

LOGISTICS IN CERAMIC COMPANIES: A TACTICAL OR STRATEGIC FUNCTION?

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ABSTRACT

A qualitative study was carried out with the aim of finding out if the role of logistics in the ceramic companies was tactical or strategic. The study was based on in-depth interviews with twenty companies in the ceramic sector of different sizes and locations. Three types of companies were identified: Strategic, Tactical and Under Construction. Each one of these was linked with the two design bases for logistic strategy (Benchmarking and Fit) and with three types of logistic strategies (Differentiation vs. Cost Leadership, Integration and Proactivity). The conclusions drawn indicate that much still remains to be done in regard to logistics strategic management in the ceramic sector.

1. THEORETICAL FRAMEWORK

Over the last few years, logistics has become a major factor in obtaining the company's competitive advantage (Kant et al., 1994). Within the Spanish context, the role of logistics was not considered a key factor in business management until the end of the 1980s. Overall, an acknowledgement of logistics as an important part of the company's strategy is still not widespread but rather is limited to certain economies and companies. Given the modern business environment, a new type of organisation should be developed, this being an informal organisation that favours changes and growth. The success of this change and the integration of logistics depend to a large extent on the involvement of the organisation's management and the ability they have to persuade human resources of the need for change (Daugherty et al., 1996).

This would entail a change of business culture, with all that this implies, favouring innovation and the internal and external cooperation of the organisation.

Even though Logistics as a part of the Supply Chain Management (SCM) has become one of the key topics, and therefore aim, of certain studies we believe that there are a number of aspects that have not yet been considered or at least have not been resolved in a satisfactory manner. For this reason it is particularly interesting to improve our comprehension of the principles companies use to develop their logistic strategy including its formulation and its control mechanisms within the context of a diverse number of companies. Strategic involvement and logistic activities have not been evaluated sufficiently until very recently, either in an academic or applied context (Stock, 2002). The oversight began to be recognised towards the end of the nineties when Logistics Management and the Supply Chain Management in general began to draw attention from researchers. (Alfaro et al., 2002; Nof, 1999 and St. John et al., 2001).

According to the *Council of Supply Chain Management Professionals* logistics management is a part of the supply chain that is aimed at efficient and effective planning, implementation and control of the direct and inverse flow of goods, goods warehousing, services and related information originating from the customer in order to satisfy their needs. Logistics management activities are many, from the management of incoming and outgoing transport to moving materials, processing orders, designing the logistics network, management of fixed assets, order planning (delivery and demand) and the management of relations with the supplier of logistic services. On a more diverse scale, the role of logistics also includes sources and acquisitions, planning and programming of production, assembly and mounting and customer service. Logistics is involved in all levels of planning and execution (both strategic and tactical). Moreover, logistics is an integrated function that coordinates and optimizes all logistic activities including marketing, sales, manufacturing, finance and information technology. Management of logistics, definitively, carries out a coordination role that can give the company a competitive advantage. (Stock et al., 1999).

In the THEORETICAL FRAMEWORK of this study we have developed the components of the logistics process, in other words, the basis of logistics selection and the types of logistic strategies. Therefore, the first question that we propose for analysis is: how do companies approach the design of strategic logistics? Moreover, what criteria and principles determine the selection of one logistic strategy from another? In order to develop this point further we have broken away from the two principles proposed by strategic literature when choosing one strategy or another. Firstly, *Benchmarking*, is

defined as a continuous and systematic comparison and intervention in a companies' process compared to the processes and practices of the leaders in the industry (competitive benchmarking) or outside of the industry (comparative benchmarking) that help the company improve their results. The first option is based on the concept that companies endeavour to achieve competitive advantage through logistics strategies and in order to achieve this they try to emulate or improve on the best practices (best of the class) in the fields of reference in the company, whether it be the network or the industry. There are several studies that have underlined the advantages of using this strategic tool in logistics (Watson, 1993; Bagchi, 1997; Carranza et al., 2002; Poulin, 2003). Secondly, the search for *Fit* that argues that the best practices take place in specific environments and in companies that have distinct abilities and are therefore difficult to copy (Cox, 1999). It is argued that the efficiency and effectiveness of an organisation is directly proportionate to the degree of fit between the different aspects of the organisation and the organisational and strategic structure in an environment. Several authors have coincided on their opinion regarding the logistic activities environment i.e. that logistics can play a relevant role in the creation of the necessary fit to achieve competitive success (Chow et al., 1995; Stank and Traichal, 1998; Stock, et al., 1998 and Chan et al., 2000).

Another point of reference is the types of strategic logistics. During the development of a logistic strategy, a company will evaluate different types of strategies according to the literature on logistics. A first classification criterion in strategic logistics is based on the competitive priorities of the company, in other words, reduction in costs, quality, flexibility and supply - reliability and speed (Stock et al., 1998). These priorities assimilate the concept of generic strategies in Porter's business units (1980). Cost as a priority will correspond to *Cost Leadership*, while quality, flexibility and customer service will correspond to the *Differentiation* strategy. Several authors have studied the logistic competitive advantage (McGinnis and Vallopra, 1999; O'Leary-Kelly and Flores, 2002; Li et al, 2006). The second classification criterion is the *level of integration* of the logistics activities. Literature in this field of logistics implicitly assumes that the integration of the supply chain is the best way to achieve a better standard of efficiency. In fact, several studies between the level of integration in the supply chain and results of logistics management (Ragatz et al., 1997; Frohlich and Westbrook 2001; Kemppainen and Vepsäläinen 2003; Bagchi and Skjoett-Larsen, 2005). *Internal integration* is reflected in the logistic activities level of interaction with other functional areas. Integration measurements include the coordination of the logistic activities with other company departments, the intensity of the communication between logistics and other company departments, the growing importance of logistics management in the company's strategic ensemble and the slim formal separation with their suppliers, clients and other members of the supply chain's logistic activities. (McGinnis and Kohn, 1990).

External Integration indicates the degree to which a company's logistic activities are integrated with suppliers, customers and other members of the supply chain. Measurements of the level of integration include the intensity of communication, better coordination and the absence of boundaries between the company's logistic activities and the supplier, customers and other members of the supply chain.

The final criteria regarding strategic logistics classification is the company's attitude towards its environment. The company has two options here: the first consists of non-dependence on what happens in the environment, or rather, trying to anticipate what will happen (*Proactive* strategy). The second is to react when something happens

in the environment, remaining passive if there are no changes (*Reactive* strategy). The *Proactive* strategy is characterised by a high level of integration in the company in order to carry-out investments in material and human resources with the objective of reaching a number of goals where the logistic strategy becomes one of the foundations in the global strategy of the company. It is also the reason why logistic management won't be limited to the technical department, but rather it is a result of technical and organisational changes in the company, in their capabilities and the company's coordination system.

The opposite strategy would be the *Reactive* strategy. Counter-positioning provides a low level of integration and commitment, confining logistics management to the technical dimensions of the company.

2. OBJECTIVES

The objective that prevails throughout this study is ascertaining what is the strategic level of the logistic role in the ceramic sector. First of all, we investigate logistics importance as a strategic or operative activity. Secondly, we try to identify the principles for the development of the logistic strategy and identify the type of logistics strategies among the many available options: cost leadership, innovative differentiation, reactive strategy, proactive strategy, internal integration and external integration.

3. COMPOSITION OF THE QUALITATIVE STUDY

The use of the case study in research is particularly appropriate for an applied field like logistics as it allows you to progress both in a scientific and a practical sense (Kent and Flint, 1997; Näslund, 2002; Mangan et al, 2004). This method allows the use of multiple sources of information (reports, interviews, questionnaires, etc) and both qualitative and quantitative measurements. The tendency in logistics is to increase qualitative research as opposed to the predominance of quantitative research. (Sachan and Datta, 2005). The choice of cases has an important determinant and is more important than other quantitative methodologies. For instance, it is possible to work with bigger examples and consider possible peculiarities in any particular case without changing or biasing the meaning of the results.

The research subject is the ceramic industrial district of Castellón. The relations between the companies and the logistic activities make it an ideal subject for this research study.

Documentation analysis, observation and semi-structural interviews were used as information sources. The documentation consulted includes annual reports published by business associations in the sector which give individualised information regarding the member company. There are also public and internal reports that companies placed at our disposal. A series of successive contact were made with the general managers of the companies studied. Initially, an interview protocol was established where the diverse aspects related with the list of research questions was revised. Following this, an interview was carried out with each one of the chosen companies. The whole research team participated in these meetings. The aim was not only to clear up any possible doubts or interpretation problems with the questions but also to carry out an overall evaluation of the questions and discuss the meaning of the possible conclusions

of the study. Two of the researchers took notes separately, subsequently analysing and comparing the results.

The interviews were carried out with the company's head of logistic management, or in his/her absence with the head of production or operations. The interviews lasted over two hours. Topics ranged from strategy to the logistic problems encountered by the company and the general sector. The fieldwork was carried out between the months of January and February 2006.

4. CHARACTERISTICS OF THE EXAMPLE

The final selection of twenty companies aimed to select a group of organisations with a certain degree of homogeneity. However, at the same time, they were required to have some diverse characteristics in terms of activity and structure that would allow a better observation of the relevant information and in some respect could be considered leaders or representatives of the sector they belonged to. Out of this selection, eighteen companies are manufacturers of a final product, one is a supplier of glazes and another is a manufacturer of specially commissioned pieces. They are situated in eight different municipalities within the Ceramic Industrial District of Castellón. In order to protect the anonymity of the companies we refer to them by code name. The general characteristics of the companies are shown in Table 1.

Code	Size	Structure	Functions	Logistic Importance	LIS	Warehouse Modernization
1	Large	Functional	Two	Intermediary	No	Advanced
4	Large	Dependent	One	High	Complete	Intermediate
9	Large	Integrated	Four	High	Complete	Advanced
13	Large	Integrated	Four	High	Complete	Null
15	Large	Functional	Three	High	Complete	Advanced
19	Large	Integrated	Four	High	Complete	Advanced
20	Large	Integrated	Four	Intermediary	Complete	Advanced
2	Medium	Functional	Two	High	Complete	Intermediate
6	Medium	Functional	Two	High	Complete	Null
7	Medium	Functional	Three	High	Complete	Intermediate
8	Medium	Integrated	Four	High	Complete	Advanced
12	Medium	Integrated	Four	High	Complete	Intermediate
14	Medium	Functional	Three	Intermediary	Partial	Null
16	Medium	Dependent	Four	Low	Partial	Null
18	Medium	Dependent	Four	High	Complete	Advanced
3	Small	Functional	Two	High	Complete	Intermediate
5	Small	Functional	Two	High	No	Null
10	Small	Integrated	Four	Intermediary	No	Null
11	Small	Functional	Two	Intermediary	No	Null
17	Small	Dependent	Four	High	Partial	Intermediate

Table 1. Characteristics of the participating companies

With respect to **SIZE**, based on invoicing in 2004, we considered companies with a turnover of less than 20 million euro as *Small*; those with a turnover of between 20 and 50 million, *Medium* and those with a turnover of 50 million *Large*. The twenty companies chosen for this research study account for 28.2% of the total turnover of the sector¹ and 27.4% of the workers in the entire ceramic sector. These figures indicate the size of the representation of these companies in the sector. Remaining conscious of the limitations of these types of qualitative studies, we consider these companies to be a good example of the ceramic industrial district of Castellón.

The **STRUCTURE** describes the type of organisational chart the company has and how it is integrated into the logistics department. Therefore, *Functional* is characterised by way in which the logistics department is at the same level as the other company functions, such as purchasing, production, marketing, finance or administration. However its only role is to coordinate the warehouse and dispatches. *Dependent* is a logistics department that depends on a higher department, usually Operations, Production or Technical Management. Thirdly, the *Integrated* department is characterised by being situated on the same level as other functional company departments. However, in concept it integrates all its functions into an integral logistics department: Supply, production planning, control indicators, warehousing and dispatch.

FUNCTIONS explains the content of the logistic department: *One* function (Warehousing or control measurement), *Two* functions (Warehousing and dispatch), *Three* functions (Warehousing, dispatch, supply or production planning) or *Four* functions (Warehousing, dispatch, supply, production planning and control). **IMPORTANCE** measures the degree of importance the head of logistics perceives the department has with respect to the other roles in the company: *High*, *Intermediate* or *Low*.

LIS is the **Logistics Information System**, which refers to the existence of an integrated software system with different logistic functions. Therefore, three of the twenty companies have a *Complete* Logistic Information System, with an ERP that controls the management of the different areas like purchasing, production planning, warehousing and distribution. Companies with *partial* LIS have software programmes for planning specific areas like, productions, Warehousing, or orders from different customers for the preparation of dispatches. Like many of these companies, warehousing, production or warehousing and accountancy are integrated but there is no global system.

Finally, the degree of **WAREHOUSE MODERNIZATION** also serves as a logistic measurement. Therefore, seven of the twenty companies still consider the warehouse to be just square metres where products are accumulated without any protection (unroofed) and without any associated software that manages the warehousing function (*Null*). Six of the twenty companies started to invest in covered warehouses with allocations and barcodes (*Intermediate*). Finally, seven of the twenty have a higher degree of modernization due to the use of radio-frequency (*Advanced*).

¹ Data relating to the year 2004 according to ASCER (2005).

5. RESULTS

5.1. IS LOGISTICS A STRATEGY OR A TACTIC?

The first question was concerned with attitude towards logistics. The different statements were valued by the degree of importance of logistics in the company strategy. One item measures the strategic attitude towards logistics (the commitment my company has to logistic activities is very high) and another four, the tactical attitude towards logistics (my companies logistic activities are being gradually incorporated into the technical aspects of the company but not in terms of the management of the company), “the function of logistics in this company is of low importance in comparison with the management of the company”, “Investments and attention to the logistic activities have not changed in years in my company,” “The development of logistic activities is not part of the principles of our business strategy.” An average value was calculated for these called, *Tactical*.

Consequently, there are a group of companies where their points for tactical logistics are more than those for logistic strategy (code 1, 5, 10, 16). Subsequently, there is a second group where logistic strategy is greater than tactical logistics (code 2, 3, 4, 8, 9, 11, 13, 15, 18, 20), and an intermediate group where the difference is small in both cases and it appears that logistics as a strategy is only in its infancy (cod. 6, 7, 12, 14, 17, 19). Depending on the strategic or tactical role given to logistics, a *Strategic Typology* is used to define this. Strategic companies are characterised by their emphasis on the logistic function and their departure from it being merely a technical element. It is already part of their philosophy that management of logistics is a key factor and they attach high importance to logistics. These are the companies that have carried out changes to their logistics in the last few years. Last of all, they consider logistics to be a fundamental element of their corporative strategy. The *Tactical* believe that logistics are being incorporated into their company as a technical element but not as a managerial instrument. They attach little importance to logistics in comparison with other areas of the company and logistics does not form one of the fundamental parts of business strategy. Nevertheless, they believe that they have been introducing changes to logistics in the last few years.

Table 2 illustrates these assertions:

TYPES	Technical		Little Importance		No changes		Not fundamental	
	High	Low	High	Low	High	Low	High	Low
Strategic	15	3,4,8,9, 11,13,18, 20		3,8,9, 11,13,18,2	20,15	3,4,8, 9,11,13,18	11,15	3,4,8, 9,13,18,20
Under construction	14,17	12,19	7,17, 19	12,14	14,19	12,17	7,12	
Tactical	5,10, 16	1	5,16		5	1,10, 16	1,5, 10	

Table 2. Logistics: tactic or strategic? Strategic Typology

5.2. WHAT IS THE DEVELOPMENT PRINCIPLE OF THE LOGISTICS STRATEGY?

Benchmarking is one of the principles for selection of the logistics strategy where the company carries out a dynamic search for excellence using three stages: 1) the identification of the main improvement processes 2) measurement and comparison of their own norms and the best of the best and, 3) making decisions in order to reduce differences.

Out of the twenty companies, seven state that they do not apply any stage of *Benchmarking*, nine visited companies in other sectors: food distribution, automobile, textile, large-scale distribution or in the ceramic sector itself (small-scale) in search of solutions for their own logistics processes. Only four of the twenty testified to having compared their norms with the best practices, even though they did not specify what factors they used to measure the gaps. These companies are the most advanced in the field of *Benchmarking*. None of them admitted to getting as far as the last stages, making decisions to reduce the differences and control the results. Therefore, we identify three company groups according to the use of *Benchmarking*: those that *Don't* use it, those that apply *Initial Benchmarking* and those that try to imitate other sectors. This is the greatest difficulty for companies in the sector as the ceramic sector only has one product with special characteristics and it is not comparable to other products in other sectors.

The second principle for logistics selection is the necessary *Fit* between the logistics role and the structure of the organisation's strategy. For these purposes, it was suggested that the companies evaluate certain statements to find out if the logistics department developed their strategy based on the general company strategy. Thus, thirteen companies said they had a high *fit* with respect to strategy and structure. These companies adapt the logistics strategy to their internal environment with very little innovation. Out of these, nine do the same thing as the other roles in the company. Secondly, there are two companies that found a *fit* with their internal structure but not with the company's strategy. This coincided with the fact that these two companies said that logistics did not function in the same way as other departments. Thirdly, five companies have a tighter strategic but not structural *fit*. They claim to adjust the structure necessary to reach objectives and the same goes for the other functions in the company.

Table 3 details the relation between the companies and the development principles of their logistics strategy. The majority of companies appear to have strategic *Fit* and structure is in the first stages of *Benchmarking*. Meanwhile, those that only appear to have strategic *Fit* are mainly those that used the most advanced form of *Benchmarking*.

		Fit		
		Strategy	Structure	Strategy and Structure
Benchmarking	No benchmarking	1	5	2,3,10,11,18
	Beginning	20	7	6,9,12,14,15,16,17
	Advanced	4,8,13,		19

Table 3. The relation between Benchmarking and Fit

Table 4 shows the relation between strategic typology and the strategies design principles. It can be concluded that *Strategies* are characterised by strategic *Fit* or both strategic and structural *Fit*. Likewise, we can find all levels of *Benchmarking*. The Tactical are characterised by the tendency not to carry-out *Benchmarking* and by having a largely strategic and structural *Fit*.

TYPES	Benchmarking			Fit		
	No	Beginning	Advanced	Strategic	Structural	Strategic and structural
Strategic	2,3,11,18	9,15,20	4,8,13	4,8,13		2,3,9,11,15,18
Under construction		6,7,12,14,17	19		7	6,12,14,17,19
Tactical	1,5,10	16		1	5	10,16

Table 4. Strategic typology – Strategy design principles

5.3. WHAT IS THE PREDOMINANT LOGISTICS STRATEGY?

In order to determine what logistics strategy the company follows, different types of strategies are evaluated based on logistics literature. Following the interviews the main internal differentiation and integrations used in ceramic company strategies were determined. Consequently, the external integration strategy was analysed and finally, strategies concerning attitude towards the environment: proactivity and reactivity. According to the competitive advantage in company's strategies, there is little difference between this and the rating given to cost leadership strategy even though a higher score is given to differentiation in the majority of companies. Therefore, some companies clearly position themselves according to differentiation or cost leadership strategies. However eleven of the twenty companies are at an intermediary stage, or in other words, haven't chosen a clear competitive advantage. Consequently, there are three company groups according to the choice of strategic priority: *Cost Leadership*, *Intermediary* and *Differentiation*.

The values obtained through internal and external integration are higher in strategies based on integration level. Internal integration (high level of contact and coordination between the different areas of the company in order to carry out logistics activities) was considered very high in fourteen of the twenty companies while external integration (high level of contact and coordination between companies belonging to the same supply chain) was very high in twelve of the twenty companies. In search of a typology, we find a group of companies that are highly integrated both internally and externally (*Internal-External*), a group with very little integration (*Low*) and a third type with an intermediate level of integration (*Intermediate*). Companies with high external integration also have alliances with companies in the supply chain.

As regards strategies based on the attitude of the company to its environment, companies have two options. The first consists of non-dependence on what is happening in the environment, or rather, anticipating it (proactive strategy). The second is reacting to what is happening in the environment (reactive strategy). Both are valued very poorly in the ceramic sector. Comparing the two strategies we can distinguish three groups of companies: The *Proactive* (those who have a high grading for the proactive

strategy and a low one for reactive), *Reactive* (high reactive strategy, low proactive) and *Intermediary* (similar score for both proactive and reactive strategies). Finally, logistics is mainly used to respond to external occurrences (*Reactive* strategy).

Table 5 shows the relation between the strategic typology and the types of logistics strategies.

TYPES	Strategic competitive advantage			Integration			Attitude to environment		
	Cost lead.	Intermediary	Differentiation	Internal-external	Intermediary	Low	Proactive	Intermediary	Reactive
Strategic	8, 11	3, 4, 13, 15	2, 9, 18, 20	3, 4, 8, 9, 13, 15, 20	2, 11, 18		2, 4, 8, 9, 13, 18, 20	11	3, 15
Under construction		6, 7, 12, 14, 17, 19		12, 14, 17	6, 7	19	12	6, 7, 17	14, 19
Tactical	10	16	1, 5	10	1, 5	16		16	1,5,10

Table 5. Strategic Typology –Types of logistics strategies.

On initial consideration, the *Strategies* are characterised by being mainly proactive and having a high level of internal and external integration. Given that the strategic priority is not clear, we therefore find three types: differentiation, cost leadership or intermediary. Those *under construction* are intermediary both as regards the strategy based on competitive advantage and attitude towards environment. Finally, the *Tactical* are mainly reactive.

Lastly, it is interesting to see the relation between strategic design principles and the types of logistics (see Table 6).

TYPES		Competitive Strategic Advantage			Integration			Attitude towards environment		
		Cost lead.	Intermediary	Differentiation	Internal-external	Intermediary	Low	Proactive	Intermediary	Reactive
BENCHMK.	No	10, 11	3	1, 2, 5, 18	3, 10	1, 2, 5, 11, 18		2, 18	11	1, 3, 5, 10
	Beginning		6, 7, 12, 14, 15, 16, 17	9, 20	9, 12, 14, 15, 17, 20	6, 7	16	9, 12, 20	6, 7, 16, 17	14, 15
	Advanced	8	4, 13, 19		4, 8, 13		19	4, 8, 13		19
FIT	Strategy	8	4, 13	1, 20	4, 8, 13, 20	1		4, 8, 13, 20		1
	Structure		7	5		5, 7			7	5
	Strategy and Structure	10, 11	3, 6, 12, 14, 15, 16, 17, 19	2, 9, 18	3, 9, 10, 12, 14, 15, 17	2, 6, 11, 18	16, 19	2, 9, 12, 18	6, 11, 16, 17	3, 10, 14, 15, 19

Table 6. Relation between the strategic design principles and the types of strategy

As regards *Benchmarking*, those in the *Advanced* stage are characterised by a proactive attitude towards the environment and a high level of internal-external integration. Nevertheless, they are classed as intermediary with respect to competitive priorities. Those that carry out *No benchmarking* appear to have clearer competitive priorities (cost leadership or differentiation) but they are not as clear about other strategies. As regards *Fit*, those that fit the *Strategy* mainly have a higher level of external and internal integration and a proactive attitude towards the environment. Meanwhile, those that fit with *strategy and structure* may have any type of strategy.

6. CONCLUSIONS

First of all, a strategic typology based on the company's strategic attitude towards logistics is shown: the Strategic, Under Construction and Tactical display to a greater or lesser degree the importance of a logistics strategy. This Typology is related with the principles for selecting logistics and the different types of strategies.

- The *Strategic* are characterised by emphasising the strategic role of logistics as a fundamental element in the management of a company which is based on corporative strategy, where a number of changes have taken place in the last few years. As regards the principles for selecting logistics, the conclusion drawn is that the *Strategic* carry out a *Fit* with strategy or together with strategy and structure. For this reason we found a number of different types of Benchmarking standards.
- The different types of strategies appear to be mainly characterised as proactive with a high level of internal and external integration. As strategic priorities are not clear we conclude to have found three different types: differentiation, cost leadership or intermediary.
- The *Under construction* group does not have a clear tactical or strategic logistic role. They mainly carry out fits to strategy and structure and initial Benchmarking. They are intermediaries as regards strategy and attitude towards the environment according to competitive advantage.
- Finally, the *Tactical* consider that logistics are in the process of being incorporated into the company as a technique and not as a management instrument as it does belong to the company's basic strategy. They nevertheless believe that they have been introducing changes in logistics in the last few years. They are characterised by not carrying out *Benchmarking* and by a mainly strategic and structural *Fit*. As regards the type of strategy, the Tactical are mainly reactive. They are not especially characterised by a strategic priority or for a determined level of integration.

The sparse use of logistic *Benchmarking* in the sector is reaffirmed as being one of the main causes for ignorance about the process and the difficulty to adapt other sectors' processes to the ceramic sector. Furthermore, the majority of companies with a strategic and structural *Fit* are in the initial stages of *Benchmarking*. At the same time, those that only have a strategic *Fit* mainly use the most advanced *Benchmarking*.

Thirdly, in relation to the principles for selecting logistics using the different types of strategies, we can conclude that those who carry out advanced *Benchmarking*

are characterised by a proactive attitude towards environment and high internal-external integration. Subsequently, those that do not carry out *Benchmarking* seem to have clearer competitive priorities (cost leadership or differentiation) but they are not clear as regards other strategies. Regarding *Fit*, those that adapt to the company's strategy mostly have a higher level of internal-external integration towards a proactive environment, while those that fit both strategy and structure can have any type of strategy.

In conclusion, taking into account all the limitations a qualitative study can have, this study opens up different lines of research based on the conclusions that have been made. An initial study could be a qualitative one that endeavours to see the relations that are presented here. Consequently, ceramic suppliers and manufactures can be separated in order to see if there are differences between these groups. A third line of research could be investigating relations between the variables and the logistic and corporative results of the company.

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