OUTSOURCING DECISION, PRODUCT INNOVATION AND THE SPATIAL DIMENSION: EVIDENCE FROM THE SPANISH FOOTWEAR INDUSTRY

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OUTSOURCING DECISION, PRODUCT INNOVATION AND THE SPATIAL DIMENSION: EVIDENCE FROM THE SPANISH FOOTWEAR INDUSTRY

José Antonio Belso-Martínez*

Abstract
Recent studies in developed countries frequently emphasize the importance of outsourcing as a surviving strategy for manufacturing industries. However, there are little qualitative evidences that specifically describe outsourcers in mature industries with competitive problems, particularly in southern Europe. This paper attempts to fill this gap by investigating the distinctive traits of firms located in the most important Spanish footwear industrial districts. By using a sample of 401 Spanish firms surveyed in January and February 2006, we found that size, design and product innovation, prior institutional networks and location in specific industrial districts favour the development of outsourcing strategies. By contrast, clients' prior networks are negatively related with contracting-out productive activities. These results are relevant in several dimensions. However, it should be specifically mentioned the positive impact of some districts in the externalization decision. Such evidence seems to: (a) confirm the consistency of the competition-cooperation dynamics in some geographical areas and the decline of others; (b) point out the existence of divergences in the outsourcing strategies at district level due to product and market characteristics. Finally implications for researchers, policy makers and directions for future research are discussed.

Keywords: outsourcing, firm level characteristics, industrial districts, clusters, footwear, Spain

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1. Introduction

In the context of globalisation and intense competition currently characterising our economic system, outsourcing appears to be a widespread tool applied by companies that are constantly trying to find new ways to remain competitive. This strategy provides various advantages for the outsourcers such as increasing flexibility, decreasing cost structure or access to advanced technology. Multiple aspects of the trend to externalize have been examined and debated in the academic literature. For example, Grossman and Helpman (2002 and 2005) analyzed theoretically a firm´s decision whether to produce in house or to outsource. Trade related aspects attracted the interest of Jones and Kierzkowski (2001). However, only recent studies tackle the different factors that affect firm's outsourcing decisions.

The manufacture of footwear proceeds in a series of stages (design, cutting, pre-sewing, sewing, pre-assembly, assembly, final treatment) and is highly labour intensive. The nature of this production process gives ample scope for a variety in its organization and division of labour. Among the potential strategies, the externalisation of concrete phases of the production cycle or certain parts has become one of the most frequent policies among shoemakers. Given the relevance of outsourcing in this industry, researchers have been aware of this reality (Ghani and Rana, 2005; Cutrini, 2003; Schmitz, 2001; Amighini and Rabellotti, 2006; among others). Studies developed about the well-known Italian districts should be specifically mentioned.

Spain has always been in the ranks of the world's largest shoe producing countries. Traditional production centres are located in provinces such as Alicante, Balearic Islands, La Rioja, Toledo, Albacete, Huelva, Murcia or Zaragoza, see Figure 1. The most dynamic production centres of footwear in Spain are frequently considered industrial districts, where externalities are important drivers to firm agglomeration. The population of small district firms is usually specialized in a particular stage of production or service complements and they are related to one another and their environment. Economic literature has identified and/or deeply analysed the existence and structure of the Spanish footwear districts or clusters (Giner and Santa María, 2002; Climent and Méndez, 2002; Boix and Galletto, 2006 and 2007).

A cursory review of the most relevant figures indicates that the Spanish footwear industry is dealing with difficulties and a period of intense change. The *Directorio Central de Empresas* (DIRCE)[1] has 4520 establishments classified under CNAE93 in Spain as a whole in 2006, down from 5054 that were registered in 2000 (10.6% reduction). Latest international trade figures published by the *Federación de Industrias del Calzado Español* (FICE) also show a negative trend over the same period.[2] Total exports decreased by 49.7%

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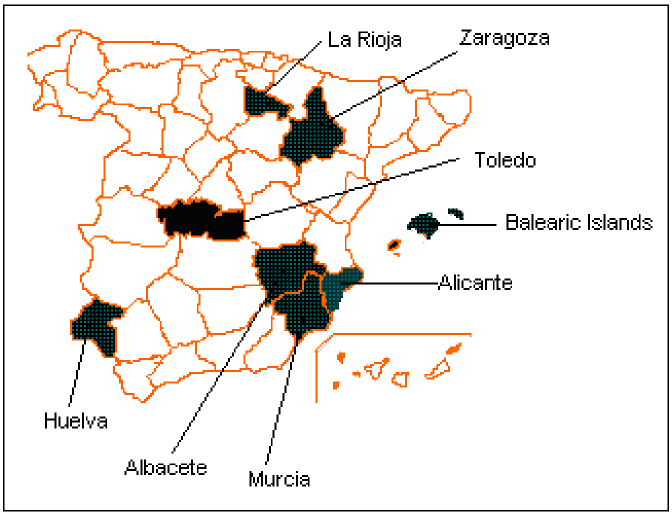
[1] The Directory joins together in just one information system all Spanish companies and their local units located in the country. A statistical exploitation of the results is published for companies and local units and is updated once a year. The directory generates aggregated information associated with the demography of companies: new companies, existing companies and closed companies, classified according to economic sector, legal condition and employee stratum.

[2] Federación de Industrias del Calzado Español (FICE) is the Spanish footwear manufacturers association.

in terms of pairs of shoes and the cover rate (total footwear exports on imports) reached its lowest level dropping from 296% to only 105%. The problems of this sector and its relative downsizing in the country are due to ongoing changes in the international division of labour, as a result of globalisation and the liberalisation of trade starting in the 70's.

From the leather and shoes sectoral perspective, the incidence of outsourcing is considerable. Using data obtained from the *Encuesta sobre Estrategias Empresariales* (a panel survey which provides information at firm level data for the period 1990-2002), it can be observed that the number of companies engaged in subcontracting arrangements amounts slightly over 40%. Some relevant particularities should be specially mentioned: most of the arrangements traditionally have taken place within the region (or even the industrial district); the incidence of material subcontracting is highly frequent, around 20-25%; and the growing importance of international operations to low-cost countries such as India, China, Morocco, Portugal or Rumania.

Figure 1: Location of footwear manufacturing provinces



Taking into account the relevance of the footwear industry, the difficulties generated by low-cost Asian producers and the reduced number of qualitative research focused on certain aspects of the outsourcing phenomenon in the Mediterranean countries, along this article we shed some light on the particular profile of firms that decide to outsource. Using data from a specific survey conducted to 401 footwear companies, firm-level characteristics of outsourcing companies are carefully determined. This allows us to explore questions that have received relatively little attention from researchers. In particular, we focus on examining how footwear firm decisions to outsource are associated with size, internationalisation, value added activities, prior networks and the spatial dimension. The spatial dimension is tackled by evaluating the influence of the particularities of each district in firm's outsourcing decision. Results obtained indicate that firm size, institutional networks and product innovation intensity positively affect the probability of outsourcing, while clients' prior networks affect in the opposite direction. Two of the geographical areas considered also evidence a positive impact on the decision to externalize.

In order to achieve our objective, we structured this paper as follows. After the introduction, the second section presents literature on the subject and specifies factors that may influence the outsourcing decision. The third section consists of the development and implementation of a survey directed at a representative sample of footwear firms located in four Spanish districts. Those enterprises surveyed are located inside industrial districts previously identified by the economic literature. In the fourth section we present the results obtained. Finally, along the fifth section, we expose the main conclusions, suggest implications for public action and entrepreneurs (managers), and outline some future research lines derived from these results.

2. Literature

2.1 The concept of outsourcing

The concept outsourcing emerged in the late 80's for the externalization of information systems. In the recent years, this term has been also related to other business functions or activities. Roughly, outsourcing involves firms choosing to procure goods or services from other firms rather than producing them. Academic literature has rigorously discussed this notion. In their attempt to approach this concept, Espino-Rodríguez and Padrón-Robaina (2006) presented a review of the most relevant definitions from the academic literature and concluded that the wide number of conceptualizations can be classified attending to the type of the activity outsourced, the profile and stability of the collaboration agreement and the existence of knowledge and responsibilities between the actors. Dragonetti et al. (2003) specifically recognized that outsourcing implies previous development of the activity within the boundaries of the firm.

Based on the eclectic definition by Espino-Rodríguez and Padrón-Robaina (2006) and the specific aspects suggested by Dragonetti et al. (2003), we may consider outsourcing as the externalization of certain activities or business processes that used to be conducted in-house with the aim of achieving objectives such as improving competitive advantage or obtaining better economic performance. Our definition has two important characteristics. The first is that implies that if the activity was never carried out within the boundaries of the firm, the term of outsourcing should not be used. The second, outsourcing can be a strategic decision focused on the maintenance of competitive advantage or a tactical and operational decision aimed at the pursuit of a better economic performance.

As pointed out before, the theoretical and empirical literature about outsourcing is considerable. Well-known theoretical bodies such as transaction cost economics (TCE), resource based view (RBW), neo-schumpeterian or network approach, have been frequently applied as "the" outsourcing theory. Similarly to Mazzanti et al. (2006), the purpose of this paper does not demand the selection of one concrete theoretical scheme. It basically tries to analyze and determine the particular traits of the outsourcing firm by combining various theoretical arguments obtained basically from the mentioned approaches. The relationship of some of the firm's characteristics on the one side, and vertical integration/disintegration, on the other side, has emerged to be a truly complex one, whose direction and sign is hard to determine a priori. It should be mentioned that establishing a definitive causality sign between outsourcing and some of the characteristics or determinants considered is not the aim of this research either.[3]

2.2 Outsourcing and value added activities

The RBW of the firm can be considered a modern participant in the academic debate and is perceived as quite complementary to other approaches. This theoretical body argues that firms achieve sustained competitive advantages implementing strategies that exploit their internal strengths and avoid internal weaknesses (Barney, 1991). Such specific internal attributes should be capable of making a difference to the organization in the sense that adds value in some ways and are not easy to be obtained by competitors (rare and difficult to imitate). In consequence managers should concentrate their efforts in those core competencies while postponing investments in the non-core ones.

The notion of RBW has been also frequently applied to explain firm's outsourcing decision.[4] By following this approach, companies should focus on producing those activities constituting core competences and tend to outsource the rest. Multiple empirical researches support this assumption. Lieb and Miller (2002) or Hong et al., (2004) found that, in many industries, firms frequently outsource logistic services in order to focus their efforts in more relevant activities. Ono and Stango (2005) showed how firms without the capacity to handle sophisticated tools or processes and having a wider range of products, present a higher propensity to outsource. Tan et al. (2006), in their analysis about firm resources and capabilities, showed a positive correlation between outsourcing and marketing intensity. Mazzanti et al. (2006) obtain a positive relationship between firm's differentiation and outsourcing complexity. In the Spanish or Italian footwear industry, activities with high content of labour and low value added are frequently candidates to be produced outside firm boundaries (locally or globally), while essential business operations such as design or product development tend to be kept in-house (Rabellotti, 2004; Amighini and Rabellotti, 2006; Tortajada et al., 2005; Belso-Martínez, 2008).

2.3 Outsourcing and networks

In industrial systems, organisations are involved in activities like production, distribution and the use of goods and services. Such systems may be described as networks of relationship in these fields. These cooperative alliances allow small firms to increase the value of their products, introduce innovations or face particular operative inefficiencies. As a consequence, these firms become open structures, widely interacting outside their economic borders, exchanging information and knowledge through networks of relationships. In essence, a firm may achieve higher competitive rates, not only through its capabilities, but also through external horizontal or vertical collaborations. Relationships between independent organisations are often formed in highly uncertainty environments, supported by incomplete/inexistent contracts and frequently ambiguous with respect to the contributions of the involved organisations. Despite such complex circumstances, these

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[3] Existing literature focused on the outsourcing decision has relatively postponed or avoided a deep consideration of this issue (Holl, 2007; Ono, 2007).

[4] See Espino-Rodríguez and Padrón-Robaina (2006) for a compulsory review of the literature.

networks are found to be relatively stable, because takes time and effort to build them. Network approach that explores inter-organizational exchange relationship comes from network scholars and has been recently proposed as a relevant body of research to illustrate the outsourcing phenomenon (Kuada, 2006).

This theoretical body tackles many issues relevant to the standard TCE approach. In his seminal theoretical work, Williamson (1975 and 1985) argues that costs associated with firm's transactions are determined by uncertainty, asset specificity and the frequency with which the transactions recur. [5] By following vertically integrated strategies, firms avoid important costs as coordination cost, operations risk, and opportunism risk. Coordination cost includes the search cost, negotiation cost, financing, and distribution cost. Operations risk is the risk that another partner misrepresents or withholds information or under performs on the contract. Opportunism risk is the risk due to lack/ loss of bargaining power due to relationship specific investment. Most of these mentioned transaction costs are amplified under conditions of specialized assets or uncertainty, for example early market development (Ghani and Rana, 2005). Such specialized assets can take the form of equipments, human skills, product design, processes, marketing, etc. Transaction cost approach states that tangible assets are usually less costly to externalize than intangible assets.

The outsourcing decision is then determined by the potential benefits and the cost derived from the creation, maintenance or dissolution of this particular network structure. As building networks is a path dependent process, (Belussi and Arcangeli, 1998), prior organizational cooperation agreements increase the capabilities of agents to cooperate and reduce their effort to successfully cooperate. For example, cost linked to the establishment of new outsourcing relationships decrease when protagonists have access to valuable information, a large pool of potential partners or specific knowledge about network governance. Numerous empirical studies endorse this theoretical proposal. Leiblein and Miller (2003) found that organizations with significant levels of outsourcing achieve superior probability to externalize production activities that organizations without that experience. Using data obtained from the Survey on Business Strategies, Lopez and Rosell (2004) found out how previous arrangements for contracting-out operations affect positively the externalization to independent providers. In their research, Wang and Nicholas (2007) also obtained that increased experience in a diversified range of subcontracting activities contribute to the stable growth of non-equity alliances among Chinese firms. Ariño et al., (2007) analyse the influence that termination provisions and previous ties between partners have on the ability of outsourcing partners to reach an agreement quickly. Their results show that prior ties moderate the difficulties related to negotiation between the involved agents. In summary, it seems that theoretical and empirical research support that prior experiences in networking relationships and outsourcing play a key role in establishing, governing or determining the ultimate success of the new ones.

[5] See Coriat and Weinstein (1995) for a discussion of Transaction cost theory.

2.4 Outsourcing and internationalisation

Firms are seen as "open systems" that are continuously influenced by pressures and changes that push them towards developing loose-tight linkages with other organizations in their operating environment. Cross border linkages are seen as important for allowing firms to benefit from access to external resources. However, the expected profits of the outsourcers decline considerably if the search costs in finding a reliable provider are excessive. Large industries raise the chances for a firm of finding the appropriate supplier at lower cost. If a large number of actors (final good producers and input suppliers) exist on either side of the market, the probability and the quality of a matching are higher. As foreign trade increases the number of agents, outsourcing will be more feasible in firms operating in the international sphere.

The model proposed by McLaren (2000) investigates the influence of the openness to foreign trade on the vertical integration decision. His results show that openness to international trade provides suppliers, in one country, access to final producers in other countries (thicker market). [6] Therefore, market thickness increases outsourcing through "arm's length" arrangements. From a different point of view, Grossman and Helpman (2002) also connect market thickness and the implementation of vertical integration strategies. In their model of incomplete contracts, the degree of outsourcing is influenced be the firm's likelihood of finding a suitable partner, which is enhanced by market thickness. While both studies highlight the role of market thickness in the probability and quality of a match, Mitra and Ranja (2006) point out another role it may have. A large pool of suppliers will mean that it is highly likely for buyers to find substitutes in future transactions. This can act as a disciplining device. Similarly, a large number of buyers will result in greater competition and availability of substitutes on the other side of the market and would contribute to better incentives for suppliers.

Several empirical researches support the positive impact of market thickness and international activities in the outsourcing decision. Paying special attention to internationalization and foreign trade, Kimura (2001) and Görg and Hanley (2004) introduced in their models the export intensity obtaining a significant and positive relationship with the development of outsourcing strategies. For the Spanish case, Diaz and Triguero (2007) show that several independent variables such as former subcontracting decisions, product differentiation, industry size, and exporter status (but not export intensity) affect positively the current subcontracting decisions.

2.5 Outsourcing and firm size

Firm size has received much attention in the outsourcing literature. Empirical research on this aspect seems to coincide on the existence of a relationship between the degree of outsourcing and the size of the firm. On the basis of the economies of scale arguments, small and medium enterprises have more difficulties in reaping the minimum efficient scales in the production of intermediate inputs, as a consequence this firms should exhibit

[6] Market thickness is a notion usually linked to the number of firms and the internationalisation degree of each industry.

higher propensity to engage in outsourcing operations. Results obtained by Abraham and Taylor (1996) essentially support this line of argumentation. On the contrary, the TCE argues that des-integrated firms support superior costs compared with vertically integrated companies. Outsourcing implies important number of costs and risk, already mentioned. The lower fixed entry cost faced by larger companies, the availability of greater financial resources to assume the important expenses generated by this strategy or the superior bargaining power may contribute to explain a higher propensity to outsource part of their production activities by larger firms. The positive relationship between firm size and outsourcing behavior has been also empirically contrasted (Kimura, 2001; Holl, 2004 and 2007; Tomiura, 2005 and 2006; Ono, 2007). In consequence, once more, the sign of the firm size con not be clearly predicted "a priori".

3. Empirical analysis

3.1 Procedure and questionnaire

Fieldwork was carried out in the most important Spanish footwear districts: Vinalopó, Arnedo-Calahorra, Almansa-Albacete and Balearic Islands. Our methodology consisted of two stages. First, face-to-face interviews were applied selectively to gather primary data about several aspects of the footwear industry. A representative sample of 15 local footwear manufacturers, researchers and institutions was selected on the basis of reputation, involvement and geographical location. The information obtained was used to build the questionnaire and the interpretation of our results.

In the second stage of our field research, in order to understand firm-specific determinants of outsourcing, a preliminary four-page questionnaire was designed based on inputs from researchers, associations and business managers. After the designing phase, a pre-test conducted to 35 firms provided us the opportunity to modify some categories and questions with the intention of getting better and unbiased responses. Once modifications were included, our final questionnaire was ready to be submitted. Such questionnaire consisted of several parts and measured a wide number of different variables about firm level characteristics, strategy, outsourcing relationships and networking. Only some pieces of the questionnaire are used in the present study: information about firms' general characteristics, international activities, investment in high value added activities, market segment and information about networking with suppliers, customers, institutions and competitors.

3.2 Measures

Along this part of the research, following the conceptualization presented in previous sections, we consider outsourcing the externalization of determined activities or business processes that used to be conducted in-house with the aim of achieve objectives such as improve competitive advantage or obtain better economic performance. Such a definition implies that: (a) outsourcing is given a precise and relative narrow meaning describing the flow of an activity from within to outside the firm; (b) the definition implies that if the activity was never carried out within the boundaries of the firm, the term outsourcing should not be used.

In line with this conceptualization, managers were explicitly questioned if any productive activity, traditionally conducted in-house, has been contracted to one or various external suppliers. Using this conceptualization, a dummy variable was created in order to discriminate those companies that were engaged in outsourcing from the rest (1 if the firm developed outsourcing strategies and 0 if the firm did not outsource).

After revising theoretical and empirical literature, a wide range of variables (mainly firm characteristics) were selected to estimate their influence on outsourcing decision. Table 1 summarizes these variables. Regarding network variables, it should be mentioned that indexes were drawn up using two items obtained from D'Cruz and Rugman's (1992) network definition, and based in Pla (1998), Pla and Cobos (2002) and Belso-Martínez (2006a and 2006b). Each one of the indexes was constructed with the information collected by asking top managers two questions about: a) the strategic relevance of the already established networks when they decided to outsource; b) the stability and intensity of the resources share among the already established relationships. The four indexes, named suppliers' networks, clients' networks, competitors' networks and institutions' networks, achieved Cronbach's alpha over 0.70.

Table 1: Overview of the explanatory variables: definition, measure and expected sign

Variable	**Description and measure**	**Expected sign**
Firm characteristics		
Firm size	Average number of employees during the last three years	Undetermined
Capital stock	Capital stock invested in the firm (in euro)	Undetermined
Export intensity	Export sales normalized by total sales (in %)	+
Associations	Number of institutions, business associations or professional associations the firm belongs to	+
Trade shows	Number of trade shows attended by the firm annually	+
Product innovation intensity	Design and product development expenses normalized by total sales (in %)	+
R&D intensity	R&D expenditures normalized by total sales (in %)	+
Marketing intensity	Marketing expenditures normalized by total sales (in %)	+
Networks		
Client's networks	Index built with information about strategic relevance, stability and resources share of this networks (α=.81)	+
Suppliers' networks	Index built with information about strategic relevance, stability and resources share of this networks (α=.70)	+
Competitors' networks	Index built with information about strategic relevance, stability and resources share of this networks (α=.76)	+
Institutional networks	Index built with information about strategic relevance, stability and resources share of this networks (α=.90)	+
Spatial dimension		
ID_{VI}	Dummy variable that takes value 1 if the firm is located in the Vinalopó district and 0 otherwise	+
ID_{AC}	Dummy variable that takes value 1 if the firm is located in the Arnedo-Calahorra district and 0 otherwise	+
ID_{AA}	Dummy variable that takes value 1 if the firm is located in the Almansa-Albacete district and 0 otherwise	+
ID_{IB}	Dummy variable that takes value 1 if the firm is located in the Balearic Island district and 0 otherwise	+

Considering the well-known characteristics of the industrial districs, largely discussed in the academic literature, geographical proximity has emerged as a major facilitator of inter-firm linkages and outsourcing (Rama et al., 2003; Holl, 2007). In addition, from a different point of view, studies conducted by Belso-Martínez (2008) and Amighini and Rabellotti (2006) have explored the existence of considerable disparities among the outsourcing (offshoring) strategies implemented by the Spanish and the Italian footwear districts respectively. In general terms, district characteristics such as traditions, market segment, product characteristics, the specific weight of fashion groups or the availability of resources seem to generate divergences in local firms' outsourcing strategy. In view of the importance of location and the potential existence of differences between the Spanish districts analysed, four dummies were included to control for the particularities of each geographical agglomeration. Table 2 summarizes the main traits of the four districts.

Table 2: The shoe districts analysed

District	Province	Product Specialization	Export-Orientation	Segment of market
Almansa	Albacete	Men shoes	Medium-High	Medium to high
Elche*	Alicante	Mixed	High	Medium
Elda-Petrer*	Alicante	Women Shoes	High	Medium to high
Villena*	Alicante	Children and Orthopaedic	High	Medium to high
Inca-Menorca	Balearic I.	Women and men shoes	Medium-high	High and top
Arnedo-Calahorra	La Rioja	Mix and Security shoes	from low to medium	Low to high

Source: elaborated from Tortajada et al. (2005); Forcades (2002), among others.
* The three districts are sometimes considered only under the name of *Vinalopó* district.

3.3 Data and sample

The spatial concentration is a distinctive feature of the map of this manufacturing activity. In fact, the traditional production centres are located in some concrete provinces such as Alicante, Balearic Islands, La Rioja, Toledo, Albacete, Huelva, Murcia or Zaragoza. Economic literature has identified or recognized the existence of several industrial districts or clusters in the Spanish footwear industry (Giner and Santa María, 2002; Climent and Méndez, 2002; among others). In their recent research, Boix and Galletto (2006 and 2007), applying the quantitative methodology described in the volume of ISTAT (1997), pointed out the existence of a wide number of footwear industrial districts. Among the identified districts, those located in Alicante, Albacete, Balearic Islands and La Rioja were the most important in terms of employment.

The target population for the sampling was randomly obtained through aggregate information offered by *DIRCE* and included all footwear manufacturing firms in the mentioned four leading industrial districts. As this public statistical source does not give detailed information at the firm level, Dun&Broadstreet was used to randomly select district firms with more than one employee. In order to achieve a critical mass of firms per district and to take into account firms of different dimension, the sample was stratified by size and geographical areas. The questionnaire was submitted to entrepreneurs or top managers in the survey frame during the period January to February 2006. After careful revision, 401 valid responses were obtained, permitting a significance level of 95.5% with an error margin of 5% in the worst case ($p=q=50$).

To detect possible bias, early and late respondent questionnaires were compared in order to observe significant differences. Our analysis revealed no significant divergences in terms of variables or location. We also checked the potential existence of non-response bias. Our study showed that significant differences did not exist regarding size or geographical distribution.

3.4 Sample Characteristics

We gathered the data for this study through a survey submitted to the entrepreneur or top manager. The sample is geographically representative of the population of footwear manufacturers in Spain. Almost 63% of the establishments in the sample are located in the Vinalopó district, with available information from DIRCE showing a similar percentage in that area. The other districts are overweighed to allow us to perform diverse statistical methods in order to analyze potential differences among the most important Spanish industrial districts.

Firm size was measured by the average number of employees. The dataset reveals that 53.3% fall into 1-5 employees, and an additional 20% and 15% have between 6-10 and 15-24 employees respectively. Only 11.7% of the firms present 25 or more employees. The variable Capital stock distribution reveals a similar trend, with more than 82% of the firms in the 0-18.000 euro interval. Thus, structure of the industry and sample of this research is heavily tilted towards the smallest size categories.

Among the 401 firms included in our sample, around 20% were outsourcers. Those firms were also classified in exporters and non-exporters on the basis of having ever exported or never exported. The second group of firms was somewhat larger than those classified as exporters, 60.1% and 40.9% respectively. The sample frame design process, previously specified, to a certain extent contributes to oversize the exporters group. Mean export intensity (ratio of exports to total sales) is 17.47% with a 30.22 standard deviation.

3.5 Statistical analysis

Logistic regression was used to detect the combination of variables that may allow us to predict better whether a firm would become outsourcer or non-outsourcer. Table 3 shows coefficients (B) and significance level (sig.) for the independent variables included. There is a clear positive relationship between the Product innovation and the development of outsourcing operations (p-value<0.05). This result is consistent with our pre-determined sign reflected in Table 1. By contrast, R&D intensity and Marketing intensity do not reach the expected statistical significance. In line with our literature review, the sign of the relationship between size and outsourcing could not be clearly predicted a priori (see Table 1). Our results indicate that Firm size (measured by average number of employees) influences positively the outsourcing decision (p-value<0.1). This result gives support to the TCE approach and postpones the relevance of the economies of scale arguments.

Network approach considered in our literature review, provided notions about the potential sign of the different networking variables included in the empirical research, see Table 1 for the variables included and the predetermined sign. Only, Institutional networks and Associations obtain the presumable positive influence on whether a firm becomes outsourcer or not (p-value<0.01). Clients' Networks present a negative relationship with the outsourcing decision (p-value<0.05). Finally, dummy variables corresponding to the Vinalopó and Arnedo-Calahorra district show the expected direct impact, p-value<0.10. However, external economies liked to agglomerations are not generating the same positive influence in the other two districts.

Table 3: Logistic regression results

Estimates		
	Variable	*Coefficient (sig.)*
	Constant	***-4.878
	Institutional networks	***0.631
	Clients' networks	*-0.459
	Competitors' networks	-0.117
	Suppliers' networks	0.176
	Capital stock	0.296
	Export intensity	0.072
	Firm size	*0.371
	Product innovation intensity	**0.423
	R&D intensity	-0.10
	Marketing intensity	0.054
	Associations	***0.712
	Trade shows	-0.150
	ID_{VI}	*1.417
	ID_{AC}	0.450
	ID_{AA}	*1.564
	ID_{IB}	0.215
Goodness-of-fit		
	-2 Log likelihood	***159.9113
	R^2 Cox and Snell	0.237
	R^2 Negelkerke	0.369
	Model prediction rate	84.4%

Significance level ***0.01; **0.05; *0.1

The logistic regression model predicted 84.4% of the firms correctly. In order to get a more rigorous diagnostic, Hosmer and Lemeshow test of goodness fit was performed. This test divides variables into groups of ten based on predicted probabilities, then computes chi-square from observed and predicted frequencies. It tests the null hypothesis that there is no difference between observed and predicted values of the independent variables. Large p-value obtained (p-value over 0,70) indicates a good match. In consequence, results revealed then a model with considerable predictive power and goodness-of-fit.

4. Discussion

The set of explanatory variables aims to capture the influence of several factors presented in section 2. First, as it was discussed, size becomes a determinant of the provision mode. It seems that large firms are more involved in outsourcing activities that our small ones. This finding is in conflict with the economy-of-scale considerations and provides support for the TCE arguments where larger firms have superior capacity in establishing outsourcing relationships. Such result may be justified due to: a) higher reputation or stronger bargaining power in the marketplace allow larger firms to find partners more easily; b) some fixed costs in the searching process for compatible suppliers, which gives bigger firms greater advantage from contracting-out; c) organizational flexibility required to manage the low predictability of the fashion market and to quickly react to indeterminate demand shifts. Several empirical researches described a similar positive relation between firm size and outsourcing (Holl, 2004 and 2007; Ono, 2007; Kimura, 2001; Tomiura, 2005 and 2006).

The structure of the Spanish footwear industry is critical to understand how firm size influences the outsourcing decision in this research. The average size of the companies is relatively small and has been constantly falling. In fact, as our sample reflects, small and medium enterprises predominate in the industry and have been gaining in their share of employment. In addition, shoes manufacturing process is not as capital intensive as other industries and sales have become more concentrated in fashion chains or strongly positioned manufacturers that have intensively adapted information technologies and organized supply chain relationships.

Larger footwear manufacturers, generally reporting higher sales and growth, have invested an important amount of human and financial resources in structuring a wide variety of inter-organizational relationships in order to face increasing demand fragmentation, cost pressures, product proliferation and quick response exigencies. New market dynamics, which are frequently generating unexpected orders, product changes and reorders, force leading producers to supplement their core manufacturing capacity with an extensive network of external shoes or inputs manufacturers. For example, this second tier of manufacturing capacity enables larger firms to handle short-term increases in demand for production created by the seasonality of fashion products or large unexpected orders, products that require manufacturing capabilities not presenting their core manufacturing, and other manufacturing demand that cannot be met by their core capacity. As a consequence, larger manufacturers evolve nearly into brand managers with a considerable amount of non-core functions (including the manufacturing of products) being outsourced through an extensive network of external collaborators, developed partly thanks to their superior financial and human resources.

Second, product innovation intensity is another important factor influencing the establishment decision to externalize. The present analysis reveals that firms that highly invest in product and process innovation are more prone to contract-out production. This result is opposite to the widespread conventional argument that industries dealing with complex products face severe appropriability problems, which they tend to solve through vertical integration (Malerba and Orsenigo, 1993). However, our finding appears to be more in line with literature approaches conceiving the firm as an open system where firms develop external linkages to access valuable technologies or knowledge (Barney, 1999).

During the 80's, production costs and the differential impact of trade barriers were considered the most fundamental determinants of competitiveness in the footwear industry. Nowadays, this economic sector is fully integrated in the fashion system. A common strategy that multiple footwear manufacturers have pursued to enhance their competitiveness has been to develop design capacity to be able to quickly offer higher value, higher quality shoes. Such strategy has allowed some companies to upgrade their position in the supply chain and maintain certain amount of activities. However, fashion is a volatile market and customers' demands change constantly (for example colour, materials, garments or styles are frequently or suddenly modified). In such context, research and product planning become extremely difficult, costly and risky. This result evidences that footwear manufacturers opt for collaboration and cooperation across the company borders to keep offering innovative fashion products at the right price and at the right time. By following this strategy, footwear manufacturers: (a) release several resources to be applied in more lucrative activities; (b) become highly flexible; (c) access to new possibilities in terms of inputs or processes; and (d) spread the growing risks derived from shorter product runs, market changes and investments in design or research across a wide range of independent suppliers.

The importance of this strategy of product design upgrading and outsourcing of production activities is in contrast with the results obtained for R&D intensity and Marketing intensity. The absence of statistical relationship between both variables and the outsourcing decision may be explained due to two particular causes. On the one hand, the leading role developed by public and/or private institutions in the technological innovation area (basically through universities or public applied research centres) reduces considerably the financial resources invested by district firms in R&D activities. On the other hand, once more, the traditional scarce investment of footwear companies in branding or R&D activities already observed in empirical research. For example, Amighini and Rabellotti (2006) point out that the majority of small Italian footwear manufacturers have traditionally been weak in branding, marketing and sales. For example, their sample reflects that 60% of the companies included in their sample do not perform any marketing at all.

In our opinion, it seems that some Spanish footwear outsourcers aspire to remain competitive by directing efforts to upgrade their position by intensifying their design and product development function and externalizing other labour intensive processes. Similarly to other European leading manufacturers (mainly from Italy), in many instances, they have tried to achieve higher competitive rates by transferring production processes or activities to small specialized enterprises operating within district boundaries or even foreign companies based in regions or countries usually assessed sources of unlimited cheap wages. Following this strategy, leading manufacturers firms have contained prices without sacrificing quality or market position and have released resources that nowadays are essentially devoted to product development related activities and investments such as: designers, sophisticated information sources, more prototypes, customized collections or inter-seasonal collections or fast fashion products.

Third, in this survey we have explored the influence of ongoing collaboration ties and prior networks in the outsourcing decision. Our results show that client's and Institutional networks affect current outsourcing decisions. On the one hand, tight and fluent relations with customers are negatively related to the probability of contracting-out production. This outcome can be justified by: (a) traditionally, fashion chains, retailers and largest footwear manufacturers have mainly sourced from local subcontractors. Suppliers have developed their operations embedded in geographical clusters and have tended to depend on few co-located customers that usually saturated their production capacity; and (b) nowadays, the emergence of foreign low-cost producers has led to intensified cost pressures on footwear manufacturers in developed countries, prompting the large-scale outsourcing to contractors based abroad. In order to improve competitiveness, local footwear manufacturers have often implemented innovative strategies such as quick response that recommend tight relationship with retailers (often based in geographical proximity to customer headquarters) or closeness to final markets. On the other hand, local institutions and public organisms seem to favour the development of outsourcing agreements through information flows, financial support, strategy assessment programs or technical assistance. For example, footwear manufacturers association (*Federación de Industrias del Calzado Español-FICE*) leads several programs focused on the promotion of inter-firm cooperation agreements such as *Plan de Cooperacion Empresarial* or a comprehensive database of manufacturers interested in establishing long-term business relationships.

Fourth, pre-published empirical analysis point out that highly internationalized firms have more possibilities to become main contractors (Kimura, 2001; Görg and Haley, 2004); Such positive relationship between internationalization factor and outsourcing decision is usually explained by a superior probability to contact suitable providers.[7] Taking into account researches developed by Shy and Stenbacka (2003) or Buehler and Haucap (2006), the sign and significance of the coefficient of the internationalization variables may also reflect that firms use outsourcing as a strategic instrument to compete with other foreign footwear manufacturers. However, we may not confirm that firm's with higher export intensity are more likely to contract-out production activities. Our result is consistent with the findings obtained by Diaz-Mora and Triguero (2007) and can be justified, in line with these authors, due to the relatively low volume of off-shoring operations.

Fifth, Amighini and Rabellotti (2006) argued that differences in international outsourcing strategies undertaken by Italian footwear districts are likely to be related to their market position and to the value chains they belong to. Similar results have been obtained by Belso-Martínez (2008) in his analysis of the Spanish footwear districts using aggregate data from public sources. In the present research, we found evidence of relevant differences in the impact of spatial dimension on the outsourcing decision. Concretely, variables capturing the structure and particularities of the Vinalopó and Arnedo-Calahorra district influence positively the outsourcing decision; while variables capturing the influence of the other two districts do not achieve statistical significance. Both results are extremely attractive and demand detailed consideration.

[7] Research conducted by Ono (2007) proves that outsourcing is supported more in a thick market. The more internationalized the firms are, the thicker market they face.

- Even the progressive reduction of Spanish footwear market share, the robustness of the district roots and the traditional cooperation-competition dynamics seem to survive in the Vinalopó district. This geographical area is clearly focused in producing fashion shoes and suffers extraordinary pressure in terms of prices or margins. In this competitive context, leading firms usually keep applying externalization strategies in order to maintain their flexibility to face continuous product changes, meet delivery dates or moderate prices growth. The existence of the largest number of potential shoes producers or providers of components and productive services makes easier to find the appropriate partner in terms of price, size or even business culture.[8]

- The Arnedo-Calahorra district roots also seem to remain healthy. As a considerable number of potential providers are located also in this district, similar reasons may justify the positive relationship between this dummy variable and the outsourcing decision. However, product changes due to fashion and customer demands are not so intense in this area. In consequence, outsourcing is probably more linked to causes such as lowering cost or requirements of labour resources.[9]

- The other two districts do not achieve the expected statistical significance. Both areas present similar characteristics such as higher prices, the specific weight of men shoes production and high quality standards. Two factors may illustrate their minor predisposition to implement outsourcing strategies either locally or globally: (a) high quality products usually demand superior control over the manufacturing process; (b) men shoes require minor number of designs, product changes or manufacturing process modifications due to fashion demands.

5. Conclusions, limitations and policy implications

Outsourcing has become one of the main traits of the firm behaviour worldwide since 90's. It plays a key role in the adaptation to a changing global economy, in which growing competition forces manufacturers to look for higher efficiency and flexibility rates. Along this paper, we have studied the characteristics of Spanish footwear outsourcers. Taking into account that Spanish manufacturers can be considered among the world leaders, the analysis of their specific traits may illustrate some of the topics under scrutiny in this field. In fact, externalization policies are nowadays one of the most successful and dynamic activities among manufacturing firms located in developed countries. Additionally, our research tries to clarify some aspects considered relevant to understanding factors influencing externalization decisions.

We have studied the outsourcing decision of a large database of Spanish footwear manufacturers, covering the most important districts in terms of employment and

[8] AECA (The association of footwear components producers) confirmed that Spanish footwear providers are mainly located in the Vinalpó distric, followed by the Arnedo-Calahorra district.

[9] Note that one the most emblematic product in this area is the espadrille, a specific type of shoe nearly made by hand.

production. The theoretical framework presented a wide set of potential exploratory variables that we expected to influence the firm's externalization decision, as in fact empirical results indicate. Beyond the theoretical discussion, a main result is the highlighting of the different exploratory factors of the outsourcing decisions for the industrial sector under scrutiny. The outcome obtained points out that firm size is positively related to externalization in the Spanish footwear industry suggesting, for instance that searching costs in finding suitable collaborators are important. We also found that the existence of solid institutional and clients' networks also affects the establishment of outsourcing relationships. Tight linkages with organizations such as the chamber of commerce, business associations or public organisms favour the establishment of outsourcing operations. By the contrary, clients' networks were found negatively related to the probability of becoming an outsourcer. In the analysis we also obtained that the contract-out decision in the footwear sector is positively related to its design and product innovation intensity and some geographical areas such as Vinalopó and Arnedo-Calahorra.

These results are undoubtedly pertinent to debates about consequences of the growth in the competitive pressure from low-labour cost countries and may reveal significant strategic differences among the most important Spanish footwear districts. In general terms, outsourcers concentrate more financial and human resources in creating quality/fashionable shoes for their potential customers (often fashion chains or brands) and postpone investments in branding or marketing operations. This strategy allows fashion groups, large footwear retailers or well-known brands (Zara group, Corte Ingles, Cortefiel, Adolfo Dominguez, Purificacion Garcia, among others) to control the commercialization area and become essential for the survival of the local footwear manufacturers. A variety of similarities with some Italian districts obviously exist. However, Spanish fashion groups and brands are not top positioned, as Gucci or Prada. They are focused in the medium and medium-high segments and more concern about prices. So local footwear manufacturers are forced to quickly provide them with very new products at reasonable prices in order to survive.

The spatial dimension has been specially tackled along the empirical analysis and the discussion. Regarding their influence in the outsourcing decision, findings reveal dissimilarities among the four districts considered. Even this result demands further research, they may point out the decline of the traditional competition-cooperation dynamics in Balearic and the Albacete-Almansa districts and/or the recurrent implementation of vertical integration strategies due to product quality requirements or lack of inputs such as labour mainly. By contrast, the roots of the Vinalopo and Arnedo-Calahorra districts appear to remain robust. Local firms seem to collaborate with other independent firms in order to achieve superior flexibility, reduce production cost or keep offering innovative products to their customers.

Several limitations of our data and analyses should be also noted. Our data base created for the present research did not collect information about all the different footwear clusters (smaller ones have been excluded). Including such data would allow us to enhance the results obtained. It would also be desirable to examine specifically all the range of activities potentially externalized. We have sought to determine the profile of the companies that outsource mostly productive activities. It would be clearly preferable to consider in a future research the externalization of high core activities, for example, product development.

The collection and analysis of longitudinal data are an essential element for a future research agenda for studies of externalization and manufacturing industries in developed countries. Our cross sectional survey data have offered a number of insights about the companies that opt for outsourcing strategies, but preclude a more rigorous examination of the dynamics of their profile.

Finally, our results confirm the important role of the institutions in the implementation of collaboration activities among the companies. As Spanish footwear manufacturers obtain a more intense relationship with public entities or company institutions, the probability of concluding collaboration agreements in the externalisation field increases. Nevertheless, it is important to point out how the present study also allows us to establish some basic guidelines for a more efficient design of public or institutional programmes with regards to outsourcing promotion. Approaching the programmes towards companies strongly developing high value added activities or having an elevated degree of internationalisation may generate better results after promoting the national externalisation or internationalisation of activities.

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