

ELEMENTS OF SOURCING STRATEGY IN FACILITIES MANAGEMENT SERVICES – DECISION CATEGORIES AND CHOICES

Tomi Ventovuori



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ELEMENTS OF SOURCING STRATEGY IN FACILITIES MANAGEMENT SERVICES – DECISION CATEGORIES AND CHOICES

Tomi Ventovuori

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Abstract			
<p>It is commonly suggested that effective procurement planning and management of FM services can directly affect the relative success of an organization's business. Therefore, it is surprising that only a few organizations and a few studies have focused on the development of sourcing strategy in FM services or their essential elements, such as outsourcing decisions, service bundling and the selection of relationship type. The lack of theoretical frameworks is perhaps one reason why strategic planning of sourcing is found to be ignored in the field of FM.</p> <p>This study presents the elements of sourcing decisions that are essential for the development of sourcing strategy in FM services, and integrates five scientifically reviewed research papers. The objectives of the study are to identify the different types of sourcing decisions and the alternative choices within the FM services sourcing strategy. Furthermore, the factors used for justifying a specific decision in sourcing FM services are identified and implications of the supply environment in FM services market for identified decisions are discussed.</p> <p>Based on literature review, a theoretical framework for FM service sourcing strategy was developed. The framework was used to examine the sourcing strategies in four case organizations. The case data were collected by using semi-structured interviews, open-ended questionnaires and focus group interviews. Later, the case data was supplemented with market data which were collected from Finnish service companies by using a questionnaire. The market data was aimed to generate additional information for decisions and choices of the framework from a FM services market perspective.</p> <p>This dissertation points out that the realized sourcing strategies in the FM services context are an integration of the different sourcing decisions that have features of different sourcing strategy approaches earlier presented in the supply chain management and FM literature. As information on a certain market is important for the buyers in making well-grounded sourcing decisions, it is suggested that the buyers of FM services should conduct systematic research of the markets prior to competitive bidding. By using a novel framework for selecting sourcing strategy in FM services, the buyers can make more rational sourcing decisions.</p>			
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<p>Tiivistelmä</p> <p>Yleisen käsityksen mukaan kiinteistö- ja toimitilapalvelujen hankintojen suunnittelulla ja johtamisella voidaan vaikuttaa yrityksen liiketoiminnan menestymiseen. On kuitenkin yllättävää, että vain harva organisaatio on kehittänyt suunnitelmallisesti omia hankintastrategioita tai harva tutkimus keskittynyt kiinteistö- ja toimitilapalvelujen hankintastrategioihin. Teoreettisten viitekehysten puute voi olla yksi syy, että hankintojen strateginen suunnittelu on unohdettu kiinteistö- ja toimitilajohtamisessa.</p> <p>Väitöskirja koostuu yhteenveto-osasta ja viidestä julkaistusta artikkelista. Tutkimus tuo esille ne päätöksenteon osakokonaisuudet, jotka ovat olennaisia kiinteistö- ja toimitilajohtamisen palvelujen hankintastrategian kehittämisessä. Tutkimuksen tavoitteena on tunnistaa erilaiset hankintapäätökset ja vaihtoehtoiset valinnat kiinteistö- ja toimitilajohtamisen palvelujen hankintastrategian kehittämisessä. Lisäksi tutkimuksessa tunnistetaan perusteita hankintastrategiassa tehdyille valinnoille sekä käydään läpi kiinteistö- ja toimitilapalvelujen markkinoiden vaikutuksia hankintapäätöksiin.</p> <p>Aluksi tässä tutkimuksessa kehitettiin teoreettinen viitekehys kiinteistö- ja toimitilapalvelujen hankintastrategialle kirjallisuuskatsauksen avulla. Viitekehysten hyödynnettiin tapaustutkimuksessa hankintastrategioiden tarkastelussa neljässä organisaatiossa. Tapaustutkimuksen aineisto kerättiin puolistrukturoiduilla haastatteluilla, avoimella kyselyllä sekä ryhmähaastatteluilla. Myöhemmin tapaustutkimuksen aineistoa täydennettiin kyselyn avulla keräämällä markkinatietoa suomalaisilta kiinteistö- ja toimitilapalveluyrityksiltä. Markkinatiedon keräämisen tavoitteena oli tuottaa lisätietoa viitekehyksessä esitettyihin hankintapäätöksiin ja valintoihin markkinoiden näkökulmasta.</p> <p>Tämä väitöskirja osoittaa, että todellisuudessa hankintastrategiat kiinteistö- ja toimitilajohtamisen palveluissa muodostuu erilaisista osapäätöksistä ja valinnoista. Valinnat eivät kuitenkaan ole aiotun suunnitelmalista, vaan toteutuva toimintamalli on toisistaan osittain irrallisten päätösten tulosta. Erityisesti nousee esiin ulkoisen toimintaympäristön vaikutukset hankintamallin valintaan. Tutkimuksessa ehdotetaan, että hankintaorganisaatiot voisivat käytännössä hyödyntää tutkimuksen viitekehystä tehdessään kiinteistö- ja toimitilapalvelujen hankinnan ratkaisuja. Lisäksi voidaan suositella, että hankintaorganisaatioiden tulisi tehdä hankintasuunnitelma ja palvelumarkkinoiden kartoitus jo ennen palveluiden varsinaista kilpailutusta.</p>	
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"Jokainen tsäänssi on mahdollisuus!"

- M. Nykänen

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LIST OF APPENDED PAPERS

This dissertation for the degree of doctor of science in technology summarizes the following publications:

Paper 1.

Ventovuori, T., Lehtonen, T., Salonen, A. and Nenonen, S. (2007), A review and classification of academic research in facilities management, *Facilities*, Vol. 25, No. 5/6, pp. 227-237.

Paper 2.

Ventovuori, T. (2006), Elements of sourcing strategies in FM services – a multiple case study, *International Journal of Strategic Property Management*, Vol. 10, No. 2, pp. 249-267.

Paper 3.

Ventovuori, T. (2005), To group sites or not to group- The challenge of facility service procurement, *Proceedings of the IPSERA Conference 20-23 March 2005, Archamps, France*, pp. 1085-1096.

Paper 4.

Ventovuori, T. and Lehtonen, T. (2006), Alternative models for the management of FM services – An empirical investigation, *Journal of Corporate Real Estate*, Vol. 8, No. 2, pp. 73-90.

Paper 5.

Ventovuori, T. (2007), Analysis of supply models and FM service market trends in Finland - implications on sourcing decision-making, *Journal of Facilities Management*, Vol. 5, No. 1, pp. 37-48.

AUTHOR'S CONTRIBUTION TO PAPERS

The author's contribution to Papers 1 to 5 consists of the following:

Paper 1: The first two authors were mainly responsible for reviewing the literature, analyzing the data and writing the paper. Data was collected and analysed in cooperation with the other co-authors.

Paper 2: The author was fully responsible for writing this paper.

Paper 3: The author was fully responsible for writing this paper.

Paper 4: The author was responsible for initiating this paper and was mainly responsible for writing the paper. The data was analyzed in cooperation with the co-author.

Paper 5: The author was fully responsible for writing this paper.

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ABBREVIATIONS

AFM	Association of Facilities Managers
BIT	Business, Innovation and Technology
CEM	Laboratory of Construction Economics and Management
CEM/FSR	CEM Facility Services Research
CREM	Corporate Real Estate Management
FM	Facilities Management
IFMA	International Facilities Management Association
IPSERA	International Purchasing and Supply Education and Research Association
KIINKO	Real Estate Education and Training Institute
RAKLI	Finnish Association of Building Owners and Construction Clients
RIL	Association of Finnish Civil Engineers
SLA	Service Level Agreement
TCE	Transaction Cost Economics
Tekes	National Technology Agency of Finland

1 INTRODUCTION

1.1 Background

During the last few decades, a major trend in the business world has been to concentrate on core competencies and to outsource supporting activities. This phenomenon has been driven by global competition, shorter product life cycles, the emergence of more demanding customers and advances in technology (Quinn and Hilmer, 1994; Möller and Halinen, 1999). As the number of outsourced functions and relationships with suppliers have grown, it has been found that more attention has to be paid to strategic planning of sourcing in supply chain management practice and in academic research (e.g. Gadde and Håkansson, 1994; Hines, 1995; de Boer et al., 1998, Cousins, 1999).

As in other areas of supply chain management, a transition seems to be going on in the way companies plan and reorganize their purchases in facilities management (FM) services. While clients are changing the job description of in-house FM staff from routine purchasing tasks to more strategic tasks that support the overall goals of the company (cf. Kadefors and Bröchner, 2004), they are also trying to trim their supply bases in many ways. For example, while some companies are entering into closer relationships with their remaining suppliers (Incognito, 2002), others are shifting from using a sole supplier to using a number of specialist partners (Usher, 2004).

Service providers have also begun to redevelop the range of services they offer in order to succeed in the changing marketplace. Recent evidence suggests that new products and services are beginning to appear (Alexander, 2003). In addition, the marketplace has been restructured through a number of mergers, acquisitions and alliances. As a consequence, on the one hand, total facilities management concepts and horizontal co-operation between different service providers are becoming more popular, and on the other hand, companies focusing on a certain area of service provision, such as property management, have been established (e.g. Atkin and Brooks, 2000; Varcoe, 2000). While a certain sourcing strategy approach may have been appropriate in the past, many important changes in the marketplace can be expected, which should make forward-looking buying organizations re-evaluate their position (Steele and Court, 1996). This, among other reasons, is why FM practitioners need to become more familiar with the expanding range of sourcing options (Smith et al., 2004).

Along the time axis, once make or buy analyses are carried out in favour of buy, the service procurement process begins with the planning phase, extends throughout the phase that the parties engage in the contract and ends with the period when a supplier provides services to the buying company (Ellram, 1993). The planning activities that occur prior to the contract phase have an effect on post-transaction activities of the procurement cycle such as purchasing and managing the supplier base (Ancarani et al., 2004; Bröchner et al., 2004). It is also commonly suggested that effective procurement planning and management of FM services can directly affect the relative success or partial failure of an organization's business (e.g. Leifer, 2003; Chotipanich, 2004; Rogers, 2004). In spite of these experiments, there is a gap between theory and management practice, as only a few organizations have planned sourcing strategies for FM services (Lehtonen and Salonen, 2006).

The general lack of sourcing strategies supports the fact that the sourcing practices of FM services are still in a transformation phase. Therefore, it is surprising that only a few

studies have focused on the development and implementation of sourcing strategy from the perspective of FM services (Bröchner et al., 2004; Hui and Tsang, 2004; Ancarani and Capaldo, 2005) or their essential elements, such as outsourcing decisions (Usher, 2004), service bundling (Barret and Baldry, 2003; Ancarani et al., 2004) and the selection of relationship type (Lehtonen, 2006). However, these studies have focused only on partial elements of sourcing strategy, mostly without any efforts toward integration. They have failed in recognizing relations between each other and the consequences of such decisions. The lack of conceptual and theoretical frameworks is perhaps one reason why strategic planning of sourcing has been ignored in the field of facilities management (Then, 2000; Koskela, 2005). Furthermore, the examples and models used in publications tend to centre on the manufacturing sector and the physical transfer of goods (Jackson et al., 1995; Grönroos, 2000; Roberts, 2001), and too often the realistic consequences of decisions related to the selection of appropriate sourcing strategy have failed to be discussed (Goffin et al., 1997).

The scale of recent changes in the FM services practice is so large that an analysis of sourcing strategies is of interest. Consequently, more research needs to be conducted in this field. In fact, FM is a relatively new profession and only since the 1980's, facilities management has gradually gained a foothold as a discipline and profession within the property and construction industry (Tay and Ooi, 2001; Gilleard et al., 1994). A non-profit International Facilities Management Association (IFMA) was established in the early 1980's to incorporate associations dedicated to serving originally the FM profession in Northern America. Today, the IFMA members are represented globally in 60 countries worldwide. While the profession of FM is new, the academic research and publishing in the field has even a shorter history. A research seminar held in association with the Second International Symposium on Facilities Management organized by the Association of Facilities Managers (AFM) was one of the first steps towards a consolidated approach to facilities management research (Bell, 1992). Thus, it is not surprising that the field of FM remains at a very early stage of development which is not supported by an adequate knowledge base; its development to date has been unsupported by practical theory; and it is grossly under-researched (Nutt, 1999)¹.

1.2 Scope and objectives

This study aims to present the elements of sourcing decisions that are essential for the development of sourcing strategy in FM services. The perspective of the sourcing strategy was defined at the beginning of the study. In this dissertation, sourcing strategy is viewed as in Ellram and Carr (1994) from the perspective of organizations' sourcing function and it refers to specific action that the sourcing function may take to support the objectives of the organization. For example, sourcing of FM services may aim to establish long-term relationships with key supplier as a sourcing strategy. Therefore, sourcing is not viewed as a strategic function within the company but sourcing is pursuing its own operating strategies independently without regard to the strategies of

¹ Paper 1 gives a more comprehensive outlook of the current state and current trends of academic research in FM. In addition, Paper 1 introduces some important gaps in research areas such as service procurement and sustainability.

the corporation as a whole (Carr and Smeltzer, 1997). The view selected in this dissertation is not typical for modern purchasing and supply chain management. Furthermore, it is valuable to emphasize that there is no single, universally accepted definition of strategy (Mintzberg et al. 1999). However, it is important to understand that, as also understood in this study, the strategies can take many forms from highly deliberate strategies (formally planned) to emergent strategies (absence of intentions).

It is also worth noting that the scope of the dissertation was directed to cover client organizations operating or owning an office, or commercial, residential or specialized properties such as hospital buildings. However, the variety of necessary FM services in office and commercial properties is usually broader than in, e.g., industrial, logistics and residential properties. Aside from some exceptions, such as hospitals and high-tech factories, these buildings are the most sophisticated ones also technically. Consequently, the procurement and management of FM services is a more challenging task, thus creating a fruitful research setting for the purposes of this study. Furthermore, in this dissertation, the term “client” refers to the department of real estate owner or occupier that is responsible for sourcing FM services. The real estate owner or occupier can be in the role of using and owning its properties (i.e. user-owner company), the role of investing properties (i.e. real estate investor) or the role of managing properties (i.e. property management company). In addition, end-users and tenants are persons that are receiving FM services in a permanent or temporary way (see EN 15221, 2005).

While in the FM literature it was difficult to find proper definitions in the area of purchasing, many definitions and concepts are used in the area of supply chain management for the contents of procurement, purchasing, sourcing and buying (see e.g. Porter, 1998; Zeng, 2000; Van Weele, 2002). However, there is no absolute agreement about the definitions of these terms (Van Weele, 2002). In this study, the author’s intention is to use the terms “procurement”, “purchasing” and “sourcing”. The term “procurement” or “procurement cycle” covers all activities required for planning, contracting and managing the supplier base. Therefore, “procurement function” refers to the department of the client organization which is responsible for all activities in the procurement cycle. The term “purchasing” refers only to contracting activities (e.g. competitive bidding or ordering), whereas the term “sourcing” is used when referring to procurement planning activities, such as selecting a procurement model, evaluating alternative sourcing decisions, finding adequate service providers etc.

This dissertation provides a holistic view and understanding of the phenomena of sourcing strategy from the perspective of FM services. In addition, this dissertation provides a framework for improving the understanding of different decisions and the alternative choices in FM services sourcing. Therefore, this dissertation is especially beneficial to buyers in developing sourcing strategies and enhancing sourcing decisions of FM services. However, by understanding the elements of sourcing strategies, the FM service industry can be better understood as a whole. This dissertation is expected to help in finding new issues regarding the supply environment¹ in FM services.

¹ Paper 5 describes the characteristics of different supply models in FM services and their implications for sourcing decision-making.

The objectives of the dissertation are to identify the elements of sourcing strategies and to evaluate alternative sourcing approaches from the perspective of FM services. To provide a wide perspective of the elements of sourcing strategies, this study aims to answer to the following fundamental questions:

- What type of sourcing decisions and alternative choices exist within the FM services sourcing strategy?
- What are the external and internal factors used for justifying specific decision in sourcing FM services?
- What implications can the current supply environment in the FM services market have for the identified decisions?

In this dissertation the definite *hypothesis* was not defined because it is not seen necessary in explorative studies (Yin, 2003) and it has even been seen as a favourable condition in theory-building research (Eisenhardt, 1989). This dissertation approaches the field under consideration both theoretically and empirically. As sourcing strategy in FM services is a narrowly studied domain with limited approaches, the different forms of sourcing strategies are mostly described by using general strategic approaches in the field of supply chain management. Besides reviewing the literature on sourcing strategy approaches and creating a theoretical framework, this dissertation presents real-life examples, which came up during the multiple case study. In addition, in the empirical part of the study, the implications of FM services provider market for different aspects of sourcing strategy development are explored through the findings of supplementary data collected from the market (i.e. service providers) by using questionnaires.

1.3 Structure of the study

This dissertation comprises the summary text and five appended papers. All papers have been prepared and academically reviewed with referee practice to meet the requirements of the specific publications for which they were intended. Four of five papers have been reviewed in publications that have their main interest in FM research (Papers 1 and 5) or that cover FM topics in the field of real estate business (Papers 2 and 4)¹. In addition, one of the papers (Paper 3) was presented and published at the annual conference of International Purchasing and Supply Education and Research Association (IPSER). IPSERA is a multi-disciplinary network of academics and practitioners in any field or discipline that has a contribution to make to the understanding of Purchasing and Supply Management.

More specially, the five papers focus on the following research views:

- Paper 1 gives a comprehensive outlook of the current state and current trends of academic research in FM. The paper also introduces some important gaps in the FM research area and especially in FM services procurement. In addition, it presents different research methods used in FM research. Furthermore, it introduces the most

¹ Paper 1 gives a more comprehensive overview of different publications in the field of FM.

important publications in the field of FM in order to support the researcher in selecting the correct publication forums for academic papers.

- Paper 2 reviews the essential theoretical approaches to sourcing strategies and introduces a theoretical framework for the development of sourcing strategies in FM services. In addition, it compares the elements of sourcing strategy in five decision categories including sourcing interface, organizational decision-making, the scope of service package, geographical area of sourcing and relationship type.
- Paper 3 presents an approach to analysing the geographical area of sourcing (i.e. site grouping) in FM service sourcing. It compares the alternative sourcing decisions of two choices with the aim of determining the factors that lead to selecting either to buy an individual service or a bundle of services by the same contract for a single site or a certain region (i.e. multiple sites).
- Paper 4 creates a deeper understanding of the criteria for the make or buy decision and the selection of a certain relationship type in FM services. In addition, the differences between alternative relationship types are discussed. Furthermore, this paper also introduces the sourcing portfolio model, which can be used as an analytical tool to support the selection of an appropriate governance model for different FM service packages.
- Paper 5 analyses the FM service market trends and different supply models of FM services in Finland. It also present a systematic approach to analysing FM services markets as part of sourcing strategy development. In addition, the implications of the prevailing market conditions for a client’s decision-making concerning FM services sourcing are discussed.

Although an abductive research approach is followed, this study report is written in traditional reporting style¹ in which theoretical discussion and empirical fieldwork and analysis are reported in separate parts. The report frequently starts with a discussion of the original research setting, the theoretical background and framework, continues with a description of the empirical fieldwork and data analysis, and concludes with discussion of the theoretical contribution of the findings. Consequently, this study report is divided into eight main parts (Figure 1).

¹ For a more detailed discussion of reporting styles, see Järvensivu, (2007)

Chapter 1	Chapter 2	Chapter 3 Chapter 4	Chapter 5	Chapter 6	Chapter 7	Chapter 8
Background	Methodology issues	Theoretical background and framework	Empirical study	Results	Discussion	Conclusions
Paper 1						
			Paper 2			
				Paper 3		
				Paper 4		
				Paper 5		

Figure 1 Papers and structure of the study

The research problem and questions are introduced in Chapter 1 with the indications of recent changes and interests in the fields of facilities management and in the area of sourcing strategy research. The methodological issues of the research process are discussed in Chapter 2 with the research approach and selection of research methods. In Chapter 3, the study delineates a wide perspective of different sourcing strategy approaches and the characteristics of the FM services market. Based on the literature and its interpretation, a theoretical framework for the development of sourcing strategies in FM services is presented in Chapter 4. Then, in Chapter 5 the theoretical framework is used to support the analysis of empirical data through the findings of case research and survey study. In addition, data collection and considerations of data analysis are discussed in Chapter 5. Chapter 6 begins with a presentation of results and ends with a short summary of the results with main observations. A discussion of results is presented in Chapter 7, including the theoretical and practical contributions, evaluation of the dissertation and issues for further research. Finally, the conclusions are made in Chapter 8 which also includes issues of the managerial implications.

2 METHODOLOGY

A research strategy may be thought of as the overall direction of research, including the process by which the research is conducted (Remeny et al., 1998). The research strategy of this study builds on the research approach and research process. The research approach describes the general philosophical approach that illustrates the researcher's perception of reality. The scientific philosophy behind the research should have an effect on all the phases of the research process, which describes the actual phases of the process. The following two sections focus on the research approach and research process, respectively.

2.1 Research approach

Burrell and Morgan (1979) offer a useful approach to positioning one's own study in the larger context of social sciences and organizational studies, by identifying four different philosophical assumptions about the nature of the social world. The

assumptions relate to ontological, epistemological, human and methodological nature¹. All of these four sets of assumptions are interlinked and it would be difficult to focus solely on one aspect and not to address the other as well, if a comprehensive picture is to be given of the assumptions underlying any research. The four sets of assumptions outlined above have direct implications of a methodological nature. Each one has important consequences for the methodological decisions.

According to Easterby-Smith et al. (2002), academic research is based basically on two main science paradigms: positivism and hermeneutics. They have different approaches to handling scientific knowledge, how to run scientific research and how to draw conclusions, although they both hold that science has its roots in empiricism (Niiniluoto, 1984). Typically, positivism is often seen to be related to the natural (or nomothetical) sciences, which investigate large quantities of data and aim to explain generally the laws and regularities which govern the investigated phenomena. In contrast, hermeneutics is seen to be related to human (or idiographic sciences), aiming to understand the investigated phenomena per se. The human sciences are thus considered to be radically different from the natural sciences: their goal is to not make objective explanations of the phenomena but rather to understand the phenomena through interpretation (Niiniluoto, 1984; Olkkonen, 1993; Arbnor and Bjerke, 1997). Thus, the findings cannot be generalized as such to all various circumstances and environments. The hermeneutic approach, although in most cases based on qualitative data, allows for more freedom in the choice of methods. Positivism is typically associated with quantitative methods (Guba and Lincoln, 1994). However, both the described paradigms are used in management research (Gummesson, 2000) and have their strengths and weaknesses.

According to Easterby-Smith et al. (2002) the strengths of the hermeneutic paradigm are its ability to look at the change process over time, to understand people's meanings, to adjust to new issues and ideas as they emerge, and to contribute to the evaluation of new theories. The methodology also offers a way of gathering data that is seen as natural rather than artificial. Although the academic community favors the positivistic paradigm over the hermeneutic paradigm (Gummesson, 2000), the primary weakness of positivism is the inability to generate a reliable causal explanation in an open social system². In other words, reliable identification of cause and effect through the use of statistical analysis to uncover a pattern in an event is only possible in closed systems with stable environments and constant, unchanging processes and actors. Such conditions rarely apply fully even under controlled conditions in laboratories. In social systems such as companies, where the external business environment is generally accepted to be unstable, the presence of human beings in the internal and external company environment with their reflexive, unpredictable behavior clearly prevents system closure.

¹Ontology is "reality", epistemology is the relationship between that reality and the researcher, methodology is the technique used by the researcher to discover that reality, and human nature pertains to the relationship between human beings and their environment (see Burrell & Morgan, 1979).

² For a more detailed discussion of dynamics of open social systems, see Simon (1969, p. 475).

The choice of research approach depends on the nature of the research problem as well as on the objectives set for the study. The purpose of this dissertation is to develop a theoretical framework for understanding the elements of sourcing strategy in FM services and deepen the understanding of issues related to sourcing decision-making. As the focus lies on understanding, the study is interpretative in nature. Therefore, the paradigm of this dissertation that guides the research process lies in a hermeneutic foundation. In addition to the focus on understanding the sourcing strategies, the interest of this study lies in further development of theory as opposed to the theory verification that is the focus of a positivistic approach. In other words, the hermeneutic approach was considered the most suitable for this study. According to Gummesson (1991), the understanding is never objective; every case in society is unique and cannot be subordinated. Instead, understanding always takes a standpoint in the individual or subject in order to generalize the results. Researchers usually utilize a combination of different approaches. The research carried out within this paradigm is concentrated on description and explanation. Instead of trying to explain casual relationships by means of objective ‘facts’ and statistical analysis, hermeneutics uses a more personal interpretation in order to understand the reality.

As regards the selection of research approach, a researcher must decide upon the research logic i.e. how to build the understanding of the phenomena under investigation. Three kinds of research logics can be recognized, which are deductive, inductive and abductive logic (e.g. Dubois and Gadde, 2002). Deductive approaches are concerned with developing propositions from current theory and make them testable in the real world. Inductive approaches, on the other hand, rely on ‘grounded theory’ (e.g. Glaser and Strauss, 1967) where theory is systematically generated from data. Strauss and Corbin (1990) have later questioned the idea of conducting research without ‘preconditions’. Only rarely are learning, research and knowledge generation exclusively deductive (i.e. theory-driven) or inductive (i.e. data-driven). Advances in learning and research, especially in research aiming at theory generation such as this study, seem to require both (Dubois and Gadde, 2002, p. 560): “Learning takes place in the interplay between search and discovery. Where search is concerned, the current framework is used to guide the research process in a cumulative manner. Discoveries which cannot be planned in advance, force us to reconsider the prevailing framework”.

This study follows an abductive research approach; hence it is neither entirely inductive nor entirely deductive, but something in between. In other words, the preliminary analytical framework will be affected by what is discovered during data collection as well as during analysis and interpretation. Data analysis might identify new issues that must be covered in interviews etc. This process is what Dubois and Gadde (1999) refer to as systematic combining – grounded in an abductive logic. Abduction is a beneficial research approach especially for assessing old theories and developing new ones, because theory cannot be understood without empirical observation and vice versa (Dubois and Gadde, 2002). Similar to ‘grounded theory’, it is related to the generation of new concepts and development of theoretical models, rather than confirmation of existing theory.

Most textbooks on research methodology fail to take account of the opportunities offered by an intertwined research process enabled by case research. They tend to describe case studies as a linear process — similar to other research methods, which have been developed for other purposes and for studies in other contexts. An understanding of the characteristics and consequences of case studies based on

abduction thus requires an integrated approach, because the main difficulty of case studies is handling the interrelatedness of the various elements in the research work (Dubois and Gadde, 2002). The intertwined nature of theory formulation and information gathering has been supported by others (e.g. Yin, 1994; Bryman, 1988).

This study is comparable to the system combination where the main objective of research is to confront theory with the empirical world. This confrontation is more or less continuous throughout the research process. In fact, the understanding grew during the research process and this again augmented the pre-understanding when proceeding with the research effort. In scientific theory the statement is made that no understanding is developed and made without pre-understanding (Gummesson, 2000). This hermeneutic circle has also been called the hermeneutic spiral, which more correctly illustrates the iteration between pre-understanding and understanding.

2.2 Research process

In this study the research process is similar to what Dubois and Gadde (2002) call systematic combining, which follows the logic of abduction rather than of induction or deduction. Systemic combining is a process characterized by constantly moving between the empirical world and a model world, in which the theoretical framework, empirical fieldwork and case analysis evolve simultaneously, and it is particularly useful for the development of new theories (Figure 2). According to Dubois and Gadde (2002, p. 554) during this process “the research issue and the analytical framework are successively reoriented when they are confronted with the empirical world”. In other words, the approach involves two processes: matching theory with reality and directing and redirecting the course of the study. Matching is about going back and forth between framework, data sources and analysis. Directing and redirecting of the study is a feature by which matching can be achieved: as the researcher reveals new aspects of reality in the research process, both theory and collection of empirical data may need to be repeatedly directed or redirected.

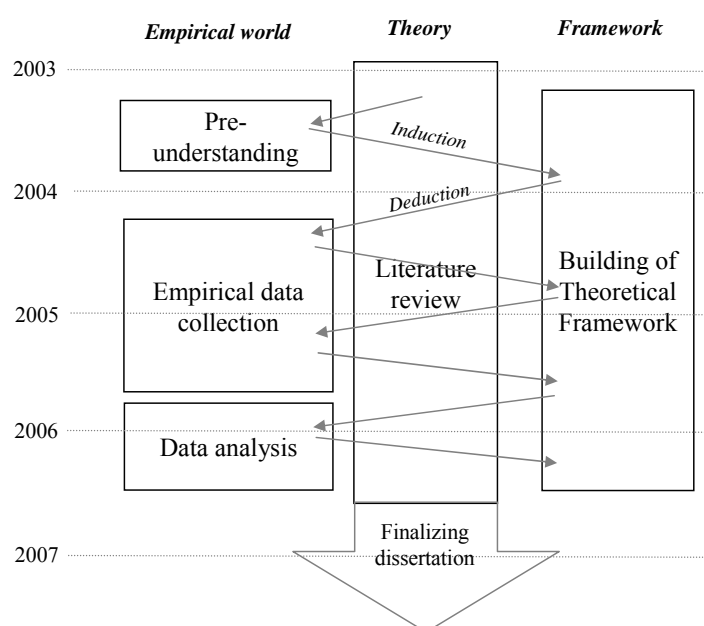


Figure 2 The systematic combining of the research process (Applied from Dubois and Gadde, 2002; Järvensivu, 2007)

This study began with the evaluation of sourcing strategy approaches in the literature. As abductive logic posits, it was continued in the background also during empirical phases to compare the empirical findings to the current body of knowledge and to find possible new publications in the research area of the dissertation. Furthermore, recently published papers in quality academic FM publications were systematically analyzed. This resulted in the writing of Paper 1. As a consequence of these, the most essential theoretical dimension of the concept of sourcing strategy was examined and earlier findings related to FM services market were analyzed. As general theory of supply chain management was mainly based on purchasing goods, it could not completely explain the logic in services procurement (see Grönroos, 1990). In addition, as the earlier studies about sourcing FM services were limited¹ (see Salonen, 2006a; Lehtonen, 2006a), it was necessary to seek more understanding of the subject explored through an empirical study.

According to Gummesson (2000), the challenges in management research are the researcher's pre-understanding² and understanding, access to reality³, and quality of the research⁴. The origins and motivation for this dissertation were generated from preunderstanding. This specific research setting was familiar to the author, as he has been working in Helsinki University of Technology as a researcher in many research projects since his master's studies. The author's master's thesis focused on analysis of different contract models in FM (Ventovuori, 2001). In addition, the author has taken part in market research of FM services in Northern Europe (Tuomela et al., 2001). Both studies served as preunderstanding and an early starting point for this dissertation. The studies provided evidence of the existence of a gap in procurement of FM services practice from clients' and service providers' perspective. Based on the findings of these studies carried out in CEM/FSR at Helsinki University of Technology, two research projects were launched in cooperation with Tekes and industrial partners.

In the first project, the focus was on the quality and type of relationship between clients and FM services providers. The author of this dissertation participated occasionally in data gathering and analysis of this latter project and contributed to the empirical evidences. Consequently, the empirical data of that project was used as complementary data in Paper 4, which focuses on the alternative models for the management of FM services, including make or buy decision and the selection of different types of relationship. In addition, the sourcing portfolio model, which can be used as an analytical tool to support the selection of an appropriate governance model for different

¹ Paper 1 introduces some important gaps in research areas such as service procurement and sustainability.

² Preunderstanding refers to such things as people's knowledge, insights, and experience before he/she engages in a research project (Gummesson, 1991).

³ The access to reality copes with the issues of how the researcher has access to real world situations, in the case of this study how to get in contact with the proper persons, i.e. company managers, on different levels, sourcing decision-makers, etc. and have the possibility to interview them about issues that in many cases belong to the sphere of critical and confidential issues of the company (Gummesson, 2001).

⁴ The quality aspect of the research is described e.g. in the terms of reliability, validity, objectivity and relevance. Thus, the researcher must be able to prove and report the findings in a concise and understandable way. The exploited research methods and the way they have been used must be presented (Gummesson, 2001).

service packages, was introduced. The second project focused on sourcing strategies of FM services and collaborations between individual FM facility service providers. This project was carried out in collaboration with BIT Research Centre in Helsinki University of Technology. The first part of the second project was carried out in 2002-2003. After this part, the research proposal of this dissertation, including the first idea of this study and framework (see Ventovuori, 2004), was presented for public examination in the doctoral workshop which was arranged as a part of the 13th IPSERA Conference.

Based on further literature review and the author's own interpretation of it, a theoretical framework was developed in the second part of the second project in 2004. The framework was used to examine the realized sourcing strategies in the case organizations and to support the analysis of empirical data. The objective of the empirical part was not to test the developed framework but rather to study further and seek more understanding of the phenomena explored. This phase resulted in the writing of Paper 2, which discusses theoretical approaches of sourcing strategies and presents an integrated approach to the development of sourcing strategy in FM services. In addition, after this phase, Paper 3 was written. It focuses on the criteria of selecting either to buy an individual service or a bundle of services by the same contract for a single site or a certain region (i.e. multiple sites).

In order to gain additional perspectives on key issues of the development of sourcing strategy, a systematic analysis of FM services market was studied. This type of analysis usually generates supporting data and alternatives on which the buyer and management can base purchasing decisions (see Steele and Court, 1996; Van Weele, 2002). This secondary source of empirical data collection was carried out in 2005. In this phase of data collection, the survey was selected as the method for collecting data for the analysis of the development in the FM services market. Based on these results, the implications of market conditions on the client's sourcing decisions in FM services are discussed in the Paper 5. Using the data from several sources made it possible to view the studied issues from two different perspectives, which increased the reliability of the results (Voss et al., 2002).

Finally, based on comprehensive data collection and analysis, presented in five published peer-reviewed papers, this dissertation was finalized in late 2006 and early 2007. To summarize, the understanding grew during the research process through the several research projects including literature review, comparative case analysis and market research in the field. In addition, during this process the objectives of the study were considered in the light of a theoretical framework. The original framework was successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process.

2.3 Selection of research methods

2.3.1 Multi-methodological strategy

The multi-methodological approach to data collection used in this dissertation is justified by several authors of research methodology. Authors and researchers working in organizations and with managers argue increasingly that one should attempt to mix methods to some extent, because it provides more perspectives on the phenomena being studied (Easterby-Smith et. al, 1991). Moreover, the multiple methodology refers often to the simultaneous handling of the different theoretical explanation models, or several parallel research data. According to Yin (2003) and Miles and Huberman (1994), the multiple strategy approaches are related to so-called triangulation, which means that the same phenomenon is approached from several different angles simultaneously, i.e. in a multiple methodological manner.

According to Robson (1993), using more than one method in an investigation can have substantial advantages, even though it almost inevitably adds to the time investment required. Therefore, this study bases its methodological approach also in triangulation¹. The logic of triangulation is based on the premise that no single method ever adequately solves the problem of rival explanations. Because each method reveals different aspects of empirical reality, multiple methods of data collection and analysis provide more grist for the research mill. Studies that use only one method are more vulnerable to errors linked to that particular method than are studies that use multiple methods in which different types of data provide cross-data validity checks (Patton, 1999). Thus, triangulation can result in greater confidence in results, creation of inventive research methods, better understanding of divergent results, an enriched explanation of the research problem, and a more effective integration and development of theories (Jick, 1979).

Authors discussing qualitative research identify four types of triangulation (Stake, 1995; Patton, 1999), which all are used in this dissertation:

- Methodological triangulation, when one approach is utilized after the other in order to increase confidence in the interpretation.
- Data source triangulation, when the researcher expects the data to remain the same in different contexts.
- Investigator triangulation, when several investigators examine the same phenomenon.
- Theory and perspective triangulation, when using multiple theories or perspectives in interpreting the data.

In this study methodological triangulation means that empirical data was collected by using two different research methods in different and overlapping phases of the research process. Methodologically, this study uses the tradition of the qualitative research approach in choosing the case study method with focus group and semi-structured

¹ The term triangulation is taken from land surveying, see Jick (1979)

interviews as the main means for collecting empirical evidence (Papers 2 and 3). In addition, archival records, documentations, interviews, open-ended questionnaires and practical observation were used (Papers 1, 2, 3, 4 and 5). However, methodological triangulation often involves comparing the data collected through some kinds of qualitative methods with the data collected through some kind of quantitative methods (Patton, 1999).

In this dissertation, triangulation of data sources is used by collecting the empirical data from several buyer organizations and also from the suppliers' side (Papers 4 and 5). In addition, literature was also used (Papers 1, 2, 3, 4 and 5) as source data. Several cases were studied. The collected case data was drawn from the questionnaires and semi-structured and focus group interviews in buyer organizations (Papers 2 and 3). The primary case data was supplemented with further evidence from practical observations from the buyers' side (Papers 4 and 5) and survey data collected from the suppliers' (Paper 5). Practical observations and survey data were collected during author's work in his current occupation as a real estate consultant since 2005. The main sources of case data with the finding of secondary data served as important triangulation and supplementary sources. Supplementary sources were used for understanding the events and their presentation to various constituencies and discrepancies among informants, and as a means of gaining additional perspectives on key issues (see Jick, 1979; Miles and Huberman, 1994; Corley and Gioia, 2004).

Investigator triangulation is mainly used in this dissertation to collect and analyze the data in cooperation with other researchers with different theoretical backgrounds and research projects (Papers 1 and 4). The interviewed companies were identified and the data collected in collaboration between two units in Helsinki University of Technology, the Department of Construction Economics and Management and BIT Research Centre, affiliated with the Department of Industrial Engineering and Management. Using the data from two independent research projects made it possible to view studied issues from several different perspectives.

In this dissertation, the existing theories applied were mostly from the management literature, including supply chain management and facilities management literature (Papers 2, 3, 4 and 5). From an epistemological stance, these disciplines have mainly been studied separately. While in the FM literature it was difficult to find proper definitions in the area of purchasing, many definitions and concepts are used in the area of supply chain management for the contents of procurement, purchasing, sourcing and buying (see e.g. Porter, 1998; Zeng, 2000; Van Weele, 2002). During the research process, literature was used for incorporating and matching the results of the empirical material and theoretical framework in order to make the results more universal and understandable.

Furthermore, in order to build further understanding of the phenomena under investigation and to improve the suggested sourcing strategy framework (see Chapter 6.3) a survey was carried out in the supplier market (Paper 5). The survey research was aimed at generating purchasing market data of FM services. According to Steele and Court (1996) and Van Weele (2002), this kind of purchasing market analysis can be used, for example, to support the development of sourcing strategies and to generate supporting data on which the buyer and manager can base purchasing decisions.

To sum up, the chosen multi-methodological strategy to search not only one perception of reality, but at least two perceptions of the same phenomenon, leads to greater richness of information and increases the reliability of the results (Voss et al., 2002). Thus, this research is composed of several sub-areas and conducted in a way that makes the use of different triangulations possible. Furthermore, the structure and organization of this research make the use of the system combination process as a theory-building process (see Dubois and Gadde, 2001) and multiple methods (see e.g. Brewer and Hunter, 1989) relevant for the research as a whole. Thus, the empirical data collection discussed in this dissertation results in both qualitative and quantitative data, with emphasis on the system combination process.

2.3.2 Case study research

Since the early days of the discipline, FM practitioners and academics have gradually recognized the need for more empirical research (Alexander, 1992; Price and Akhlaghi, 1999; Nutt, 1999). To gain a better understanding of the topic, it has been chosen to apply a qualitative research approach that is best suited to situations where the existing knowledge base of the phenomenon under study is limited (Creswell, 2004). As a certain sourcing strategy in one business environment may not be as successful when transplanted elsewhere (Virolainen, 1998) and, especially as the research questions of this dissertation are focused on an under-researched area, it is necessary to seek a deeper understanding through qualitative research. Methodologically this study uses the tradition of the qualitative research approach in choosing the case study method as the main means for collecting empirical evidence. The case study approach is often chosen as the research strategy when the aim is to build new theories (Eisenhart, 1989). In addition, case studies have been popular in management research (Yin, 1994) and, for instance, it seems to be the most common method used in FM studies¹.

According to Yin (1994) there are four types of case study designs: a) single-case (holistic) designs, b) single-case (embedded) designs, c) multiple-case (holistic) designs, and d) multiple-case (embedded) designs. Single cases are rational for instance when researchers have a critical case in testing a well-formulated theory, or when the case presents an extreme or unique case. A multiple-case study is used because the study compares the same phenomena in different contexts. Depending on the research questions and selected scope of research, either a holistic or embedded view to the case study can be taken, i.e. a single unit of analysis or multiple units of analysis. This study was carried out as a multiple-case study design with analysis of embedded units (i.e. elements and decisions categories of sourcing strategy). Cross-case analysis was conducted with four organizations representing different types of FM services clients. A case study method was chosen because this dissertation investigates an open system (Robson, 2002); the studied phenomena (elements of sourcing strategy) is in its real life context, and the boundaries between the phenomenon and the context are not clearly evident (Yin, 1989). In addition, the findings of a multiple-case study are often considered more compelling than those of a single-case study (Yin, 2003; Green and David, 1984). Perry (1998) argues that several case studies should usually be used because they allow cross-case analysis to be used for richer theory building.

¹ Paper 1 gives a more comprehensive overview of different research methods in the field of FM.

One of the greatest strengths of the case study method is its ability to deal with a full variety of evidence. This study, like case studies in general (Eisenhardt, 1989), uses a number of data collection methods, such as archives, interviews, questionnaires and observations. Additionally, the evidence may be qualitative, quantitative or both. The use of various sources of material makes triangulation between them possible, which in turn increases the validity of qualitative case research (Yin, 1994). Another strength of the inductive realist approach, as applied through case study research, is the promise of casual explanation resulting from examinations of small but thick samples. This approach is suited to the task of generating detailed descriptions of phenomena, if it enables the researcher to define essential characteristics or produce unassailable theories (see Ramsay, 1998). In this dissertation, case study provides unique means of developing theory (i.e. framework for FM services sourcing) by utilizing in-depth insights of empirical phenomena (i.e. interviews, observations etc.) in studied contexts (see Dubois and Gadde, 2002). It also enabled an intensive analysis of a particular phenomenon in quite a small number of procurement departments (see Eisenhart, 1989).

A case study database is often built from observations and documentary analysis in order to follow the general three principles of conducting case studies: (1) using multiple sources of evidence; (2) building up a case study database; and (3) maintaining the chain of evidence between theory, data and interpretation (Yin, 2003). In this dissertation the primary source for inductive reasoning were the interviews and questionnaires. The case data was collected in each case organization by following a five-stage phase. Characteristic of data collection was that each studied case followed the same interview guide (i.e. themes and questions).

Several researchers have pointed out the weaknesses of case studies, and this has been noted among the case approach adherents. For instance, Yin (1994) states that the case study approach has not always been recognized as a proper scientific method, mainly because it provides little basis for scientific generalization. An example is Weick's (1969) argument that case studies are too situation specific and not appropriate for generalization, although his argument became less oppressive later (Weick, 1979). However, according to Kasanen et al. (1991), generalization is a problem mainly from the point of view of positivism. The principal idea of case research is to achieve a more profound and comprehensive view of studied phenomena than is possible by collecting a large amount of material, and the generalization in this type of research is achieved by the profound understanding gained at the level of an individual phenomenon. According to Yin (1994), the method of generalization in case study research is "analytic generalization" in which a previously developed theory is used as a template with which to compare the empirical results of the case study. This dissertation does not aim to statically generalize the results but rather to develop a deeper understanding of the phenomena sourcing strategy in FM services. Thus, this study attempts to avoid the simple description of events by defining the unit of analysis.

The author's empirical knowledge has increased after the collection of the empirical data also in author's current occupation as a real estate consultant since 2005. One of the author's main responsibilities is to participate as project manager in procurement management consulting projects, including sourcing strategies, outsourcing, supply and relationship management, as well as partnering models and performance measurement. In addition, reviewed literature, theoretical knowledge of the research area and the objectives have increased through teaching and postgraduate studies at Helsinki University of Technology. However, it is important to note that having too much pre-

understanding may also be problematic, unless researcher is careful and objective, as he/she may have too strong insight bias in the issues under scrutiny (Wartsta, 2001).

2.3.3 Survey study

In order to build further understanding of the phenomena under the studied issues and to examine external aspects of sourcing strategy from the perspective of the FM services market, descriptive survey research was carried out on the suppliers' side. Due to sensitivity of market environment, many authors also emphasize the significance of collecting empirical data also from the suppliers' side, when developing sourcing strategies and matching external resources provided by suppliers with the internal needs of the buying company (e.g. Kraljic, 1983; Ellram and Hendrick, 1995; Steele and Court, 1996; Van Weele, 2002). This kind of survey-based research¹ (i.e. questionnaire) has also been used in researching aspects of the processes of strategy (e.g. Tunalv, 1990; Anderson et al., 1991).

The advantage of a quantitative approach is that it enables measuring the reactions of a great number of people to a limited set of questions, thus facilitating comparison of the data. This enables a succinct presentation of a generalizable set of findings. By contrast, qualitative methods produce a wealth of detailed information about a much smaller number of people and cases, which increases the depth of understanding of the cases and situations studied but reduces generalizability (Patton, 2002, p.14). However, in this dissertation, the chosen strategy to search not only one perception of reality, but at least two perceptions of the same phenomenon, leads to greater richness of information and increases the reliability of the results (Voss et al., 2002). In this dissertation, the survey data as a secondary source was aimed at generating data for supply in the FM services market in order to compare market trends to the relevant parts of the suggested strategy framework.

3 THEORETICAL BACKGROUND

This chapter presents the most essential theoretical background of the concept of sourcing strategy. In addition, when examining FM services sourcing, it is necessary to discuss some issues of the supply environment as well. The theoretical background was based mainly on the supply chain literature because the literature on sourcing of FM services is limited (see e.g. Salonen, 2004a; Ancarani and Capaldo, 2005; Lehtonen, 2006b). This issue is discussed more in Paper 1 which studies the gaps in service procurement in the research area of FM. Therefore, this chapter proceeds to examine mainly supply chain management theory and the characteristics of supply environment in FM services, which provides the theoretical background needed for developing the framework for successful sourcing strategy examination in empirical study.

¹ Central methodological issues for quantitative research are the representativeness of the sample and the reliability of the interview guide (Silverman, 1993, p.10).

3.1 Sourcing strategy approaches

It has been stated in the literature that purchasing services is typically more complex and less standardized than purchasing products (Parasuram, et al., 1985; Kotler, 2000; Grönroos, 2000; Leenders, et al., 2002). Furthermore, some authors have defined the service purchasing process in the supply chain management literature (see e.g. Fearon and Bales, 1995; Leenders, et al., 2002) and in the FM literature (see e.g. Puhto and Tiainen, 2001). However, these processes are not concentrating on sourcing decisions in a way that alternative sourcing decisions and choices could be analyzed before the company is making agreement with suppliers. When comparing the FM literature to supply chain management literature, only few studies carried out have focused on the development and implementation of sourcing strategy from FM services perspective (Bröchner et al., 2004; Hui and Tsang, 2004; Ancarani and Capaldo, 2005) or the essential elements of them, such as outsourcing decisions (Usher, 2004), service bundling (Barret and Baldry, 2003; Ancarani et al., 2004) and the selection of relationship type (Lehtonen, 2006).

When looking at the supply chain management literature, many sourcing strategy approaches and definitions have been presented. A number of authors have made a distinction between the meanings of the phrases *strategic purchasing* and *purchasing strategy*. A purchasing strategy refers to specific action that the purchasing function may take to support the objectives of the organization (Ellram and Carr, 1994; Carr and Smeltzer, 1997). For example, purchasing might pursue a strategy of standardization of service throughout the company, or the management team might decide to establish long-term relationships with its key supplier as a purchasing strategy. Purchasing is not then viewed as a strategic function within the company but purchasing is pursuing its own operating strategies independently without regard to the strategies of the corporation as a whole. When purchasing is linked to the corporate strategic planning process or purchasing performed as a strategic function, it is described as strategic purchasing. In Carr's and Smeltzer's (1997) definition of strategic purchasing the purchasing function's activities and strategies are specifically formed to support the corporation's overall strategies achieving long-term goals and purchasing are then part of the strategic management process that follows the corporation's planning process.

According to Spekman (1985) there are three different types of procurement strategies: 1) performance related strategies (lowest level), 2) procurement system related strategies (middle level) and 3) competitive related strategies (highest level). Performance related strategies focus primarily on managing purchasing resources, controlling expenses and serving users' needs with the lowest level of the organisation hierarchy. The evaluative criteria is based on how purchasing has met its objectives such as achieved budget goals and internal performance level. Procurement system related strategies serve to provide co-ordination between different organisational sub-functions and build information links between the organisation and its more immediate external environment. Procurement system related strategies focus issues such as on supplier selection, contract duration, centralization vs. decentralization and value analysis. Competitive procurement strategies focus on the buyer's bargaining power which allows buyers to leverage purchasing and improve the corporation's competitive market position at the highest level of the organisation (see e.g. Spekman, 1985; Stuckey and White, 1993; Porter, 1998).

A number of authors have also approached the purchasing strategies from the point of view of interaction. Campbell (1985) considers it important to classify buyer-seller relationships and identify the common strategies which buyers and sellers use in their interaction: independent, interdependent or dependent. These relationships arise in different market situations and result from the fact that the purchasing strategies are competitive, cooperative or command. Steele and Court (1996) have divided in their contract strategy model potential supplier relationship decisions into four different types among which the buying organisation can choose. According to these, the relationship decision types can be arm's length relationship, cooperative relationship, collaboration relationship or partnership-type relationship. Hendrick and Ellram (1993) have also taken an interaction approach to purchasing. In their research, Ellram presents the following three categories of purchasing relationships and characteristics of the relationship types: 1) arm's-length relationship, 2) supportive relationship and 3) coalitional relationship.

Furthermore, a company is also involved in strategic sourcing decisions such as choosing between make or buy (e.g. Williamson, 1985; Quinn and Hilmer, 1994) and determining the number of suppliers to use; sole, single or multiple sourcing (e.g. Min and Galle, 1991; Quayle, 1998; Zeng, 2000). Furthermore, some sourcing strategies concentrate on alternative sourcing structures such as structuring of sourcing organization (e.g. Atkin and Brooks, 2005) and supply base structuring (e.g. Gadde and Håkansson, 1994; Hines, 1995; Choi and Hong, 2002). However, the studies presented in the literature have focused only on partial elements of sourcing strategy mostly without any efforts toward integration. They failed in recognizing a relation between each other and the consequences of such decisions.

In this dissertation the sourcing strategy approaches are presented which focus mainly on the sourcing decisions that are often made at the middle level of the organization, such as selecting the supplier base structure (e.g. Gadde and Håkansson, 1994; de Boer et al., 1998), determining the number of suppliers to use (e.g. Min and Galle, 1991; Quayle, 1998; Zeng, 2000) and selecting the relationship type (e.g. Webster 1992; Mentzer et al. 2000, Cousins 2002). In addition, the sourcing decisions that are often made at the highest level of the organization, such as the make or buy decision (Williamson, 1985; Quinn and Hilmer, 1994) and structuring of the procurement organization (e.g. Atkin and Brooks, 2005) are discussed. Thus, this dissertation does not concentrate on competitive procurement strategies that focus on the buyer's bargaining power and market position at the highest level of the organization (e.g. Stuckey and White, 1993; Porter, 1998). In addition, performance related strategies at the lowest level of the organisation hierarchy that focus on managing purchasing resources, controlling expenses etc. (e.g. Spekman, 1985) have been left out from this dissertation. However, it is important to note that the examples and models used in publications tend to centre on the manufacturing sector and toward the physical transfer of goods, and too often the realistic consequences of decisions related to the selection of an appropriate sourcing strategy are not discussed (see e.g. Goffin et al., 1997). As the literature on sourcing strategies of FM services is limited, the theory of that is presented among the other text.

3.1.1 Make or buy decisions

Considering that every company has limited resources, a constant challenge is to ensure that these limited resources are directed towards the most important activities. To survive in competitive markets, companies need to display an ability to appropriately adjust the scale and scope of their infrastructure at low cost and a rapid rate (Hayek, 1945). Consequently, a company is involved in strategic sourcing decisions such as choosing between make or buy, determining the number of suppliers to use and choosing the nature of the buyer-supplier relationship.

The two most common theoretical approaches to make or buy decisions are transaction cost economics (TCE) (Williamson, 1985) and the core competencies model (Quinn and Hilmer (1994). Based on TCE, the extent to which resources will be allocated between different governance structures is based on transaction costs – the costs of writing, monitoring and enforcing contracts. TCE attempts to describe transactions by using three dimensions (Williamson, 1985): the extent and form of asset specificity, the frequency with which the transactions occurs, and the type and degree of uncertainty to which the transactions are subjected. The basic assumption is that if the values of these dimensions are very high, full vertical integration (i.e. in-house production) may be the appropriate way to go.

Asset specificity refers to the degree to which an asset can be redeployed to alternative uses and by alternative users without sacrifice of productive value. In other words, the more specific the asset, the harder it is to deploy for alternative uses if the relationship utilizing the asset terminates. Williamson (1985) distinguishes four types of asset specificity: (1) site specificity, as where successive stations are located in close proximity to one another so as to economize on inventory and transportation expenses; (2) physical asset specificity that relates to the development of specific equipment and systems tailored to a particular business need; (3) human asset specificity, which arises when workers have developed extensive job-specific knowledge and expertise; and (4) dedicated assets, which are discrete investments made to meet unique specifications or volume of production at the behest of a particular buyer. Later, two other types of assets specificity have been added: (5) brand name capital, which refers to image-enhancing investments, and (6) temporal specificity, which calls for time-critical investments (Williamson, 1996).

The dimension of transaction frequency refers to the distinction between a one-shot exchange and a reoccurring exchange (John and Weitz, 1988). The importance of transaction frequency centers on the argument that increases in frequency allow for fixed costs to be spread across or allocated over a larger volume, resulting in easier absorption of costs. However, as Blumberg (2001) states, the frequency is an obvious dimension in determining the optimum type of relationship, but volume is more appropriate if the meaning of frequency is less clear. The volume of co-operation describes the amount of money that is at stake. For example, in FM services frequency has two dimensions. The need for services is usually continuous and relationships with service providers are based on long-term contracts. While the frequency of purchasing transactions is low, and the frequency of service transactions is a mix of regularly recurrent and one-off service events, the concept of frequency is somewhat unclear.

The concept of uncertainty refers to the condition to being unable to predict relevant contingencies (John and Weitz, 1988). This creates a problem in developing a

contractual relationship because the contracts are somehow incomplete. Such contingencies may create opportunism, taking advantage of the situation to favorably interpret the contractual terms. The two types of uncertainty which may exist are uncertainty due to (1) external environmental changes, such as those exist in an extremely high-tech market, and (2) internal or behavioral uncertainty, which refers to the difficulty of ascertaining the actual performance or adherence of contractual agreements (Williamson, 1985). Unlike environmental uncertainty, which is exogenously imposed on the exchange, behavioral uncertainty arises within the context of the exchange itself due to the opportunistic inclinations of transacting parties.

The significance of TCE is widely accepted, and for example Grover and Malhotra (2003) state that TCE is relevant for studying supply chain management. However, also some criticism has been proposed. Williamson's view of asset specificity is based on existing 'sunk costs' and a productive view of a firm. Cox (1996) criticizes this approach and suggests that an entrepreneurial approach would be better. Consequently, asset specificity should be defined in relation to whether or not specific skills or knowledge of the organization contribute the maintenance or creation of sustainable positions for profit within specific supply and value chains. Based on this view, high asset specificity refers to the skills and expertise that are core competencies of the firm in sustaining its position to make profit in a market. These skills are also those with high strategic importance.

The other approach, the core competence idea, is of particular interest to purchasing because it highlights the central strategic importance of the make or buy decision (Ramsay, 2001). According to Quinn and Hilmer (1994), core competencies are the activities that provide long-term competitive advantages. These must be closely protected and all other activities are candidates for outsourcing. Hamel and Prahalad (1994) state that outsourcing allows the host organization to concentrate on those activities in which it can establish distinctive core competence. Having other companies' specialists in the provision of supporting goods and services allows an organization to take advantage of the strengths within the supply market. As an example of advantages, Akerlof (1970) gives that exposing the organization to market disciplines assists the management in promoting conditions for innovative work practice. Focusing on core competencies and leveraging against other sourced relationships makes it possible to provide goods and services more efficiently while improving quality through the application of specialist knowledge (Quinn and Hilmer, 1994). In general, specialized suppliers have a distinct comparative advantage which is grounded on greater economies of scale, lower cost structure, specialized knowledge or stronger performance incentives (Venkatesan, 1992; Ramsay, 2001).

However, supplier markets are imperfect and do entail some risks for both the buyer and seller with respect to price, quality, time and other key terms. According to Quinn and Hilmer (1994) there are three main concerns. Firstly, there is always the risk of a loss of critical skills and that of developing the wrong skills. Secondly, the interactions among skilled people in different functional activities often develop unexpected new insights and solutions. Outsourcing may decentralize these skills unless the company consciously ensures that its remaining employees interact constantly and closely with its outsourced experts. Thirdly, there is also the risk of losing control over a supplier. A real problem can occur when the supplier's priorities do not match the buyer's. Thus, it is essential to have close personal contacts between the buyer and supplier both at the floor and top levels of the organizations.

Especially in business service issues the questions of outsourcing require the buying company to do more than take the “make or buy” decision. It needs to carry out a full strategic assessment and evaluation in which a number of factors must be considered, including (Blumberg, 1998): the importance of the service to the organization’s customers and employees, the market or user’s observed perception of the supplier’s service quality and responsiveness, and the current levels of service efficiency and productivity compared to other equivalent service organizations in the market. When comparing FM services to other business services, the essential characteristic that distinguishes them from other business services is that they are delivered in or related to the premises of clients (Bröchner, 2001) and thus, the perceived service quality is built up also from the experiences of end-users in addition to the perceptions of client’s representatives (Gersberg and Siekkinen, 2006).

3.1.2 Structuring of procurement organization

Some sourcing strategies concentrate on structuring of the procurement organization. This sourcing strategy element has been discussed both in facilities management and supply chain management literature. In general, the buying company can use in-house procurement or it can also use an external organisation (“managing company”) that purchases and manages the suppliers on behalf of the buying company (e.g. Atkin and Brooks, 2005).

According to Atkin and Brooks (2005) structurally there are basically four different external contractual and management arrangements in providing FM services. The first is that the buying company can pass full responsibility for managing and providing a whole range of bundled services to a single organisation (total facilities management). The second involves the employment of a managing agent that is responsible for arranging the service provider base on behalf of the buying company. In this case, the agent makes the contracts directly on behalf of the buying company. The third arrangement involves a managing contractor, and differs from the former in the way that in this arrangement the service providers make a contract with the managing contractor, and do not have a contractual relationship with the buying company. The fourth arrangement is the managed budget. This approach is similar to the managing contractor model but differences lie in the sharing of risk and in the earning principles. In the managed budget model, the management fee is based on the value of budgeted expenditures. All subcontract invoices and contract specific employee costs are processed without any mark-up. Where as the managing contractor takes responsibility for the payment of all suppliers and adds the mark-up to the invoice.

The other important aspect of the structure of the procurement organization is the degree of centralization (Smeltzer, 1997). Centralization refers to the structure in which authority and decision making are focused around one individual or a small group. When authority and the power to make decisions are distributed between many individuals at different levels within the organization, the structure is decentralized. The choice between centralization and decentralization is often closely related to geographical circumstances (Cotts and Lee, 1992). Krumm et al. (1998) have discovered that central coordination of the procurement of products and services may result in economies of scale and the creation of negotiating advantages. Instead of developing individual contracts, a centralized unit is able to purchase large quantities and offer the prospect of future purchases for the supplier. The scale of the purchase

may also offer a better starting point for establishing collaborative relations. Furthermore, the structure of the organization also affects the alternatives available for arranging a relationship portfolio. In large organizations, there are more opportunities for the development of a wide range of specialized expertise and for the exercise of a more dominant role in structuring the supply base and supply relationships (Saunders, 1997).

3.1.3 Selection of supply base structure

According to several authors, once make or buy analyses are carried out in favor of buy, the company is involved in such strategic decisions regarding supply base structuring (e.g. Gadde and Håkansson, 1994; Hines, 1995; de Boer et al., 1998). Supply base structuring can be seen as having two strategic aspects (Gadde and Håkansson, 1994): one has to do with the way of suppliers are organized and the other with the number of suppliers to use.

The supply base can be organized structurally in various ways. Structurally, the buying company is at the centre of all service providers in the supply base, coordinating and controlling its activities (Bröchner et al., 2004). The buying company may form working relationships among service providers (Incognito, 2002; Lehtonen, 2004), while some self-governing relationships may form among the service providers (Meneghetti and Chinese, 2002). In the supply base, not all suppliers are directly connected to the buying company. The supply base may take the form of a supply network when it is constructed in the form of a hierarchical pyramid with second- and third-tiered suppliers (Hines, 1995). Depending on the buying company's sourcing strategies, the supply base may include suppliers in second and third tiers (Choi and Hong, 2002).

If a company has business relationships with a number of suppliers, it is engaged in what is called multiple sourcing. In this classical approach, each of the suppliers responds to the demands and specifications defined for a particular price, and competition is often given priority (Zeng, 2000). By promoting competition among the suppliers, the client is expected to be given better control of price levels (Gadde and Håkansson, 1994). Competition should also alleviate the uncertainty of relying on one supplier (Min and Galle, 1991). On the contrary, single sourcing involves the idea of reducing the number of suppliers a company does business with (Zeng, 2000). When sourcing FM services, the number of service providers can be reduced either by bundling different services together (e.g. Ancarani et al., 2004; Atkin and Brooks, 2005) or by grouping sites under one contract (e.g. Meneghetti and Chinese, 2002). Cox (1996) defines that in single sourcing, the buying company decides to have a single relationship with one preferred supplier, who is granted a relatively permanent preferential relationship including a variety of tasks. Single sourcing implies that a number of alternative suppliers are available in the market, but the buyer selects and uses only one supplier (Newman, 1988). When only one supplier is available and the buyer uses that supplier, the circumstance is called sole sourcing. According to Quayle (1998) sole sourcing is the result of the client being forced to buy from one supplier only as a result of such market factors as location, exclusive design rights, a particular customer specification and possible buyer inertia.

According to Farmer and van Weele (1995) purchasing strategies should include consideration of the markets from which key products and services may be sourced.

This global sourcing strategy approach is typically used among companies that operate on a global basis producing products. Most successful companies operate on a global sourcing basis, although variables such as the nature of the product, its criticality to organizational effectiveness, and the strengths of local and national markets need to be considered. Thus, the strengths of the local and national geographical dimension of markets need to be considered as a part of sourcing strategy development.

3.1.4 Selection of competitive bidding vs. partnering

The range of inter-organizational relationships is often described as a continuum ranging from pure transactions to vertical integration (Webster, 1992; Cox, 1996). Thus, there exist some contractual solutions between vertical integration and a market-based solution that under certain circumstances may satisfy the buyer's needs (Heide, 1994). In general, the more of its inputs of production the organization decides to buy instead of producing them internally, the more dependent it is on the supply base. Furthermore, movement from vertical integration to pure transactions is usually associated with a growing number of suppliers (Parker and Hartley, 1997).

As the number of outsourced functions and relationships with suppliers have grown, it has been found that more attention has to be paid to analyzing which is the optimal number of suppliers to supply certain function (Krause 1997, Cousins 1999) and which kind of relationship type to apply to these supply relations (Dyer et al. 1998, Gadde and Snehota 2000). It is clear that collaborative relations should not be used in every situation and that two firms involved in discrete and arm's length transactions can also have a high-quality relationship (Bensaou 1999, Gadde and Snehota 2000, McCutcheon and Stuart 2000). According to Krause et al. (1998), a major challenge facing managers today involves deciding when and how to make the transition from transactional relationships to cooperative relationships, and once established, how to deploy these relationships within the supply chain to meet the buying firm's competitive needs.

Some sourcing strategic choices deal with the forms of the different buyer-supplier relationships (e.g. Webster 1992; Mentzer et al. 2000, Cousins, 2002) and the duration of contracts (e.g. Ramsay and Wilson, 1990; Parker and Hartley, 1997). Guidelines for selecting the type of relationship usually only identify partnership sourcing and competition as discrete categories (e.g. Macbeth, 1994). However, even casual observation of actual supply relationships reveals that there are different forms of partnership sourcing and different forms of competition (e.g. very short-term contracting and long-term contracting) (Parker and Hartley 1997). Arm's length relationships are usually described as short-term relations based on competitive bidding (Mentzer et al., 2000). Whereas the short-term contracts create a very low level of contractual liability in the relationships, the use of long-term contracts develops closer relationships with selected suppliers and brings increased liabilities into relationships (Ramsay and Wilson, 1990).

When trying to describe the characteristics of different types of relationships, relationships have often been divided simply into transactional and collaborative ones (e.g. Macbeth, 1994) to make the separation simpler and clearer. The problem with this view has been that the collaborative approach has usually been introduced as superior, and the transactional approach has been portrayed as disadvantageous compared to the collaborative approach (Parker and Hartley, 1997). It has also been suggested that at least two types of collaborative relationship should be distinguished (Dyer et al., 1998;

Patterson et al., 1999; Mentzer et al., 2000; Cousins, 2002). Mentzer et al. (2000) call these relationships operational and strategic partnering and Cousins (2002) tactical and strategic collaboration. The same terminology as Mentzer and associates are used when summarizing the characteristics of arm's length relations, operational partnering and strategic partnering in the following paragraphs.

Arm's length relationships are usually described as short-term relations based on competitive bidding and the transactional approach. The purchased products are non-strategic and standardized so the degree of buyer-supplier interdependence is low as is the need for coordination. There are many alternative suppliers in the market, and thus, an easily determined basis of comparison is available for the buyer to use in assessing the fairness of a given price. The buyer issues the specifications and the supplier provides the products based on these given specifications. The performance of the supplier is easily assessed so even the incongruence of goals between parties is acceptable. The amount of interaction is minimized and only a few people are involved in the management of the relationship.

Operational partnering holds a moderate level of mutual benefits for both parties. It refers to working with few suppliers and focusing mainly on uncertainty reduction and process improvements, such as inventory policy, improvements in quality and so on. It is fostered in order to minimize the administrative costs of procurement and to allow suppliers to realize economies of scale in production. By working with a limited number of (preferred) suppliers for consolidated purchases, the buyer can be more effective in communicating its needs and can better induce the suppliers to be more responsive to its immediate needs. The terms of these buyer-supplier relationships are enforced through extensive and formal contractual arrangements but also include sufficient shared interests that make it attractive for both parties to continue the exchange over time. Strategic initiatives are not shared with partners, but considerable operational coordination occurs. Compared to arm's length relations higher levels of trust and openness are usually displayed between buyers and suppliers. The remaining hierarchical controls tend to make the relationships power-asymmetric, and also relatively frequent price benchmarking is acceptable to keep suppliers on their toes.

Strategic partnering is defined as an ongoing, long-term inter-organizational relationship for achieving competitive strategic goals. If the partner goes out of business, a firm would have to change its competitive strategy (Johnson, 1999). On this basis, the number of partners offering a certain product or service cannot usually be more than one in strategic partnering. Strategic partnering is characterized by high levels of communication, relation-specific investments, interdependence and commitment. These relationships are controlled primarily through the use of socialization, norms, and common values rather than through contractual or legal enforcement means. Furthermore, measurement tools are used extensively to look critically at both sides of the relationship to recognize the mutual responsibility for success or failure.

3.2 Supply market

3.2.1 External environment

The sourcing strategy formulation process often includes an analysis of the external environment and an assessment of the internal factors of the organization (Pearson and Gritzmacher, 1990; Carr and Smeltzer, 1997; Virolainen, 1998). To help in building the strategy, an organization must make a forecast about the environmental conditions that will be encountered in the future to achieve its goals and procurement should know the suppliers' environments that affect corporate goals (Carr and Smeltzer, 1997). Therefore, procurement cannot operate in isolation from its environment, including the supply market and other elements of business. The optimal supply base may be sensitive to changes in the market environment because complex systems, such as supply networks, are embedded in the environment and interact with the base (Choi et al., 2001). Thus, it is recommended that sourcing strategies should also include analysis of the markets from which key products and services may be sourced (Farmer and van Weele, 1995).

While a certain sourcing strategy approach may have been appropriate in the past, many important changes in the marketplace can be expected, which should make forward-looking buying organizations re-evaluate their position (Steele and Court, 1996). A real problem can occur when the supplier's priorities do not match the buyer's. Lack of knowledge in a limited supply market may cause difficulty in making purchasing decisions, especially in cases in which only a few suppliers are capable of providing a particular good or service that meets the required standards, has the appropriate volume, or is situated in the required geographical location. Any of these restrictions opens up the possibility for the supplier to exploit the situation (Lonsdale, 1999).

As supplier markets are imperfect and do entail some risks, it is worth analyzing the supply market (Quinn and Hilmer, 1994). Thus, it is not surprising that the need for systematic analyses in certain markets has been increasing in recent years among large companies (Steele and Court, 1996; Van Weele, 2002). These analyses can be used, for example, to support the development of sourcing strategies and the making of well-grounded sourcing decisions. In addition, these analyses usually generate supporting data and alternatives on which the buyer and management can base sourcing decisions.

When matching external resources provided by suppliers with the internal needs of the buying firm, purchasing portfolio models are nowadays widely used. These models have their foundation in Markowitz's (1952) pioneering portfolio theory for the management of equity investments. Kraljic (1983) was the first to bring portfolio models into the purchasing area. In later years, other models have also been developed (Olsen and Ellram, 1997; Bensaou, 1999). These models can be used to analyze the company's purchases to ascertain the ideal relationship types for different purchases. As an example, this kind of segmentation has been found to be one of the reasons for the differential advantage of Japanese automakers (Dyer et al., 1998).

Purchasing portfolio models are made up of internal and external dimensions. The internal dimension is related to the strategic importance of the purchase, and the positioning of the item will depend on competence, economic and image factors (Olsen and Ellram, 1997). The competence factors describe the extent to which the item purchased is a part of a company's core competencies, and the economic factors

describe the economic importance of the purchase in terms of the financial value and the impact on the company's profits. The external dimension is related to market conditions, which can create uncertainty. This dimension is described by Olsen and Ellram (1997) in terms of the difficulty of managing the purchasing situation, which will depend on various attributes such as product novelty and complexity as well as supply market characteristics (e.g. dynamism, suppliers' competencies and availability of alternatives). Furthermore, especially in the case of partnership sourcing, an important market-related aspect is whether the firm finds a suitable partner that is interested in developing a partnering relation (McCutcheon and Stuart, 2000).

As the above-mentioned understanding of certain market and analysis of them are important aspects for developing sourcing strategies, market analysis has been included into this dissertation in order to collect further information on the issues studied. In addition, principles of portfolio models are used when analyzing different types of relationship in FM services.

3.2.2 FM services market

Before describing the characteristics of the FM services market, it is worth noting that FM is a relatively new profession (Tay and Ooi, 2001; Gilleard et al., 1994). In addition, the field of FM is at a quite early stage of development which is not supported by an adequate knowledge base; its development to date has been unsupported by practical theory; and it is grossly under-researched (Nutt, 1999)¹. Furthermore, there have been difficulties in establishing universally-accepted definitions of the FM function and its management process (Hinks, 1999). Only recently, the first European standard of FM terms and definitions has been drafted by the Technical Committee CEN (EN 15221, 2005).

Historically, businesses primarily operated in their own buildings constructed to their specifications, and real estate decisions were typically made by business unit managers or the facilities staff. When corporations grew, specialized real estate management functions were established (Krumm et al., 1998, Page and Valenziano, 2000). Tasks given to these units are nowadays often grouped under the terms corporate real estate management (CREM) and facilities management. CREM is held to be more strategic, as it involves long-term asset management of real estate portfolios whereas FM is considered more tactical as it involves day-to-day operations of individual facilities (Bon et al., 1998). However, as pointed out by Miciunas (2002), CREM and FM both possess aspects of strategic and operational management, and as more facilities-related services are being outsourced, the roles and responsibilities of both functions will become more strategic.

The focus of facilities management has always been on the working environment. Nevertheless, over the years, some evolution paths can be identified (cf. Kincaid 1994,

¹ Paper 1 gives a more comprehensive overview of the current state and current trends of academic research in FM. In addition, Paper 1 introduces some important gaps in research areas such as service procurement and sustainability.

Then, 1999, Meneghetti and Chinese, 2002): the diversification of the serviced working environment and the broadening of the range of managed services with a tendency to a generalist and service orientated facilities management, and the consequent expansion of the range of activities belonging to FM. Thus, FM is seen as an umbrella term under which a wide range of property and user related functions may be brought together (Amaratunga et al., 2000). Some of these services are related to daily requirements, such as cleaning, daily maintenance and catering services. The main group using and benefiting from these services are the users of premises. Other, less frequent services focus on the property itself, its development, maintenance, and other work necessary to maintain its market value. These services are often related to a property's physical characteristics, such as functionality, aesthetics, technical and functional quality or durability or are provided to eliminate problems standing in the way of realizing the desired benefits. The main party benefiting from these services is the owner of the property (Koskela, 2005).

In fact, FM services are mostly intangible services, even though there is a degree of materials included in some areas of service provision. Nevertheless, these services can be described in terms of service contracts, and their performance can be measured against key performance indicators (Gilleard and Yat-lung, 2004). FM services are also mostly quite simple, and for most clients they represent non-core support services (see EN 15221, 2005). In contemplating the mix of support services needed by a company, such as cleaning, security, real estate maintenance, as well as mechanical and electrical maintenance, it is easy to see the diversity of the tasks involved (Atkin and Brooks, 2000). Due to the simplicity of FM services, organizations in the FM services market usually have no chance to gain a competitive advantage by standing out from the rest by technical differentiation (Salonen, 2004).

The benefits of outsourcing FM services are mainly due to economies of scale (Krumm et al., 1998). It is possible to take advantage of economies of scale by bundling either a mix of different services or sites under one contract. A "site" here is understood as a single building or a complex of adjacent buildings. By bundling services regionally, cost advantages are created, which service providers can convert into corresponding lower prices or higher service levels, novel technologies or new and innovative structures and procedures (Meneghetti and Chinese, 2002). In addition, advantages are created when economies of scale and speed are combined with administrative co-ordination (Anderson and Matsgård, 1996). In Finland, FM services are often bought from external service providers. The effect of forming larger service packages is that it reduces the number of potential service providers. This is due to the fact that FM services companies in Finland typically are small and operate in local markets only. Out of the approximately 10,000 Finnish FM services companies, only a few are large enough to be able to provide a wide range of services (Salonen, 2006).

To simplify, the service companies in the FM services market can be divided into two groups distinguished by two discrete supply models based on the way they provide services to their clients (Miettinen, et al., 2005). When the company is focused on one or two service types as their core business, their supply model is called the specialized service provider model. The other model is called the integrated service provider model. A company following this model provides larger service packages consisting of many different FM services produced by its in-house units. Also a third supply model has been recognized, the total facilities management contractor model. In this model, a

company offers a large range of services and takes total responsibility for delivering, monitoring and controlling services on behalf of the client (Ancarani et al., 2004; Atkin and Brooks, 2005).

It is also important to understand that some service providers may have relationships with other service providers (Meneghetti and Chinese, 2002). When a service provider offers larger service packages in co-operation with other service providers, the supply model is called “networked service providers” (Miettinen, et al., 2005). Sometimes not all service providers are directly connected to the buying company or even other service providers. According to Hines (1995) a supply network can be constructed in the form of a hierarchical pyramid with second- and third-tiered suppliers, also called sub-contractors. Depending on the buying company’s sourcing strategies, a supply base may include suppliers in second and third tiers (Choi and Hong, 2002) or suppliers that fall into the kind of supply model the buying company ought to select (e.g. Miettinen, et al., 2005).

Overall, the Finnish FM services market is in a transformation phase, and as a result of the redeveloped procurement practices, also service providers are introducing new types of supply models and beginning to redevelop the range of services they offer in order to succeed in the changing marketplace (Rautio, 2005; Lith, 2006). In addition, the marketplace has been restructured through a number of mergers, acquisitions and alliances. As a consequence, on the one hand, total facilities management concepts have been established and horizontal co-operation between different service providers is becoming more popular, and on the other hand, companies focusing on only certain areas of service provision have been created (e.g. Atkin and Brooks, 2000; Varcoe, 2000). In practice, FM can cover management of a broad variety of services, including real estate management, financial management, change management, health and safety and contract management, in addition to building maintenance, domestic services (such as cleaning and security) and utilities supplies (Atkin and Brooks, 2000). The nature of various FM services differs as a result of the duration of the service, the skills and expertise required and the importance of the service to the client and customer. This, among other reasons, is why FM practitioners need to be more familiar with the expanding range of sourcing options (Smith et al., 2004).

4 SUGGESTED FRAMEWORK FOR SOURCING STRATEGY IN FM SERVICES

The framework suggested in this dissertation results from various sourcing strategy approaches discussed in the literature. In the suggested framework, sourcing strategy in FM services is understood as a mix of different decision categories and choices (Figure 3). It is suggested that the client needs to make a decision in five main categories when developing a sourcing strategy. There are also external elements that must be taken into account in the process of sourcing strategy development, such as different elements of the business environment in general and the prevailing market conditions. The main references that have influenced the development of the suggested framework most are presented in brackets after the text in the sections.

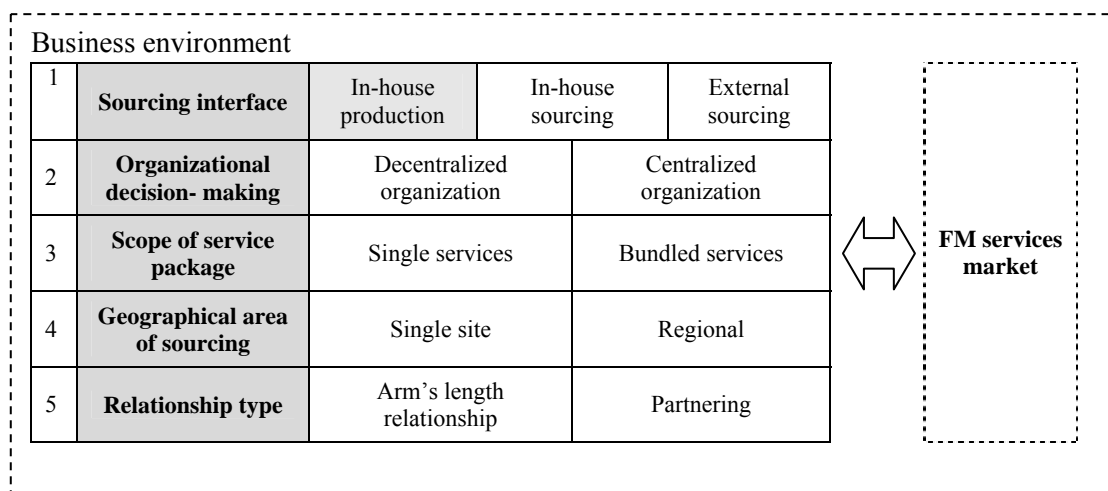


Figure 3 An integrated approach to the development of sourcing strategy in FM services

The main principle in the framework is that the procurement organization cannot operate in isolation from its environment and other elements of business (see Figure 3, outer boxes with dashed lines) (see e.g. Pearson and Gritzmacher, 1990; Carr and Smeltzer, 1997; Virolainen, 1998). Other important principles are that sourcing objectives and decisions that affect the company's overall performance need to be consistent with business strategy, and the company's service providers must have the capability to meet its strategic priorities (see e.g. Carr and Smeltzer, 1997).

The inner boxes with solid lines in Figure 3 represent the internal elements of sourcing strategy decisions, called decision categories. The first two categories include choices in relation to the structure of the sourcing organization and the last three decision categories include choices that influence the structure of the service provider base in reference to the number of service providers and the selection among different relationship types. Each of these categories of sourcing decisions has at least two alternative choices. To find the optimal sourcing strategy and understand the consequences of each decision, each of the five categories must be considered. There are also market-specific factors that may influence decision-making on how to form the sourcing strategy and structure the company's service provider base.

In the first category (sourcing interface), the client must explicitly consider the implications of an organization's choice between producing services in-house or using external service providers in order to fulfill the demand for FM services (see e.g. Williamson, 1985; Quinn and Hilmer, 1994). When it is decided to produce services in-house there is no need to consider other choices in the decision categories. Thus, the framework is mainly fitted to analyzing the choices related to using external suppliers in the FM services market. Besides these choices, the organization in question may consider executing sourcing internally or possibly use an external sourcing organization that purchases services and manages the service provider base on behalf of the client, often called a managing company (see e.g. Atkin and Brooks, 2005).

The second category (organizational decision making) that affects the procurement organization and how the service provider base can be managed is the degree of centralization, including the choice between a decentralized and centralized organization (see e.g. Smeltzer, 1997; Krumm et al., 1998; Atkin and Brooks, 2005). There may be an in-house sourcing unit or external sourcing organization that are

managed and coordinated in a decentralized manner through many individuals around the organization. Organizational decision-making may also take a form in which authority and decision making are focused around one individual or a central function of the organization.

The third category (the scope of service package) and the fourth category (geographical area of sourcing) affect the structure of the service provider base in reference to the number of service providers to use. When sourcing FM services, the number of service providers can be reduced either by bundling different services together or by grouping sites under one contract. For this reason, the classical single and multiple sourcing strategy approach is limited (see e.g. Zeng, 2000; Min and Galle, 1991) for explaining the number of suppliers to use in FM services market. The third category includes decisions that concern the scope of service packages in reference to sourcing single services by a number of service contracts or bundling of them into one contract (see e.g. Ancarani et al., 2004; Atkin and Brooks, 2005). Service bundling is closely linked with the decisions concerning the definition of the geographical area of sourcing, which is the fourth category in the framework. In the fourth category, the buying company must consider whether to buy an individual service or a bundle of services by the same contract for a single site or a certain region (i.e. multiple sites) (see e.g. Meneghetti and Chinese, 2002). A site here means a single building or a complex of adjacent buildings.

The fifth category (relationship type) defines the selection of relationship type between an arm's length relationship and partnership sourcing (see e.g. Macbeth, 1994; Mentzer et al., 2000). The result of the choice made in this category is that the buying company has decided what kind of collaboration it ought to pursue. This decision category also includes theoretical consideration of different forms of competition, such as short-term or long-term contracting (e.g. Parker and Hartley, 1997), since the characteristic of partnering is described as a long-term relationship which often eliminates immediate short-term benefits. Thus, there does not seem to be a need to insert a "competition form" category for the framework. Furthermore, the theory of portfolio models does not bring any additional categories to the framework but could be used when analyzing different choices in the decision category of relationship type (see e.g. Olsen and Ellram, 1997; Bensaou, 1999).

All the presented decision categories must be evaluated against the market conditions at least for the following factors: number of available service providers, the size of service organizations, use of suppliers in second and third tiers, availability of different services, geographical range of service providers, supply models and management arrangements (see e.g. Olsen and Ellram, 1997; Quayle, 1998; Lonsdale, 1999; Mentzer et al., 2002; Choi and Hong, 2002; Miettinen, et al., 2005; Atkin and Brooks, 2005).

5 EMPIRICAL STUDY

5.1 Case study research

5.1.1 Selection of cases

The selection of case organizations is one of the critical aspects in case research (Eisenhart, 1989). The basic selection criterion is that the case organization should be a typical representative of the theoretical category in question (Yin, 1994 Eisenhart, 1989) In the field of FM this criterion proved to be quite complicated, since few organizations

have planned sourcing strategies for FM services (see e.g. Lehtonen and Salonen, 2006). In this sense, it is relatively difficult to determine a typical case organization. According to Yin (1994), a multiple case study should involve approximately three cases for replication. Four out of seven candidate organizations were willing to enter the case study research. All four organizations were eager to apply the suggested framework and to develop their sourcing strategy processes. It was also desired that somebody outside the case organization should make a review concerning their procurement planning practices. It is important to note in this context that the author has been earlier involved in a research project with the same case organizations (i.e. during the pre-understanding phase). Therefore, the situation of sourcing practices in FM services was familiar both to author and the organizations before the start of the study.

5.1.2 Presentation of cases

The multiple case study was conducted with four companies representing four types of property owner: (Case 1) city (multiple site user-owner organization), (Case 2) broadcasting company (single site user-owner company), (Case 3) institutional mutual pension insurance fund (real estate investor company) and (Case 4) non-listed property investment company in residential market (real estate investor company). These cases are numbered Case 1 - Case 4 throughout the dissertation in order to maintain anonymity. All case organizations represent different sourcing environments in different sectors of the property market. In addition, all participating organizations are major players in the Finnish FM services market in terms of purchasing volume and they participated in this project as corporate research partners. The cases are summarized in Table 1.

Table 1 Characteristics of case organizations

Case	Organization type	Owner type	Amount of floor area	Number of suppliers	Property portfolio
Case 1: City	Public	user-owner	2.5 Mm ²	~ 100	- Offices - Specialized properties
Case 2: Broadcasting company	Public	user-owner	0.3 Mm ²	~ 690	- Offices
Case 3: Institutional Mutual Pension Insurance Fund	Private	real estate investor	1.3 Mm ²	~ 90	- Offices - Commercial properties - Residential buildings
Case 4. Non-listed real estate investor company	Private	real estate investor	1.5 Mm ²	~ 730	- Residential buildings

Case 1: City

The Case 1 organization operates in the public sector and represents the user-owner type property owner. Among all the cases, this organization has the smallest geographical spread of properties. All of its properties amount to 2.5 million square meters and are located in the area of one city. Offices and specialized property holdings such as hospital buildings and schools dominate the organization's portfolio. Eighty percent of

its properties are rented internally to the different departments of the city. Some services are produced by a single internal service organization. However, the internal sourcing organization also purchases single services from dozens of local service providers. There are no bundled service packages and regional contracts. Instead of purchasing an individual service for a single site in the future, the organization has planned to rationalize its service provider base by extending service contracts to cover a large number of office buildings in six different regions of the city. In addition, the case organization is reorganizing its sourcing functions towards centralized decision making. Furthermore, its external relationships are based on short-term contracts without any effort to forge closer relationships and long-term contracts with its local service providers. The objectives of the organization in the procurement and supply management of FM services include: improving the effectiveness of procurement decision making, maintaining the value of properties at an appropriate level and supporting the users of the premises, rationalizing the service provider base by grouping sites, and decreasing the frequency of bidding by developing partnering relations.

Case 2: Broadcasting Company

The Case 2 organization is a broadcasting company that holds premises for the use of its own employees (i.e. user-owner type property owner). The company's portfolio is dominated by offices, which are located in cities and close to cities and amount to 280 thousand square meters. Eight individuals in a centralized unit are nowadays involved in sourcing decisions. There is no internal production. A network of 690 service providers provides FM services to its sites nationwide. The company mainly buys a bundle of services by the same contract on a single site basis. However, the company is objectively decreasing its wide service provider base by bundling different services and grouping sites to one supplier. In addition, the company only uses arm's length relationships with selected service providers. The objectives of the company in procurement and supply management of FM services include: rationalizing the service provider base by decreasing the number of service providers, moving from an adversarial to a collaborative relationship approach and creating systematic and cohesive sourcing procedures among the buyers.

Case 3: Institutional Mutual Pension Insurance Fund

Case 3 was carried out in the department of real estate investments in a large institutional mutual pension insurance fund (i.e. real estate investor type property owner), which owns private equity in the form of altogether more than 200 offices and commercial properties and over 5,000 apartments. The properties are all over the country and they are widely spread geographically. Measured in area terms they amount to 1.3 million square meters. This company has authorized a central unit manned by three individuals to make sourcing decisions and has outsourced the management of service contracts to an external managing company. The service contracts are directly made on behalf of the case company. The service provider base consists of a dozen of large service providers. The case company has rationalized the supply base by splitting purchased services between 16 large preferred service providers in the way that two to four different providers are responsible for a particular service area (i.e. 4 for real estate maintenance, 4 for grounds maintenance, 4 for cleaning, 2 for technical maintenance and 2 for waste management). Besides splitting purchased services, the case company has formed wide service packages in each selected service area by grouping sites under regional contracts. Service providers are considered as operational partners and the

external managing company as a strategic partner. In addition, each service provider of its supply base or in the service market is also a potential customer of pension insurance. The objectives of the company in procurement and supply management of FM services include: improving or maintaining the productivity of properties and the value of properties at an appropriate level, increasing the effectiveness of decisions by authorizing sourcing decisions to the central management, rationalizing the service provider base by pruning inefficient providers and developing long-term relationships with preferred service providers.

Case 4: Non-listed Real Estate Investor Company

Case 4 was carried out in a large non-listed real estate investment company (i.e. real estate investor type property owner), which is a major investor in the Finnish residential market. It owns altogether more than 23 000 rental apartments all over the country that amount to 1.5 million square meters. The case company has authorized sourcing decisions to decentralized units manned by approximately forty individuals. The service contracts are mainly managed internally by these individuals. In addition, this organization has a partnering relationship with two property management companies that are partly responsible for tenant relationships. The management partners are seen as a strategic asset to the case company. The service provider base of the company consists of about one hundred service providers. The company is bundling different services regionally in multiple sites. The objectives of the company in procurement and supply management of FM services include: decreasing the turnover rate of tenants by improving the quality of purchased services in the long run, defining a cohesive method for coordinating service providers, rationalizing the service provider base by bundling services, and developing more collaborative relationships with key service providers.

5.2 Data collection

5.2.1 Case data

The primary case data was collected by using semi-structured interviews, open-ended questionnaires and focus group interviews. In general, qualitative interviews are divided into three categories as follows: structured interviews, unstructured interviews, and semi-structured interviews (Rogers and Bouey, 1996). Structured interviews, sometimes called standardized interviews, are often used in quantitative research. In structured interviews, the researchers ask numerous interviewees the same set of questions, in the same order, and using the same words. In contrast to the rigidity of the structured interview, an unstructured interview, sometimes called an open-ended interview, does not use an interview schedule that contains a common set of standardized questions. Instead, the questions emerge from the interactive process between the interviewer and interviewee (ibid.).

Between the two extremes of the structured and unstructured types of interviews lies the semi-structured interview, sometimes called a guided interview. In this type of interview, there are some predetermined questions or key words used as a guide (Rogers and Bouey, 1996). However, the researcher is free to exercise his or her own initiative in following up an interviewee's answer to a question. The interviewer may want to ask related, unanticipated questions that were not originally included. This approach may result in finding out unexpected and insightful information, thus enhancing the findings (Hair et al., 2003). Thus, the semi-structured interview has some of the advantages of

both the structured and unstructured formats. While it allows questioning with respect to specific topics, it poses these questions in a more open-ended a manner than is typical for structured interviews (Rogers and Bouey, 1996).

Characteristic of a focus group interview is an interview among a small group of people on a specific topic. Typically, groups are comprised of 6 to 10 people with similar backgrounds who participate in the interview for one or two hours (Patton, 2002). According to Morgan (1997), there are three types of uses for focus groups. Firstly, they are used as a self-contained method in studies in which they serve as the principal source of data. Secondly, they are used as a supplementary source of data in studies that rely on some other primary method such an interview. Thirdly, they are used in multi-method studies that combine two or more means of gathering data in which no one primary method determines the use of the others. In other words, focus groups may be used either as a method in its own right or to complement other methods, especially for the purposes of triangulation and validity checking. In this dissertation, focus groups were used in combining multiple means of data gathering (i.e. third type).

Focus groups may be used at any point in a research project. According to Steward and Shamdasani, (1990), focus groups provide a number of advantages:

- Focus groups provide data from a group of people much more quickly and at less cost than interviewing individuals separately.
- Focus groups allow the researcher to interact directly with respondents. This provides opportunities for the clarification of responses, for follow-up questions, and for the probing of responses. Respondents can qualify responses or give contingency answers to questions.
- The open response format of a focus group provides an opportunity to obtain large and rich amounts of data in the respondents' own world. The researcher can obtain deeper levels of meanings, make important connections, and identify subtle nuances in expression and meaning.
- Focus groups allow respondents to react to and build upon the responses of other group members. This synergistic effect of the group setting may result in the production of data or ideas that might not have been uncovered in individual interviews.
- Focus groups are very flexible. They can be used to examine a wide range of topics, a variety of individuals and in a variety of settings.
- Focus groups may be one of the few researcher tools available for obtaining data from children or from individuals who are not particularly literate.
- The results of a focus are easy to understand. Researchers and decision makers can readily understand the verbal responses of most respondents. This is not always the case with more sophisticated survey research that employs complex statistical analysis.

The focus groups have been successfully used in dissertations in the field of FM for explorative purposes (see e.g. Tuomela, 2005; Lehtonen, 2006b). In this dissertation, the focus group, besides forming the main source of case data, also allowed a dialectical and multidirectional relationship between the group, interviews and questionnaires. The primary case data was collected in each case organization by following chronologically the five stage phases. During data collection, altogether 18 managers (i.e. those working

at the strategic and managerial level of the organization) were interviewed in 12 interviews (4 semi-structured and 8 focus group interviews) and a total of 16 responses were rendered in open-ended questionnaires. Characteristic of data collection was that each studied case organization followed the same interview guide, i.e. themes and questions (Appendix 1). In addition, each phase ended in written output and after more detailed coding, the data was transferred as an input into the next data collection phase (Table 2).

Table 2 Conducted data collections

Data collection phase	Data collection method	Purpose of the phase	Number of informants				
			Case 1	Case 2	Case 3	Case 4	Total
1	Semi-structured interview	Understanding of business environment	2	3	1	1	7
2	Open-ended questionnaire	Understanding current state of sourcing practices	2	1	1	1	5
3	Focus group interview 1	Analysis of sourcing decision-making	2	5	3	3	13
4	Open-ended questionnaire	Defining strategic objectives of sourcing	3	4	1	3	11
5	Focus group interview 2	Analysis of sourcing decision-making	2	4	2	3	11

In the first phase, semi-structured interviews were conducted at the strategic level of the case organizations, e.g. with heads of departments, financial managers etc. The strategic level was chosen because people at this level are assumed to have the best knowledge of the business environment. The number of strategic level informants varied from one to three interviewees between the cases. For interviewing purposes, an interview guide was developed (see Appendix 1). The interview guide comprised three themes. Themes were the current state of business, the role of sourcing and the role of FM services in the case organizations' businesses. These themes consisted of questions needed to guide the focus group discussions between the researcher and the focus group members. In addition, through the strategic-level interviews the author became more familiar with the business environment of the case organizations.

In the second phase, a self-completion questionnaire (open ended) was sent to persons of the case organizations who were responsible for sourcing and managing FM services. The self-completion questionnaire consisted of questions related to the current sourcing practices of the organizations, such as service production, the structure and number of the service provider base, the structure of the property portfolio, including the geographical spread of properties, and the structure of the sourcing organization (see Appendix 1). These fact based data were collected before the first focus groups. Then, at the beginning of the first focus group, findings of questionnaires were discussed with the members of focus groups in order to get a more comprehensive overview and verification of current sourcing practices in the case organizations. This type of questionnaire was designed to cut down the number of open ended questions to a minimum and to generate large amounts of data in a relatively short time (e.g. Robson, 2002; Clough and Nutbrown, 2002). Respectively, all five data collection phases were completed separately by the author in two months in four case organizations (March 30, 2004 to May 27, 2004).

In the third and fifth phase, data was collected using focus group interviews. For focus group purposes, another interview guide was developed (Appendix 1). In addition, between sessions in phase four, another open-ended questionnaire (assignment) was given to the participants in the focus groups. This assignment, which was returned to the author before the second focus group, was concerned with the objectives of the procurement and supply management in FM services (Appendix 1). Thus, the focus groups in the third and four phases provided data for analytical purposes and were organized for member check purposes. In this way, it was assumed that the credibility of the analyzed empirical data could be increased (e.g. Guba and Lincoln, 1989).

For the selection of the members of focus groups and the persons to fill in the self-completion questionnaire, snowball sampling (e.g. Burgess 1984; Frank and Snijders, 1994) was used. The respondents and focus groups were nominated by the respondents of strategic level interviewees in each case organization – from the managerial level of the organization - as potentially valuable persons to interview with regard to sourcing practices. These two focus group interviews involved 2 to 5 experienced sourcing professionals, e.g. property and facility managers etc.. The focus group interviews were comprised of questions concerning the decision making categories and choices of the framework.

All interviews (semi-structured and focus groups) were carried out in the premises of the case organizations whose representatives were interviewed. In addition, all interviews and questions were conducted in Finnish, which was the mother tongue of both the interviewers and interviewees. Before entering the actual interview, it was emphasized that interviews were confidential and that the answers and opinions of an individual interviewee could not be recognized in publications. During the interviews, the conversation was allowed to proceed at its own pace; the interviewer simply had responsibility for ensuring that all the questions in the interview guide were addressed. The interactions between the respondents and the interviewer varied to an extent. Some respondents were open and eager to engage in a discussion while others strictly answered the set questions.

The researcher took some notes during interviews. However, all interviews were either recorded or notes were taken by two persons in order leave the researcher more time for concentrating on interactions with respondents, follow-ups of the interview guide and probing of responses. In addition, occasionally two other researchers made additional questions if the researcher missed some relevant question. Breaks were also used in the long interview sessions to control the pace of the interview. According to Adams and Schvaneveldt (1991), even the best of interviewers cannot remember details well enough to go back and fill in missing data at the end of the interview, or worse yet, at the end of the day. All other things being considered equal, it is good to record fully and accurately in the situation as the data emerge. All strategic-level interviews and some of the focus groups were recorded in digital format. Respecting the interviewees' wishes and their confidentiality some focus groups were not recorded. Later, recorded interviews were transcribed into written form and these transcripts were then coded¹ manually with Atlas.ti® software to produce a categorization of the data. As Robson

¹ This process was influenced by suggestions of Robson (1993) and Coffey and Atkinson (1996).

(1993, p. 385) states, qualitative data cumulate rapidly, and even with regular processing and summarizing it is easy to get overwhelmed. The material is unstructured and difficult to deal with. To prevent and solve this problem, coding was used.

Later, the case data was supplemented with practical observations and market data to find possible improvement for the framework. The practical observations were used as additional information for finding new issues of make or buy decisions in the first category of the framework (Paper 4) and market data were used to generate supplementary information to all decision categories from a market perspective (see Chapter 5.2.2 and Paper 5). Practical observations were based on two independent consulting projects during the researcher's work at a real estate consulting group in year 2005. One project focused on the outsourcing of the FM services of a distributor of pharmaceutical products and the other on outsourcing of the technical maintenance services in a hospital environment.

5.2.2 Market data

The market data was intended to generate additional information to decision categories and choices of the framework from the perspective of the FM services market (Paper 5). The market data was collected by a survey carried out using a questionnaire. The questions were tailored in collaboration with industrial experts to fit the FM services context. The purpose of this collaboration was to develop a set of items that was suited for each of the relevant topics. The questionnaire was sent to the 24 most important FM services providers in the Finnish FM services market. The service providers represented both public and private organizations and the sample was considered to cover extensively the Finnish FM services market. Together the companies provide a wide range of FM services, at least one type or more, including real estate maintenance, technical maintenance, cleaning, grounds maintenance, waste management, security, lobby, catering, postal and courier, and removal services.

When developing the questionnaire and formulating the questions, the researcher should ensure that the language of the questionnaire is consistent with the respondent's level of understanding. If a question is understood or interpreted differently by respondents, the researcher will obtain unreliable responses to the question, and these responses will be biased (Forza, 2002). To ensure the clarity of wording, the professional terms were taken from "Kiinteistöliiketoiminnan sanasto" (RAKLI, 2001), a widely accepted and used glossary for facility-related terms and their definitions in Finnish. Then, the questions were tailored to fit the FM services context in collaboration with industrial experts. To be precise, the first version was modified in cooperation with representatives from RAKLI and Rakennustieto Oy. Then the modified version was piloted by the researcher and his working colleagues.

The questionnaire was divided into six parts. The first three parts covered the background of the service companies with questions regarding contact, personnel and financial information. The questions of the fourth and fifth parts were concerned with the range of offered services and the allocation of turnover between different service types. The last part focused on market trends in the FM services sector from a company and industrial perspective three years into the future. There were questions about growth in sales and the position of the company in the market, including its service offering, geographical expansion and cooperation with other market players.

The survey yielded 13 responses. The total response rate was 54 %. The companies that responded employ almost 40,000 people and the total turnover of the companies was 1,850 million euros. The questionnaire was in Finnish, which is the mother tongue of the respondents. In the questionnaire, the respondents were asked to evaluate FM market trends and their development up to the year 2008 on a 5-point scale (from 1 point = describes very poorly to 5 points = describes extremely well). Additionally, the respondents had the opportunity to describe market trends by answering open-ended questions. Open-ended questions were constructed to avoid the problems caused by a possibly limited list of market trend characteristics and to give respondents an opportunity to present their own assumptions on market trends. According to the representatives of RAKLI, the 5- point Likert scale has been found to be the most workable method to carry out surveys in the FM services context in Finland (see e.g. Lehtonen, 2006b). As a result, representatives of companies are nowadays used to that scale.

5.3 Data analysis

5.3.1 Case data

The objective of the case study was not to test the developed framework but rather to study further and seek more understanding of the phenomena explored. The framework was used to examine the realized sourcing strategies in the case organizations and to support the analysis of empirical data. Interview guides were formulated based on theoretical categories of the framework. The categorizing of the answers was conducted following the question themes of the interview guide. Under these themes, several subcategories were developed. Next, on the one hand, potential relationships between these subcategories, and on the other hand, the relationship between subcategories and theoretical concepts were analyzed by utilizing the suggested theoretical framework (see Chapter 4 and Paper 2).

Data in the case study research were classified under the five decision categories of the framework, and then data in these categories were further classified under sub-categories (i.e. alternative choices) within the decision categories. The first two categories include decisions in relation to the structure of the sourcing organization. The last three categories include decisions that influence the structure of the service provider base and the selection of different relationship types. Each of these categories of sourcing decisions had at least two sub-categories (i.e. alternative choices). To deepen the understanding of issues related to the decisions of sourcing strategy and to find the consequences of each decision, each of the five categories in the each case were analysed. Then, cross case analysis was conducted.

In the actual analysis, the researcher formed a conception of the data by reading through the transcribed material and by comparing arising viewpoints to notes made during the data collection. Later, the texts were inductively organized into categories of the framework. The results were validated during the five-phase case data collection in focus groups where the findings were presented and discussed with the informants.

5.3.2 Market data

The primary case data was supplemented with market data which were collected by the survey method and focused mainly on the supply market (i.e. FM services market in

Finland). The survey was selected as the method for collecting data for the analysis of trends in FM services market. The findings of the survey were classified into four categories: 1) the growth of FM services companies and the main methods of growth, 2) the service providers' ability to compete in the FM services market, 3) the geographical spread of services in the FM services market, and 4) the co-operation with other FM services market players. For the purposes for this dissertation, all four categories included questions that were considered important for further development of the framework. It was also assumed that categories include important market information that would help the clients to make well-grounded sourcing decisions in FM services¹. On the other hand, the changes in the factors in the categories also describe the changes on the supplies' side in reacting to the clients' transient procurement methods. Based on the results of the 5-point Likert scale, the mean value and mode were counted for each question in the categories. At the end of secondary data analysis, the implications of the current supply environment in the FM services market were analyzed and compared to the identified decision categories of the framework.

At the end, based on the cross case analysis and analysis of market data (i.e. FM services market), the analyzed data were combined and summarized into final categories. However, analysis is not simply a matter of classifying, categorizing, coding, or collating data. Furthermore, it is not simply a question of identifying forms of speech or regularities of action. Most fundamentally, analysis is about the representation or reconstruction of social phenomena (Coffey and Atkinson, 1996). In this study, the analytical process of writing proceeded in parallel to that of reading. As Coffey and Atkinson (1996) state, an active and analysis-oriented approach towards the literature is an important part of the recurrent process of reflection and interpretation. The process of data analysis was also directed by writing articles and conference papers among which almost all are a part of the dissertation. As the purpose of this study was to increase the knowledge about the elements of sourcing strategy in FM services and to deepen the understanding of issues related to analyzing the decision-making in this sector, both at general level, the results are not structured in terms of individual experiences or actions and not only in terms of policies of certain organization, but also in terms of industry or market level practices.

¹ For more detailed discussion of different sourcing decisions and alternative choices in sourcing planning of FM services, see Paper 2.

6 RESULTS

This chapter aims providing answers to the research questions of this dissertation. While none of the studied case organizations had formulated their sourcing strategies in writing, the essential elements of sourcing strategy from the perspective of FM services were identified mostly based on interviews and presented by using the theoretical framework. Connections between the sections, the structure of the framework, published papers and utilized data are presented in Table 3. Data shown in parentheses had a supplementary role in answering research questions.

Table 3 Connections between the framework, sources of data and methods

Section	Internal element	Papers	Data sources	Main method
6.1.1	Sourcing interface	Paper 2 Paper 4	Focus groups (semi-structured interviews, questionnaire and practical observation)	Case research
6.1.2	Organization decision making	Paper 2 Paper 3	Focus groups (questionnaire)	Case research
6.1.3	Scope of service package	Paper 2 Paper 3	Focus groups and semi-structured interviews (questionnaire)	Case research
6.1.4	Geographical area of sourcing	Paper 2 Paper 3	Focus groups	Case research
6.1.5	Relationship type	Paper 2 Paper 3 Paper 4	Focus groups (semi-structured interviews)	Case research
Section	External element	Papers	Data sources	Main method
6.2.2	The current FM services market in Finland	Paper 5	Questionnaire	Survey study

The first goal was to find out *what type of sourcing decisions and alternative choices exist within the FM services sourcing strategy* (Papers 2, 3, 4 and 5) and the second goal was to determine *what are the external and internal factors used for justifying specific decision in sourcing FM services* (Papers 2, 3 and 4). The results of the decision categories, choices, and external and internal factors are discussed in Section 6.1 entitled “Internal elements”. The results of these questions are mainly based on the cross-case analysis. During the analysis of cases, each embedded unit (decisions, choices, external and internal factors) of the case organization were similarly analyzed¹. Original sources of the similarities and deviations are referred to in brackets within the text.

The third goal of this dissertation focuses on finding out *what implications can the current supply environment in the FM services market have for the identified decisions* (Papers 2, 3, 4 and 5). The key results of the implications of the supply market for the

¹ For more detailed descriptions of cases are discussed in Paper 2 and 3.

decision categories of the suggested framework are presented in Section 6.2 entitled “External elements”. The results focus only on the Finnish supply environment, not on any other external elements of business or environmental conditions such as economic, technological, political issues etc. Finally, based on the results, suggestions for further development of the theoretical framework are presented in Section 6.3. At the end of this chapter, key observations are summarized in Section 6.4.

6.1 Internal elements

In this chapter the results of the empirical analysis are drawn together based on a cross case analysis. All the case organizations have placed emphasis on sourcing strategy development by reorganizing sourcing functions, rationalizing the service provider base and developing long-term relationships with service providers. As discussed earlier, the framework of this dissertation specifically addresses decisions related to these issues. When analyzing decision categories and choices, similarities can be found between the case organizations (Figure 4). To simplify these similarities, four different arrows are presented in the suggested framework. Each of the arrows represents the main routes of the case organization’s sourcing strategy. The exceptions of the main routes are discussed in the text.

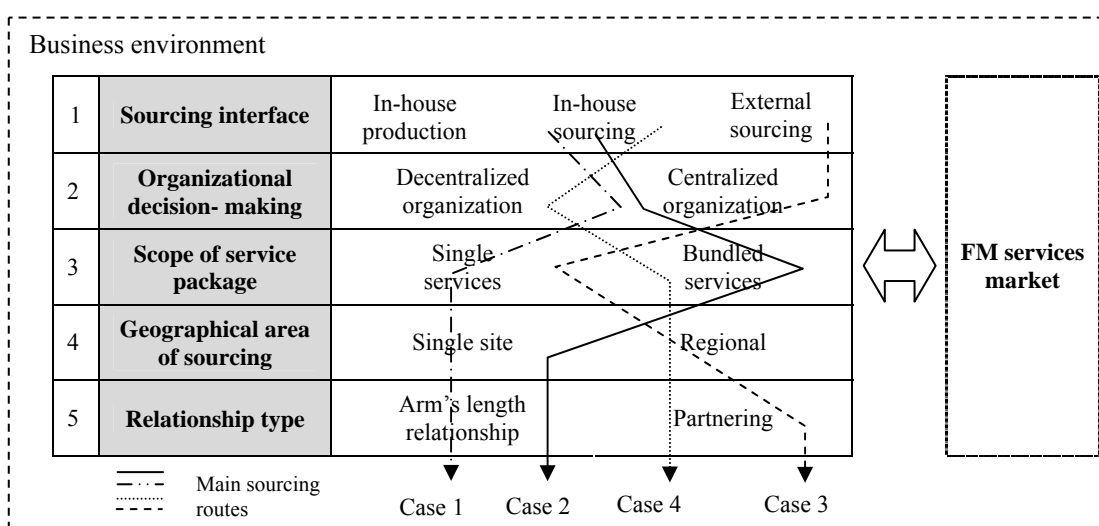


Figure 4 Main sourcing strategy routes in the case organizations

6.1.1 Sourcing interface

This section discusses the first decision category when developing sourcing strategies in FM services, including a discussion of the factors affecting the choice between producing services in-house or using external service providers (Papers 2 and 3). Once the decision of providing services in-house or sourcing them from the external market had been made in favour of purchase, the sourcing interfaces were analyzed by using two choices: using an internal sourcing organization or using an external sourcing organisation that purchases services and manages the service provider base on behalf of the client (often called a managing company). The most common form of sourcing organization was in-house sourcing (Cases 1, 2, and 4), while some of the managing tasks were outsourced to an external property managing company (Case 3). The factors that affect these choices are discussed based on the findings.

Based on the findings of this study, the use of outsourced FM services is motivated mainly by the promise of getting better service at lower costs compared to producing the service in-house (Cases 2, 3 and 4). If there are service providers in the market that have enough resources to develop their activities and are able to utilize economies of scale and scope more effectively than the organization itself, there is usually no need to use in-house production (i.e. vertical integration). However, it was seen as an important factor of successful service procurement and management that strategic knowledge about markets and procurement practices is maintained in-house (Cases 3 and 4). In the cases where some of the managing tasks were outsourced (or were planned to be outsourced) to an external property managing company, the companies had a small number of persons involved in sourcing tasks (Cases 3 and 4). The main reason for having an external sourcing organization was that these case organizations are able to concentrate their scarce resources on a set of real estate investment activities and to focus on strategic planning of sourcing and steering the activities of the supply network towards the overall goals of the company. It was mentioned in both cases (Cases 3 and 4) that when using external sourcing and controlling external sourcing (managing companies), there is a need to develop well-structured management systems, including mutual goals, frequent meetings, reporting methods, performance measures and incentives for managing relationships.

The outsourcing of FM services is usually carried out so that the client's service personnel continue providing the service in the service provider's employment. Consequently, the skills and tacit knowledge based on the continuity of service provision are preserved, but flexibility and efficiency are increased by economies of scale and scope (Cases 2, 3 and 4). In some FM services, which are needed infrequently or, for example only biannually, benefits of outsourcing are realized by a more effective use of resources. Examples of such services are statutory equipment testing and maintenance of major appliances. By outsourcing these services, a client does not need a reservoir of labour to perform these tasks. Furthermore, compared to a client, a service provider can more easily allocate service personnel to carry out other tasks when a certain demand peak is passed. By using external service providers clients are also able to adjust more quickly to changes in service demand. For example, when a real estate investor is actively restructuring its real estate portfolio, its need for services is changing continuously as well (Case 3). As outsourcing or reallocating of a company's own service resources are time-consuming processes, the use of the external service market is favored (Case 2, 3 and 4).

A typical situation that may lead to in-house production is the need for in-house control over activities that may directly affect the success of the core activities of the organization. One example is a hospital environment where the services should be provided accurately and response times for service calls must be very short (Case 1 and practical observation). Furthermore, failures in service provision of this kind could have dramatic negative consequences. Providing such a service requires a high level of work experience and a deep understanding of the core activities of the organization (i.e. hospital operations). There is always a need to have easy and rapid access to appliances and equipment and to understand the effects of maintenance tasks on hospital operations. Another example that exhibits a strong need for internal control is the repair and maintenance of technically demanding distribution systems in logistics properties (Practical observation). In such a situation, there is a need to hold highly sophisticated skills inside the company in order to keep the distribution of products running. Even

short interruptions in distribution may cause a remarkable profit loss for the client. In both aforementioned examples, a significant problem may occur if the outsourced service personnel is not willing to continue working in the service provider's employment. The critical skills are lost at least temporarily if the service provider cannot generate similar know-how immediately. Consequently, severe quality problems may appear. In addition, especially in small markets such as Finland, there is usually a lack of service providers able to provide these highly customized and technically demanding services.

In one case, some FM services were also provided in-house (Case 1). It was also found out in this case, even if advantages of outsourcing could be foreseen, the decision could be made in favor of in-house production. For example in the public sector, political resistance or human resource policies may prevent outsourcing. Under these circumstances, internal service functions are sometimes incorporated into a fully owned subsidiary, and the provision of services is in this way separated internally from the purchasing of services. Such an arrangement makes the cost structure of services more transparent and makes it easier to compare the efficiency of internal service production with the efficiency of service companies operating in the open market. Sometimes this kind of arrangement is used as an intermediate stage towards opening at least a proportion of public-sector service purchases (e.g. by a city) to free-for-all competition. This stage is needed to adjust internal service provision to open market terms and to develop the necessary knowledge and know-how needed to buy services from external service providers.

6.1.2 Organization decision-making

In the second decision category, decentralized and centralized choices were analysed (Papers 2 and 3). There may be an in-house sourcing unit or an external sourcing organisation that are managed and coordinated in a decentralized manner through many individuals around the organization. Organizational decision-making may also take a form in which authority and decision making are focused around one individual or a central function of the organisation. The factors that affect these choices are discussed based on the findings.

Among the cases, most often the authority to make sourcing decisions was given to the centralized sourcing unit (Cases 1, 2 and 3). Only one case organization had decentralized its sourcing decisions (Case 4). The findings of the multiple-case study indicate that centralized decision-making allows the client to concentrate its scarce future resources on a set of more important activities that support the overall goals of the organization (Cases 1, 2 and 3). An example of such centralization was the provision for retirement of in-house staff and decreasing financial resources in upcoming years (Case 1). In addition, case findings indicate that the small number of individuals in the central unit makes the client's decision-making flexible and capable to react rapidly to changes in the real estate portfolio (Case 3). In this case, the clients are able to adjust decisions more quickly to changes in service demand at the appropriate level. Furthermore, as there are fewer decision-makers, there is also less bureaucracy in decision-making, especially in public organizations (Case 1). Moreover, an additional cost advantage is created if there is no need to use a large number of individuals for service procurement and management (Cases 1, 2 and 3). Due to the reduction of procurement staff, procurement resources can be released for example for other more important activities in the organization (Case 2 and 3).

The amount of organizational resources and the level of energy used to manage the service provider base are affected by the number of service providers in the service provider base. By managing the service provider base with a small centralized unit, the client is able to rationalize the service provider base and take advantage of economies of scale by bundling services together or grouping sites under one contract (Case 3). Therefore, in a centralized structure, cost and discount incentives can be achieved by doing larger deals. On the other hand, if the sourcing organization becomes too small, there is no time for development, and thus an arm's length relationship with the provider is likely to develop (Case 4). In addition, centralized sourcing decision-making is considered to allow decisions to be made more effectively, for two reasons. Firstly, procurement procedures will become more similar to each other (Cases 1, 2 and 4). Experiences of decentralization indicate that sourcing procedures are typically fragmented around the decision-making of the company, with many local service contracts set up to buy the same services, often unknowingly bought from the same service provider (Case 2). Secondly, direct access to comparable cost and quality data from all sites will simplify the tasks of service provider monitoring and evaluation of providers against each other (Case 1). Thus, centralized decisions were considered to help the clients to monitor the service providers, follow key expenditures and measure internal sourcing performance as a whole.

The clients with a small number of sourcing staff (Case 2 and 3) or/and a large service provider base (Case 1 and 2) were willing to reorganize their procurement functions into a more centralized system. In contrast to these (cf. large number of sourcing staff and large service provider base spread over wide geographical area), a client that has delegated sourcing decisions to regional decentralized units is looking for other benefits (Case 4). It was found that the decentralized units help the client to utilize the local knowledge of individual buyers, which enables the client to negotiate competitive prices with small service providers in local markets. In addition, contact with a larger number of service providers increases the amount of information available to the client's decision makers on local market developments. By coordinating procurement activities with the decentralized units, the client is able to communicate more effectively with the local users. However, as decentralization commits a large number of individuals to managing the service provider base, disparate procurement procedures among the individuals are likely to increase, which may in turn increase the cost of service provider base coordination. For example, the client has to cope with many different ways of revising bidding documents.

6.1.3 Scope of service package

In the third decision category of the suggested framework, the scope of the service package was studied with two choices: to buy single services by a number of service contracts or bundle them into one contract (Papers 2 and 3). Although only two case organizations were currently splitting purchased services between individual specialised service providers without bundling (Cases 1 and 3), all the case organizations were aware of the limited benefits that can be achieved through service bundling; they also recognised that bundling is risky in some circumstances.

Based on the empirical findings, the benefits of service bundling are achieved if the service processes are planned in a way that allows one person to perform different service tasks in one site or even several sites (Cases 2 and 3). This is typically done in circumstances where service provision does not require a high level of technical

expertise. In addition, once services have been bundled into one contract, service providers are also more willing to provide services which they do not typically provide (Case 2). Furthermore, if services are bundled into packages that are too extensive, problems may arise. Firstly, the service provider may not have the required capabilities and competences for providing all bundled services in the way required (Cases 1, 3 and 4). Thus, the client may have to rely on the skills and specialized knowledge of subcontractors, i.e. second-tier service providers (Case 1). When relying on an increased number of tiered service providers, the probability of non-delivery may increase, because it is difficult for the buying organization to control a large number of tiered service providers. It was also argued that if services are bundled into too large packages it becomes impossible to find enough service providers in the market that can provide all technical services included in the service package (Cases 1, 2, 3 and 4). This emphasizes the fact that the supply market has an effect on the scope of the service package. In the Finnish FM market, there are not necessarily enough service providers that can provide all the services needed for a large real estate portfolio.

Furthermore, there are a number of other reasons to avoid service bundling. By bundling service purchases, the procurement organizations become more dependent on one service provider and the changing of a large service provider may be time-consuming (Case 1). On the other hand, it is less time-consuming to follow up service performance such as costs and quality when using a smaller number of service providers, and thus the cost of monitoring can be reduced (Case 2). In addition, once the service provider base is reduced, the number of transactions among the service providers is also reduced, which makes it easier for the client to coordinate its service provider base with less in-house resources (Cases 2 and 3). Furthermore, a broader service package with the promise of a long-term contract can generate negotiation advantages for the client which in turn can make the relationship more attractive from the service provider's perspective (Cases 2, 3 and 4).

The decision whether to buy specific services through a number of service contracts or bundle them into one contract is affected by the heterogeneity of the real estate portfolio and the differentiation of the premises' users. According to collected data, when the needs of the users are quite homogeneous it is less complex to form a bundled service package that fits all sites. For example, for residential buildings in which users often have quite homogeneous needs, clients do not need to spend much time in defining variations of the service scopes (Cases 3 and 4). When contracts are extended to cover a large heterogeneous real estate portfolio (e.g. offices, logistics etc.), purchasing becomes more complex and the uncertainty over whether or not one service provider is capable to succeed in all different service areas increases (Cases 1 and 3). For this reason, control problems are unavoidable, so the client may need to decide to purchase services, especially technically demanding ones, separately without bundling (Case 1).

As the results indicate that bundling is not suitable for all circumstances, it is sometimes advisable to split the same type of purchased services between two or more preferred service providers (Case 3). The basic philosophy behind forming a preferred service provider structure is to gain access to the best available skills and expertise in the particular service area. On the other hand, splitting the services among multiple limited service providers reduces the supply risk for the service area. The supply risk was understood as the risk of the service provider not being capable of meeting the client's or end-users' requirements for a competitive price, which can result in the loss of company business and negative effects on the revenues and profits of the client. It was

also seen that by working with a limited number of preferred service providers for consolidated purchases, the client can be more effective in communicating its needs and can better induce the service providers to be more responsive to its immediate needs.

6.1.4 Geographical area of sourcing

In the fourth decision category, the definition of the geographical area of sourcing was analyzed in terms of two choices: whether to purchase an individual service or a bundle of services by the same contract for a single site or a certain region i.e. multiple sites (Paper 2 and 3). The factors that affect these choices are discussed based on the findings. In two of the cases, the main route of rationalizing the service provider base was found to be the grouping of specific services on a regional basis to one service provider (Cases 3 and 4). However, in some purchasing situations, the regional contract can cover all properties nationwide (Case 3). There are also some circumstances in which the case organizations have mainly purchased services on a single site basis (Cases 1 and 2).

The selection of the geographical area of sourcing is affected by the geographic proximity of sites in the real estate portfolio and the availability of service providers in the market. The main reason identified for grouping sites on a regional basis was that there are not necessarily service providers in the market that can provide the required services for all the sites in a large real estate portfolio without using sub-contractors (Cases 1, 2, 3 and 4). In addition, if the sites are grouped under nationwide contracts or services are purchased on a single site basis, the company is not able to gain maximum benefits from economies of scale (Case 3). It was stated that synergy is not created if the service provider is unable to reach the number of sites from one location; cost advantages are only created if the sites are located close to each other. In this favorable situation, the service provider can convert savings into lower prices, higher service levels or create innovative structures and procedures.

Moreover, it was noted that the cost advantages associated with the cost of coordination are lost if the service provider is obliged to use second- and third-tier service providers in a certain area (Case 4). The number of tiered service providers in the same region increases the probability of unreliable service delivery at the sites, because it is difficult to control all tiered service providers cost-effectively. Thus, the negative effect of grouping sites under one contract is that it reduces the number of potential service providers (Cases 1, 2, 3 and 4). This is due to the fact that FM services companies in Finland are small and operate in local markets only. Therefore, the small local service providers are able to offer a needed service for a certain site or regions at a reasonable price and with reasonable quality (Cases 3 and 4). In these circumstances, the client is usually more willing to buy services on a single site basis instead of grouping multiple sites under one contract. However, the client is sometimes obliged to buy FM services individually without grouping (Cases 3 and 4). It was stated in these cases that there may be only one service provider in a certain geographical area that is able to offer the competencies required for providing FM services. In this sole sourcing situation, market factors force the client to buy the services on a single site basis.

However, it was discovered that site grouping reduces the number of transactions and as a consequence the bureaucracy in decision-making (Case 1). On the other hand, when rationalizing the service provider base by extending service contracts to cover large numbers of buildings, procurement and management tasks may become very complex,

especially when grouping technically demanding sites (Cases 1, 2 and 3). Thus, when purchasing services for specialized properties, are site-specific contracts usually made (Case 1 and 3). The argument in favor of this approach is that in these types of properties the content of the service has to correspond accurately with the building's and users' requirements. An example of such a site is a hospital building where failures in service provision could have dramatic negative consequences for the operations of the users of the premises (Case 1). Consequently, there is a need to tailor a unique and accurate building or user-specific service specifications, sometimes called service level agreement (SLA), in which service response times are usually very short.

According to the findings, if the client is planning to develop partnering-type relationships, grouping is usually needed to some extent. It was stated that grouping sites at least regionally makes the purchased package attractive and large enough for developing partnering relations (Cases 2, 3 and 4). Thus, it is not necessarily worth grouping sites under one nationwide contract. Furthermore, when grouping sites to one service provider under one nationwide contract there is a risk that comparable market information for benchmarking service levels and costs between regions or sites will be hard to collect without references (Case 2). For example, the client may lose access to novelties and information about comparative price data on other alternative sources because of reduced competitive pressure. For this reason, the selected service provider may eventually raise the prices over market level or then the service concept, little by little, may become old-fashioned, inefficient and costly compared to alternative concepts in the market.

6.1.5 Selection of relationship type

In the fifth decision category, the selection of relationship type was studied in terms of two choices: whether to use arm's length or partnering relationship. Based on the findings, in the context of FM services relationships between clients and service providers can be divided into arm's length relations, operational partnering and strategic partnering (see paper 5). While two of the case organizations (Cases 1 and 2) changed from arm's length relationships to a collaborative approach in managing their relationships with service providers, the others selected operational partnering (Case 3) or strategic partnering relationships (Cases 3 and 4). The selection between the three types of relationship seems to depend on factors such as the strategic importance of the purchase, the complexity of the purchased service package and supply market characteristics.

It was found that the importance is estimated by defining the potential impact of a service on the core business of the client or end-user and how much strategic information needs to be shared with the service provider (Cases 2, 3 and 4). For instance, from a real estate investment company's point of view, property management is in most cases an important function (Case 3). In its widest form the service provider could be responsible for the letting of premises and maintaining the working conditions of building users and the value of properties. Additionally, the service provider gets a lot of detailed information regarding tenants, which can be seen as a strategic asset by the real estate investment company (Cases 3 and 4). Thus, this kind of relationship is called strategic partnering. In strategic partnering, clients usually have only one or two service providers supplying a certain service package, i.e. single or dual sourcing is utilized (Cases 3 and 4). As the selection of service provider is time-consuming, with a high degree of customization, and because there are often only a few service providers

in the market, the overall goal is a long-term relationship. However, this kind of strategic partnering was not observed in the public sector cases (Cases 1 and 2). It was stated that in the public sector there is a need to shorten contract periods to a maximum of four years because of EU regulations (Case 1).

The other aspect of importance is volume. To increase the purchasing volume, most clients reduce their service provider base by creating broader service packages by purchasing services regionally for more than one building at a time or by bundling different FM services to be delivered by one service provider (Cases 2, 3 and 4). It was stated that a large purchasing volume creates a good starting point for engaging service providers in long-term relationships and establishing partnering relations with them (Case 2, 3 and 4). A broader service package with the promise of a long-term contract also makes a relationship more attractive from the service provider's perspective, which in turn generates negotiation advantages for the client (Case 3 and 4). According to these cases, this may mean a better-fixed cash flow for the service provider in the long run. In addition, during the collaboration, with the rise in the threat of potential business loss, suppliers are likely to become more willing to adapt their behavior and operations to suit the needs of the buyer. Furthermore, moving to broader services packages improves the attitudes of both parties pertaining to the development of activities.

As more and more clients are nowadays forming wider service packages, operational partnering is widely used also in purchasing FM services whose strategic importance is not so great. The empirical findings of the case study (Case 3) also indicate that operational partnering is used in buying technically demanding services or services for a specialized property. In both cases, some specific know-how is needed and the strategic importance of the purchase is moderate. In operational partnering, clients have a limited number of service providers for providing a certain service package. Some of them also used the 'preferred supplier' model with an average of 3-5 service providers. However, none of the respondents felt that any of their FM services providers could be so important as to prevent them from changing to another provider, if necessary. According to the results of the interviews, the selection of the service provider in operational partnering is usually based on competitive bidding. However, the weight of price as a purchasing criterion is balanced with other criteria such as resources and knowledge of the service provider. The contracts were usually fixed term contracts with an average duration of 3 to 5 years. On the one hand, this was seen as the optimal time-span to make the relationship profitable for the service provider regarding the necessary relation-specific investments, on the other hand, to prevent slack and to keep up with the competition. Actually, in the public sector, legislation prevents the use of longer contract periods (Case 1 and 2).

In arm's length relations (Case 1 and 2), clients use multiple service providers to supply the same service. The purchased service is non-strategic and does not need relationship-specific investments. In addition, the service is usually highly standardized, so the specifications are easily generated by the client, and the responsibilities of both parties can be defined clearly. There are no mutual goals or relationship development activities. The interaction between parties is infrequent, and meetings are arranged only on the operational level. In extreme cases, meetings are arranged only when problems appear. Altogether, there is a low degree of buyer-supplier interdependence and the need for coordination is also low. Arm's length relations are usually used in purchasing a single service to a single site. The selection of service provider is based on competitive bidding with unambiguous specifications and the price is the most important selection

criteria. However, contrary to the supply chain management literature, in the FM context, the nature of these kinds of relations could also be long-term.

A third aspect that affects the selection of relationship type is the complexity of the purchased service package. The complexity is estimated based on the content and scale of the service package, and it increases especially with technically demanding services (Cases 1, 2 and 3) and management services (Cases 3 and 4). In addition, the bundling of services makes procurement and management tasks more complex than when purchasing single services for single sites (Case 4). On the other hand, when the service provider base is reduced by bundling services or grouping sites into bigger purchase entities, the complexity of the supply base decreases (Cases 2 and 4). It was stated that it is easier to control a service provider base with a few collaborative relationships than to use multiple service providers with whom the buying company has arm's length relationships (Cases 3 and 4). In addition, for specialized property with special technical requirements based on specific demanding operations of the user, the complexity may also be high (Cases 1, 2 and 4). An example of such a property is a hospital building where failures in service provision could have dramatic negative consequences (Case 1 and practical observation). When complexity becomes greater, both the uncertainty and dependency increase and control problems are unavoidable (Cases 1, 2, 3 and 4). This in itself is a motive for entering into closer collaboration with service providers (Cases 2, 3 and 4).

The selection of relationship type is also affected by the supply market characteristics. For example, in the Finnish FM services market, there exist only a few facilities management and service companies, which provide services nationwide or are able to take care of large real estate portfolios (Cases 1, 2, 3 and 4). Especially when using the collaborative approach based on wider service packages problems can appear in finding suitable service providers, and thus, the bundling of sites is usually done only on regional level, not national level (Case 2, 3 and 4). On the other hand, sometimes especially the biggest service providers may not be interested in establishing a collaborative relationship with a client, if the purchasing volume of the service package is too low (Cases 1, 2 and 3). However, in most circumstances there are enough service providers to keep up competition and prevent bottleneck situations. In addition, due to the simplicity of most operational FM services, service providers cannot normally gain a competitive advantage by standing out from the rest by technical differentiation. Thus, there are usually many alternative service providers in the market, allowing the client to exercise purchasing power.

6.2 External elements

In this chapter the results of the survey analysis are drawn together. Survey data was aiming at generating additional information on decision categories and choices of the framework from the perspective of the FM services market. The results focus on the market environment (i.e. FM services market in Finland) and exclude other changes in the external environment of organizations. Based on the analyses of FM services market trends in Finland, the implications of market conditions for the client's decision-making concerning the sourcing of FM services are discussed. Through analyses of this kind, as described in the literature (e.g. Steele and Court, 1996; Van Weele, 2002), clients can usually make well-grounded sourcing decisions in FM services.

6.2.1 Supply Market in FM services

When analyzing the supply market, the market trends in FM services were classified into four categories: 1) the growth of FM services companies and the main methods of growth, 2) the service providers' ability to compete in the FM services market, 3) the geographical spread of services in the FM services market, and 4) the co-operation with other FM services market players. All these categories include factors of competitiveness that come into play when service providers achieve their competitive position in a certain market (cf. Turnbull et al., 2003). In addition, the changes in the factors in the categories also describe the changes on the suppliers' side in reacting to the clients' transient procurement methods. More specifically, for the purposes of this dissertation, all four categories include direct questions (i.e. market trends) that were considered important for the development of the suggested theoretical framework. These questions are written *in italics* in Table 4.

Table 4 Market trends in FM services

Market trends in FM services market	Mean value*	Mode**
Scale: 1: describes very poorly, 2: describes poorly, 3: direction cannot be predicted, 4: describes very well, 5: describes extremely well.		
Growth of FM services market and methods of growth		
Organisational growth by new contracts	4.2	5
Volumes in FM services market are increasing	3.9	4 and 5
<i>Growth through clients' outsourcing processes</i>	3.7	4
Growth by company acquisitions	2.7	3
Suppliers' ability to compete in FM services market		
<i>Strengthening in technical service competences</i>	4.2	4 and 5
<i>Expanding service range</i>	3.9	4
Expanding service range by using sub-contractors	3.1	4
Management services as part of service range	2.8	2
<i>Focusing on a certain building, industry or client type</i>	2.7	2
<i>Focusing on a single service</i>	2.6	2
Geographical spread of services in FM services market		
<i>Expanding geographical range in service offering in Finland</i>	3.7	5
Expanding geographical range in service offering abroad	2.5	1 and 4
<i>Geographical spread by using sub-contractors</i>	2.4	2
Networking with other FM services market players		
Deepening co-operation with end users (understanding better end users' needs)	4.7	5
<i>Partnering with the clients (buying companies) is increasing</i>	4.5	5
Partnering between other service companies is increasing	4.2	4
Average	3.5	4
* Mean value indicates here the sum of a list of numbers, divided by the total number of numbers in the list.		
** Mode indicates here the value in the set that occurs most often. A list can have more than one mode.		

The first FM services market trends, the growth of the service market and methods of growth were studied using four sub-constructs. After discovering the direction of volumes in the FM services market (mean value of 3.9 (mode of 4 and 5)), three methods of growth were studied: the organizational growth by new contracts (4.2 (5)), growth by company acquisitions (2.7 (3)) and growth through clients' outsourcing

processes (3.7 (4)). A method of growth here means the way by which the market players believed that additional volume in the FM services market is likely to be achieved. The values for the sub-construct indicate that demand in the FM services market is still expected to grow in the near future. The growth among the service companies will occur mainly along the lines presented in three questions; the companies were most confident that this would happen by suppliers getting new service contracts. Service companies were also confident that the entire FM services market would experience growth through the clients' outsourcing practices (3.7 (4)). Interestingly, the open-ended results show that over half of all service companies have acquired or merged with another service company during the year 2005. However, when looking at future company acquisitions, according to the respondents the FM services market can be expected to undergo only minor changes in the next three years, or the direction is hard to predict (2.7 (3)).

In the second category, the abilities of the service companies to compete in the FM services market were assessed with six sub-constructs in two sets. The first set comprised four questions on the expansion of the service range. An expansion of service range here means the companies are adding to their range of services with new service types (i.e. moving toward a more integrated service provider model). Firstly, the companies are expanding their service range in the near future in order to offer wider service packages to clients (3.9 (4)). On the other hand, management type services are not likely to be included in their service packages (2.8 (2)). Thirdly, the companies could not predict if they are going to use sub-contractors in order to expand their service range (3.1 (4)). Lastly, companies found it important to strengthen the area of their technical service competences (4.2 (4 and 5)). The second set in the second category comprised two questions covering differentiation in market segment. Firstly, the companies were not likely to focus on a single service type as their core business (2.6 (2)) or to focus on a certain building, industry or client type (2.7 (2)). Client type here means a real estate investor, user-owner company, management company, housing company, public sector organization or other company. According to a more detailed analysis of the clients, the most potential client is likely to be found among public sector organizations and less likely to be found among management companies.

The diversification of the geographical spread of services in the FM market was studied in the third category with the following three sub-constructs: expanding the geographical range in service offering in Finland (3.7 (5)), expanding the geographical range in service offering abroad (2.5 (1 and 4)) and broaden the geographical spread by using sub-contractors (2.4 (2)). The mean values for these sub-constructs indicate that the companies are more likely to spread their geographical range in Finland than overseas. However, when analyzing the expansion of the geographical range in service offering abroad by using the most frequently occurring value of all modes, the divergence between two modes was most significant. These modes indicate that some service companies are clearly expanding abroad whereas others avoid expanding overseas. Evidently, some of the companies are planning to expand their operations to Eastern European countries. Two of the companies mentioned in their open-ended responses that Russia and the Baltic countries are the locations where they intend to expand their FM services operations in the near future. In addition, the values in the last sub-construct indicate that the companies are not likely to use sub-contractors in spreading their geographical range in the next three years.

In the last category, co-operation with other FM services market players was studied from three perspectives and the following trends were presented: partnering relationships between buying companies are increasing (4.5 (5)), partnering relationships between other service companies are increasing (4.2 (4)) and deepening co-operation relationships with end users in order to understand better end users' needs is increasing (4.7 (5)). According to the responses, it seems that a transition towards closer relationships is taking place in the FM services market, the most important goal being the deepening of relationships with end users.

6.2.2 Implications of FM services market for sourcing decisions

In this chapter, the implications of the FM services market for sourcing decisions are discussed. The basic configuration of this analysis is that the strategic intents of service companies (i.e. survey results) are confronted to the clients' sourcing decisions criteria (i.e. case results and practical observations). For the purposes of this dissertation, the survey categories include direct questions (i.e. market trends) that were considered important for the development of the suggested theoretical framework. Overall, it appeared that five changes in the Finnish FM services market conditions prevailed with a high value over the others: growing through the clients' outsourcing processes (mean value 3.7), an expansion of the service range i.e. change to integrated supplier models (3.9), strengthening in technical service competencies (4.2), expanding geographical range in service offering in Finland (3.7) and partnering with the clients (buying companies) is increasing (4.5). Few changes in the market also appeared to be considerably under the average: geographical spread by using sub-contractors (2.4), focus on a certain building, industry or client type (2.7) and focusing on a single service (2.6).

When comparing the service companies' intents to "growing through the clients' outsourcing processes" and "strengthening in technical service competences" to the case results found in analysis of the first decision category of the framework (i.e. sourcing interface) and its choice producing services in-house, the survey results strengthens client's argument. This argument is that in-house production is used in market situations when there are not enough service providers in the market that have technically-orientated skills and knowledge, and the ability to satisfy the client's or end-users needs (cf. Case 1 and practical observation). As the service companies are developing their internal technical competences, the clients might be more confident in outsourcing more technically demanding FM services to those companies that are prepared for these clients' needs. Based on the findings of the survey, strengthening technical service competences is an essential method to gain a better competitive position in the FM services market in the future. In contrast to the theory of the simplicity of FM services (with certain exceptions), the organizations in the FM services market might have the chance to gain a competitive advantage by standing out from the rest by technical differentiation (see e.g. Salonen, 2004). Thus, it might be important to find partners who are willing and able to contribute to technical development. Consequently, in the future, the FM services market might not entail as much risk as today for buyers who turn to the external market to provide more demanding services.

Comparing the service companies' intents to "an expansion of service range" to the second decision category (i.e. organization decision-making), the clients are able to bundle wider service packages in the future. When services are bundled, clients do not necessarily need to keep large amounts of resources in procurement organizations (cf.

Cases 2 and 3). From bundling point of view, the widening of service offerings in the service companies enables the clients to rationalize their service provider bases. However, if services are bundled into too extensive packages, problems may arise. For example, the service companies may not have the required capabilities and competences for providing all bundled services in the way required (cf. Cases 1, 3 and 4).

When the service companies' intents to "an expansion of service range", "focusing on a single service" and "strengthening in technical service competences" are compared to the third decision category of the framework (i.e. the scope of service), it seems that if services are bundled into too large packages the suppliers may not have the required capabilities and competences for providing all bundled services in the way required (cf. Cases 1, 3 and 4). For example, it was stated in case studies that there is not enough service providers in the Finnish FM market that can provide all the services needed for a large real estate portfolio. The clients' increased intent for service bundling might explain why players in the FM services market are more advanced in adopting the integrated service provider model (in which services are offered in large entities) as opposed to adopting the specialized service provider model (in which the company focuses on single services). Thus, it is not surprising that service companies are intent for expansion of the service range in order to fulfil the clients' needs. However, other problems might arise when the FM services market is composed of only a limited number of large integrated service providers. In this situation, the clients might not have the chance to select their partners freely (cf. Cases 3 and 4). Thus, the clients would not necessarily be able to exercise their purchasing power or be able to prevent bottleneck situations. Furthermore, limited interaction with only a few "preferred suppliers" brings with it the risk of losing important information about market players (cf. Case 2).

Furthermore, when comparing the service companies' intent to "expanding geographical range in service offering in Finland" and "geographical spread by using sub-contractors" to the fourth category of the framework (i.e. geographical area of sourcing), the results confirm that the opportunities to buy a large range of services that covers a large part of Finland under one contract are increasing (i.e. through the bundling of services or/and grouping sites). On the clients' side, the main reason identified for grouping sites on a regional basis, or buying services on a single site basis, was that there are not necessarily service providers in the market who can provide the services required for all the sites in a large real estate portfolio without using sub-contractors (cf. Cases 1, 2, 3 and 4). This is in line with the survey results that the service companies are not willing to spread their geographical range by using sub-contractors. This seems to be one reason for geographical spread of the service offering in prevailing market conditions today and in the future.

Comparing the service companies' intent to "partnering with the clients (buying companies) is increasing" to the fifth decision category of the framework (i.e. relationship type), it seems that partnering-type relationships are taking place in the FM services market (i.e. a transition towards closer relationships). This trend is mainly justified in the clients' side by purchasing volume (cf. Case 2, 3 and 4). Service bundling with the promise of a long-term contract makes a relationship attractive from the service provider's perspective, which in turn generates negotiation advantages for the client. On the other hand, this may mean on the suppliers' side a more secure fixed cash flow for the service provider in the long run (cf. Cases 3 and 4). In addition, a change to broader service packages improves the attitudes of both parties pertaining to the development of activities. Furthermore, because in the widest relationship form

“strategic partnering” the service provider gets a lot of detailed information regarding tenants, which can be seen as a strategic asset of the client, it is not necessary surprising that the survey category “co-operation with end users is increasing” in the market got the highest value of all. As the service providers are able to serve end-users better and get valuable information on their businesses, the clients might also be more willing to develop closer relationships or even strategic partnering relations with a few “preferred service providers”.

6.3 Suggestions for developing the theoretical framework

When analyzing the framework through the literature and case organization as a whole, some suggestions can be made for developing the theoretical framework. There is a need to develop the framework inside the categories by adding new choices. In addition, there are some gray areas in external elements and factors that should be taken into account when developing the sourcing strategy in FM services and redeveloping the suggested framework.

In the first category (i.e. sourcing interface) the alternative choices are divided into in-house production, using an in-house sourcing unit and an external sourcing organization that purchases and manages services on behalf of the client. When it is decided to produce services in-house there is no need to consider other choices in any of the five decision categories. On the other hand, in-house production can be organized in many ways. For instance, internal service functions are sometimes incorporated into a fully owned subsidiary, and service provision is this way separated internally from the purchasing function (e.g. Case 1). However, the theoretical framework is mainly fitted to analyzing the choices for using external suppliers in the FM services market. For purposes of that, there is no a need to keep in-house production in the first decision category. The other important aspect in the first category is that there are alternative types of external sourcing models in the market. When considering the choices for external sourcing, the risk sharing and earning principles of different management models should be also carefully analyzed as a part of the sourcing strategy. However, the suggested framework does not take into account different types of external sourcing models (see e.g. Atkin and Brooks, 2005).

The selection of the number of suppliers to use is typically divided into single and multiple sourcing decision categories in supply chain management (see e.g. Min and Galle, 1991; Zeng, 2000). However, this classical approach is limited to describing the number of suppliers to use in FM services. When sourcing FM services, the number of service providers can be reduced either by bundling different services together (e.g. Ancarani et al., 2004; Atkin and Brooks, 2005) or by grouping sites under one contract (e.g. Meneghetti and Chinese, 2002). Thus, the suggested framework includes two categories; the scope of services and the geographical area of sourcing. Decisions made in these categories describe service bundling and site grouping, and also affect on the size of the supplier base. However, based on the case analysis, the suggested framework could be developed by adding a new category after the fourth category. This new category should include the choice that takes account splitting the same type of purchased service between two or more service providers (e.g. Case 2); called preferred sourcing. The same type of service or service package is sometimes split among multiple limited service providers for reducing the supply risk in a certain service area.

Furthermore, the framework does not taken into account the sole sourcing situation described in the literature (e.g. Quayle, 1998).

The limitation of the suggested framework is that it does not take into consideration different kind of market situations presented in the literature (e.g. Campbell, 1985; Quayle, 1998). For example, sole sourcing is the result of the client being forced to buy from one supplier only a result of market factors. However, this category has been left out because only one service provider is available and the buyer does not have the other choice, unless producing the service in-house. Based on the results of the case studies (e.g. Cases 3 and 4) this kind of sole sourcing situation is also common in the Finnish FM services market where service companies are typically small and operate in local market only. Furthermore, as market conditions have many other dimensions (see e.g. Olsen and Ellram, 1997; Quayle, 1998; Lonsdale, 1999; Mentzer et al., 2002; Choi and Hong, 2002; Miettinen, et al., 2005; Atkin and Brooks, 2005) and those may affect differently to the all decision categories, the market has been taken account only universally by using the dashed line box outside the decisions categories, called FM services market. This way market conditions should be always taken account and evaluated against all the choices in the decision categories.

Some suggestions can be made for the fourth category. Besides grouping sites on a regional basis, the sites can be also grouped under nationwide contracts (e.g. Cases 3). Thus, it could be valuable to add the nationwide choice to the fourth decision category. As this dissertation focused on a single country, the widest geographical form – the choice of global sourcing (cf. Farmer and van Weele, 1995) can be left out of the framework. However, if the real estate portfolio is spread over one country, the strengths of local and national markets are recommended to be analyzed as a part of sourcing strategy development.

There are an enormous number of different categories of different relationships in the literature. In the fifth decision category, the selection of relationship type is limited if using only two discrete decision choices; arm's length relationship and partnering relationship (see e.g. Macbeth, 1994; Mentzer et al., 2000). Based on case analysis, there exist different types of partnering in the FM context (e.g. Cases 3 and 4). Thus, the partnering choice could be divided into two types of partnering relationships: operational and strategic partnering. Therefore, the fifth category should include the three relationship choices mentioned above. From a theoretical perspective, there could be an additional category after the fifth category which takes into account also the form competition, such as short- or long-term contracting (e.g. Parker and Hartley, 1997). However, since partnering is characterized as a long-term relationship, which often lacks immediate short-term benefits, there is no need to insert a "competition form" category into the framework. Furthermore, the theory of portfolio models does not bring any additional categories to the framework but could be used when analyzing different choices in the decision category of relationship type (see e.g. Olsen and Ellram, 1997; Bensaou, 1999).

To compare the hierarchy of the decision categories, the choices in the first and second decision categories are usually at a higher level of the organization than in the last three categories. Thus, it can be suggested that the first group of two and last group of three decision categories could be separated into two main groups for clarity.

Finally, it is important to note that in the framework, the decision categories do not always include discrete alternative choices but are more like a continuum from one choice to another or parallel choices. As an example of the former, the level of collaboration with FM services partners may vary from a very short-term relationship to a long-term strategic partnership. As an example of the latter, one procurement organization may purchase a certain FM service both on a single site basis and a regional basis. In addition, when analyzing more accurately different types of FM services, the suggested framework does not necessarily work for all FM services which all have their own characteristics. Thus, it is recommended that when planning a sourcing strategy for FM services, each service type should be independently analyzed during the sourcing strategy development process.

6.4 Summary of results

Based on the literature survey and the empirical evidence from studying the elements of sourcing strategies in FM services, this chapter presents a summary of the results divided into main observations made during the research process. The objectives of the dissertation are to identify the elements of sourcing strategies and to evaluate alternative sourcing approaches from the perspective of FM services. To provide a wide perspective of the elements of sourcing strategies, this study was designed to answer three fundamental questions that are presented at the beginning of each of the following chapters.

6.4.1 Observation 1: Decisions categories and choices

The first goal was to find out *what are the main sourcing decision categories and the alternative choices within categories in FM services* (Papers 2, 3, 4 and 5). This study points out using both theoretical and empirical evidence that in reality the different elements of sourcing strategy do not coincide with the one archetype of sourcing decisions. Instead, the realized (previously deliberated) sourcing strategies in FM services are more like an integration of the different sourcing decisions that have features of different sourcing strategy approaches earlier presented in theory. These decisions can be divided into the following five decision categories, each including two to three alternative choices:

1. In the first decision category (i.e. sourcing interface), the alternative choices can be divided into in-house production, using an in-house sourcing unit, and using an external sourcing organization that purchases and manages services on behalf of the client. However, when it is decided to produce services in-house there is no need to consider other choices in any of the five decision categories. The framework is mainly fitted to analyzing the choices related to using external suppliers in the FM services market. Furthermore, an important aspect in the first category is that there are alternative types of external sourcing models in the market. Thus, in this category there could be more alternative choices in the external sourcing choice.
2. In the second decision category (i.e. organization decision making), the alternative choices can be divided between a decentralized organization in which sourcing decisions are coordinated in a decentralized manner through many individuals around the organization, and a centralized organization in which

authority for decision making is focused around a central function of the organization.

3. The third decision category (i.e. the scope of service packages), includes the alternative choices of purchasing single services by a number of service contracts or bundling them into one contract.
4. The fourth decision category (i.e. the geographical area of sourcing), includes the alternative choices between purchasing a single service or a bundle of services by the same contract for a single site, or for multiple sites. In further development of the framework, there is also the nationwide choice in this decision category in practice.
5. The fifth decision category (i.e. the relationship type), divides the choices of relationship type between an arm's length relationship and partnering choices. However, the term partnering could be divided into two different choices: operational partnering and strategic partnering. Thus, this category could be divided into three types of relationships.

In addition, this study also provided evidence that the development of sourcing strategy in FM services is influenced by external environment factors such as the business environment and the conditions of the service market. The implications of service market conditions are discussed later in the chapter entitled "Market implications". These decisions and factors together represent the key elements of sourcing strategies in FM and they are presented in the form of a framework.

6.4.2 Observation 2: Factors used in justifying specific sourcing decisions

The second goal of this dissertation was to determine *what are the external and internal factors used for justifying specific decision in sourcing FM services* (Papers 2, 3 and 4). Based on the findings of the first research question, five sourcing decision categories were identified and analyzed from empirical data.

In the first decision category, before considering the choice between using an in-house sourcing unit and an external sourcing organization, the two main factors which define the situations appropriate for in-house production (i.e. vertical integration) and using external service providers were the business characteristics and supply market conditions. Based on the empirical findings, using external service providers in a user-owner organization is favored in circumstances in which the produced service has no direct effect on the success of the core activities of the organization. Furthermore, in-house production is used when there are not enough service providers in the market that have technically-orientated skills and knowledge, and the ability to satisfy the client's or end-users needs. A typical situation of using external service providers is a need to gain more flexibility to changes in service demand and getting better service at lower cost compared to producing the service in-house. Among clients (i.e. real estate investors), the choice of having an external sourcing organization is justified mainly by allowing a small number of persons in the real estate organization to concentrate their scarce resources on a set of real estate investment activities and to focus on more strategic procurement tasks. However, it was seen as an important factor of successful sourcing of FM services that knowledge about the FM services market, sourcing planning and steering the activities of the service providers are maintained in-house.

In the second decision category, based on the findings of the empirical study, the main internal factor which determines the circumstances for organizing the sourcing function in a centralized manner was the structure of the sourcing organization. The case findings also indicate that centralized decision making is justified by scarce resources, the effectiveness of decision making, economies of scale, and standardization of sourcing procedures. By coordinating sourcing decisions with decentralized units, the buying organization is looking for other benefits such as utilizing the local knowledge of individual buyers in order to communicate more effectively with local users and negotiate competitive prices with small service providers in local markets.

In the third decision category, two main factors define the situations for purchasing single services by a number of service contracts or by bundling them under one contract. These are the complexity of the real estate portfolio and the supply market conditions. The complexity of the real estate portfolio is estimated based on the geographical proximity of sites, the homogeneity of different sites and the homogeneity of users' needs in the real estate portfolio. A bundled contract approach is usually selected by companies that have a homogeneous and clustered real estate portfolio and users with homogeneous needs. If services are bundled into too large packages, the service providers in the Finnish service market may not have the required capabilities and competencies for providing all bundled services to large and geographically widely spread real estate portfolios. Thus, the choice of a single service approach is mostly justified by avoiding the use of subcontractors. This is especially important in purchasing high-level technical services.

In the fourth decision category, the selection of the geographical area of sourcing is affected by the complexity of the real estate portfolio and supply market conditions. These factors are similar to the factors in the fourth decision category. This may result from the fact that both decisions affect the number of service providers to use. The complexity of the real estate portfolio is estimated based on the geographical proximity of sites, the homogeneity of different sites and the homogeneity of users' needs in the real estate portfolio. The main conditions identified when FM services are sourced on a single site basis are when the client's sites in the real estate portfolio are physically far away from other sites, and when there are no large service providers in the market that can provide the required services for all the sites. In addition, when rationalizing the service provider base by extending service contracts to cover large numbers of buildings, the procurement and management tasks may become very complex, especially when grouping technically demanding sites. Thus, when purchasing services for specialized properties, site-specific contracts are usually made.

In the fifth decision category, when in-house production (i.e. vertical integration) is out of the question, three relationship-type options can be distinguished, namely arm's length relationship, operational partnering and strategic partnering. The selection of relationship type is estimated based on different internal and external factors derived from the characteristics of FM services and the business environment. The internal dimension is related to the strategic importance of the purchase and purchasing volume. The external dimension is related to the complexity of the purchased service package and supply market conditions. In addition, based on the findings of the empirical study, partnering is appropriate when purchased services are strategically important and a high level of customization of a service is needed to fulfill the client's needs. In addition, in this situation there is a need to share sensitive or strategic information and the purchasing volume is high. Operational partnering is used in service purchases whose

strategic importance is not high or only moderate. For example, it is used in purchasing technically demanding services or services for a specialized property. Thus, services purchased usually need some customization. The arm's length relationship is mainly justified when the purchased service is non-strategic and the need for coordination is low. In addition, an arm's length relationship is appropriate when services are characteristically of a highly standardized kind and there is a large number of service providers available in the market.

6.4.3 Observation 3: Market implications

The third goal of this dissertation was to determine *what implications the current supply environment in FM services market can have on the identified decision categories* (Papers 2, 3, 4 and 5). Based on the findings of the third research question, market conditions and their implications were studied with questionnaires on the suppliers' side. In order to do this, the market conditions were divided into sub-constructs that describe the market changes on the suppliers' side. For the purposes of this dissertation, sub-constructs included questions (i.e. market trends) that were considered important for the development of the suggested theoretical framework. Finally, survey results were combined with results of other empirical data in this dissertation gathered from the buyers' side.

Today, there is usually a lack of service providers in Finnish market that are able to provide highly customized and technically demanding services. However, in the future, as the service companies are developing their internal technical competencies, the clients might be more confident in outsourcing more technically demanding FM services to the companies that are prepared for these clients' needs, purchasing them as a part of service packages. Furthermore, as more strategically important services are outsourced, a need for a higher level of coordination in the buyer-service provider relationships is created.

On the clients' side, maintaining strategic knowledge about markets and procurement practices in-house was seen as an important factor for successful service procurement and management. However, not many service providers in the Finnish service market will offer management services as part of their service mix in the future. In addition, as service companies in the market are expanding their service range, clients are able to bundle services into bigger purchase units and in that way reduce the service provider base in the future. Through service bundling or site grouping, more partnering relationships for service providers can be developed. Furthermore, as service companies are developing their internal technical competences, the clients might be more confident in outsourcing more technically demanding FM services or purchasing technically demanding service as a part of other bundled contracts.

7 DISCUSSION

7.1 Contribution of the research

This research contributes to facilities management and to some extent supply chain management from a service point of view. It is commonly suggested in the FM literature that effective procurement planning and management of FM services can directly affect the relative success or partial failure of an organization's business (e.g. Leifer 2003; Chotipanich 2004; Rogers, 2004). None of the studied case organizations had common sourcing strategy development programs or sourcing strategies formulated in writing. The studied strategies were emerged rather than embedded (previously realized and planned). Therefore, it was hard to identify any formal sourcing strategies and implementation processes in the case organizations presented in the supply chain management literature. The processes of evaluation of the business environment, analysis of supply market conditions, using portfolio models and evaluation of alternative sourcing approaches, such as selecting a certain relationship type were not systematically considered (e.g. Steele and Court, 1996; Olsen and Ellram, 1997; Virolainen, 1998; ; Bensaou, 1999; Van Weele, 2002).

To the fact that the FM literature has been limited and focused only on partial elements of sourcing strategies without any effort toward integration (e.g. Usher 2004; Barret and Baldry, 2003; Ancarani et al. 2004; Atkin and Brooks, 2005; Lehtonen, 2006a), the sourcing strategy approaches in the supply chain management literature have also mostly failed to recognize any relations between elements. However, using both theoretical and empirical evidence, this dissertation shows that in reality the different elements of sourcing strategy do not coincide with the one archetype of sourcing decisions. Instead, the realized sourcing strategies in the FM services context are more like an integration of the different sourcing decisions that have features of different sourcing strategy approaches presented earlier in the supply chain management (e.g. Gadde and Håkansson, 1994; Quayle; 1998; Mentzer et al., 2000) and facilities management services literature (e.g. Atkin and Brooks, 2005; Lehtonen, 2006a). Therefore, this dissertation endeavors to integrate the service perspective with a discussion of sourcing strategies in supply chain management.

Overall, this dissertation provided evidence that the development of sourcing strategy in FM services is influenced by a number of different intertwined decisions and choices (i.e. developed framework). For instance, when deciding to coordinate purchasing decisions by a centralized unit, it seems to lead to grouping of multiple sites or bundling of services into broader service packages. Furthermore, when contracts are bundled or extended in a large real estate portfolio, the purchased volume per transaction is increased and the purchase becomes more complex. Both uncertainty and dependency increase and control problems are unavoidable. Additionally, the number of potential partners in the market is reduced. Moreover, selecting large service packages makes it economically profitable to put more effort into selecting a partnership-type relationship. However, few service providers in the Finnish FM services market can offer a large service package for a certain site or region (i.e. heterogeneous real estate portfolio with multiple sites) at a reasonable price and with reasonable quality. It is also evident that market conditions limit the possibilities for choosing between alternative sourcing strategies.

Furthermore, as market conditions affect the development of sourcing strategies, and as supplier markets are imperfect and entail some risks, buying companies usually reduce the supply risk for a certain service area by splitting services among multiple limited preferred service providers. The supply risk is understood as the risk of the service provider not being capable of meeting the client's or end-users' requirements for a competitive price, which can result in the loss of the company business and a negative effect on the revenues and profits of the case company. This kind of sourcing approach (i.e. preferred sourcing) has different theoretical features of single and multiple sourcing and thus also features of purchasing single services and grouping multiple sites under a regional contract. The basic philosophy behind the forming of a preferred service provider structure is the aim to have access to the best available skills and expertise in the particular service area. In addition, working with a limited number of preferred service providers for consolidated purchases creates a good starting point for engaging service providers in long-term relationships and establishing partnering relations with them.

Moreover, as information on a certain market is important for the buyers, since it helps them to develop sourcing strategies and make well-grounded sourcing decisions (e.g. Steele and Court, 1996; Van Weele, 2002; Quinn and Hilmer, 1994), it is suggested that the buyers of FM services should systematically research FM markets as a part of sourcing strategy development or at least prior to releasing an invitation to tender to selected potential suppliers. The benefit of purchasing market research is that it usually generates supporting data and alternatives based on which the buyer can make sourcing decisions. For example, market research can help to find out if it is even possible to bundle different services together or group sites in a certain geographical scope under one contract, and whether there are indeed enough service providers in a certain market that can fulfil the clients' strategic needs. The buyer may need to change its sourcing strategy as a consequence of the prevailing market conditions. Thus, the results of this dissertation are especially beneficial for buyers in developing sourcing strategies and enhancing FM services purchasing decisions. In addition, the data on market factors describe the changes on the suppliers' side in response to the clients' transient procurement methods. Therefore, by providing a better understanding the supply models and market conditions, the industry can be better understood as a whole.

To provide this kind of integrated insight into the domain of sourcing strategies, the findings of this dissertation enlightening both facilities management and supply chain management literature. However, the dissertation's findings need to be analyzed and limitations recognized when interpreting the findings.

7.2 Evaluation of the dissertation

The building of understanding for this study was based on a system combination research process. The process progressed constantly by moving between an empirical and theoretical world, in which the theoretical framework, empirical data collection and analysis and the writing of scientific papers evolved simultaneously. The final phase was this dissertation summary which links up all the prior works into an entity and gives an overview of the whole research process.

According to Gummesson (2000), the challenges in management research, such as facilities management, are the researcher's pre-understanding¹ and understanding, access to reality, and the quality of the research. Since completing his master's studies, the researcher had acquired a good theoretical pre-understanding of the problem addressed by this dissertation, supported by his academic background working as a researcher in two research projects and teaching FM services sourcing at Helsinki University of Technology. In addition, he also taught at the postgraduate educational and training forums of property and FM professionals in Finland, such as KIINKO (The Real Estate Education and Training Institute) and TKK DIPOLI (Occupational Adult Educational Center of Helsinki University of Technology). One research project focused on the development of FM services in Northern Europe (see Tuomela, et al., 2001) and the other on collaboration in an FM services network². The understanding grew during the research process. This dissertation covers over five years of research work, in which the author was involved for about three and a half years as a full-time researcher and two years as a part-time researcher. During the last two years, the author worked mainly as a real estate consultant. Consequently, this dissertation consists of (in addition to the factors presented in this dissertation) the contributions of individual studies which were peer-reviewed and evaluated individually when published in academic forums. Furthermore, the research was also reshaped by the valuable feedback from the articles revised. The reliability of the dissertation was supported by reporting of the research methodology and the results on a detailed level in the appended papers and this research report.

However, in order to gain a sufficient understanding of the sourcing practice for this dissertation, the work involved visits to several case organization and numerous discussions with the personnel at different organization levels and working with the actual sourcing personnel in a few customer organizations of the consulting company. Without the strong support of the organizations involved in this research, this kind of arrangement would be more difficult and would also affect the validity and reliability of the results. Furthermore, compared to the researchers who actually work in sourcing activities and research a problem in sourcing strategies, the author, as a fulltime researcher, lacks some knowledge of daily operations. On the other hand, by being an outsider, the author was more open-minded about new innovative solutions and neutral about different requirements coming from different sources.

The access to reality deals with the issues of how the researcher has access to real world situations (Gummesson, 2000). In this dissertation, the access is how to contact the right interview persons and how to find samples and respondents for questionnaires. In case research, the direct contacts with the key persons of the organizations at managerial and strategic level were organized by using snowball sampling. Every case organization had a contact person, who introduced the interviewers to the other professionals in the organization. Also, the atmosphere during several organization visits was open and rewarding.

¹ Preunderstanding refers to such things as people's knowledge, insights, and experience before he/she engages in a research project (Gummesson, 1991).

² Unpublished research report made at the end of OPAS 1 research project (i.e. Networked Cooperation in Facility Service Business, 2004).

As the questionnaire carried out in this dissertation was focused on a wide range of FM services, the sample was chosen to represent the largest service companies in the studied market area. Based on discussions with the representatives of RAKLI and Rakennustieto Oy (Building Information Ltd), it was found that the sample of the 24 most important large service companies would be representative. Furthermore, in Finland, there are no other official statistics related to FM services providers. All service companies were contacted first via email with the covering letter and asked to respond to the survey research. In order to improve the response rate, it was emphasized in the covering letter that respondents will get visibility for their company in the leading Finnish magazine of Real Estate and Property Management, called LOCUS. Furthermore, if the representative of company did not answer within the time stipulated, potential respondents were contacted again by phone. Having an adequate number of service companies not only offers triangulation but provides multiple perspectives of the sourcing strategy process. Although the questionnaire produces quantitative data, it should be stressed that these are interpreted in a subsequent analysis by the researcher, emphasizing the essentially qualitative nature of the research (e.g. Barnes, 2001).

Research quality can be judged by number of criteria such as reliability, validity, objectivity, relevance, and so on. In case study research, widely used criteria to establish the quality of the research are construct validity¹, internal validity, external validity and reliability (Yin, 2003). In this dissertation, the construct validity can be appraised by following both theoretical work (Chapter 3) and empirical fieldwork (Chapter 5) to the framework development (Chapter 4) and empirical observations (Chapter 6). As strategy is such an all-encompassing topic, there is a danger that researchers may be tempted to study everything and in so doing condemn themselves to discover nothing. In order to bring some order to this potential chaos, qualitative researchers are usually recommended to use a theoretical framework to focus and bound the data (Miles and Huberman, 1994). In this dissertation, a theoretical framework provided structure to interviews, whilst allowing the researcher to explore a wide range of subject areas. In addition, the construct validity of this dissertation was increased by using multiple sources of evidence as well (see Sub-chapter 2.3.1).

Internal validity measures the logic between the observation and interferences. In the empirical analysis the aim was to find out the reasoning behind the organizational decisions. The results of the empirical analysis indicate both opinions of individual and group decision makers. To increase the internal validity and to consider the limitations of drawing conclusions, the results of each case phase ended in written output and after more detailed coding were discussed in detail with the participants of case research before the next data collection phase (see Sub-chapter 5.2.1). At the end, preliminary case summaries were made in each case organization and sent to the participants by e-mail for evaluation and comments. The discussions with and the comments by the informants provided the researchers with partial verification of the research findings.

¹ The key suggestion for dealing with construct validity is to have multiple sources of evidence; for internal validity he stresses the importance of building cases over time in order to eliminate alternative explanations, and for the external validity he points out that the case studies rely on analytic rather than statistical generalizations, see Yin (2003).

External validity deals with case selection and with the generalisability of the results. Generalisability is usually misinterpreted to necessitate large samples. While the case research method relies on analytical generalization, the basic objective of this kind of study is to expand and develop theory (Yin, 2003). According to Saunders et al. (2000), generalization is not of crucial importance. The business world is changing – and the change is accelerating – so the circumstances today may not apply in the near future and then some value of the generalization is lost. As each organization is unique and a certain sourcing strategy in one business environment may not be successful when transplanted elsewhere (see Corey, 1978; Virolainen, 1998), the generalization is less valuable (Cunningham and Culligan, 1988). The researcher should not commit him/herself to generalizing or creating theory too much, because it is important to understand the case itself. The researcher has to make a strategic choice in deciding how much and for how long the complexities should be studied (Stake, 1994). Thus, in order to achieve some degree of generalization, multiple methods and sources were used, all focusing on the same event from various perspectives.

Reliability is about demonstrating that the operations of a dissertation – such as data collection procedures – can be repeated, with the same results, by another researcher, and it thus aims at minimizing errors and bias during the research process (Yin, 2003). A characteristic weakness of case study research is the lack of replicability. For instance, in qualitative interviews, the personality and interviewing skills of the researcher greatly affect the access to information. Thus, the results are to some extent dependent on the researcher. However, in order to improve the replicability of this dissertation, an attempt was made to design the research procedure as explicitly as possible and documentation was collected and stored very carefully during the research process. Furthermore, the reliability of this dissertation was increased by having several researchers analyzing data from different sources, independent of each other, after which they discussed the data with each other.

Moreover, another approach to increase quality of research, both its validity and reliability, is to use triangulation. Triangulation can result in greater confidence in results, creation of inventive research methods, better understanding of divergent results, enriched explanation of the research problem, and more effective integration and development of theories (Jick, 1979; Janesick, 1994). In this dissertation, four types of triangulation were used, namely data triangulation, investigator triangulation, theory triangulation, and methodological triangulation (see Sub-chapter 2.3.1).

When interpreting the results of this dissertation, the description of the phenomenon given can be regarded as limited because it focused only on a limited number of cases, whereas service providers' opinions played only a minor part. In addition, a lack of written documents made the investigations more difficult. Furthermore, this dissertation was carried out in one country and focused mostly on the capital region within the country. Thus, the results may contain some market specific biases related, for instance, to legislation or the size and sophistication of the market. In addition to the Finnish market, at least the results may depict the situation in other countries which have relatively similar legislation and small domestic markets.

This dissertation adapts the system combination research process introduced by Dubois and Gadde (2002) by linking empirical findings with theory and the developed framework. Similar to grounded theory, the main concern is related to the generation of new concepts and development of theoretical models, rather than confirmation of

existing theory. This dissertation stresses theory development, rather than theory generation. Systematic combining builds more on refinement of existing theories than on inventing new ones. One major difference, as compared with both deductive and inductive studies, is the role of the framework. In studies relying on system combination (i.e. abduction), the original framework is successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process. This approach creates fruitful cross-fertilization where new combinations are developed through a mixture of established theoretical models and new concepts derived from the confrontation with reality. Furthermore, the use of several iteration rounds and different analyses in the examination makes the understanding deeper and more accurate and therefore increases the reliability of the analysis (see Easterby-Smith et al., 2002). No matter what specific analytic strategy or techniques have been used, it is important to make sure that the analysis is of the highest possible quality. In this dissertation, the new theory was developed throughout the research by iterating the data collection tool and method development, data collection, data analysis and comparison of the findings with the existing theoretical literature on the subject.

Finally, the conceptual framework may also involve a limitation. As this dissertation focused only on the supply environment (i.e. FM services market in Finland) in external elements, the suggested framework is limited to analyzing the environmental conditions of sourcing strategy development (see e.g. Pearson and Gritzmacher, 1990; Carr and Smeltzer, 1997; Virolainen, 1998). According to these authors besides an assessment of the internal factors of the organization, the sourcing strategy formulation process often includes an analysis of the external environment such as business environment, institutional factors etc. Furthermore, the suggested framework does not include a decision category that takes account the choice of using sub-supplier in a hierarchical pyramid (see e.g. Hines, 1995; Choi and Hong, 2002).

7.3 Suggestion for further research

Based on the results of this research, the author's personal mission and working in his current occupation as a real estate consultant has motivated further practical development of sourcing strategies. One of the author's main responsibilities is to participate in procurement management consulting projects, including sourcing strategies, outsourcing, supply and relationship management, as well as partnering models and performance measurement. As a consultant, it has been possible for the author to promote a developed theoretical framework in analyzing current sourcing practices and developing sourcing strategies for FM services in many customer organizations. Furthermore, it has been possible to develop a practical internet-based application that tries to measure difference between current states of sourcing practices and strategic goal by using various questions (web based questionnaire) derived from the theory and practice (Figure 5). In order to continue this development from a theoretical and practical perspective, there is need for quantifying and weighting each sourcing decision category more accurately.

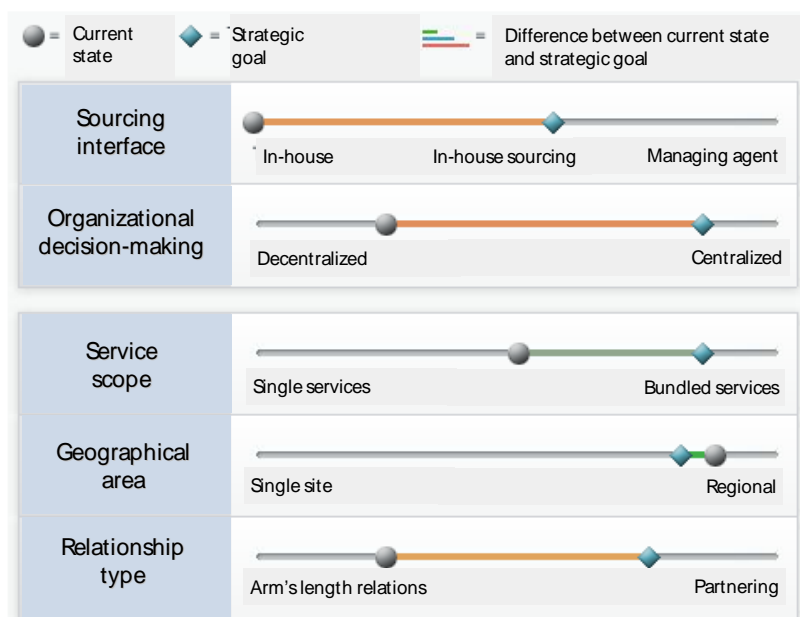


Figure 5 *Internet-based practical application for analyzing alternative choices*

The practical application proves that the created theoretical framework not only has possibilities for further development but also proves its transferability to the business environment. However, there may be a need for strong market testing of the suggested framework before the practical application of the framework can be utilized commercially.

There are also other insights for future research that are not exactly related to the framework but are still worth mentioning. Firstly, as pre-transaction activities, ‘decisions made before the purchase’, seem to have an effect on post-transaction activities such as managing and controlling the supply network, there is a need to investigate the activities that occur after the selection of sourcing strategies more profoundly. For instance, it would be worthwhile to describe the decision-making criteria for selecting service providers in different types of sourcing approaches, such as selecting criteria for arm’s length and partnering-type relationships.

In addition, because of the data capture methods for market conditions used in the cross-sectional study, it was impossible to compare the studied results of the market trends section to the past. Thus, it would be interesting to carry out the same market research in this study two or three years later and to observe longitudinal trends in the FM services market. Furthermore, as this dissertation is specific to FM services, it is important to encourage future research on strategic sourcing and purchasing management activities also in other business services. It would also be fascinating to carry out this same study in different markets in order to find out possible market-specific and culture-related differences. Furthermore, in order to improve the development of sourcing strategies in future, more exact sourcing strategy guidelines and step by step sourcing routes for different types of FM services should be made.

8 CONCLUSIONS

The objectives of the dissertation were to identify the elements of sourcing strategies and to evaluate alternative sourcing approaches from the perspective of FM services. This dissertation gained added academic value by presenting a novel framework for selecting a sourcing strategy in a FM services context. In addition, by using the suggested framework for analyzing different sourcing decisions and alternative choices within these decisions, the research provides new insights for explaining the factors that affect the selection of a specific sourcing approach in the development of sourcing strategy for FM services. Furthermore, by examining the supply market, new issues governing clients' sourcing strategies were found. These issues were examined from the perspective of supply chain management but this kind of discussion is lacking both in business services and facilities management literature. Thus, one of the main novelty values of this dissertation was the integration of two scientific fields: supply chain management and facilities management.

This dissertation presents the elements of strategic sourcing decisions that are essential for the development of sourcing strategy in FM services. While companies are starting to develop sourcing strategies, the framework helps to evaluate different strategic directions and the alternative sourcing approaches in FM services. It is suggested that companies could apply the presented conceptual framework as a starting point for the forming of sourcing strategies in FM services. It is also proposed that by using the framework, organizations could realize the different sourcing options with information on market conditions to leverage their consolidated purchasing power. The sourcing strategies and more analytical strategic development programs could be used to realize sourcing objectives, select an appropriate strategy and steer sourcing activities more towards the buying company's business objectives. Through effective analysis of different sourcing decisions, process standardization and supplier relationship management programs, organizations may also find other targets for organizational development. Thus, the results can be also useful for buyer organizations in improving their strategic planning of sourcing and the performance of sourcing organizations. One of the suggestions is that most organizations, at least large real estate owners, should view the development of sourcing strategies, which forms the basis for decisions related to each sourcing situation, as an important phase of the procurement cycle.

It is also suggested that the sourcing portfolio model introduced in this dissertation as part of selecting relationship type could be used as an analytical tool to support the selection of an appropriate governance model for different service packages. However, the selection of relationship type or governance model is not an end in itself, but a means to aid the development of appropriate action plans for the management of different kinds of relationships.

In the future, the FM services market might not entail as much risk as today for buyers who turn to the external market to provide more demanding services. It is generally known that supply markets are imperfect and supplier control problems are not entirely avoidable. In addition, as more strategically important services are outsourced, there is a need to create great mutual dependence between the buyer-service provider relationships. Therefore, in the future, buyers might need to develop well-structured management systems that involve mutual goals, frequent meetings, reporting methods, performance measures and incentives for managing its relationships. When the service providers are offered either the stick or the carrot, they might probably be more willing

to fulfill a promise to deliver the services at the required levels and also develop their services to better fulfill clients' needs.

There was a lack of market research on different FM service providers and information on FM market trends in Finland. As information on a certain market is important for the buyers, helping them to develop sourcing strategies and make well-grounded sourcing decisions, it is suggested that the buyers of FM services should make a systematic research of the FM markets as part of their sourcing strategy development or at least prior to releasing an invitation to tender to selected potential suppliers. The benefit of purchasing market research is that it usually generates supporting data and alternatives based on which the buyer can make sourcing decisions. For example, research can help to find out if it is even possible to bundle different services together or group sites in a certain geographical scope under one contract and if there are indeed enough service providers in a certain market that can fulfill the clients' strategic needs to begin with. The buyer may need to change its sourcing strategy as a consequence of the prevailing market conditions.

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APPENDIX 1

Appendix 1. Questions in case study research

Phase 1: Interview guide for strategic-level interviews

CURRENT STATE OF BUSINESS AND DEVELOPMENT PROSPECTS

Description of business activities

- Core activities/most important supporting activities
- Strengths, threats and possibilities
- Goals that steer activities

Development of business activities in the future

- Needs / direction of development from the viewpoint of the client in the future
- Central factors affecting change in business activities
- Impact of development of business activities/factor affecting change on procurement activities

Outsourcing policy

- Needs
- Principles

ROLE OF PROCUREMENT IN BUSINESS ACTIVITIES

Importance of procurement activities in your business activity as a whole

- Visibility in procurement activities of aims and goals guiding business activities
- Principles of procurement policy/strategy
- Visibility in everyday activities
 - Connection to business activities of company
 - Follow-up of procurement activities
 - Setting and follow-up of goals
 - Overall costs of purchases

Importance of outsourcing services to business activities (most important outsourcing services)

- From the viewpoint of costs
- From the viewpoint of business activities

Development of procurement activities in the future

- Company buys itself, company buys procurement services vs. procurement activities are hived off (e.g. into a subsidiary)
- Centralised procurement vs. decentralised procurement

ROLE OF FACILITY SERVICES IN BUSINESS ACTIVITIES

Importance of facility services in comparison to all purchases

- Concerning costs
- Concerning overall business activities

Development of the procurement of facility services in the future

- Separately for each property, local vs. national
- Individual, one-off services vs. all-encompassing services
- Size of service provider base; one service provider vs. several service providers
- Type of business relationship; based on collaboration vs. exchange

Appendix 1. Questions in case study research

Phase 2: Self-completion questionnaire

1 SERVICE PRODUCTION

- 1.1 Which of the following services do you produce at the moment in-house, which services do you buy from outside service providers and which services are bought by the facility users themselves? How many service providers do you have for the service in question at the moment? How do you estimate this number to change in the future?

	Current situation				Future	
	Produced in-house	Internal sourcing	Users buy	Number of suppliers	Number of suppliers	
					Increasing	Decreasing
REAL ESTATE MANAGEMENT SERVICES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
FACILITIES SERVICES						
Maintenance management						
Maintenance of technical systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
General maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Cleaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Outdoor maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Waste management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Repairing and maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
USER SERVICES						
Security services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Lobby services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Catering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Office services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Copying services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
IT services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Travel services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
ENERGY						
Heating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Water and waste water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Electricity and gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
OTHER SERVICES						
Major repairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Construction management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Consultancy services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Renting management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Renting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Building management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
OTHER, please specify						
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Appendix 1. Questions in case study research

- 1.2 What was the total value, in Euros, of all acquisitions made by your real estate department in 2003?
- 1.3 Measuring by cost, what were the five most valuable purchases made by your real estate department in 2003 (choose from the list above) and what was their total value (€/a)? (1= most important, 2= second most important, 3= third most important etc.)

1. _____ (€/2003)
2. _____ (€/2003)
3. _____ (€/2003)
4. _____ (€/2003)
5. _____ (€/2003)

- 1.4 Measuring by overall importance to the operation of the entire company, what were the five most valuable purchases made by your real estate department in 2003 (choose from the list above). (1= most important, 2= second most important, 3= third most important etc.)

1. _____
2. _____
3. _____
4. _____
5. _____

2. SERVICE PROVIDER BASE

- 2.1 How many service providers does your real estate department use (in numbers)?
- 2.2 Name the five largest service providers (measuring by purchasing volume) used by your real estate department (give the names of the companies) and the selection of services they produce (choose from the list above).

1. _____
2. _____
3. _____
4. _____
5. _____

- 2.3 Which kind of contracts do you prefer?

Contracts made for the time being Fixed-term contracts

- 2.4 How long is the average contract period?

- ≤ 1 year
 1-3 years
 over 3 years

Appendix 1. Questions in case study research

3. PROPERTY PORTFOLIO

3.1 Which of the following methods of procuring services do you prefer in the procurement of facilities services (procurement separately for each property¹, local² or national³)?

SELECTIONS OF FACILITIES SERVICES	Separately for each property	Local	National
Maintenance			
Technical maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ground maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cleaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Repairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.2 What is the geographical spread of the real estate you own/manage (the total surface area of each type of real estate and percent of the entire amount of real estate in each region)?

TYPE OF REAL ESTATE	Whole of Finland	Capital city area (Helsinki, Espoo, Kauniainen, Vantaa)	Rest of the province of Southern Finland	Province of Western Finland	Province of Eastern Finland	Northern Finland
	m2	%	%	%	%	%
Office						
Business premises						
Production and warehousing						
Housing						
Other - please specify						
TOTAL						

4. SOURCING ORGANIZATION

4.1 What is the size of your sourcing organisation (number of persons participating in sourcing)?

4.2 Which purchases are made through centralised sourcing and which ones are bought in a decentralised manner?

Centralised sourcing

Decentralised sourcing

¹ The procurement of services separately for each property means that one selection or several selections of services (e.g. the management of technical systems) are acquired for one property at a time.

² Procuring services locally means that one selection or several selections of services are acquired at a time for a unit of properties logically grouped together based on the geographic location of the properties.

³ Procuring services nationally means that a selection or several selections of services are acquired for different properties spread across the country or the entire repertoire of properties at one time.

Appendix 1. Questions in case study research

Phase 3 and 5: Interview guide to focus groups

1. Sourcing interface

- What are the most important benefits yielded by producing the services in-house? What are the major risks?
- What are the most important benefits yielded by purchasing services elsewhere? What are the major risks?
- What could be the benefits of using a manager the activities? What are the risks?

2. Sourcing organization

- What are the advantages and disadvantages for your business activities of using a centralised procurement method? What are the risks of such a method?
- What are the advantages and disadvantages for your business activities of using a decentralised procurement method? What are the risks of such a method?
- Why do you use either a centralised or decentralised method?

3. Service bundling

- What are the advantages for your business activities of procuring services as larger units? What are the risks of such a method?
- What are the advantages for your business activities of procuring services as small separate units? What are the risks of such a method?
- When can services be bundled into larger service packets? In what circumstances is this not possible?

4. Geographical scope

- What have been the most important benefits of procuring services for each property locally / nationally? What have been the risks of both of these methods?
- To what kind of procurement situations are these methods most applicable?

5. Selection of relationship type

- When is a business relation based on an arm's length relationship between the parties? When is partnering a better alternative?
- What are the advantages and risks of these types of relationships?

Phase 4: Open ended assignment

- What are the objectives of the procurement and supply management in FM services in short term?

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