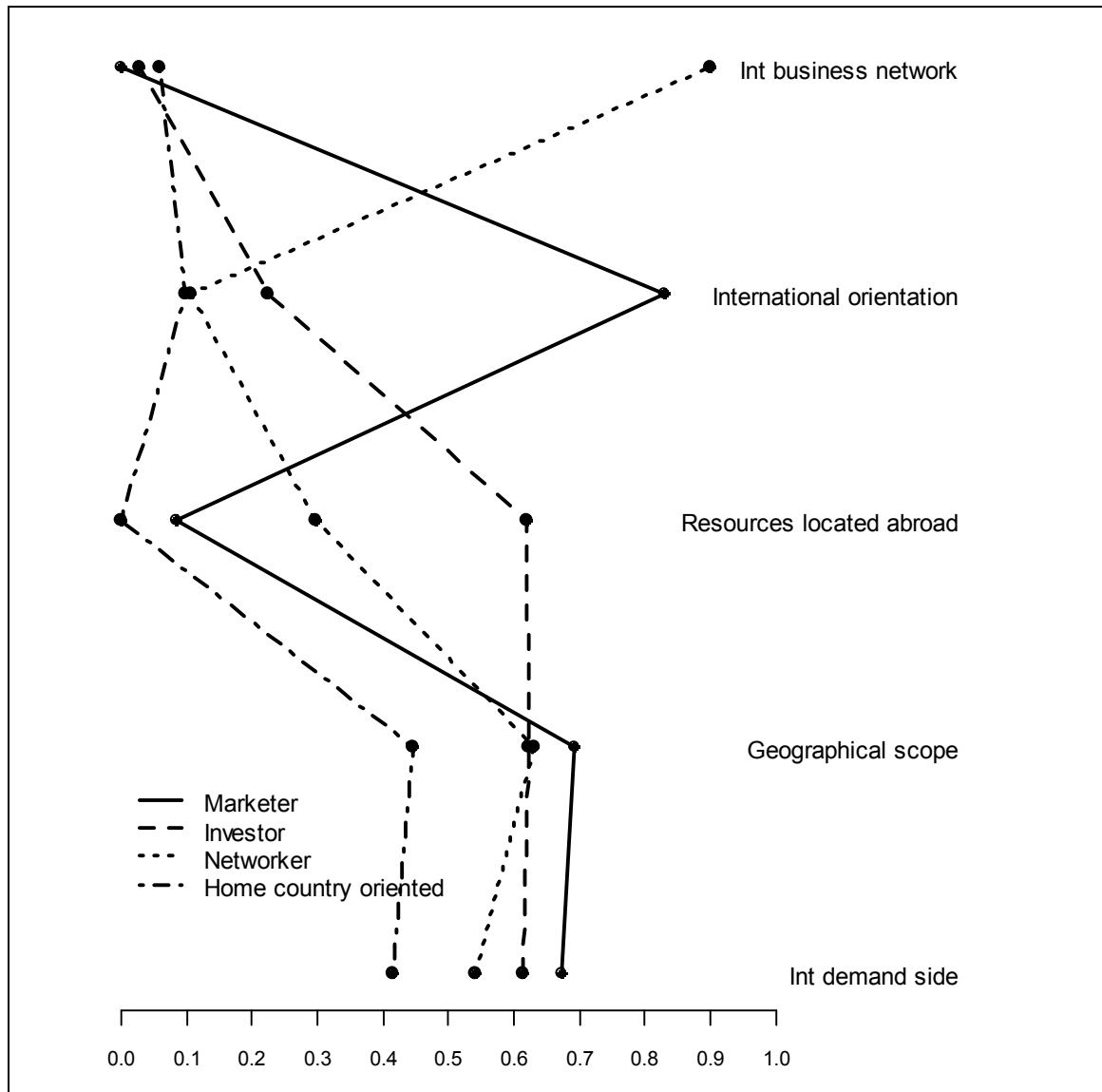A plot of centroids coordinates corresponding to the final cluster configuration is depicted in figure 2.

Fig. 2 Centroid values of the four clusters

Archetype 1 ('Marketer')

Firms belonging to this archetype show high degree of internationalization in terms

of both foreign sales and geographical scope. On average, foreign sales account for

67.3% of total sales and the number of regions in which firms sell their products is 4.17,

corresponding to a ratio of 0.69. However, their commitment in terms of resources

located abroad is very limited and they do not rely on partnerships in their international

development. The large international experience of their managers is a key driver of

21

their international growth. In fact, this archetype groups the firms with the highest level of international orientation. On average, 83% of managers have international experience.

This archetype seems to reflect the traditional internationalization process of Italian SMEs (Depperu, 1993): in spite of the limited size, these firms are generally characterized by high levels of foreign sales and their presence abroad is mainly based on export rather than partnerships or FDI. This archetype does not exploit comparative (location-specific) advantages based on localizing activities abroad or leveraging partnerships with foreign firms. Rather, these firms are interested in international markets mainly as target markets for their products. We therefore label this archetype as '*Marketer*'.

Archetype 2 ('Investor')

Like the firms in archetype 1, firms grouped under archetype 2 show a high level of foreign sales (61%), but their approach to internationalization is quite different. In fact, their commitment in terms of resources located abroad is quite higher. These firms are therefore characterized by greater involvement into foreign markets. The main difference compared with the previous archetype is that international activities are not limited to the area of marketing and sales. Reasonably, these firms exploit to a greater extent comparative advantages associated with localizing activities into foreign markets. We label this archetype as '*Investor*'. On the basis of the traditional incremental view of internationalization (Johanson & Vahlne, 1977), we can argue that this archetype has already moved from the first stages of internationalization towards a more risky and committed presence. Internationalization is pursued as a stand-alone strategy as firms in

this group also do not rely on international partnerships. Interviews shed light on the reasons behind the limited use of partnerships. For example, the President of C7 explains: '*We need to be very cautious in selecting partners and managing alliances: going abroad with partners might be a risky choice in an industry like ours, in which technology and innovation are key competitive factors*'.

Archetype 3 ('Networker')

This archetype adopts an internationalization strategy mainly focused on network resources. Their level of foreign sales (on average 54% of total sales) is moderately lower than those of the other two archetypes. Geographical scope and international orientation are similar to those of the firms under archetype 2. However, their commitment in terms of resources located abroad is lower than that of archetype 2, while the internationalization of the business network is much higher than that of all of the other archetypes, reflecting a substantially different approach to internationalization. Relationships are the key driver of foreign expansion. Archetype 3 can be therefore labelled as '*Networker*': these firms leverage on partnership and alliances in order to achieve a stronger presence in foreign markets. In terms of entry modes, this archetype can be positioned between the group of the 'marketers', who are mainly exporters, and the 'investors', who commit larger resources to foreign expansion.

Archetype 4 ('home country oriented')

This archetype groups the firms characterized by lower internationalization from multiple respects. In spite of the importance of international markets as sources of revenues (they account, on average, for 41% of sales), international business remains

secondary to these firms: geographical scope is more limited relatively to other archetypes and none of these firms have foreign subsidiaries. Their level of internationalization is also limited in terms of business network and managers' experience. We can therefore argue that exporting activities has not substantially changed the management practices and organisation, which remain fundamentally domestic. Firms under this archetype can be defined as 'home country oriented'. The adoption of this internationalization profile is not necessarily a deliberate choice, but may be also interpreted as the result of the constraints to internationalization due to the firms' limited endowment of resources and capabilities. This concept is well explained by the CEO of C13: '*Our small size surely constrains our expansion potential abroad, but this is not the only obstacle to greater international development. The key issue is the lack of people who have enough international experience and competences to manage international business contacts effectively*'.

The evidence of four internationalization archetypes suggests the opportunity to explore their characteristics more deeply. In order to detect any specific characteristics of the four cluster, we analyzed how they relate to a number of variables that international business research traditionally adopts as drivers of internationalization. In table 5, means and standard deviations of the following variables across the four clusters are reported: size, age, R&D intensity and managers' education.

Table 5 Descriptive statistics of external variables

	'Marketer'		'Investor'		'Networker'		'Home country oriented'	
	mean	sd	mean	sd	mean	sd	mean	sd
Firm Size	74.67	53.35	148.92	153.66	154.80	89.61	79.90	63.77
Firm Age	40.67	29.47	44.75	16.35	59.40	39.04	48.20	22.60
R&D intensity	0.01	0.01	0.06	0.06	0.04	0.02	0.03	0.05
Management education	0.44	0.39	0.55	0.33	0.28	0.20	0.32	0.42

Firm size is considered a proxy of the total resources available to the firm for internationalization processes: larger firms have more 'slack' managerial, productive and financial resources, and can therefore meet the challenges of internationalization more easily. Many researchers have argued that larger firms tend to be better international performers even tough this view is not generally supported by empirical research (Bonaccorsi, 1992; Wagner, 2001). We measure size with the number of employees as in other studies (Fernandez & Nieto, 2006; Mittelstaedt et al., 2003).

The age of the firm, measured by the number of years since the firm was instituted is a proxy of the experience, since it is assumed that firms which have operated for a longer period have accumulated greater experience and knowledge (Johanson and Vahlne, 1977).

Innovation can have a significant positive influence on export, too (Dhanaraj & Beamish, 2003). R&D intensity, i.e. the ratio between R&D expenditure and sales, is considered as a proxy of a firm's technological resources and innovation (Ortega-Argilés et al., 2009) and is largely used in international business research as a measure of a firm's intangible assets (Lu & Beamish, 2004).

Finally, we have considered management education. A higher level of education is associated with greater knowledge, useful for the management of complex decision making processes as well as for analysis of the international environment (Tihanyi et al.,

2000). Management education has been measured by the ratio between the number of graduate employees and the total number of employees.

The mean values do not indicate large differences across the clusters along the four variables considered except for firm size. The larger firms seem to be grouped under the clusters 2 and 3, i.e. the 'investor' and the 'networker', which are characterized by greater commitment to foreign markets. However, it is worth noting the high variance of variables. These results could be ascribed to the limited number of observations, but this is not the only possible explanation. Particularly in studies on SMEs, those variables are used as predictors of the degree of internationalization, which is measured by export intensity in most cases. Our results suggest no clear relationship between traditional export sales regressors and the internationalization profile of the firm. A greater number of factors as well as more complex relations are at the basis of a specific strategic configuration. An internationalization profile is the result of decisions pursued over time and is reasonable associated with path dependence issues. In addition, multiple environmental and industry conditions play a role in the adoption of specific strategic configuration (Lim et al., 2006).

Overall, the empirical evidence of this study shows that there is a far greater heterogeneity of SMEs' internationalization strategies behind similar degrees of internationalization, in terms, for instance, of foreign sales. Firms do differ in their approach to international development. The objective of a greater level of internationalization therefore raises different issues in terms of management gaps and priorities, given the different patterns of foreign expansion that SMEs may follow.

Such heterogeneity could also be at the basis of the inconsistent results that often emerge from studies that correlate the degree of internationalization and organization

and managerial characteristics. Thus, managerial implications derived from this kind of study should also be interpret cautiously.

5. Conclusion and research directions

Traditional quantitative measures of the degrees of internationalization do not take adequately into account the multidimensional nature of internationalization strategy. In this paper we propose an approach to multinationality that shifts the focus from the measurement of the degree of internationalization to the analysis of the internationalization profile of a firm. The basic assumption is that internationalization, like any other concept of strategy, consists of multiple elements. Building on a review of research on the measurement of the degree of internationalization, we develop theoretical arguments to support the view that an exhaustive analysis of a firm's internationalization profile makes it necessary to consider six areas.

In order to show the potential of this multidimensional view of internationalization, we performed a cluster analysis on a sample of 33 Italian SMEs, using five theory-driven measures of internationalization. We identify four archetypes ('marketer', 'investor', networker', 'home country oriented') that globally show a much greater heterogeneity in terms of SMEs' approaches to international development than unidimensional measures seem to suggest. This approach may represent an advancement in terms of conceptualization of internationalization strategy as it makes it possible to identify distinct profiles resulting from specific combinations of multiple strategy elements.

This paper's results are to be considered mainly methodological, given the small dimension of the sample, which makes the generalization of our empirical results

somewhat tricky. The descriptive power of the archetypes we have identified has to be circumstanced to our specific research setting and is reasonably tied to the type of firms, industry and country we have investigated. Still, we think that the lack of a clear relationship between internationalization profiles and firm-specific variables emerging from the present analysis should not be considered an unsuccessful outcome, but rather a point deserving further investigation.

This analysis opens up a rich research agenda. First, a larger empirical analysis would allow an extensive comparative evaluation of firms' strategies across countries, industries, or firm size distributions. Second, other variables could be added to measure each aspect of internationalization and therefore address reliability issues. Finally, future research should analyze the evolution of internationalization profiles over time. Focusing on longitudinal studies could allow going beyond descriptive analyses and exploring causal relationships in terms of *drivers* and *outcomes* of specific internationalization profiles.

As about drivers, it would be interesting to investigate why firms tend to adopt specific profiles, what environmental and industrial conditions push them towards a specific configuration and how such a configuration changes over time as a result of both changes in the firm's endorsement of resources and competencies and external factors.

On the other hand, the focus on the outcomes brings to the relationship between internationalization and performance, which is crucial in international business studies. In spite of the huge amount of research works on this topic, the little consensus that has been reached proves that the relationship between internationalization and performance is a complex issue. As Lim et al. (2006) argue, the search for strategic archetypes does

not move from the assumption that any of these is better than others. No rigid

relationship is therefore expected to hold between a certain internationalization profile

and performance. Rather, the focus should be placed on the fit between

internationalization profile and environmental and firm-specific characteristics

(Venkatraman & Camillus, 1984).

How do firm resources and competencies, on the one hand, and environmental and

industry conditions, on the other, moderate the relationship between internationalization

profile and performance? Addressing this question seems to be an interesting direction

for future research.

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