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# Strategic Attitudes in the Global Textiles Market: the Case of a South European Cluster

## Abstract

*In recent years, the textile and clothing (T/C) industry in the EU has suffered difficult times, with declines in production and employment and an increase in the trade deficit. The case of Spain, the fifth biggest producer in the EU-15, is no exception. In spite of Spain having lower costs than most of its EU partners, the globalisation of the T/C industry and the liberalisation of the sector brought about by the GATT 1994 agreement have caused important restructuring in the sector, with the critical effects of downsizing and reallocation (delocalisation) of production. Within such a framework, innovation and R&D are seen as the key issues for competitiveness. We aim to analyse a particular cluster of T/C producers in the province of Girona, in the north-east of Spain. We look at the strategic similarity of the firms in the study and, in particular, whether they have used different innovation profiles. We argue that different strategic attitudes and innovation profiles entail different prospects for future survival. Qualitative and quantitative data were gathered via structured interviews with the top-level management team of each firm. The results show that the subsector in which any given firm compete influences its strategic and technological positioning.*

**Key words:** textiles, strategic types, innovation, SME.

the most important. These factors have changed the competitive advantages formerly enjoyed by existing competitors. The cases of Spain, the fifth largest producer in the EU-15, and of Catalonia, the principal textile region in Spain, are no exception. The traditional positioning of T/C producers in Spain was of low-cost production. However, following the entry of new competitors, Spain is no longer a low-cost producer. The sector has suffered pressures to downsize and to reallocate production, especially of labour-intensive work.

The competitive pressure has been greatly influenced by the liberalisation calendar. The Agreement on Textiles and Clothing (ATC) established a ten-year transition period (1995 to 2005), to progressively incorporate products from the list in the Annex of the Agreement [1]. The first stage began on 1 January 1995, the second on 1 January 1998, the third on 1 January 2002 and the final one on 1 January 2005 [2].

## The effects of liberalisation in Spain

Some basic descriptions of the sector's activity in Spain are depicted in Figure 1, showing the beginning of the three stages of the liberalisation process. Figure 1 represents the time series of revenue for the textile, clothing and leather industries and the evolution of the number of employees, over the ten years from 1993 to 2003, for the whole country and for the region of Catalonia. The first stage (1995-1997) showed positive trends, especially for Spain, in

both revenue and employees. During the second stage (1998-2001), the increase in turnover continued, but this period marks the start of a considerable decrease in employment for both the whole of Spain and Catalonia. On the whole, from 1993 to 2003 turnover increased by 56% for Spain and 41% for Catalonia, while employment decreased by 5% and 15% respectively. The figures become worse if the maximum level of employment, achieved in 1999, is taken into account. Job losses from 1999 to 2003 accounted for 15% in Spain and 18% in Catalonia.

The number of firms operating in the sector shows a similar trend. Figure 2 represents the data for Spain and Catalonia for four groups in the T/C industry: spinning, clothing, finishing and others. The spinning subsector contains those firms dealing with the treatment of raw materials, i.e. the preparation or production of various textile fibres and/or the manufacture of yarns, either natural or man-made. The clothing group includes, in this case, the production of knitted and woven fabrics and the transformation of these fabrics into products such as garments. The finishing group includes those firms which deal with giving fabrics the visual, physical and aesthetic properties which consumers demand, such as bleaching, printing, dyeing, impregnating, coating, plasticising, etc. The other group includes firms which produce textile articles other than for clothing, including carpets, home textiles, technical or industrial textiles, and other remaining types of textile firms.

## Introduction

The drivers of change in the textile and clothing (T/C) industry have been multiple and their effects considerable: the liberalisation and globalisation of the industry, with the emergence of important new competitors, technological change, the evolution of production costs, and EU integration & enlargement are among

The number of firms in these four groups generally increased for all groups until the second stage of the ATC liberalisation process, reaching a maximum in 1999 or 2000. Since then there has been an important decrease for three groups: 16% for finishing between 2000 and 2003, 21% for clothing in the same period, and 19% for spinning between 1999 and 2003. The other textiles group has steadily maintained its increasing trend, with an increase of 28% in number of firms between 1993 and 2003.

In view of the situation in Spain and Catalonia, we wondered how other T/C zones are prepared to face the increased competition of the new liberalised and globalised T/C industry. We therefore aim to analyse the situation of the Girona cluster of the T/C industry. Girona is a

province of Catalonia, Spain. Our analysis of the industry focuses on the technological and adaptive profiles of the firms. In particular, we use the strategic types proposed by Miles and Snow [3, 4] to analyse the different strategic and technological profiles of the firms, discussing the different ways in which the various types of firms face their competitive environments, and how this influences their ability to survive in an environment of global competition.

We carried out a qualitative study over a sample of 22 firms in the T/C industry in the province of Girona. To gauge the firms' strategic and technological profiles, we used in-depth interviews to obtain qualitative and quantitative data from their top-level management teams. The article is organised as follows. In

Section 2 we present the background on strategic types which we extend to technological types. In Section 3, we present the empirical process and dimensions that we use to describe the strategic and technological types. The results are analysed in Section 4, and a final section concludes the article.

## Strategic and technological types

### Firms' adaptation to a dynamic competitive environment

The more an industry changes, and the more competitive it is, the more important it becomes for a firm to align all its managerial processes with its environment. The recent evolution of the T/C industry is a good example of this. Miles and Snow (1978, 1986) proposed that organisations tend to follow a certain pattern of behaviour in order to align with their environment [3, 4]. This framework is still used and re-examined, as in DeSarbo et al. (2005) [5]. Miles and Snow considered that this "adaptive cycle" involved three key strategic problem sets:

- the entrepreneurial problem set, which focuses on identifying new opportunities and thus defines a firm's products, services and markets;
- the engineering problem set, which contains the choice of technologies to be used in production and distribution of the chosen products and services; and
- the administrative problem set, where a firm must develop appropriate structures and processes to use technology to create products and services to deliver its product to the market, and also to facilitate the innovative activity needed to maintain future adaptive capacity.

Such a framework assumes that firms choose the environment in which they operate by means of their choices of markets, products, technologies, scale of operations, etc. These choices are strongly constrained by the firm's extant knowledge of alternative organisational forms and managers' beliefs about what the firm can do, or about how people can and should be motivated. This causes inertia in the firm's patterns of adaptation. These enduring patterns of adaptive behaviour can be simplified into four strategic types: prospectors, defenders, analysers and reactors. The four types differ in how they perceive the environ-

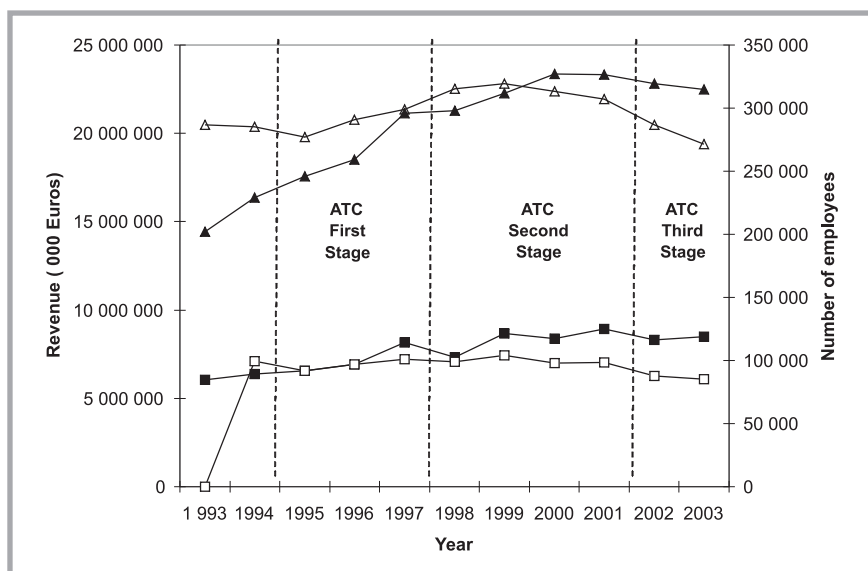


Figure 1. Textile, clothing and leather in Spain and Catalonia (revenue and employees). Source: INE of Spain; ■ - Revenue Catalonia, □ - Employees Catalonia, ▲ - Revenue Spain, Δ - Employees Spain.

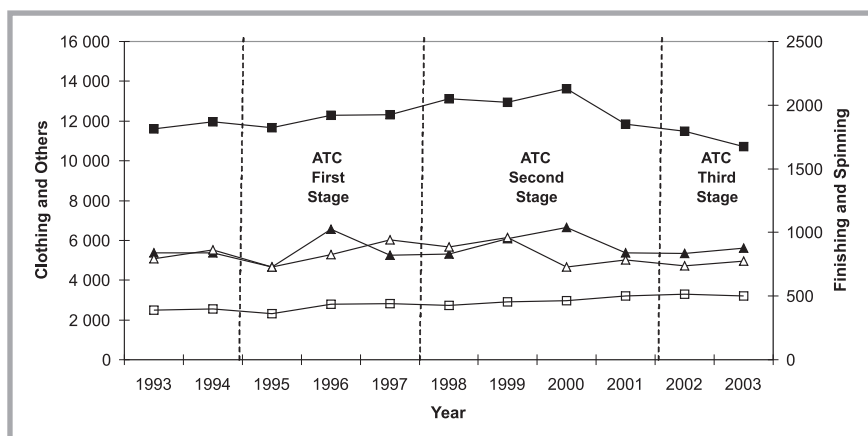


Figure 2. Number of firms by subsector in textiles (Spain). Source: Own elaboration using data from INE of Spain. ■ - clothing, □ - others, ▲ - finishing, Δ - spinning.

ment and in how they see and face the three problem sets outlined above, i.e. the entrepreneurial problem, the engineering problem and the administrative problem.

#### Four different strategic attitudes towards adaptation: the Miles and Snow typology

Miles and Snow also referred to prospectors as industry “designers” [4]. They are proactive in the identification and exploitation of new opportunities. They aim to be ‘first to the market’ with new products or services, and they stand out in their ability to develop innovative technologies and products. Prospectors are able to perceive that the environment is dynamic and uncertain, and prepare their firms to be flexible in order to cope with this environment. They achieve this by being product- or market-oriented, allowing a loose structure and low levels of division of labour, formalisation and centralisation.

By contrast, defenders perceive the environment to be stable and certain, or alternatively, they try to find and shape these stable environments. They usually offer a limited, stable product line, concentrating on a few segments of the market, which they try to serve exceptionally well. External stability allows them to concentrate on maintaining their marketing and financial position. With strict control of their operations aimed at internal efficiency, they compete primarily on the basis of cost and/or value. They use a functional organisational form, an extensive division of labour, high formalisation and high centralisation.

Analysers can be considered a hybrid type, encompassing features of both prospectors and defenders. Their products are fairly stable in certain markets, where they act as defenders with tight control and in search of efficiency. But they emulate prospectors in their new ventures, allowing flexibility and loose

control for new products and markets. They pursue a ‘second in’ strategy, imitating and improving upon their competitors’ product offers: the adoption of new ideas and innovations comes only after careful analysis. The strength of analysers lies in their ability to follow (imitate) prospectors while maintaining efficiency in most of their operations.

Reactors are oriented to responding to short-term problems or pressures of the marketplace by taking few risks. They lack a systematic way of facing changes in a competitive environment. They lack consistency and proactivity in their strategy, and are expected to perform poorly, as their strategic behaviour is weak. The survival of reactors depends mainly on the imperfections of the market.

#### The strategic type which succeeds is contingent to the dynamism of the environment

The success of the four different strategic types depends on the competitive environment that firms face. A stable environment would reward defenders, who can achieve lower costs than prospectors and analysers, because a focus on internal efficiency alone would be the most efficient response to an immobile environment (in terms of demand, technology, competitors, etc.). In the opposite situation of a dynamic and uncertain environment, the firms’ results will depend on how their products match the requirements of this evolving environment. In this case the prospector would be the most appropriate strategic type, because it is the best at seeking to align with the characteristics of the environment. The analysers would follow, and the defender would have an inadequate strategy if segments are not as stable as they assume. In either of both these extreme worlds, the reactor strategy is not to be recommended. Some empirical support for this hypothesis on the effect of strategic type on performance is found in Parnell and Wright (1993) [6], and in Dvir, Segev and Shenhar (1993),

Table 1. Strategic and technological types.

Strategic Type	Technological type
Prospectors	Technological leader or challenger (innovators)
Defenders	Technological niche seeker
Analysers	Technological follower
Reactors	Inconsistent technological strategy

who look at the short and long term performance effects of the strategic types [7].

#### Technological strategy of the four strategic types

This proposal of four strategic types (Table 1) rests on the assumption that firms need to change in order to maintain their competitiveness in changing environments. The dynamic character of markets is nowadays indisputable. Furthermore, changes in the firm are associated with innovation, which is mainly centred around technological innovation, either in products or processes. Thus, strategic attitude translates into a particular technological attitude or positioning for each firm.

The prospector's attitude towards identifying and exploiting new opportunities is associated with pursuing an outstanding technological position, such as becoming a **technological leader or technological challenger**, competing to be the first to launch new products or use new processes.

The defender's decision to focus on internal efficiency can be successful in stable segments, which are bound to be limited. Thus, these firms could be considered as **technological niche seekers**, targeting the specific requirements of these segments, which will have different needs from other segments which are similar, but more hyper-competitive and probably broader.

The technological strategy and positioning of analysers will also be intermedi-

Table 2. Descriptive statistics of the sample and strategic types by subsector; Source: Data obtained in the interviews and referred to end of year 2003, and our own elaborations.

Subsector	Number of firms	Average Number of Employees	Average Turnover, M €	Average Export, %	Average Firm age	Prospector	Analyser	Defender	Reactor
Cotton spinning	8	99	12.5	71.6	80	-	2	6	-
Fibre spinning	5	262	46.4	71.6	69	1	4	-	-
Finishing	5	50	17.6	57.5	60	1	1	3	-
Clothing	4	29	1.3	42.5	27	-	-	3	1
<b>Total</b>	<b>22</b>					<b>2</b>	<b>7</b>	<b>12</b>	<b>1</b>

ate. Their strategic attitude means that they prefer not to be the first to launch new products, and their focus on the efficiency of established lines gives them a disadvantage in time-to-market. In general, they are expected to be **technological followers**, trying to trail the leader. However, they may use a different technological strategy in their various (old and new) markets.

The technological strategy of a reactor is non-existent. Their lack of consistency in strategic attitude will cause them to be inconsistent leaders, neither niche seekers nor followers.

### Evaluating strategic and technological types: the case of Girona

Our empirical research is based on a sample of 22 firms in the textile and clothing (T/C) sector located in the province of Girona (Spain). The sample was chosen to include firms representing the main subsectors and also the largest in terms of turnover. The distribution by subsectors and brief descriptions are presented in Table 2. The five firms in the fibre spinning group are on average the largest in number of employees and turnover, with long traditions in the sector and with important export orientations. In the cotton spinning group, we find the older regional firms of the sector, eight firms with a similar export profile but fewer employees and a considerably lower turnover. In the finishing subsector, there are five firms with a smaller number of employees but a larger turnover than firms in the cotton spinning group. The four firms in the clothing group are the smallest, newest and more oriented to the internal Spanish market.

We used structured interviews to obtain the data, and questions were answered by managers of the firms, holding positions ranging from general managers to functional managers, and in most cases from the production or R&D department.

In the questionnaire, we used seven dimensions to gauge the strategic and technological type:

- 1) Current strategic focus
- 2) Desired strategic focus
- 3) R&D intensity
- 4) R&D type
- 5) R&D outsourcing or collaboration
- 6) Specific technological needs
- 7) General technological needs

#### Current strategic focus

To capture the first dimension, the current strategic focus factor, we used an open question asking which were the present three key success factors (KSFs) for the firm. We expected prospectors to highlight innovation and identification of new opportunities as a central KSF, while defenders would refer to productivity, efficiency, or customer service. Analysers should have responded that the KSFs depend on the line of business and correctly identify some of the KSFs for prospectors in the case of new ventures, and defenders' KSFs for established products. The last category, reactors, would refer to short-term and non-strategic objectives.

#### Desired strategic focus

For the second dimension, the desired strategic focus, we used a closed question asking each firm to rank the three main factors that would give it a competitive advantage in its markets. Firms could choose from among strategic management capabilities, productivity, quality, innovation, finance, human resources, commercialisation, internationalisation and a selection of others with more specific key success factors. The firms that identified innovation as an outstanding KSF were identified as the prospector type. The firms that identified productivity, commercialisation and internationalisation, aimed to be defenders. The cases that combined the two views were seen as adopting the analyser attitude.

#### R&D intensity and R&D type

R&D intensity was evaluated according to whether or not the firm had an established R&D department, a systematic research activity, and the volume and nature of its R&D. The type of R&D was identified by the distribution of R&D efforts between product or process innovation. Prospectors should have high and systematic R&D, and favour product innovation to target new needs. Defenders could maintain a lower level of R&D intensity, oriented more towards process innovation in order to reduce costs or adapt the product to the customer. Analysers would combine the two previous profiles, while reactors would show an unsystematic and low level of R&D.

#### R&D outsourcing or collaboration

The attitude towards outsourcing R&D was also considered important, in order

to describe its strategic and technological type. Companies were asked to what extent they used collaboration or outsourcing in R&D. We consider that a tendency to use external R&D support would be high for prospectors, intermediate for analysers, low for defenders and non-existent for reactors.

#### Specific technological needs

The firms were asked to identify their main specific technological needs which they considered could be outsourced. Given the committed attitude of prospectors towards innovation, we expected them to suggest that some part of their research on new products could be externalised. For defenders, on the other hand, we expected research on more efficient processes to be more consistent with their desire to reduce costs or improve customer service. Analysers would show a hybrid of the two previous types, while reactors would have difficulty thinking about long-term technological needs.

#### General technological needs

To complement the previous question regarding external technological support, we added a closed question on the importance of the different possible types of support to a firm. The options covered four categories: product development support, process development support, consultancy and human resources development. The profile of prospectors is consistent with the first type of demand, for product development support. Defenders better fit into the second type of demand, and analysers would show a mixed position. Reactors would tend to give importance to consultancy, to compensate for their short-term focus.

### Results

Each of the 22 firms analysed was evaluated across these seven dimensions. Each firm obtained a mark which classified the firm into one of the four types for each dimension. To obtain the dominant type for each firm, we added up the marks for each of the four types. The dominant type is the one that obtains the highest percentage of marks. Table 2 shows the resulting dominant types, aggregated by subsector in the T/C industry: cotton spinning (CS), fibre spinning (FS), finishing (FI) and clothing (CL). Most of the firms (12 cases) are classified as defenders, and half of those belong to the CS subsector. Seven cases are considered

analysers, these coming mainly from the FS group. The other types are less important in terms of number of firms. Only two firms are prospectors, one from the FS group and the other from the FI group. Finally, only one firm, belonging to the CL group, is classified as a reactor.

These results show that the firms in three of the subsectors follow an important uniform strategic type. Particularly, most firms in the cotton spinning and clothing subsectors are defenders, while most of those in fibre spinning are analysers. The finishing subsector presents greater strategic heterogeneity.

A closer examination of the results reveals that the dominant type represents between 40% and 67% of the total marks. This raises the question of whether there is a secondary type which would convey relevant information on the strategic positioning of the firms. To consider this possibility, we analysed the second most important strategic type for each firm. The results are presented in Figure 3.

We found that membership of the strategic types could be considered as a continuum, starting with the prospector type, followed by the analyser, the defender and the reactor. This guides the representation in Figure 3, where the horizontal axis represents the positioning of the 22 firms between two adjacent strategic types. The darker zones represent the pure strategic types and the white zones lead to the hybrid areas, where the positioning of a pure-hybrid firm would

be 50/50 between two adjacent strategic types. The vertical axis represents the degree of dominance of the main profile, showing the percentage of points obtained by the dominant type. This dominance could reach 100% for a pure prospector, analyser, defender or reactor, although in our sample it only ranges between 40% and 67%.

Figure 3 adds to what we learned in Table 3, illustrating that many cases show a hybrid position in strategic type and are situated in the 50/50 (white) zones. The clearest hybrid cases between prospector and analyser are the case of FI1, with a slight dominance of the prospector type, and FS2 and FS3, with a slight dominance of the analyser type. There are also clear hybrid cases between analyser and defender, with 2 firms from the cotton spinning group (CS1 and CS2) and 2 firms from the finishing subsector (FI3 and FI4).

If we analyse the distribution of firms in Figure 3 by subsector, we observe that the fibre spinning firms are situated more to the left side of the graphic. This indicates that they are the group with a higher prospector profile. At the opposite end, the clothing subsector is the one situated more to the right, indicating its higher reactor profile. We can also appreciate the greater spread for the cotton spinning and finishing subsectors. According to the theory on strategic and technological types, not all competitive environments favour the same strategic type. This may mean that the prospector or analyser type

is more suitable for the fibre spinning subsector, while a defender attitude is better for the cotton spinning subsector. However, we argue that the reactor type should be considered as strategically vulnerable.

## Discussion and conclusions

As in all EU countries, the T/C sector in Spain faces a difficult situation in terms of maintaining competitiveness. This article has addressed the strategic and technological types, in order to evaluate the strategic similarities or differences among the firms of a T/C cluster in Girona, Spain. An approach like this can contribute to the understanding of key issues for companies' survival in the medium-term. The technological types used share some features with the contribution of Wysokińska (2003) on marketing strategies [8], but our approach places more emphasis on dynamism by studying the adaptive capacity of the firm and its attitude towards adaptation and change.

We carried out a qualitative and quantitative study to classify firms into four types: prospector, defender, analyser and reactor. We have argued that strategic types could be related to technological types. The classification of firms was made by analysing seven dimensions related to strategy and technology: current strategic focus, desired strategic focus, R&D intensity, R&D type, R&D outsourcing or collaboration, specific technological needs and general technological needs. Our findings show the dominant strategic types for the different subsectors in the T/C cluster that we analysed. First, we find that the most generalised type is the defender, with more than half of the firms falling into this group. By subsectors, we find that the majority of clothing and cotton spinning firms are defenders, while fibre spinning firms are analysers. The finishing group is more heterogeneous and does not show such a clear result.

A more detailed analysis reveals that, apart from dominant strategic type, the second placed type was also relevant. This analysis revealed that some cases were better classified as hybrids of two strategic types. The data also revealed that our results could be presented as a continuum of strategic types, starting with the prospector and continuing with the analyser, defender, and finally,

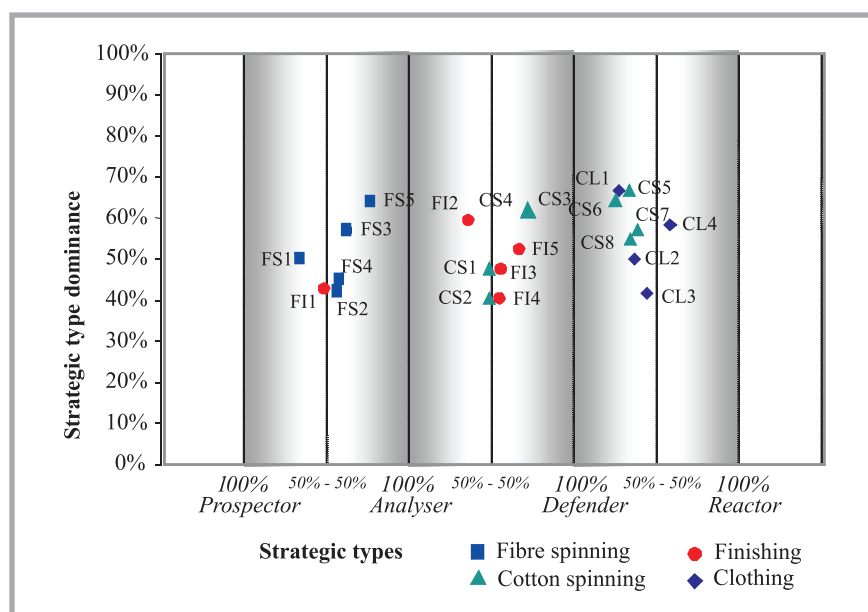


Figure 3. Strategic types in a continuum Source: Own elaboration.

reactor. This result is actually consistent with the theoretical definitions, from the more proactive type (prospector), to the protective attitude (defender), with the mixed attitude in the middle (analyser), and finally the more strategically passive attitude (reactor).

By subsectors, this last analysis revealed that the most prospective attitude was held by the fibre spinning subsector, and the most reactive attitude was held by the clothing group.

#### Strategic implications for firms: are we fit for competition?

Theory and empirical research confirm that a different strategic attitude is needed to face a different competitive environment. Stable environments can be dealt with by means of the defender attitude, with a reduced and stable product range and emphasis on improving processes and better customer service. More hyper-competitive markets need a prospector attitude, exploring new opportunities and struggling to be the first to innovate. Research and innovation are the core of such strategic behaviour. If a firm faces a variety of competitive environments, the hybrid attitude of the analyser encompasses some traits for stable markets and some for new, unstable markets. The reactor strategic type is not advisable in any circumstances.

Our example cluster of 22 Girona firms showed the classification of firms into strategic types. The results for fibre spinning, cotton spinning and clothing were quite consistent across firms within the groups. This reveals the strategic similarity of these firms, as well as their probable adaptation to a different competitive environment. However, it also gives rise to concerns about the ability of some of the subsectors to adapt to increasingly competitive environments.

#### Policy implications: collaboration for success?

If strategic attitude has any relevant influence on a firm or sector's ability to survive, institutions should be concerned about firms' strategic health. We contend that strategic diagnosis of sectors should be a priority for public institutions, to enable them to develop support policies. This research was part of a wider study on the possible creation of a technological centre to support the T/C cluster in Girona. For this reason, a diagnosis of

strategic positioning was pertinent, as was an evaluation of the technological needs of firms that could benefit from the externalisation of certain technological processes. The research revealed that externalisation of technological tasks was very small, and that collaboration between firms provided an opportunity to gain and maintain competitive advantage.

Innovative policies could contribute towards the creation of innovation support infrastructures and promote the development of collaborative projects on design or technology. Such support appears crucial in order to help some defender or analyser companies (mainly SMEs) to move towards the prospector attitude (Figure 3). In our opinion, such movement could be viewed as a major challenge to enhance the competitiveness of T/C companies in the Girona region.



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Received 27.05.2005 Reviewed 18.10.2005



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