

## **Ex Ante Selection Criteria & Ex Post Reasons for Dissatisfaction in logistics outsourcing: Empirical insights from Greek food SMEs**

Authors: Ilias P. Vlachos, Michael Bourlakis, TC Melewar

### **Abstract**

#### **Purpose**

To investigate the selection criteria applied by Greek food SMEs before (ex ante) appointing third party logistics firms and to find out the reasons which create dissatisfaction after (ex post) the provision of that logistics service.

#### **Design/methodology/approach**

A qualitative case study methodology is used where the managing directors and the logistics managers of three Greek food SMEs are interviewed. Initially, we examine the three cases on individual basis whilst a cross-case analysis is further employed revealing distinct similarities and differences between the views of these managers.

#### **Findings**

Findings show that the top selection criteria for the managers of these Greek food SMEs when appointing a third party logistics firm include the following: experience in food logistics / expertise with chilled & frozen supply chain, cost efficiency, quality assurance certification and flexible payment policy. The managers illustrated their dissatisfaction and stated a plethora of reasons including, inter alia, opportunistic behavior by the logistics firms and their lack of ability to integrate with them strategically.

#### **Originality/value**

Considering the scarcity of work examining the usage of third party logistics firms by SMEs (including food SMEs), this study demonstrates a clear set of criteria that influence the decision making of Greek food SMEs before appointing a logistics distributor; it also illustrates the key reasons for the dissatisfaction of the managers of these firms.

#### **Keywords**

Logistics Outsourcing, Selection Criteria, Dissatisfaction, Food SMEs, Greece.

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**Introduction**

Logistics operations are responsible for the efficient and effective handling of a firm’s goods and services with the ultimate aim to minimise any costs, to improve customer service and to create a competitive advantage (Christopher, 2006). Managing these operations has become a challenge for modern corporations considering, inter alia, the vast range of logistics functions, the inherent complexity when dealing with large product ranges and stock keeping units and the large capital investment required for logistics operations. In principle, firms could perform the logistics operations by using their own assets or have the option to outsource part or the whole logistics function to specialised firms which become responsible for the provision of these logistics operations (Razzaque and Sheng, 1998). Logistics outsourcing is the focus of this paper that is examined towards Greek food small and medium enterprises (SMEs). We aim to identify the key selection criteria followed by these food firms before (ex ante) appointing specialised logistics service providers and the key resultant (ex post) reasons for dissatisfaction emanating from the provisions of these services.

The above issues have attracted large interest by logistics academics in the past. However, they have been examined in isolation to each other and most academic studies examined the selection criteria or the resultant satisfaction / dissatisfaction. Most importantly, the issue of dissatisfaction has been largely ignored; the same applies to logistics outsourcing for SMEs in general, and food SMEs in particular.

Hence, this study addresses these gaps in the literature.

The next section discusses the theoretical underpinnings of logistics outsourcing followed by an analysis of the key selection criteria when appointing a logistics provider. The outcomes of the logistics provider's performance are examined in another section leading to a discussion of the methodology applied in this study and the empirical context. Subsequently, the results of the empirical work are presented before the paper concludes.

### **Logistics Outsourcing: Theoretical Underpinning & 3<sup>rd</sup> Party Logistics Firms**

Transaction costs theory has been seen as fundamental to the outsourcing principle and it has been developed by many academics including Coase (1937), Simon (1957), Arrow (1969), Williamson (1975) and Rugman (1981). The basis of the transaction cost proposition was that when the transaction costs of an administered exchange are lower than those of a market exchange, then the market is internalised and firm's efficiency is thereby increased. Transaction costs are defined as (Hallwood 1990, p.7): *“The costs of organising the business and include the ex ante costs of carrying out a market transaction such as finding a suitable transactor and informing it of the desire to transact, negotiation costs, the costs of drawing up contracts, policing costs and contract renewal costs, with the ex post costs incurring when opportunistic behaviour by one of the transactors occurs”*. According to Williamson (1985), transaction costs analysis has been influenced by specific conditions such as asset specificity (the degree to which an asset can be redeployed to alternative uses), the degree and type of

uncertainty (stemming from the environment or business partners' behaviour) and the frequency with which they recur. The issue of opportunism is very relevant that according to Powell (1990, p. 299) is the: "*National pursuit by economic actors of their own advantage, with every means at their disposal, including guile and deceit*". Transaction cost economics has been examined widely in the distribution and logistics field (see for example, Aertsen, 1993; Bourlakis, 1998; Bourlakis and Bourlakis, 2005). For the latter, Dawson and Shaw (1990) argue that, in distribution operations, as a generalisation, external transactions (outsourcing) are likely to replace internal organisation when: (a) no idiosyncratic/specific assets are required, (b) many competitive suppliers are available, (c) tasks are repetitive, (d) the task environment is stable and not complex and finally, (e) performance outcomes can be easily and accurately assessed. Sheffi (1990) reasoned that very small corporations where the transportation and logistics function is relatively simple and very large corporations, which can afford sophisticated in-house staff, may not prefer to use outsourcing and the relevant logistics firms..

Muller (1993) also indicates the following four types of logistics firms / vendors:

1. Asset-based vendors which focus on the provision of physical logistics assets to dedicated clients by employing their own trucks and warehouses.
2. Management-based vendors which focus on the provision of logistics management services via databases and information technology systems. However, these firms do not deal with any physical assets.
3. Integrated vendors which manage physical assets and have the ability to join forces with other vendors.
4. Administration-based vendors which focus on the provision of administrative services (e.g. payments).

This logistics outsourcing process has been also named as contract logistics (A.T. Kearney, 1994) or even logistics alliance (Bowersox, 1990). The logistics firms which provide these outsourced services are classified in the logistics literature as third party logistics (3PL) firms (Lieb and Randall, 1996). According to Lieb et al. (1993, p.37), 3PL is defined as: *“the use of external companies to perform logistics functions which have traditionally been performed within an organisation. The functions performed by the third party firm can encompass the entire logistics process or selective activities within that process”*.

Andersson and Norrman (2002) note that these 3PL services differ from purchasing any other services as they help the development of a close business-to-business relationship between the buyer and the service provider notwithstanding the complex nature of the logistics service bought. In terms of the evolution of the 3PL phenomenon, Berglund et al. (1999) note that the traditional logistics providers of the 1980s were dealing only with transportation and warehousing. They were followed in early 1990s by companies which were able to offer more customised and tailor made logistics solutions and had the ability to offer more advanced services including inventory management and fleet management. In the late 1990s, the increasing role of information technology resulted in the entrance of many information technology and consulting firms. It is during that time when the 4<sup>th</sup> party logistics network started to emerge where the 3PL company becomes an integrator and a network manager of the firm's logistics operations (Bourlakis and Bourlakis, 2005). In terms of geographical application, the 3PL sector has been examined in different continents including studies dealing with US and European (Lieb et al., 1993), Australian (Dapiran et al.,

1996) and Asian firms (Sohail and Sohal, 2003). 3PL research has been applied to different supply chain members including manufacturers (Lieb et al., 1993), retailers (Bourlakis and Bourlakis, 2005; Fernie, 1989) and primary suppliers (Bourlakis et al., 2004). 3PL researchers have also borrowed and subsequently applied theories beyond the logistics discipline (see Knemeyer and Murphy, 2005) including the strategic management competence theory (Halldorson and Skjott-Larsen, 2004) and relationship marketing (Moore, 1998). Focussing on relationship marketing, Knemeyer's and Murphy's work (2005) examined the perspectives of the user and provider of a logistics service by examining relationship marketing elements and outcomes. Some of these issues are addressed in the next sections that focus on the ex ante selection criteria when appointing a 3PL firm and the ex post outcomes (including dissatisfaction) after using a 3PL firm.

### **Selection Criteria for Using a 3PL Firm**

The critical decision for firms is whether to outsource and / or to internalise the logistics functions and the next table provides the key advantages and disadvantages (Table 1).

#### **“Take in Table 1”**

Gattorna et al. (1991) outlined the aspects that influence the decision of a buyer of such logistics services and distinguished between control aspects and physical aspects. The control aspects include the exclusivity of service, a sufficient range of contractor's managerial activities, continuity of the relationship, commitment and reliability attached to the relationship by the 3PL firm, ability for performance measurement, cost control, commercial and financial security, reliable customer

service, and minimisation of problems related to industrial relations. The physical aspects include operational flexibility, the ability of the 3PL firm to cope with a vast range of physical activities, ability to maximise level of service, geographical coverage provided by the 3PL firm, and product and / or market specialisation of the 3PL firm; the latter two points were reinforced by Rao and Young (1994). Minahan (1995) raised the point that buyers of these services should be examining only the 3PL firms' physical assets but should also analyse the 3PL firms' skills and how these skills support and extend what they have in their own operations. Subsequently, Razzaque and Sheng (1998, p. 98) mention that: "*it is crucial to match a third party's strength to the firm's weaknesses*". Therefore, companies should focus on their core competences and employ 3PL firms for the functions which do not have expertise (Andersson (1997) that also helps towards risk spreading (Sink and Langley, 1997).

In terms of the selection criteria towards using a 3PL firm, Jharkaria and Shankar (2007) provide a very comprehensive review that includes the following criteria:

compatibility with the users, cost of service, quality of service, reputation of the 3PL company, long-term relationship, performance measurement, willingness to use logistics manpower, flexibility in billing and payment, quality of management, information sharing and mutual trust, operational performance, information technology capability, size and quality of fixed assets, experience in similar products, delivery performance, employee satisfaction level, financial performance, market share, geographical spread and range of services provided, risk management, surge capacity of provider, clause of arbitration and escape, and flexibility in operations and delivery.

For small firms, Razzaque and Sheng (1998) suggest that they need to be cautious when applying selection criteria and to consider outsourcing as not a cost-cutting exercise but more strategically and especially as an opportunity to get a competitive advantage.

There are also contrasting views in the logistics literature about which selection criteria dominate the supplier evaluation decisions. For example, Fernie (1989), Kremic et al. (2006), Wilding and Juriado (2004) suggest that the issue of cost is always a key or even a top priority whilst Sink et al. (1996) note that the core competences of 3PL firms are leading motives during these decisions. But even for the cost element, Wilding and Juriado (2004) report its less important role within the consumer goods sector. They note that the outsourcing decision is based on service-related considerations including competencies of 3PL firms and operational flexibility. That confirms that the evaluation of these criteria will depend on the market environment and the client's needs (see also Sink et al., 1996). Kremic et al. (2006) add the social cost element that may influence the outsourcing decision (e.g. low morale, high absenteeism within employees for the firm that uses outsourcing) and that there are no guarantees that any cost savings will actually materialise as in many occasions the costs are actually higher following outsourcing. Whatever the criteria used, Fernie (1998a, 1998b) states that logistics outsourcing varies between countries and depends on the regulatory environment, the competitiveness of the third party sector and other distribution-related issues.

### **The Outcomes of a 3PL Firm's Performance**

Past research has highlighted a range of issues following the usage of a 3PL firm including the need for their further performance improvement (see for example, Lieb

and Bentz, 2005). Razzaque and Sheng (1998) make the association between logistics outsourcing and customer service (illustrating the resultant customer satisfaction or dissatisfaction) and note that the correct implementation and usage of the 3PL selection criteria is key for the future success of any relationship. They also stress (Razzaque and Sheng, 1998, p.102):

*“Outsourcing is a specifically defined contractual relationship that is dependent on the supplier meeting the buyer’s defined performance goals”.*

If these performance goals and criteria set are met then customer satisfaction is created and the firms could start engaging in long-term relationships and true partnerships rather than work on ad-hoc, arms-length transactions. Wilding and Juriado (2004, p.641) stress that most companies “use some sort of formalised performance measurement” with most popular performance measurement criteria to include (given in a ranking order): delivery timeliness, cost, overall quality, inventory management, picking accuracy, responsiveness and flexibility. Laarhoven et al. (2000) note the use of written contracts in most user - 3PL firm partnerships including detailed analysis of logistics activities required and specific performance targets to meet; they also note the increased use of penalty clauses over the past few years in case these targets are not met. The above are some defensive, safeguarding mechanisms against possible opportunistic behaviour by the 3PL firms.

Overall, 3PL firms are regarded as successful and most studies illustrate a successful partnership between a 3PL firm and a buyer of that service [see for example, Sink et al., 1996; Laarhoven et al., 2000; Wilding and Juriado, 2004; Sohail and Al-Abdali, 2006] that leads to a high renewal rate of that contract agreement (Laarhoven et al.,

2000). Laarhoven et al. (2000) examined a wide spectrum of sectors and illustrated the cost savings and service improvements when using 3PL firms. They also compared highly successful partnerships with less successful ones and identified the conditions for a successful logistics partnership. These conditions include a distinctive separation of responsibilities between the firms, a solid organisational structure which focuses on the user's core skills and at the same time outsources the skills which are not core, a dedicated relationship between the two firms and a large focus on performance orientation including performance reviews and penalties during poor performance. Similarly, Wilding and Juriado (2004) mention that academic studies tend not to provide detailed analysis of user satisfaction for 3PL services received presenting a gap in the literature. In their work, Wilding and Juriado (2004) illustrate a positive, although weak, correlation level of satisfaction from the user's point of view and the actual level of outsourcing allocated.

### **Dissatisfaction**

The quest for customer satisfaction continues to be an important strategic initiative for most companies today. The predominant model suggests that consumer satisfaction is determined by a comparative process between prior expectations and performance perceptions (Oliver, 1993). There are several dimensions to expectations of performance and many of these are intangible and can vary significantly from business partner to business partner. Often companies can have undue expectations regarding 3PL performance for a variety of reasons (exaggerated statements made during promotion, decision makers being not fully informed etc.). However, other dimensions are more tangible and can be objectively assessed. These include delivery times, prices, delays resulting from various reasons, etc.

Business partner dissatisfaction may have a negative impact on sales and revenue. Customer dissatisfaction can arise due to poor performance and/or the quality of service provided by the 3PL in comparison to selection criteria (prior expectations). In either case, it results in a negative impact on the overall business performance. This could be either due to the dissatisfied customers switching to competing 3PL provider and/or losing potential new customers due to negative word-of-mouth effect. The consequence of dissatisfaction is more difficult and costly to rectify and hence it is very important that 3PL provider avoids this occurring in the first instance. A proper contract between the company and 3PL providers and the monitoring of the provider's actions are very critical for ensuring high level customer satisfaction (Murthy et al. 2004).

### **Research Gaps**

Following our literature review search, we are confident to suggest that there is a scarcity of academic work that examined in detail the dissatisfaction emanating from the 3PL service provision. Murphy and Poist (2000) support our view and indicate the need for further investigation of the factors that lead to an unsuccessful relationship. The only relevant work found in our search was by Wilding and Juriado (2004) who cited the key reasons for companies not renewing their contracts with 3PL firms, hence, their reasons for dissatisfaction. These include (given in a ranking order): service and quality issues, cost issues, trust and communication problems with the 3PL firm, inability of the 3PL firm to adapt with changes, strategic decisions, poor management of the 3PL firm, financial instability, no value added, acceptability of trade credit.

Another gap in the literature is the very limited examination of 3PL firms servicing food companies and Wilding and Juriado (2004) note that most similar studies examine normally a wide spectrum of sectors. Other gaps in the literature are related to the scarcity of 3PL work for SMEs in general and food SMEs in particular. These aforementioned gaps will be addressed in the empirical work which was based on case study methodology analysing SMEs operating in the Greek food sector.

### **Case Study Methodology & Empirical Context**

The empirical research sought primarily to examine the outsourcing / 3PL usage for Greek food SMEs and more specifically, it had the following objectives:

1. To identify the selection criteria applied by food SMEs before (ex ante) appointing a 3PL firm.
2. To indicate the key resultant (ex post) reasons causing dissatisfaction for food SMEs when using 3PL firms.

Keeping in mind the strengths and weaknesses of each data collection and analysis techniques, case research is a suitable methodology when the researchers seek to get insights by investigating a concept or model with scarce empirical evidence. While case studies are widely known as a teaching tool, case research attempts to explore, describe, or explain events as they actually happened (Yin, 1994).

The two objectives were examined via the use of a qualitative case study methodology that according to Patton (1990, pp.13, 14) permits: " *[the] study [of] selected issues in-depth and detail....[and] typically produces a wealth of detailed*

*information [Which] increases the understanding of the cases and situations studied but reduces generaliseability "*. The qualitative case study methodology does not seek to determine statistical significance or patterns (see Denzin and Lincoln, 1994; Patton, 1990; Stake, 1995) but aims to facilitate the in-depth exploration of cases (Stake, 1995) and to provide rich knowledge of a specific context (Eisenhardt, 1989).

In general, a small number of individual case studies can shed light on the circumstances they occur in, or as a result of, thorough analysis of the case in relation to the sector or sphere more generally (see Miles and Huberman, 1994). Multiple case studies can facilitate the development of an in-depth, empirically grounded, theory of the studied phenomena (see Stake, 1995; Yin, 1984). The qualitative case study methodology was therefore appropriate for this research and to ensure that the research yielded relevant findings, a small sample of cases (three cases) was purposively selected. This approach is typical of qualitative research. Indeed, Patton (1990, p.184) asserts:

*"...there are no rules about sample size...Sample size depends on what you want to know, the purpose of the inquiry, what's at stake, what will be useful, what will have credibility, and what can be done with available time and resources...A qualitative sample size only seems small in comparison with the sample needed...when the purpose is generalising from a sample to the population of which it is part..."*.

Previous studies preferred to use case research in similar contexts. McAlister and Erffmeyer (2003) used a qualitative research methodology to investigate complaints made to a governmental third-party organization regarding insurance sales representatives and their companies and found that the majority of complaints are

related to deceptive marketing and sales practices. Tikkanen et al. (2000) reviewed the concept of dissatisfaction in industrial marketing. The authors adopted a case research methodology due to the complexity of the concept and the need for a methodology capable enough to gain insights of this complex issue. Tikkanen et al. (2000) concluded in a three-level framework i.e., the inner context of a buyer–seller relationship, the connected network of a buyer–seller relationship, and the outer context of the connected network, in order to understand better the concept satisfaction in industrial markets.

The case research combines several types of data: interviews of decision makers, archival data, such as annual reports, company newsletters, minutes of meetings, confidential memos as well as industry statistics and information, articles in professional publications and interviews and informal discussions with various industry informants, e.g., food consultants and representatives of research institutes.

In this study, the primary source of information was semi-structured interviews with key decision-makers in organizations, which is a typical interrogative method in case research (i.e. Denzin and Lincoln, 1998; Kvale, 1996).

Data collection occurred between May and June 2007 targeting Greek food and beverage companies representing all members of the Greek food supply chain. An initial screening safeguarded that companies which had implemented logistics outsourcing and were willing to provide all the information required were included. Further screening resulted in selecting three companies - cases which met the following criteria: 1) the company was operating for more than a decade, 2) it was receiving 3PL services for more than 10 years and, 3) the company was dissatisfied

with the logistics services received. For confidentiality reasons, the companies were given names from the Greek alphabet and were named as Alpha, Beta, and Gamma.

We ensured that the data collected were related to the research objectives and were in line with the ethnographic approach that advocates of closeness to the reality of the topic under investigation (Banister et al., 1994). Subsequently, a qualitative analysis was undertaken by identifying key themes, built on the aforementioned objectives, which is a common approach in this discipline (see Patton, 1990; Strauss and Corbin 1998) and is known as "thematic" analysis (Banister et al., 1994). More specifically, the "thematic" analysis is a coherent way of organising primary material and enables data to speak for itself (Banister et al., 1994).

Data analysis was carried out as an iterative process. The process was divided into two interconnected stages: (a) within-case analysis which focused on each case separately and (b) cross-case analysis which compound evidence from two or more cases and synthesized the findings of the previous stage. Data analysis for each case involved generating concepts through the process of coding. Inductive coding sought for emergent concepts from the primary data, while deductive coding looked for concepts and variables emerged from the literature review (Janesick, 1994; Strauss, 1987).

Findings stemming from each case were considered on individual basis and the three cases were cross-examined to perform a critical, multiple case study analysis and to identify comparable and contrasting data in relation to the research objectives (see Ragin, 1987; Yin, 1984). Specific quotes from the interviewees are also provided in

the next section, primarily because they are of some value in defining, supporting or elaborating the researcher's interpretation of events (Glaser and Strauss, 1967).

These three cases represented firms from the Greek food sector that is characterized by a few large companies that dominate the market such as the multinationals (e.g. Nestlé, Carrefour). At the same time, there is a considerable group of SMEs that operate mostly on regional basis. In this sector, the retail market consists of 294 retail chains with the leading food retail multiples in terms of sales being the multinationals, i.e. Carrefour and A/B Vasilopoulos (Delhaize Le Lion). In the food manufacturing sector, there are 1,036 companies and with over 80% of the enterprises operating in this sector being SMEs which dominate the food primary production (primary producers / suppliers of fruit, vegetable, fisheries etc). It is noteworthy that 3PL research has been limited, with some exceptions, towards that national environment and that sector per se. For example, Kotsifaki et al. (2007) examined the strategic planning of 3PL firms, Moschuris and Kondylis (2006) analysed outsourcing and use of external service providers in the Greek hospital chain and Zeimpekis et al. (2007) examined the design and implementation of a real-time fleet management system that was tested to a Greek 3PL operator. The role of outsourcing in the Greek food sector has only been examined by Bourlakis and Bourlakis (2001) who focused on food retailing. However, no previous work has analysed the selection criteria for appointing 3PL firms within the Greek food sector per se and the resultant dissatisfaction.

## **Results**

In the first part of this analysis, the results are presented on a case-by-case basis.

### **Case 1: Company Alpha**

Company Alpha is a producer, trader and exporter of citrus fruit, watermelons, potatoes, apples and pears. The company occupies 9 full time employees and 35 employees on part time basis. The company's profit for 2006 was 4 million Euros and its export activities are focused on the European Union (see Table 2). The company cooperates with 3PL firms for more than a decade and has a long-term relationship with three providers.

#### **“Take in Table 2”**

The main services offered by the 3PL firms include transportation, order processing and chilled warehousing. All international deliveries are serviced by 3PL firms. Company Alpha is not satisfied by 3PL services and its managing director reported that: *“It is something we do not want but we have to; it would be better if we could do all transportation and product deliveries by ourselves. 3PL firms seldom do what they sign on the contract, they don't try to satisfy our company's and our customers' needs. But we need them because they cover areas we cannot distribute (e.g. abroad) and they are relatively cheaper than ourselves”*.

It was clear from our discussion, that if the managing director had a choice, he would not use 3PL firms. Using them becomes a necessity for SMEs which do not have the ability to distribute their products or even having the financial strength to invest in the expensive chilled supply chain infrastructure. Company Alpha chose 3PL firms based on the following criteria listed below in order of significance (see Table 3): the 3PL firm to have experience in food logistics / expertise with chilled supply chain, to be

quality assurance certified, to offer flexible credit / payment terms, to be cost efficient and to be able to offer on-time deliveries.

**“Take in Table 3”**

Quality assurance certification has been very critical in food chains and it is the norm for companies aiming to export their products to European Union countries. The issue of flexibility on credit / payment terms is also critical for SMEs which normally encounter cash flow problems and do not command the financial strength of larger enterprises.

**Case 2: Company Beta**

Company Beta was founded in 1990. It is located in Athens and trades dairy products. It has a logistics department but at the same time it collaborates with eight 3PL firms which provide transportation and chilled warehousing. Its own logistics activities cover 50% of urban areas and 25% of small cities and villages in the country with the managing director explaining:

*“It is better to cover Athens and other suburban areas with our own warehousing and transportation. This improves our knowledge about our customers’ needs. Then, we use 3PL firms to distribute products to rural areas”.*

He continued:

*“Our customers don’t realise that the 3PL services used are outsourced. We need to be careful then for our corporate and brand image as any problems during distribution create negative connotations for us. We had these problems in the past and we still do in many occasions for which we are not happy with”.*

The manager illustrated his overall dissatisfaction during the interview. He made an interesting point that an incapable 3PL firm could damage a firm's corporate image and reputation in the marketplace. He considered the past and ongoing problematic incidents he is facing with this kind of 3PL firms and noted his concerns and dissatisfaction. The top 5 selection criteria that company Beta applied when appointed a 3PL firm are the following, listed below in order of significance (see Table 3): Geographical coverage, cost efficiency, flexible credit / payment terms, experience in food logistics / expertise with chilled supply chain, quality assurance certified. These top 5 criteria were noted during the interviews with the managing director and the logistics manager of the firm. They both explained that the criterion of geographical coverage is top on the list primarily because they rely on 3PL firms for product distribution in remote areas. They also noted that Greece is an extremely difficult country to distribute, taking into account the thousands of islands, the country's mountainous nature, and the poor road infrastructure. Therefore, a 3PL firm which can provide a detailed geographical coverage (No 1 criterion for that SME in Table 3), in a cost efficient manner (No 2 criterion) and offering flexibility in credit / payment terms (No 3 criterion) is considered very favourably. They also noted that company Beta received little feedback by its end-consumers regarding the performance of 3PL providers. This is also hidden point of dissatisfaction: Company Beta does not get any knowledge about its customer satisfaction when 3PL intervenes, resulting in poorer marketing offerings in comparison to costumers located in Athens that are directly supplied by company Beta.

### **Case 3: Company Gamma**

The company was founded in 1993 and it processes, packages, and trades fish produce. It depends solely on 3PL providers for the full range of logistics activities such as frozen storage facilities – warehousing, transportation, logistics information systems, order processing (see Table 2). The company's managing director complained that 3PL firms do not provide appropriate service levels to end-customers and noted: "3PL firms are in the business of transportation and warehousing. They do deliveries, and are good in order processing and records-keeping; however they know little about our business, our customers' needs, our marketing strategy". 3PL firms do not add any extra value to the product, do not get in touch with customers and do not discuss the company's needs with the buyers; they do not even promote the company's new products.

Company Gamma does not have a formal 3PL performance evaluation but relies on the feedback it receives from its end-customers. The logistics manager noted: "We are in touch with our customers on every-day basis. We get feedback daily about timeliness of deliveries, quality of products delivered, financial issues, etc. If something happens with 3PL firms, our customers will phone our company to deal with the issue immediately. 3PL firms know that and it makes them more responsible. We don't rely on 3PL firms to find out and satisfy customer needs although we should". The logistics manager stressed his dissatisfaction for 3PL firms which seem to operate in isolation to his firm and he would like to see further strategic integration between 3PL firms and his company's operations. The latter point was also mentioned in the stated selection criteria (see Table 3). 3PL firms are not capable of promoting and supporting the company's strategy especially when they manage numerous products including competitors' ones. They cannot then pay special attention to Gamma's products and that has been another bone of contention and dissatisfaction.

In terms of selection criteria, company Gamma applied the following ones (listed in order of significance, see Table 3): cost efficiency, experience in food logistics / expertise with frozen supply chain, quality assurance certified, potential to become a strategic partner, flexible credit / payment terms. Cost efficiency came on the top of the list that is not surprising if we take into consideration the large investment and complexity when dealing with frozen goods distribution; the latter investment could be quite prohibitive for an SME.

### **Cross-Case Analysis**

To shed further light on the topic under research, cross-case analysis was implemented that combined findings from individual cases. In terms of the first research objective, Table 4 provides a ranking of the most frequently reported selection criteria during the interviews and it is largely based on Table 3.

#### **“Take in Table 4”**

In the second column of Table 4, we rank the appearance of each selection criterion for the three cases analysed. For example, cost efficiency appeared to be in our 1st case (Alpha) in the 4th place (see Table 3) and subsequently, it is illustrated as (4) in that column. For company Beta (2nd case), cost efficiency is enjoying the 2nd place; therefore, this is depicted with a (2) in the second column of Table 4. Similarly, cost efficiency is assigned a (1) company Gamma. Similar logic has been applied to the rest of the criteria for the three cases altogether. In the third column of Table 4, we score these rankings achieved per case. Specifically, a criterion could command any place from 1 to 5 in the top5 of each case. Subsequently, we have allocated a specific score to each criterion per case in a reverse order and if a criterion was listed first in

the top 5 of a case, it will receive 5 points; if it was listed second it will receive four points, if it was listed third it will receive 3 points, if it was listed fourth it will receive 2 points and if it was listed fifth it will receive 1 point. This process can be used in qualitative research enquiries (see for example, Denzin and Lincoln, 1998; Miles and Huberman, 1994).

Therefore, the last column of Table 4 indicates the total score achieved per criterion. The results show that both the experience in food logistics / expertise with chilled & frozen supply chain and cost efficiency are ranked equally in the first position with 11 points that is not surprising. Experience of food logistics is an absolute necessity for 3PL firms aiming to collaborate with food firms and confirms the relevant literature whilst expertise with temperature controlled supply chains is an interesting finding which has not appeared in the literature as yet. This is a food sector-specific criterion taking into account that temperature-controlled supply chains have become very important for the safe and risk-free distribution of food products (Gustafsson et al., 2006). Cost efficiency is in the first place as well confirming the previous literature. It denotes its pivotal role for SMEs which do not command the same financial status as the larger enterprises and will be more inclined to outsource food logistics operations due to the large investment required. The latter disconfirms a previous finding by Sheffi (1990) who reasoned that SMEs may not prefer using outsourcing.

Quality assurance certification is in the second place that is a food sector-specific factor but with wider repercussions for other industries. HACCAP, ISO and other quality assurance certification tools gained large interest by many food firms aiming to guarantee the provision of high quality products and this criterion has not been identified before in our literature search. The criterion of flexibility in credit /

payment terms is another interesting finding commanding the third place confirming the existing literature. However, it is not surprising as most SMEs will prefer to pay under flexible conditions. Geographical coverage was in the fourth place, a criterion that is very important in that national logistics environment due to its geographical structure and complexity.

In terms of the second research objective, dissatisfaction has been noted by managers of these food SMEs for the following reasons:

1. In few occasions, 3PL firms do not conform to their contractual agreement and behave in an opportunistic manner.
2. Using 3PL firms has become an absolute necessity for SMEs which lack the financial status to invest in expensive logistics assets and which aim to expand abroad. That issue is well-known to 3PL firms which may abuse their role in the Greek food supply chain creating dissatisfaction.
3. 3PL firms should operate in a professional manner; otherwise, any bad / poor logistics practices followed by 3PL firms can damage the SME's corporate image and reputation. Relevant incidents are quite common creating dissatisfaction.
4. 3PL firms should not work in isolation but should aim to integrate strategically with SMEs. 3PL firms should also work closely with the end customers by promoting the SMEs' products and report the end customers' needs back to the SME. If possible, the 3PL firms should avoid distributing competitors' product lines.

### **Conclusions and managerial implications**

Our work has denoted the key selection criteria applied by Greek food SMEs when they appoint 3PL firms and has illustrated the key issues that create dissatisfaction for these SMEs. The selection of case research methodology was inevitable given the nature of research which requires an in-depth inquiry of the selection criteria and dissatisfaction repercussions as well as the fact that most companies have one or few 3PL companies that do business with. Case research is suitable when the researchers seek to get insights by investigating a concept or model with scarce empirical evidence. Indeed, considering the scarcity of research work examining both SMEs in general and food SMEs in particular, case research was the appropriate methodology for this study. Admittedly, case research, though is more time-consuming and resource-demanding than traditional customer surveys, is sensitive to the context of each case study and results are hard to interpret and generalise.

Case research is suitable for seeking insights regarding concepts that have been underscored by major research streams, therefore is more suitable for researching 3PL selection and satisfaction criteria because a quantitative survey may have failed to reveal key issues. Indeed, companies usually have relatively few key 3PL partners, which means that it is feasible to gather and analyze qualitative information on 3PL dissatisfaction. On the other hand, due to the few 3PL partners, there is often not the possibility of quantitative analysis, which require the inclusion of many unimportant partners in the sample. Moreover, in, e.g., a specific bidding situation, it is more important for a supplier to know about the satisfaction perceptions of key decision makers within a single organization than about “average” satisfaction ratings. However, we acknowledge the lack of generability of case research findings, thus, we suggest more research in similar contexts.

The current work has identified a range of issues which need to be given special attention. The food supply chain is very distinctive compared to other supply chains and our research has illustrated a range of food sector-specific selection criteria for appointing 3PL firms issues including, inter alia, the use of temperature controlled logistics assets and quality assurance certification. Therefore, the 3PL firms working with food SMEs need to grasp and appreciate the specific food SMEs' needs by investing into the relevant temperature-controlled infrastructure and to become quality assurance certified. To those SMEs considering outsourcing, this result should be reassuring of choosing 3PL providers.

Our body of case study evidence therefore widens the scope of existing findings (Jharkaria and Shankar 2007; Razzaque and Sheng, 1998) as well as providing significant empirical data to extend our , and others' similar, line of argument (Gattorna et al. (1991). Our work has confirmed a finding by Jharkaria and Shankar (2007) who noted the need for flexible payment policy. The latter is very critical for food SMEs and 3PL firms should apply a more tolerant payment / credit policy with their SMEs. They should also aim to integrate further with the SMEs and this has been also proposed by Razzaque and Sheng (1998). The firms in our sample were found to engage in ad-hoc, arms-length relationships with the 3PL firms and without applying any performance-related goals or even performance evaluation. In addition, this study has confirmed the major role of cost efficiency as a prime criterion for SMEs extending further the arguments posed by Gattorna et al. (1991) and Jharkaria and Shankar (2007).

To the degree that a 3PL provider can keep the logistics costs (transportation, handling, warehousing, inventory management, reverse logistics, and monitoring

performance) low while avoiding behavioural pitfalls such as opportunism, lack of professionalism, then the 3PL is a necessary partner and a viable alternative to in-house logistics. The inability of SMEs to keep logistics costs low proves itself an opportunity for 3PL to grow. In top of that, those 3PL providers that will offer more customer-related services will gain a competitive advantage and it is likely to create long-term strategic alliances with SMEs.

Previous academic work has illustrated satisfaction for the users of 3PL services (see for example, Laarhoven et al., 2000; Sink et al., 1996; Wilding and Juriado, 2004). Our empirical work has generated a range of reasons which create dissatisfaction between food SMEs when employing 3PL firms and subsequently, it has shed further light on the existing scant evidence (see for example, work by Wilding and Juriado, 2004). Our paper has focused on dissatisfaction, a key research objective of the empirical work. Subsequently, we offer a plethora of extra insights which 3PL firms are well advised to consider.

Apart from the 3PL industry, this work has generated many useful findings for other members of the food supply chain including manufacturers, retailers and primary suppliers. Although we acknowledge that our empirical work was focused on the Greek food sector, we envisage that our findings will generate interest for other national food environments and other food SMEs. This research can be extended by capturing data over a period of time to understand how the SMEs-3PL provider relationship evolves and what incidents become critical to SMEs (dis)satisfaction. Further work could examine other food SMEs and test the accuracy of our results in other national environments. Further work could be also conducted for a bigger sample of Greek food and non-food SMEs where the differences between sectors can

be exposed. It could also examine relationship marketing issues emanating from the relationship between the buyer and the supplier of a logistics service (see also Argyriou et al., 2005 for an examination of relationship marketing in the Greek context).

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**Table 1: Advantages and Disadvantages of Outsourcing**

<b>Advantages</b>	<b>Disadvantages</b>
Reduction in capital investment in facilities, information technology and manpower	Loss of control
Firm becomes more flexible to adapt to changes & respond quicker to demands	Lack of appropriate information technology systems linking the various firms in that chain
3PL firms convert a fixed cost to a variable cost	Failure to select or manage 3PL firms appropriately
Inventory turnover rate is improved	Unreliable promises given by 3PL firms, inability to respond to changing requirements & lack of understanding of user's business goals
It could be more cost efficient compared to in-house operations	Apprehension in users' employees about job security

Improving customer service and satisfaction	Difficulty of assessing any benefits and cost savings gained through outsourcing
Acquiring outside expertise	

Source: Adapted from Razzaque and Sheng (1998)

Table 2: Case demographics and usage of 3PL firms

<b>Case / Company</b>	<b>Products</b>	<b>Number of Personnel</b>	<b>Exports (%)</b>	<b>Area of exporting</b>	<b>Number of 3PL providers</b>	<b>Number of Years using Outsourcing</b>	<b>Logistics services provided by the 3PL firm</b>
1. Alpha	Citrus fruit, watermelons, potatoes, apples, pears	<10 (full-time)	60%	European Union	3	10	• Transportation • Chilled warehousing • Order processing
2. Beta	Dairy	50-250	N/A		8	>10	• Transportation • Chilled warehousing
3. Gamma	Fish produce	<10	0-10%	European Union	5	>10	• Frozen storage facilities – warehousing • Transportation • Logistics information systems • Order processing



**Table 3: The Top 5 selection criteria for using 3PL firms**

<b>Case / Company</b>	<b>3PL Firms' Selection Criteria (in order of significance)</b>
1. Alpha	1. Experience in food logistics/ Expertise with chilled supply chain 2. Quality assurance certified 3. Flexible credit / payment terms 4. Cost efficiency 5. Ability for on-time deliveries
2. Beta	1. Geographical coverage 2. Cost efficiency 3. Flexible credit / payment terms 4. Experience in food logistics/ Expertise with chilled supply chain 5. Quality assurance certified
3. Gamma	1. Cost efficiency 2. Experience in food logistics/ Expertise with frozen supply chain 3. Quality assurance certified 4. Potential to become a strategic partner 5. Flexible credit / payment terms

**Table 4: Most frequently reported selection criteria in the Top 5**

<b>Selection criterion</b>	<b>Ranking of the selection criterion for cases 1,2,3 respectively</b>	<b>Score for each ranking per case</b>	<b>Total score per criterion</b>
Experience in food logistics/ Expertise with chilled & frozen supply chain	(1), (4), (2)	(5), (2), (4)	11
Quality assurance certified	(2), (5), (3)	(4), (1), (3)	8
Flexible credit / payment terms	(3), (3), (5)	(3), (3), (1)	7
Cost efficiency	(4), (2), (1)	(2), (4), (5)	11
Ability for on-time deliveries	(5), (0), (0)	(1), (0), (0)	1
Geographical coverage	(0), (1), (0)	(0), (5), (0)	5
Potential to become a strategic partner	(0), (0), (4)	(0), (0), (2)	2