Towards a stepwise decision-making process for distinguishing favorable domains for sourcing in an enterprise

Master’s Thesis

Pano Maria
Towards a stepwise decision-making process for distinguishing favorable domains for sourcing in an enterprise

THESIS

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Pano Maria
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Towards a stepwise decision-making process for distinguishing favorable domains for sourcing in an enterprise

Abstract

The lack of methodology has proven to be a weakness in many sourcing initiatives. This research is an attempt to rationalize the decisions decision-makers often intuitively make. The following question is addressed in this research: How can one decide which domains in an enterprise are favorable candidates for sourcing? To this end, the concept of a domain that is useful for sourcing decision-making is introduced, as well as a system to assign a score for favorability for sourcing to a domain. Furthermore, criteria for sourcing are uncovered, and ordered based on their distinguishing power and level of difficulty of checking. On the basis of this ordering, a stepwise decision-making model is introduced, which provides a relatively quick way of determining the favorability of a domain for sourcing.

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To Joseph Priestley

London, September 19, 1772

Dear Sir,

In the affair of so much importance to you, wherein you ask my advice, I cannot for want of sufficient premises, advise you what to determine, but if you please I will tell you how. When these difficult cases occur, they are difficult chiefly because while we have them under consideration, all the reasons Pro and Con are not present to the mind at the same time; but sometimes one set present themselves, and at other times another, the first being out of sight. Hence the various purposes or inclinations that alternately prevail, and the uncertainty that perplexes us.

To get over this, my way is, to divide half a sheet of paper by a line into two columns, writing over the one Pro, and over the other Con. Then during three or four days’ consideration I put down under the different heads short hints of the different motives that at different times occur to me for or against the measure. When I have thus got them all together in one view, I endeavour to estimate their respective weights; and where I find two, one on each side, that seem equal, I strike them both out: If I find a reason Pro equal to some two reasons Con, I strike out the three. If I judge some two reasons Con equal to some three reasons Pro, I strike out the five; and thus proceeding I find at length where the balance lies; and if after a day or two of further consideration nothing new that is of importance occurs on either side, I come to a determination accordingly. And though the weight of reasons cannot be taken with the precision of algebraic quantities, yet when each is thus considered separately and comparatively, and the whole lies before me, I think I can judge better, and am less likely to make a rash step; and in fact I have found great advantage from this kind of equation, in what may be called moral or prudential algebra.

Wishing sincerely that you may determine for the best, I am ever, my dear friend, yours most affectionately

Benjamin Franklin
This thesis is the result of a year of hard work. Although there were many challenges along the way, we managed to overcome them and finally reach this goal.

First and foremost I would like to thank my family for supporting me in everything that I do, and my girlfriend Selma, for her love and patience, and our parakeet Gili, for keeping me company as I am writing this. I would also like to thank all my friends for their support and well-wishes.

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Pano Maria
Delft, the Netherlands
June 24, 2010
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Part I

Introduction
Chapter 1

Background

Many modern enterprises are implementing outsourcing or shared services to derive efficiencies and cost savings and to focus on their core competencies in order to gain competitive advantage over their competitors (Brandes et al., 1997; Quélin and Duhamel, 2003; Janssen and Joha, 2006; Hirschheim et al., 2004; Kakabadse and Kakabadse, 2000b). The collective term for this type of procurement or rearranging of resources is sourcing.

Sourcing can lead to great improvements in quality of service, cost reduction, and increases in flexibility (DiRomauldo and Gurbaxani, 1998; Hirschheim et al., 2004). However, not all initiatives are successful (Brandes et al., 1997; Hirschheim et al., 2004). Sourcing initiatives that are appropriate for one area of an enterprise might be counterproductive in another. In order to source successfully, the major sourcing issues have to be considered. Hirschheim et al. (2004) formulate the following questions: Why source?; What to source?; How to implement the sourcing decision?

Although no exact way of measuring sourcing success can be found in literature, it is safe to say that it depends on the extent to which the expressed motives for sourcing are achieved (Kakabadse and Kakabadse, 2000a; Aubert et al., 2008). This, naturally, concerns the question of why to source. An enterprise’s motives for sourcing are related to its strategy. Enterprises of similar size, and dealing in the same markets, sometimes make very different decisions with respect to sourcing. This can be attributed to their differing strategic motivations (Aubert et al., 2008).

Besides strategic motives, the characteristics of activities are important to consider when deciding what activities should be outsourced, kept in-house, or consolidated into shared service centers. There are many schools of thought on this subject (Gottschalk and Solli-Sæther, 2005), with often very diverse views. Determining what activities should be disaggregated or not is dependent on very different criteria, both rational and irrational. Thus, when considering an activity for sourcing, the following question needs to be asked: ‘What are the motives for sourcing this activity?’ and ‘Does this activity satisfy the criteria that will lead to achieving these motives?’

In his PhD thesis, Op ’t Land (2008) introduces a methodology that applies Enterprise Ontology (Dietz, 2006) to the splitting and allying of enterprises. The result of this research was an instrument to assist organizations with splits and mergers, and post-merger integration issues. The instrument utilizes a set of organization-construction rules, and algorithms to determine a plausible split.

This research builds on, and is in fact intended to be complementary to, the research of Op ’t Land.
1. BACKGROUND

(2008). That is, if an enterprise wants to apply his methodology, it must first decide in which area of the enterprise it wants to apply this methodology. But how is the conclusion reached that a certain domain is favorable for sourcing? Several interviews conducted with sourcing experts have shown that this is not always a calculated decision. Decision-makers often base this decision on a hunch, a gut feeling if you will. But there are so many factors to consider, especially when contemplating this question for a large organization. As such, wrong decisions might be made, opportunities might be overseen, or valuable time lost, when, after weeks of work, it turns out that the domain chosen is not favorable for sourcing after all. Moreover, this can lead to risky sourcing initiatives, with a high chance of failure. From this, can be concluded that there is a necessity for structured, rational decision support for deciding what are favorable domains for sourcing within an enterprise.
Chapter 2

Motivation

Because decision-makers’ ‘gut feeling’ is not an ideal way to determine which domains are favorable candidates for sourcing, a better basis is needed. In this research the focus will be on how to identify domains within the enterprise and decide whether or not a domain is a favorable candidate for sourcing. Domain is a term used in different contexts with various meanings. Through research, the formulation of an appropriate working definition for domain will be attempted. If an enterprise has an overview of all the domains within their enterprise, then these can be analyzed to select favorable candidates for sourcing.

One of the future research recommendations in Op’t Land’s research is finding a way to offer faster decision-support. A typical decision-maker desires early insights into the effects of sourcing alternatives in order to make a better justified sourcing decision. Of course more certainty can be provided against more decision-making time, and consequently higher cost (Op’t Land, 2008). Yet, when considering an entire enterprise, in the end only certain parts will be favorable for sourcing.

To this end a stepwise decision-making process can be created which distinguishes domains for sourcing, and wherein unfavorable candidate domains can be excluded from the process early. This will lead to an effective decision support mechanism for decision-makers to distinguish favorable domains for sourcing, that is relatively quick. When these domains are known, the EBSO method (Op’t Land, 2008) can be applied to determine where to make the optimal split.

Although several publications focus on the outsourcing decision, and several others have introduced a decision-making model, none have focused on identifying candidate domains. See appendix A. Thus, this is a novel approach to sourcing decision-making, which could be of great significance in this field of research.
Chapter 3

Problem

In line with the aforementioned, the following main problem can be formulated:

*How can one decide which domains in an enterprise are favorable candidates for sourcing?*

In order to solve the main problem, the following research questions must be answered:

1. *How can domains that are useful for sourcing questions be distinguished?*  
   In order to decide which domains are favorable candidates for sourcing, all the domains of the enterprise must be known.

2. *What are the motives for sourcing?*  
   In order to define sourcing success for an enterprise, it is necessary to know what the motives for sourcing are, as the achievement of these motives is a measure of success. As enterprises employ differing strategies, decision factors weigh in differently (Aubert et al. 2008). This means that what may lead to success for one enterprise, may not do the same for another. Therefore, it is necessary to inventory the known motives for sourcing in literature.

3. *What are the criteria for deciding which domains are favorable candidates for sourcing?*  
   To help decide what to source, it is useful to formulate criteria based on theory and practice.

4. *How can the criteria be operationalized?* In order to check a criterion in the decision-making process, it must be operationalized. That is, it must be measurable in practice to be applicable.

5. *Which motives for sourcing can be achieved due to the presence of which criteria?*  
   As was stated above, achieving the motives for sourcing is what determines sourcing success. Thus, it is essential to determine which criteria lead to achieving which motives. When the ‘link’ between the motives and the criteria is known, it will become possible to determine if a domain is a favorable candidate.

6. *What is the order in which criteria should be checked?*  
   The introduction of a phased approach to the decision-making process is only possible when the order in which to check criteria has been determined. This will make it possible to create a step-wise process in which unfavorable candidate domains can be disregarded early.
Chapter 4

Sourcing: Working definition

As the focus of this thesis is on distinguishing domains that are favorable candidates for sourcing, in this following section sourcing will be discussed.

4.1 Sourcing

Sourcing according to Gartner (2004, p.328) is “The procurement of resources – whether from internal or external sources – to accomplish business objectives”. Kakabadse and Kakabadse (2000a) say about sourcing: “The nature of sourcing is determined by the decision regarding the allocation of resources on behalf of the enterprise for the undertaking of organizational activities. Sourcing considerations require determination of the scope of organizational activities, with reference to the enterprise’s overall objectives and in line with its corporate philosophy”. Thus, sourcing is a collective term that encompasses all forms of outsourcing, insourcing, and shared services (Delen, 2005; Kakabadse and Kakabadse, 2000a).

4.1.1 Outsourcing

Outsourcing has been defined in a plethora of ways. The following are some of these definitions.

- **Lacity and Hirschheim (1993):** Outsourcing is the purchase of a good or service that was previously provided internally.

- **Kern and Willcocks (2000):** Outsourcing is the decision taken by an organization to 1) contract out or sell the organizations assets, people, processes and/or activities to a third party supplier, 2) which in exchange provides and manages assets and services for monetary returns over an agreed period of time.

- **Delen (2005):** Outsourcing is the transfer of business processes with the associated assets and employees to an external supplier, and receiving back services from that supplier based upon those processes, during a number of years and with a result obligation.

- **Gartner (2004) p.272:** Outsourcing is a contractual relationship with an outside vendor that is usually characterized by the transfer of assets, such as facilities, staff or hardware. It can include
facilities management (for data centers or networks), application development and maintenance functions, end-user computing or business process services.

A vast amount of differing outsourcing arrangements, which will not be dealt with in this thesis, have surfaced over the past years, e.g. offshoring, nearshoring, business process outsourcing, co-sourcing, multi-sourcing, selective outsourcing, co-location outsourcing, etc. (Delen, 2005; Hirschheim et al., 2004; Apte and Mason, 1995). These will not be dealt with in this research.

4.1.2 Insourcing

Delen (2005) defines insourcing as: Taking over the business processes with the associated assets and employees from a client, and providing services to that client based on those processes, during a number of years and with a result obligation. On the other hand, Hirschheim and Lacity (2000) define it as: “[...]the practice of evaluating the outsourcing option, but confirming the continued use of internal [...] resources to achieve the same objectives of outsourcing”.

Note that this is not to be confused with taking services that were previously outsourced back, and performing them in-house. This is referred to by Delen (2005) as ‘back-sourcing’.

4.1.3 Shared services

Many of the benefits that are sought after through outsourcing can be achieved internally by large organizations without transferring anything to an outside party by implementing shared services (Delen, 2005). As is the case with outsourcing, shared services have been defined in many ways:

- Schulman et al. (1999): The concentration of company resources performing like activities, typically spread across the organization, in order to service multiple internal partners at a lower cost and with higher service levels, with the common goal of delighting external customers and enhancing corporate value.

- Quinn et al. (2000): Shared services at a simple level refers to the practice of business units, operating companies and organizations deciding to share a common set of services rather than have a series of duplicate staff functions.

- Bergeron (2003): Shared services is a collaborative strategy in which a subset of existing business functions are concentrated into a new semi-autonomous business unit that has a management structure designed to promote efficiency, value generation, cost savings, and improved service for the internal customers of the parent corporation, like a business competing in the open market.

Shared services can also be implemented by two or more organizations to share services between them. This is called inter-organizational shared services (Janssen and Joha, 2006). This configuration makes sense when the organizations have a basic non-strategic activity in common, that is not readily sourceable from the market. Although the organizations are often competitors of one another, the benefits of the economies of scale that can be achieved negate this issue (Kakabadse and Kakabadse, 2005).
Working definitions

Although shared services are often implemented as outsourcing, there is a fundamental difference between shared services and outsourcing. For shared services, the shared service provider is formed and governed by the partner organizations. In the case of outsourcing, the relationship between the service provider and the client organization is typically defined by a bilateral contract (Gulati and Singh, 1998). The decision whether to implement outsourcing or shared services within a certain business area, lies with the motives of the organization (Janssen and Joha, 2006).

4.2 Working definitions

From the aforementioned it can be deduced that there are many varying views on outsourcing, insourcing and shared services. The following are the definitions as they will be used in this thesis.

- **Sourcing**
  Sourcing is “The procurement of resources – whether from internal or external sources – to accomplish business objectives”. (Gartner, 2004, p.328)

- **Outsourcing**
  Outsourcing is contracting out or selling an organizations assets, people, processes and/or activities to a third party supplier, which in exchange provides and manages assets and services for monetary returns over an agreed period of time. (Based on Kern and Willcocks, 2000)

- **Insourcing**
  Taking over an organization’s assets, people, processes and/or activities, and managing these in exchange for monetary returns over an agreed period of time.

- **Shared services**
  Shared services is a collaborative strategy in which a subset of existing business functions are concentrated into a new semi-autonomous business unit that has a management structure designed to promote efficiency, value generation, cost savings, and improved service for the internal customers of the parent corporation, like a business competing in the open market. Shared services can also be implemented by two or more organizations to share services between them. This is referred to as inter-organizational shared services. (Based on Bergeron, 2003; Janssen and Joha, 2006)
Chapter 5

Methodology

To achieve the goal of being able to decide which domains in an enterprise are favorable candidates for sourcing, a system will be devised. To describe this system the 5 ways methodology will be followed, as applied by Op ’t Land (2008), depicted in Figure 5.1.

Way of thinking: the theory about the kind of object systems that the system addresses; it provides the basis for integrating the other ways;

Way of modeling: the distinct products (aspect or partial models) that together constitute the complete model of the system, as well as the applicable representation techniques (diagrams, tables,
5. Methodology

decomposition, etc.)

Way of working: the process (procedures etc.) of developing the models, as well as the set of techniques (analysis, interview, etc.) for acquiring the knowledge about the system that is necessary for making the models;

Way of controlling: the organization and the control of the project in which the system is developed; it regards both Way of modeling and the Way of working;

Way of supporting: the set of (software) tools that can be used to support the development of the system.

5.1 Way of thinking

For the system, a method needs to be determined to: distinguish domains that are useful for sourcing decisions; distinguish motives and criteria for sourcing; make the criteria operational; link the motives and the criteria; and order the motives and the criteria. (see Figure 5.2) What follows are considerations for a methodology for the development of the system.

Most decision-makers still make decisions based on intuition, despite the risks (Schoemaker and Russo 1993). Schoemaker and Russo (1993) distinguish four general approaches to decision-making:
• Intuition
Decisions made on intuition are hard to dispute because the decision-makers often cannot articu-
late the underlying rationale. Instead, they just “know they’re right”, or have a gut-feeling that it is the right decision to make. This can sometimes lead to brilliant decisions. However, how much credibility can be given to such decisions? Schoemaker and Russo (1993) argue that there are two risks in this way of decision-making:

random inconsistency – Decision-makers often apply criteria inconsistently, due to memory failings, mental limits, distractions, fatigue, etc. One reason for this is that the decision-makers believe they are consistent and thus do not test themselves for inconsistency.

systematic distortion – A preexisting preference may lead to the distortion of new information in favor of a preferred alternative when making a decision. Often pieces of information are systematically under- or overemphasized, e.g. the most recent information one receives is often overemphasized. Furthermore, these judgmental distortions are amplified when people place too much confidence in their intuitive judgment (Schoemaker and Russo, 1992).

• Rules
Rules are quick and often clever ways to approximate an optimal response without having to incur the cost of a detailed analysis, and like intuition, rules can be applied quickly and easily, yet with a higher level of consciousness. However, rules are not always applied appropriately and their distortions not always apparent. If the distortions are not recognized trouble will ensue.

• Importance Weighting
It is a known fact that decision-makers give some factors more weight than others. The role of importance weighting is to allow decision-makers to articulate, test, and use those weights for future decisions. In this way a model is developed for applying ones own intuitive criteria in a systematic way leading to more consistent and effective decision-making. However, it must be kept in mind that this does not eliminate the subjective nature of the concepts. Yet, it does provide a handle for dealing with subjective concepts in a rational way. Schoemaker and Russo (1993) conclude that making decisions in a systematic way is almost surely better than purely intuitive prediction.

• Value Analysis
Truly important and complex decisions may warrant a more comprehensive assessment. Value analysis attempts to uncover the true values of the decision-maker. It refined importance weighting techniques by considering how factors affect broader objectives and how increases in the rating of a factor add value. (Schoemaker and Russo 1993)

At first glance, value analysis seems promising. The uncovering of the true values, and the concept of considering how factors affect objectives, seem analogous the motives for sourcing, and the link between a criterion and a motive, respectively. However, on further inspection, value analysis measures the effect that the increase or decrease of factors imparts on the objectives. This cannot be translated to this problem. Since the interest in this research lies with the characteristics of domains which make
5. **Methodology**

them favorable for sourcing, and not with how to make domains more favorable, the sole concern is the measuring of the characteristics of domains. Therefore, for the purpose of this system, the concept of importance weighting will be used, whilst borrowing ideas from value analysis.

5.2 **Way of modeling**

In order to solve the main problem:

How can one decide which domains in an enterprise are favorable candidates for sourcing?

several questions must first be answered:

What is a domain?

and:

How can domains be distinguished?

Then, if the domains have been distinguished, per domain the following question can be asked:

Is this domain favorable?

It is in answering this last question that a stepwise decision-making process comes in to play. The process will be developed on the basis of the motive-criteria hierarchy in the system depicted in Figure 5.2, Figure 5.2 also depicts the knowledge gaps, corresponding to the research questions presented in Chapter 3, which need to be closed in order to solve our main problem.

5.3 **Way of working**

The way of working has been defined in the following steps:

1. **Organize a workshop with sourcing experts on distinguishing domains for sourcing.**
   Due to the fact that there is no literature to be found on distinguishing domains that are useful for sourcing decision-making (see Appendix A), a workshop was organized to attempt to find answers to this question with the help of sourcing experts with great practical knowledge and experience. This workshop was facilitated by Dr. Martin Op ’t Land of Capgemini. The sought after input of this workshop was:
   
   - how to define a useful domain?
   - via which dimensions can domains be distinguished?
   - what information is minimally needed to distinguish domains?

2. **Perform a literature survey on motives for sourcing.**
   Motives for sourcing is a much researched topic. Therefore, a literature survey would suffice.
3. **Perform a literature survey on criteria for sourcing.**
Criteria for sourcing have also been researched and proposed from very different viewpoints. Although they are often not explicitly formulated as such, it is possible to distinguish criteria from a literature survey.

4. **Organize a workshop with sourcing experts on operationalizing criteria, linking motives and criteria, and ordering criteria.**
No useful literature has been found on these three subjects. Therefore, a workshop was organized to attempt to find answers to these questions with the help of sourcing experts with great practical knowledge and experience. (see Appendix [ ] This workshop was facilitated by Dr. Martin Op ‘t Land of Capgemini. The sought after input for this workshop was:

- the usefulness of the motives and criteria for sourcing found in literature.
- how to operationalize criteria in order to make them measurable in practice?
- the linking of motives and criteria in order to find which criteria lead to achieving which motives.
- ordering criteria to impart a stepwise nature on the decision process.

5. **Survey on ordering criteria** Due to the length of the discussions, this part of the workshop could not be finished in the allotted time. Therefore, a survey was created to collect the remaining required input from the experts.

6. **Synthesize results of the research into a stepwise decision-making process for sourcing.**
The results found during the attempt to close the knowledge gaps were synthesized into a stepwise decision-making process by developing a favorability equation, which requires the relative weight of the motives; the weight of the links; a score for the degree to which a criterion is satisfied; and an order to check the criteria in.

### 5.4 Way of controlling

The project schedule was controlled through meetings with supervisors and contact via e-mail. However, due to the heavy reliance on input from experts, the planning was dependent on getting a group of experts together for the workshops. This made it difficult to control the project.

### 5.5 Way of supporting

Tools that were used are:

- ISI Web of knowledge; for literature research;
- GanttProject; for illustrating the project schedule;
- Microsoft®Office®Visio; for creating models and diagrams;
5. **Methodology**

- Microsoft®Office®Visio, Word, PPT 2007; for reporting and presenting in relation to the workshops;
- Audacity; to make audio recordings of the workshops;
- SurveyMonkey; to create the survey to collect information about the ordering of criteria.
- Brown paper, post-it notes, stickers, markers; for the workshops.
Chapter 6

Structure of this thesis

This chapter provides an overview of the structure of this thesis. The order of the remaining chapters is based on the research approach. Figure 6.1 depicts the chapter structure on the system.

Chapter 7 will concern the distinguishing of domains. Chapter 8 will focus on the motives, and Chapter 9 will focus on the criteria for sourcing. In Chapter 10, the criteria will be operationalized. The links between motives and criteria will be examined in Chapter 11. Chapter 12 will present a way
6. STRUCTURE OF THIS THESIS

of ordering criteria. In Chapter 13, the stepwise decision-making process will be introduced. Finally, Chapter 14 presents the conclusions and recommendations for future research.
Part II

Theoretical Framework
Chapter 7

Distinguishing domains within an enterprise

This chapter depicts the research path taken towards a definition of 'domain' that is useful when considering sourcing decision-making, and ideas on how to distinguish domains in an enterprise. They have not been tested in practice and should be seen as a starting point for future research on this subject.

There are various ways to look at an organization. In this research, the interest lies in finding ways of looking at the enterprise in such a way that domains can be distinguished and tested to assess whether they are favorable candidates for sourcing. Enterprises can be vast and complex entities. As a result, there are diverse ways to approach this division into domains. It is possible to imagine a domain that in its implementation is scattered across the enterprise, but when viewing the enterprise from a certain dimension its services are similar or the same.

For example, the often readily apparent division into departments as an indication of domains can be used. Other possibilities are dividing the enterprise on the basis of the different market segments within the enterprise, or considering a division of location-dependent and -independent domains. Why is this interesting? When considering small organizations it is relatively easy to get an overview of the entire organization, so as to decide which processes or tasks are best performed in-house. However, when considering larger organizations, obtaining this overview becomes exceedingly difficult. When confronted with the question “what should be outsourced or shared in a large enterprise”, an effective way of creating this overview is crucial. A very natural way of simplifying a problem is dividing the problem up into smaller chunks and tackling the problem one chunk at a time; divide and conquer.

7.1 Approach

After extensive literature research, no useful information was found. (See Appendix A) Due to the absence of literature on distinguishing domains within an enterprise in particular for use in sourcing decision-making, input was sought elsewhere. Ten experts were invited from Capgemini to participate in a workshop in which the following problem would be discussed:
7. DISTINGUISHING DOMAINS WITHIN AN ENTERPRISE

Within an enterprise, how can domains that can be tested for favorability for sourcing be distinguished?

The goal of the workshop was:

Sharing and exchanging ideas on how to distinguish domains.

There were 3 subjects that were discussed during this workshop:

1. **Defining domain**
   What is a definition for domain that is useful when applying it to sourcing decision-making?

2. **Dimensions for distinguishing domains**
   Through what dimensions can a useful division of domains be realized?

3. **Necessary information for distinguishing domains**
   What information is minimally needed to distinguish domains within an enterprise (as a language for sourcing decisions)?

The workshop was set up as follows: First a short presentation was given introducing the subject. This was followed by a brainstorm session with the goal of defining a domain. Here the experts were asked to write down keywords on post-it notes and stick them to a piece of paper hanging on the wall. After everyone had written down

7.2 Defining domain

Since the distinguishing of domains for sourcing is such a novel subject, one of the goals of the workshop was to, together with an expert panel, make a first step towards conceptualizing a domain that is useful in the sense that it is applicable to sourcing decision-making.

Several interesting ideas came out of this part of the workshop. All experts seemed to agree that well delineated processes and services with a well defined interface were very useful units to express a domain in. Also the degree of interaction was seen as one of the main characteristics of what is considered to be a domain. This lead to the formulation of the following formulation:

*A domain is a collection of services with a clear-cut interface, exhibiting high internal and low external interaction, producing a finished result.*

7.3 Dimensions for distinguishing domains

Enterprises can be very complex and hugely diverse. As a result, finding a universal way of dividing an arbitrary enterprise into domains, certainly at this point, is unlikely. That being said, an attempt can be made to find dimensions through which to distinguish domains.

This question was posed to the expert panel in workshop 1 (see Appendix B): *Through what dimensions can one realize a useful division in domains?*. Several dimensions were proposed and
discussed, but it was difficult for the experts to give preference. It is also impossible to prove from this workshop that these are the only dimensions through which domains can be distinguished, or that there is a finite set of dimensions. However, some interesting insights were gained.

From the proposed dimensions two groups of domains can be identified. Those that are 'organization dependent' and those that are independent of the organization and have to do with the 'nature of the work'.

7.3.1 Organization dependent dimensions

**Primary/secondary activities (Porters value chain/ COPAFIJTH)** A classical model to describe coherence between processes is Porter’s value chain. It has been used to order an enterprise’s activities into primary and secondary or supporting activities.

Also, in the Netherlands COPAFIJTH has been used to distinguish different aspects of business processes [de Bruin et al., 2000].

**Front / mid / back office** Front office refers to those departments of an enterprise that come in contact with clients, the back office is the part of the enterprise which is dedicated to running the enterprise itself, and the mid office connects the front and back office, often through IT services.

**Product classes** Product classes are a group of similar products that fulfill the same need. It may be advantageous, when making sourcing decisions, to consider the services that deliver products for a certain product class as a domain.

**Departments / Business units** The existing structure of the organization could be taken into account. Organizations often have a department or business unit structure. This can be an indicator of different domains. Delen (2005) states that almost all business processes have been subject to sourcing in some way. He names several ‘domains’ that are analogous to departments in an organization, for which there are suppliers delivering these services in the Dutch market.

7.3.2 Nature of the work

**Location dependent/independent, geography** Geography and location dependence relates to work that is bound to a specific geographic location. Take for example the pizza delivery business. The sale itself is something immaterial, and is in fact a good example of a location independent act. It can be handled in China for example. But the packaging and delivery must be done within, say, a 5 km radius of the buyer, making it location dependent. In this way location dependence can be used as a dimension to distinguish domains for sourcing decision-making.

**Market segment** A market segment is a subset of a market that is distinct of other subsets made up of people or organizations sharing one or more characteristics that cause them to demand similar services [Dickson and Ginter, 1987].

**Required mobility (offshore)** Workers that must travel a lot to perform their work, could be seen as a separate domain. Think of people working on oil rigs vs. secretaries. An extreme but clear example of two different domains within an organization.
7. Distinguishing Domains within an Enterprise

**Processing Similarity** It could be advantageous to group services that involve a similar process together. This may have less to do with the degree of interaction between the services. Nonetheless, it may have other advantages such as economies of scale.

**Production cycle time/frequency** If groups must produce work on different production cycle times or with different frequencies, it may be a reason to keep them separate. Consider a newspaper business that publishes a weekly and a daily paper. They will have completely different schedules and ways of working.

**Highly vs. low skilled work** It may be possible to distinguish domains looking at the level of skill necessary to perform certain services. It may be advantageous to consider highly skilled work separately from low skilled work when making sourcing decisions.

**Mass-produced vs. custom-made** This is about processes that are relatively standardized, which produce great volumes of products, versus a product or service tailored to a specific request. If both kinds of work exist within an enterprise, it seems quite logical to keep these separate. Processing similarity seems to be related to this dimension.

**Teamwork vs. individual work** Delivering a product or service as an individual, or contributing to a larger work as a team, might be an indicator of different domains.

7.4 Concluding remarks

From the results of the first workshop, it is very clear that this subject is still in its infancy and needs much more research, both theoretical and practical, in order to mature. Nevertheless, several insights have resulted from this part of the research, and a foundation has been laid for future research in this area.
Chapter 8

Motives for sourcing

In literature many potential benefits of outsourcing have been identified. The opinion on the order of importance the motives varies greatly. However, within the literature, there seems to be a wide acceptance of the most common motives for outsourcing. Some authors group the motives into several sub-categories. [Hirschheim et al. (2004)] distinguish between Resources and Capabilities, Strategy, Control, Costs, and Power/Politics. On the other hand, [Barthelemy and Geyer (2001)] recognize Economic, Performance and Control motives, whilst [Kremic et al. (2006)] distinguish costs, strategy and politics.

While there may be different categories, sourcing is likely to be driven by all categories in some way. The weight of the motives will depend on the strategy the enterprise employs.

8.1 Motives found in literature and workshops

The motives that are found are presented in the following format.

<table>
<thead>
<tr>
<th>Motive</th>
<th>Explanation</th>
<th>Sources</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>M##</td>
<td>Explains the motive in detail</td>
<td>References to the sources supporting this motive</td>
<td>This is optional. Any changes made during workshop 2 (see Appendix C) will be presented and explained</td>
</tr>
</tbody>
</table>

8.2 The Motives

What follows are motives for sourcing found in literature.
### M01 Reduce operational costs

**Explanation**  
Cost reductions can be achieved, when suppliers’ costs are low enough that even with added overhead, profit and transaction costs, suppliers can deliver a service or product for a lower price. Suppliers can achieve this through specialization and economies of scale. Economies of scale reduce average costs by spreading fixed costs over a large amount of units of output, and by receiving volume discounts on the input (Barthelemy and Geyer [2001]). Another much explored and utilized way of cost savings is through labor costs. This is done by moving, typically low-skilled, labor-intensive activities to other low cost markets.

An enterprise can benefit from the economies of scale enjoyed by specialized suppliers through outsourcing. That is, these suppliers will usually have several clients from which they have insourced similar operations. Of course, in reverse roles, an enterprise can increase their economies of scale through strategic insourcing.

An example of exploiting labor costs for cost savings is offshoring. Moving an operation to low-wage countries could lead to significant cost reductions.

Cost savings can be achieved through shared services. In large enterprises identical or similar activities may be performed in different areas of operation, often with outdated systems. Redesign and consolidation of these activities into a Shared Service Center could result in cost savings due to economies of scale (Bergeron [2003]).

**Sources**

(Lacity et al., 1994; Meyer, 1994; McLellan et al., 1995; Sobol and Apte, 1995; Greaver II, 1999; Barthelemy and Geyer, 2001; Zhu et al., 2001; Kakabadse and Kakabadse, 2002; Bergeron, 2003; Quelin and Duhamel, 2003; Lonsdale and Cox, 2000; Janssen and Joha, 2006; Kremic et al., 2006; Op ‘t Land, 2008)

### M02 Transform fixed costs into variable costs

**Explanation**  
For most organizations, employee related costs and the associated overhead are relatively fixed. Through sourcing, fixed costs can be turned into variable costs. Providers can handle varying demand more efficiently because of their economies of scale. Consider, e.g., an activity that is only used for a couple of months per year. By sourcing this activity from outside the organization the servicing costs are eliminated and the supplier is paid per use, leading to cost savings.

**Sources**

(McLellan et al., 1995; Greaver II, 1999; Quelin and Duhamel, 2003; Lonsdale and Cox, 2000; Kremic et al., 2006)
### M03 Improved cost control

**Explanation**  
In many organizations, activities that produce costs that are directly related to user demands, and are generally allocated, can cause users to excessively demand and consume resources. Outsourcing or sharing can be a way to control the costs, because the excessive consumption of resources is taken away. The supplying party will utilize cost controls, like resource usage based costing, that more directly tie usage to costs. (Lacity et al., 1994)

**Sources**  
(Lacity et al., 1994; McLellan et al., 1995; Sobol and Apte, 1995; Greaver II, 1999; Janssen and Joha, 2006)

### M04 Reduce capital (to be) invested

**Explanation**  
Sourcing allows an opportunity to transfer assets and ongoing investments to the provider, freeing up resources and lowering future costs. Moreover, it eliminates the need for future investments for the services in question. (Baldwin et al., 2001; Sobol and Apte, 1995)

**Sources**  
(Sobol and Apte, 1995; Greaver II, 1999; Kakabadse and Kakabadse, 2002; Quelin and Duhamel, 2003; Janssen and Joha, 2006; Kremic et al., 2006)

### M05 Focus on core competencies

**Explanation**  
During the 1990s, many large organizations abandoned their diversification strategies and concentrated their resources on what where considered their core competencies. Behind this was the notion that the most important sustainable competitive advantage is strategic focus. By this logic organizations should concentrate on what they do better than anyone else and consider outsourcing everything else to best-in-class suppliers. Nike demonstrates this kind of strategy. According to Lonsdale and Cox (1998), organizations can increase their focus on core activities in two different ways. First, outsourcing support activities that do not provide competitive advantage frees up valuable management time. Consequently, managers can concentrate on core business activities.

The fact that outsourcing enables reducing capital investment requirements is another way for organizations to focus on their core competencies. That is, because organizations only have limited resources, it is essential to target those resources on activities which contribute to competitiveness. According to Treacy and Wiersema (1993), in order to concentrate on core competencies, it is necessary for organizations to know on which three main value drivers - customer intimacy, product leadership or operational excellence, they concentrate. They all contribute value to customers, but capabilities and cultures that promote them differ depending on the organization. For example, Nike has focused on product leadership, whilst Dell on operational excellence and customer relationship management.

**Sources**  
(Lacity et al., 1994; Meyer, 1994; McLellan et al., 1995; Greaver II, 1999; Zhu et al., 2001; Kakabadse and Kakabadse, 2002; Quelin and Duhamel, 2003; Lonsdale and Cox, 2000; Janssen and Joha, 2006; Kremic et al., 2006)
### M06 Gain access to external expertise

**Explanation**

One of the greatest advantages of sourcing is the full utilization of external suppliers’ innovation, investments and specialized professional capabilities. By using outside suppliers, organizations are able to take advantage of state-of-the-art expertise that would be prohibitively expensive or even impossible to duplicate internally. (Sobol and Apte, 1995)

A similar, more technical motive for outsourcing is to gain access to new technologies. This is the case especially in the areas where technology develops fast, like IT.

**Sources**

<table>
<thead>
<tr>
<th>Source</th>
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<tbody>
<tr>
<td>Lacity et al.</td>
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### M07 Improve quality of operations

**Explanation**

Many organizations use sourcing to enhance the consistency of their service. For example, sourcing all help desks to a single supplier or shared service center will standardize service and guarantee appropriate service level. Quality improvements can also be achieved through outsourcing, because organizations can in most cases choose a best-in-class supplier which will deliver high quality services. Because the providers’ survival depends on superior performance in a narrow business scope, they are highly motivated to achieve it. This motive is surrounded by superior resources, core competencies, cutting-edge technologies, state-of-the-art equipment, experienced management and well-trained, motivated personnel.

**Sources**

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<td>Op ‘t Land</td>
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### M08 Regain control over internal departments

**Explanation**

Sometimes decision-makers consider sourcing activities that perform poorly or which they have lost control over. Instead of making drastic managerial changes internally and incurring the costs associated with turning around poorly managed domains, sourcing can be implemented if there is a corresponding supplying market.

**Sources**

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### M09 Duplicate success/Copy competitors

**Explanation**

When an organization uses sourcing very successfully, other organizations may try to imitate this success by copying the successful organization.

**Sources**

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<tr>
<td>Kremic et al.</td>
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</table>
### M10 Reduce/Share risk

**Explanation**
Sourcing outside the organization can be seen as a way to reduce a risk by sharing it with suppliers. Investments can be risky. Markets, competition, government regulations, financial conditions and technologies all change rapidly and keeping up with these changes is risky, especially when it requires a significant investment. By outsourcing, organizations can spread the risks across a number of suppliers.

**Sources**
(Quinn and Hilmer, 1995; Greaver II, 1999; Janssen and Joha, 2006; Kremic et al., 2006)

### M11 Improve Time to market

**Explanation**
By outsourcing, organizations can considerably improve the time in which it can launch its products to market. When best-in-class suppliers work simultaneously on individual components of a system, the design-cycle time can be reduced. An ability to improve time to market is particularly important in a market where capabilities and requirements are constantly changing. By improving the time to market, an organization is able to satisfy its customer’s needs more efficiently, thus becoming more competitive and highly profitable.

**Sources**
(Quinn and Hilmer, 1995; Lonsdale and Cox, 2000; Op ’t Land, 2008)

### M12 Increase flexibility to meet change in services

**Explanation**
An organization can change its service portfolio to meet new conditions through sourcing. The organization is not invested in the existing resources that the supplier is. Also, the supplier’s core competencies allow them to stay on the cutting edge, making it possible for them to adapt to changes in service levels. When demand surges, new provider capacity can be added and when demand slackens, capacity can be reduced, with much less cost to the organization. Furthermore, providers with new technologies that best match the organization’s needs can be sourced from as the needs emerge, with minimal up-front risk and investment.

**Sources**
(Meyer, 1994; Quinn and Hilmer, 1995; Greaver II, 1999; Kremic et al., 2006; Op ’t Land, 2008)

**Changes**
During workshop 2 it was decided to split the motive in two. See Appendix C for the motivation.

**M12a Increase flexibility in the type of service**
Through sourcing, an organization can change its service portfolio to meet new conditions. The organization is not invested in the existing resources that the supplier is. Also, the supplier’s core competencies allow them to stay on the cutting edge, making it possible for them to adapt to changes in service levels.
**M12b** Increase scalability of operations When demand surges, new provider capacity can be added and when demand slackens, capacity can be reduced, with much less cost to the organization. Furthermore, providers with new technologies that best match the organization’s needs can be sourced from as the needs emerge, with minimal up-front risk and investment.

**M13** Improve client centricity

**Explanation** Improving client centricity for internal as well as external customers can be a motive for sourcing. This means that the customer experiences attention, closeness and flawless service. This is a typical motive associated with sharing services. Shared services operations are service-oriented and focus on the specific activities within services that support business partners. Depending on the business model, clients can either be internal or external.

**Sources** (Treacy and Wiersema, 1993; Hagel III and Singer, 1999; Bergeron, 2003; Op ‘t Land, 2008)

**M14** Improve customer ownership

**Explanation** Improving customer ownership work by giving decision authority to employees that are close to the customer, allowing them to deliver high quality services which in turn create maximum customer value. Again, with this motive, shared services are typically associated. A Shared service center operates as a single entity and has the autonomy to be able to arrange their operations to concentrate on applying best practices and delivering high quality services in a cost effective manner.

**Sources** (Treacy and Wiersema, 1993; Hagel III and Singer, 1999; Bergeron, 2003; Op ‘t Land, 2008)

During workshop 2, the sourcing experts proposed the addition of one more motive. See Appendix C for the motivation. The following motive was added.

**M15** Make mergers and acquisitions more efficient

**Explanation** Setting up a shared service center for a certain set of services, will make it easier to acquire parties that perform similar services.

**Sources** (see Appendix C)

Finally, it is interesting to note that there can be differences between motives for outsourcing in public organizations versus those in private organizations. Some suggest that cost or strategy issues are sometimes less of a factor for public organizations and that legislative action and political pressures are often primary drivers (Kremic et al., 2006; Kremic and Tukel, 2006; Kakabadse and Kakabadse, 2000a,b). Also, the lack of human resources to perform a certain business activity is more likely to occur in public organizations, because there are often strict guidelines on the number of civil servants that can be employed. This means that there may be cases when the best option is to acquire the needed skills from external sources (Green, 2000).
The Motives

This concludes the gathering of motives. In total there are now 16 motives for sourcing which can be used as input for the decision-model. An overview of the motives is given in Table 8.2.

Table 8.2: The list of compiled motives

<table>
<thead>
<tr>
<th>Motives</th>
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<tbody>
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<td>M01</td>
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<td>M15</td>
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Chapter 9

Criteria for successful sourcing

In this chapter the focus will be on exploring and discussing criteria that can be used to test domains for 'favorability' for sourcing. Three major theoretical perspectives are examined, as well as other singular sources.

9.1 Criteria found in literature and workshops

The criteria that are compiled are presented in the following format.

<table>
<thead>
<tr>
<th>C##</th>
<th>Criterion Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statement</td>
<td>Clearly communicates the fundamental guideline</td>
</tr>
<tr>
<td>Rationale</td>
<td>Explains and motivates why the statement is important and how it applies</td>
</tr>
<tr>
<td>Sub-Criteria</td>
<td>The sub-criteria that influence the criterion</td>
</tr>
<tr>
<td>Sources</td>
<td>References to the sources supporting this criterion</td>
</tr>
<tr>
<td>Changes</td>
<td>This is optional. Any changes made during workshop 2 (see Appendix C) will be presented and explained</td>
</tr>
</tbody>
</table>

9.2 Theoretical Perspectives

There are several theories that have been applied to outsourcing (Gottschalk and Solli-Sæther 2005). The theories that will be considered are the transaction cost theory, the resource-based view and the core competence theory. Theories like the principal agent theory (or agency theory, or the theory of incentives) (Eisenhardt 1989), contractual theory (Luo 2002), partnership and alliance theory (Hancox and Hackney 2000), relational exchange theory (Artz and Brush 2000), and social exchange theory (Das and Teng 2002) all focus primarily on the characteristics of the relationship between the client and the vendor. As this research is interested in the factors pertaining to the domains of the client only, these theories will not be included in the research. Stakeholder theory (Shankman 1999) does not focus on rational factors, instead it declares that organizations have/ responsibilities to stakeholders for moral reasons, and that there is no priority of one set of interests over another.
As this research is interested in rational factors, this theory is not included either. The main aspects of the theory of firm boundaries (Garicano and Hubbard, 2003) and neoclassical economic theory (Williamson, 1981) are covered by the transaction cost theory, the resource-based view, and the core competence theory. As such, these theories are also left out of consideration.

### 9.2.1 Transaction cost theory

Coase (1937) introduced the notion of transaction costs in his 1937 article 'The nature of the firm'. It was one of the first attempts to define the firm theoretically in relation to the market. In his article, Coase explains why the market is populated by firms, instead of a plenitude of self-employed people who contract with one another. Coase asks why, given that production could be carried on without any organization at all, firms are created. He considers why it makes sense for an entrepreneur to hire people instead of contracting out for a particular task. To this end Coase notes that there are a number of transaction costs to using the market, thus the cost of obtaining a product or a service from the market is more than just the price of the product or service. Other costs, including search and information costs (discovering what the prices are), negotiation costs (negotiating a separate contract for each exchange transaction), and coordination costs, all potentially add to the cost of procurement. Coase goes on to say: ‘[...] the operation of a market costs something and by forming an organization and allowing some authority (an ‘entrepreneur’) to direct the resources, certain marketing costs are saved’. This suggests that firms will emerge when the entrepreneur can arrange to produce what is necessary internally and avoid these extra costs. Coase then continues: ‘[...] a firm will tend to expand until the costs of organizing an extra transaction within the firm become equal to the costs of carrying out the same transaction by means of an exchange on the open market or the costs of organizing in another firm’. This means that when the external transaction costs are higher than the internal transaction costs, the firm will grow. But if the external transaction costs are lower than the internal transaction costs the company will be downsized, e.g. by outsourcing.

Oliver Williamson, influenced by Coase’s theory, introduced (modern) transaction cost theory (Williamson, 1975; 1985), which has become one of the theories most often referred to in relation to sourcing. Transaction cost theory combines economic theory with organizational theory to determine the best type of relationship a firm should develop in the market. Williamson introduces a transaction as the unit of analysis in the theory (Williamson, 1975). He states that a transaction occurs “when a good or service is transferred across a technologically separate interface” (Williamson, 1985). According to Williamson, transaction costs rise for ex ante reasons (drafting, negotiating, and safeguarding agreements between the parties to a transaction) and ex post reasons (maladaptation, haggling, establishment, operational and bonding costs). Decision-makers must consider the production and transaction costs associated with keeping an activity in-house versus those associated with outsourcing. If they choose outsourcing, they must determine the appropriate type of contract to use. Williamson (1985) argues that six factors lead to increase of transaction costs; two human, two environmental factors, and two factors that can be seen as transactional characteristics. The human factors are:

1. **Bounded Rationality**: Humans are unlikely to have the abilities or resources to consider every possible state-contingent outcome associated with a transaction. The degree to which bounded rationality is present depends on the knowledge and skills the client organization has to specify
requirements, to select appropriate suppliers, to draw a good contract and to manage and control suppliers.

2. **Opportunism:** Humans will act in their own self-interests. People may not always be trustworthy, honest, or may purport unfair representations. Buyers and sellers have different interests. The buyer wants good products or services at low cost while the seller wants high revenues and low costs.

The **environmental** factors are:

3. **Uncertainty and complexity:** Uncertainty refers to the possibility of gathering all the information required to make an informed decision. It exacerbates the problems that arise due to bounded rationality and opportunism. Complexity refers to the number of alternatives in a certain decision situation, and the number of variables and the relationships between these variables. Uncertainty and Complexity may lead to opportunism because suppliers are in a better negotiating position as client organizations cannot oversee all alternatives before the transaction starts, and must decide on appropriate actions when problems arise. This is also referred to as **information asymmetry** (Grover et al., 1994).

4. **Number of suppliers (Small numbers trading):** If only a small number of players exist in a marketplace, a party to a transaction may have difficulty disciplining the other parties to the transaction through withdrawal or the use of alternative players in the marketplace. Markets with a great number of suppliers minimize opportunism due to the rivalry among the suppliers (Williamson, 1975). Conversely, when there are little alternatives, client organizations are in a poor bargaining position with suppliers. Williamson distinguishes between ex ante and ex post small numbers trading. Ex ante occurs when there are a small number of players in the market to begin with. Ex post occurs when many suppliers supply a service and the client organization has selected a supplier. That supplier learns and acquires new skills and valuable knowledge during the contractual period, distinguishing itself from the other suppliers in the market, thus creating a small numbers trading situation ex post.

The **transactional** characteristics are:

5. **Asset specificity:** The value of an asset may be attached to a particular transaction that it supports. The party who has invested in the asset will suffer a loss if the non-investing party withdraws from the transaction. If the latter acts opportunistically, this can lead to the so-called ‘hold-up’ problem. Asset specificity is relevant to the sourcing decision, because many transactions are tailored to an organization. Williamson (1975) recognizes three types of specificity. A transaction is highly asset specific if it cannot readily be applied by other companies because of:

- **Site specificity** – transactions that are available at a certain location and can only be transported at great cost.
- **Physical asset specificity** – the degree of necessary specialization of equipment to successfully complete transaction, i.e. how specialized the equipment must be. Some transactions do not require any special equipment or configuration, others must be personalized to meet an organization’s needs.
9. Criteria for Successful Sourcing

- **Human asset specificity** – the degree of necessary specialization of the required knowledge to successfully complete the transaction. Examples are special training and knowledge of an organization’s processes.

6. *Frequency:* Frequency refers to buyer activity in the market, in other words, how often an organization seeks to initiate the transaction. If certain transactions occur only once or infrequently, the initial costs associated with meeting the conditions for being able to execute the transactions often cannot be justified. These costs are more easily justified for high frequency transactions.

It is not until these factors are combined that problems arise (Williamson, 1985). Bounded rationality is a problem only when it is combined with situations that are perceived as uncertain or complex for the client organization. As asset specificity and uncertainty increase, the risk of opportunism increases. Moreover, the human tendency for opportunism increases in a market with a small number of players (Williamson, 1975).

Drawing on this theory, the sourcing decision is seen as a rational decision made by organizations that have considered transaction related factors such as uncertainty and complexity, asset specificity, frequency, the number of suppliers and other transaction costs.

Criteria

The following are criteria that have been formulated by applying transaction cost theory to sourcing.

<table>
<thead>
<tr>
<th>C01 Cost</th>
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<tbody>
<tr>
<td><strong>Statement</strong></td>
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<tr>
<td><strong>Rationale</strong></td>
</tr>
<tr>
<td><strong>Sources</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>C02 Prior sourcing experience</th>
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<tbody>
<tr>
<td><strong>Statement</strong></td>
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<tr>
<td><strong>Rationale</strong></td>
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<tr>
<td><strong>Sources</strong></td>
</tr>
<tr>
<td><strong>Changes</strong></td>
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<tr>
<td><strong>C02</strong></td>
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</table>
### Theoretical Perspectives

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Statement</th>
<th>Rationale</th>
<th>Sources</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>C03 Uncertainty</td>
<td>The lower the uncertainty in business activities within the domain, the more favorable a candidate for sourcing the domain is.</td>
<td>Many services are conducted under uncertainty. This can be caused by unpredictable markets and economic or technological trends. Also, unpredictable developments in the organization’s business processes and environment can cause uncertainty. High uncertainty means that there is less chance of gathering all the information needed to make an informed decision. This may be reflected in the completeness of contracts and the quality of the output by a supplier. Moreover, it may lead to opportunistic behavior by the supplier.</td>
<td>(Holcomb and Hitt 2007; McIvor 2009; Williamson 1975; 1985; de Looff 1996)</td>
<td>During workshop 2 it was decided to split the criterion in three. See Appendix C for the motivation.</td>
</tr>
<tr>
<td>C03a The higher the stability in service packages within the domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C03b The higher the level of standardization in service results within the domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C03c The higher the level of standardization in service execution within the domain, the more favorable a candidate for sourcing it is.</td>
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<td></td>
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</tr>
<tr>
<td>C04 Complexity</td>
<td>The lower the complexity of services within the domain, the more favorable a candidate for sourcing it is.</td>
<td>When a business activity is complex, there are many alternatives in a certain decision situation, and many interrelated variables that affect the situation. This makes it difficult to create a complete contract, possibly leading to opportunistic behavior by the supplier. Also, complex activities tend not to have standard solutions, making it difficult for suppliers to perform at lower cost than the client organization.</td>
<td>(Kremic et al. 2006; Williamson 1975; 1985; de Looff 1996)</td>
<td></td>
</tr>
<tr>
<td>C05 Number of suppliers</td>
<td>The higher the number of suppliers that can supply the services within the domain, the more favorable a candidate for sourcing it is.</td>
<td>Markets with a multitude of suppliers minimize opportunism due to the rivalry among the suppliers. Furthermore, the fact that there are many suppliers in the market shows that there is a market standard for these activities, and that more organizations have sourced from the market. This makes it possible for suppliers to achieve economies of scale, driving down costs.</td>
<td>(Holcomb and Hitt 2007; Williamson 1975; 1985; de Looff 1996)</td>
<td></td>
</tr>
</tbody>
</table>
9. CRITERIA FOR SUCCESSFUL SOURCING

C06 Asset specificity

**Statement** The lower the *asset specificity* in services within the domain, the more favorable a candidate for sourcing it is.

**Rationale** Asset specificity refers to the level of customization associated with the activity. When durable equipment or products are generated by the sourcing arrangement and they have little value outside of that activity, asset specificity is high. A supplier has little incentive to put resources into maintaining or upgrading the durable items because they have no value for him apart from the agreement. Thus, the asset is specific to a particular exchange because it sustains its value only in the context of that exchange. This can lead to opportunistic behavior by the supplier, e.g. the supplier can have greater leverage to charge higher rates.

**Sub-Criteria**
- Site specificity
- Physical asset specificity
- Human asset specificity

**Sources** (Holcomb and Hitt, 2007; McIvor, 2009; Yang and Huang, 2000; Arnold, 2000; Kremic et al., 2006; Williamson, 1975; 1985; de Looff, 1996)

C07 Frequency

**Statement** The higher the *frequency* of services within the domain, the more favorable a candidate for sourcing it is.

**Rationale** If certain activities occur only once or infrequently, the initial costs associated with meeting the conditions for being able to execute the activities often cannot be justified. These costs are more easily justified for high frequency activities.

**Sources** (McIvor, 2009; Yang and Huang, 2000; Williamson, 1975; 1985; de Looff, 1996)

9.2.2 Resource-based view

While transaction cost theory focuses on the costs associated with conducting exchanges between two separate firms, the resource-based view focuses on factors that enable firms to gain a competitive advantage.

The origin of the idea that a firm’s strategic resources are important is found in Penrose (1959). Penrose looks at firms in terms of their resources rather than in terms of their products. She defines a firm as a collection of productive resources. She describes how bundles of current resources, along with the opportunities to deploy them, limit the direction and speed of future growth.

The proverbial flame of the resource-based theory was reignited when Wernerfelt (1984) similarly asserted that firms should be viewed as collections of resources. In some cases a holder of a resource is able to maintain a competitive advantage over other holders of the same resource. That is, the fact that someone already has the resource affects the costs and/or revenues of later acquirers adversely. In these situations the holder can be said to enjoy the protection of a resource position barrier (Wernerfelt, 1984).
He goes on to say: “[…] firms need to find those resources which can sustain a resource position barrier, but in which no one currently has one, and where they have a good chance of being among the few who succeed in building one. […] What a firm wants is to create a situation where its own resource position directly or indirectly makes it more difficult for others to catch up. To analyze resources for a general potential for high returns, one has to look at the ways in which a firm with a strong position can influence the acquisition costs or the user revenues of a firm with a weaker position.”

The Resource-based view differs from traditional economic assumptions that resources are homogeneous and perfectly mobile. It argues instead that resources are heterogeneously distributed across firms and are imperfectly transferred between them (Barney, 1991).

Resources have been defined in several ways:

- **Penrose** (1959): The productive services available to a firm from its own resources, particularly the productive services available from management with experience within the firm.
- **Wernerfelt** (1984): By a resource is meant anything which could be thought of as a strength or weakness of a given firm.
- **Barney** (1991): Resources include all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness.

According to **Barney** (1991) a firm has a sustained competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential (future) competitors and when these other firms are unable to duplicate the benefits of this strategy. In relation to sourcing, organizations tend to retain these strategic resources that lead to sustained competitive advantage internally.

For a resource to hold the potential to sustain competitive advantage it must have the following four attributes (Barney, 1991):

1. It must be **valuable**, in the sense that it exploits opportunities and/or neutralizes threats in a firm’s environment.
2. It must be **rare** among a firm’s current and potential competition.
3. It must be **imperfectly** imitable.
4. It must be **non-substitutable**, i.e. there cannot be strategically equivalent substitutes for this resource that are valuable but neither rare nor imperfectly imitable.

**Criteria**

The following are criteria that have been formulated by applying the resource-based view to sourcing.
### 9. **Criteria for Successful Sourcing**

<table>
<thead>
<tr>
<th><strong>C08 Competitive Advantage</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Statement</strong></td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
</tr>
</tbody>
</table>
Sub-Criteria

- **Value:** Firm resources can only be a source of competitive advantage when they are valuable, that is, when they enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness so as to exploit opportunities and/or neutralize threats in its environment.

- **Rarity:** A firm enjoys a competitive advantage when it is implementing a value-creating strategy not simultaneously implemented by large numbers of other firms. If a particular valuable resource is possessed by several other firms, then each of these firms have the capability of exploiting that resource in the same way, thus making it impossible to have a competitive advantage.

- **Inimitability:** Valuable and rare firm resources can only be sources of sustained competitive advantage if firms that do not possess these resources cannot obtain them, i.e. they are imperfectly imitable. Firm resources can be imperfectly imitable for three reasons:
  - **unique historical conditions** - Firms are intrinsically historical and social entities and their ability to acquire and exploit certain resources depends on their place in time and space. Once this time in space passes, firms that have not utilized these resources to create new ones cannot obtain these resources, and thus these new resources are imperfectly imitable.
  - **causal ambiguity** - Causal ambiguity exists when the link between the resources a firm controls and a firm’s competitive advantages are not (perfectly) understood. In this case it is difficult for competing firms to duplicate a successful firm’s strategies through imitation of its resources, because they do not know which resources to imitate. If the link is known within the organization, other firms can also learn about that link.
  - **social complexity** - A firm’s resources may be very complex social phenomena which cannot be systematically controlled or managed by other firms. Examples are interpersonal relationships among managers, a firm’s reputation, a firm’s culture, etc. To imitate these social phenomena is beyond the capabilities of most firms.

- **Non-Substitutability:** There must be no strategically equivalent valuable resources that are themselves either not rare or imitable. Two valuable (bundles of) firm resources are strategically equivalent when they each can be exploited separately to implement the same strategies.

Sources

(Kulkarni and Jenamani, 2008; Holcomb and Hitt, 2007; McIvor, 2009; Arnold, 2000; Kremic et al., 2006; Roy and Aubert, 2001; Barney, 1991; Wernerfelt, 1984; Penrose, 1959)
9.2.3 Core competency theory

Much has been published about core competencies. However, there is little consistency in the literature about what ‘core’ really means \cite{Quinn and Hilmer,1994}. The main ideas about core competency theory were developed by \cite{Prahalad and Hamel,1990}. The central idea in their work is that organizations build up key areas of expertise in which they distinguish themselves from the competition and which are critical to their long term growth.

According to \cite{Prahalad and Hamel,1994} a competency is a bundle of skills and technologies rather than a single discrete skill or technology. It represents the sum of learning across individual skill sets and individual organizational units. Thus, a core competency is very unlikely to reside in its entirety in a single individual or small team.

To allow managers to leverage their organization’s skills and resources they should look beyond the organization’s products to the intellectual skills or management systems that actually create a maintainable competitive edge. Subsequently, they can strategically outsource those activities that are not core competencies \cite{Quinn and Hilmer,1994}. Though, to actually manage an organization’s stock of core competencies, top management must be able to disaggregate core competencies into their components, all the way down to the level of specific individuals with specific talents \cite{Prahalad and Hamel,1994}. \cite{Prahalad and Hamel,1994} introduce three tests which a competency must meet to be core:

1. **Customer Value** – Core competencies are the skills that enable an organization to deliver a fundamental customer benefit. Customers are the ultimate judge of whether something is or is not a core competency. So in attempting to identify its core competencies, a company must ask itself if a particular skill makes a significant contribution to ‘customer-perceived value’. They can do this by asking questions like: What are the ‘value elements’ in this service? What is the customer actually paying for? Why is the customer willing to pay more or less for one product or service than another? Which value elements are most important to customers and thus make the biggest contribution to the price realization?

2. **Competitor Differentiation** – All organizations need some basic competencies. That being said, there is a difference between ‘necessary’ competencies and ‘differentiating’ competencies. It makes no sense to define a competency as core if it is omnipresent or easily imitated by competitors. According to \cite{Prahalad and Hamel,1990} organizations often see a particular skill set as a core competency, even when that skill set is commonly available within the market, or when the organization’s own level of accomplishment in the skill area is significantly below what can be found in the rest of the market. Benchmarking an organization’s competencies against those of competitors helps guard against overstating the uniqueness of one’s own capabilities.

3. **Extendibility** – A competency is truly core when it forms the basis for entry into new product markets. As a practical matter, this means that in defining core competencies, managers must work very hard to abstract away from the particular product or service configuration in which the competency is currently embedded, and imagine how the competency might be applied in
new product or service areas. If there is no way of imagining new products or services issuing
from the competency, it may not be a core competency in the future.

Quinn and Hilmer (1994) introduce seven attributes of core competencies. Core competencies are:

1. *Skill or knowledge sets*, not products or functions – Executives must look beyond the firm’s
   products to the intellectual skills or management systems that actually create a maintainable
   competitive edge.

2. *Flexible, long-term platforms - capable of adaptation or evolution* – Too many firms tend to
   concentrate on the narrow areas in which they currently excel. Instead they must focus on
   building dominating skills in areas that the customer will continue to value over time.

3. *Limited in number* – Firms should focus on a few areas that are most critical for future success.
   When they go beyond focusing on three to five activities or skill sets, they are unable to match
   the performance of suppliers or their most focused competitors.

4. *Unique sources of leverage in the value chain* – When a firm has an activity or skill set which
   uniquely fills certain knowledge gaps, it is an invaluable resource in that area.

5. *Areas where the company can dominate* – Areas where the company can dominate are areas
   where it is more effective than any other potential provider of that same type of activity.

6. *Elements important to customers in the long run* – At least one of the firm’s core competencies
   should be of high customer value.

7. *Embedded in the organization’s systems* – Maintainable competencies must not depend on a
   few talented employees. It must be part of the corporate reputation and culture of the firm.

Criteria

The following are criteria that have been formulated by applying the Core Competency Theory to
sourcing.

<table>
<thead>
<tr>
<th>C09 Core</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Statement</strong></td>
<td>When the services within a business area do not involve or consist of a core competency, the business area is a favorable candidate for sourcing.</td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
<td>A firm should concentrate its own resources on a set of core competencies where it can achieve defensible preeminence and provide unique value for customers. Other services for which the firm has neither a critical strategic need nor special capabilities can be sourced from outside the firm.</td>
</tr>
</tbody>
</table>
9. Criteria for Successful Sourcing

Sub-Criteria

- **Customer Value:** A core competency must make a significant contribution to customer-perceived value.

- **Competitor Differentiation:** To be a core competency, a capability must also be competitively unique. This does not mean that it must be uniquely held by a single firm, but it means the firm must be substantially superior in executing it.

- **Extendibility:** There must be a way to imagine an array of new products or services issuing from a competency if it is to be core. What was a core competency in one decade may become a mere capability in another. If the competency has no value in the future, it should not be core.

- **Skills:** Competencies are sets of skills cut across traditional business functions. They allow a firm to consistently outperform functional competitors and to continually improve as markets, technology, and competition evolve.

- **Flexibility:** Flexible skill sets and constant conscious reassessment of trends are hallmarks of successful core competency strategies.

- **Limited:** When the amount of core competencies become too large, it becomes impossible to outperform the specialized competition in the respective competencies.

- **Unique:** When a firm has a competency for which there is a market, and which no other firm has, it has a competitive advantage over other firms.

- **Dominate:** When a firm is more effective than any other competing firm at performing certain activities, thus dominating the competition, this constitutes a competitive advantage.

- **Embeddedness:** A competency cannot be core if it resides in a small number of employees, for if these employees leave the company, the competency leaves with them. The competency must be embedded in the firm’s business processes, systems, corporate reputation and culture.

Sources: (Zhang et al., 2008; Delen, 2005; Prahalad and Hamel, 1994, 1990; Quinn and Hilmer, 1994, 1995; Arnold, 2000; Brandes et al., 1997; Kremic et al., 2006; de Looff, 1996)
9.3 Other Criteria

What follows are criteria based on factors, found in literature, that are not direct implementations of the theories discussed above.

Apte and Mason (1995) introduce a methodology for globally disaggregating services in which they use a combination of service activity characteristics, transaction cost theory, and core competency theory. To assess the desirability and feasibility of disaggregating a service activity they try to answer three questions: What types of actions are taken in performing the service activity? How much time is spent in these actions? How is value added by the service activity? They base their answers to these questions on the following taxonomy of actions:

1. **physical** actions that involve manipulation of physical objects, like moving, transforming or creating objects.

2. **information** actions that involve symbolic manipulation, that is, manipulation of data, information and decisions.

3. **interpersonal actions** that involve dealing with external and internal customers and others.

4. **non-value-adding** actions that do not belong to any of the above categories.

Subsequently they introduce three attributes of services, which they use to determine the potential for disaggregation:

- **Information Intensity**: The ratio of time spent in dealing with information in a service activity to the total time spent in that activity. According to Apte & Mason (1995), the higher the information intensity of a service activity, the easier it is to use information technology to perform the activity, and thus the easier it is to disaggregate the activity and perform it at a remote location.

- **Customer Contact Need**: The ratio of time during which the customer is in direct contact with the service facility to the total time required for the creation of the service. Customer contact is further divided into
  - **in-person customer contact** between customer and service provider, that is necessary for service creation, acquisition or consumption.
  - **symbolic customer contact** between customer and service provider, where the main purpose of a customer’s presence is to exchange information necessary in service creation and consumption.

In general the lower need for customer contact, in particular in person customer contact, the easier it is to disaggregate the service activity.

- **Physical Presence Need**: The ratio of time spent in physical actions to the total time spent in a service activity. The physical presence need is related to physical object manipulation, that is, the movement, transformation or creation of physical objects.
Kremic et al. (2006) analyze more than 200 publications using a variety of approaches to compile an extensive list of outsourcing benefits, risks, motivations and factors. The interesting part, for the purpose of this work, is the list of factors. They organize these factors in the following categories: strategy, cost, function characteristics, and the internal and external environment faced by the organization. Several of the factors they distinguish have already been covered in the previous sections, but several others are new and offer interesting insights.

In his PhD thesis, Delen (2005) distinguishes six decision and six control factors for IT-sourcing. Some of his insights are taken into account. The PhD thesis of Op ’t Land (2008) distinguishes organization construction rules which are analogous to criteria for sourcing. These will also be considered.

### 9.3.1 Criteria

From these theories the following new criteria can be derived:

<table>
<thead>
<tr>
<th>C10 Information intensity</th>
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<tbody>
<tr>
<td><strong>Statement</strong></td>
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<td><strong>Rationale</strong></td>
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<tr>
<td><strong>Sources</strong></td>
</tr>
<tr>
<td><strong>Changes</strong></td>
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</table>

C10 The higher the level of *formalization of immaterial services* within a domain is, the more favorable a candidate for sourcing it is.

<table>
<thead>
<tr>
<th>C11 Customer contact need</th>
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<tbody>
<tr>
<td><strong>Statement</strong></td>
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<tr>
<td><strong>Rationale</strong></td>
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<td><strong>Sources</strong></td>
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<table>
<thead>
<tr>
<th>C12 Physical presence need</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Statement</strong></td>
</tr>
<tr>
<td><strong>Rationale</strong></td>
</tr>
<tr>
<td><strong>Sources</strong></td>
</tr>
</tbody>
</table>
C13 Internal human resources

**Statement** The greater the lack of *internal human resources* for services within a domain, the more favorable a candidate for sourcing it is.

**Rationale** When the workforce cannot handle the load for a business activity, sourcing from outside the company becomes a better option, providing that there are suppliers that can perform the activity.

**Sources** (Ketler and Walstrom, 1993; Kremic et al., 2006)

C14 Integration

**Statement** The lower the degree of *integration* of services within a domain, the more favorable a candidate for sourcing it is.

**Rationale** The more integrated a business activity, i.e. the less separable, the more of its connected services will be affected. That is, if it is disentangled and moved across firm boundaries, it will become difficult to effectively communicate and coordinate within it and with the organization. Differing organizational cultures and motives may also intensify this. Therefore, a low degree of integration is preferable.

**Sources** (Delen, 2005; Kremic et al., 2006; Apte and Mason, 1995)

C15 Employees influenced

**Statement** The lower the number of *employees* within a domain that perceive sourcing as negative, the more favorable a candidate for sourcing it is.

**Rationale** Employees are a huge source of knowledge and skills for organizations. If a significant amount of employees are negatively affected by the sourcing endeavor, they might look for employment elsewhere. Also employees may rebel and work against the success of the endeavor.

**Sources** (Kremic et al., 2006)

C16 Legal hurdles

**Statement** The less *legal hurdles* to overcome when sourcing services within a domain, the more favorable a candidate for sourcing it is.

**Rationale** When there are many legal hurdles, the cost of overcoming these together with the further sourcing-related costs can become higher than performing the activities internally.

**Sources** (Kremic et al., 2006)

C17 Frequent change

**Statement** The less services within a domain are subject to *frequent change*, the more favorable a candidate for sourcing it is.

**Rationale** When activities frequently need to be adapted, e.g. due to unanticipated internal or external influences, it is difficult to disaggregate these.

**Sources** (Op ‘t Land, 2008)
9. CRITERIA FOR SUCCESSFUL SOURCING

9.4 Reflection on criteria

Upon examining the resource-based view and core competence theory, it becomes quite clear that they are connected. In fact, resources are the building blocks of competencies (Javidan, 1998). Because of this connection, it pays dividend to consider both resources and core competencies for sourcing decisions. There exists the possibility that the organization has certain resources which can be exploited to gain a competitive advantage, but for which it, for whatever reason, has yet to build up a core competency. Another possibility is that an organization has a core competency, but the resources related to it are in danger of competition. If one would focus only on core competencies, such issues could be overseen.

The transaction cost theory focuses on the costs associated with conducting exchanges between two organizations and the specificity of assets, while the resource-based view and the core competency theory concentrate on those factors that enable firms to gain and sustain a competitive advantage. These differences may lead to clashes between the criteria stemming from the respective theories (Watjatrakul, 2005). Nonetheless, several authors have combined the transaction cost theory and the resource-based view or core competency theory to create a decision model based on a synthesis of the criteria (Holcomb and Hitt, 2007; Humphreys et al., 2002; Kulkarni and Jenamani, 2008; McIvor, 2009; Yang and Huang, 2000; Zhang et al., 2008; Arnold, 2000; Hagel III and Singer, 1999; de Looff, 1996; Watjatrakul, 2005). Others have focused only on the transaction cost theory (Ngwenyama and Bryson, 1999; Lyons, 1995). Hagel III and Singer (1999), for example, argue that beneath the surface of most companies, you will find three kinds of businesses; a customer relationship business, a product innovation business, and an infrastructure business. These three businesses were thought to be inseparable, as the transaction and interaction costs required to coordinate them would be too great. But as managers have found, there are limits to the gains associated with bundling these core businesses into a single corporation. The economics of governing the three core businesses conflict, and sooner or later this forces the organization to compromise the performance of each process, losing competitive ground in the process. Therefore, organizations should unbundle and focus on one of the three businesses to continue to be successful.

The criteria derived from the work of Apte and Mason (1995) are interesting, because they focus on the issue of global sourcing. This becomes apparent when you take into account that they see information intensity, customer contact need, and physical presence need as a combined factor. Physical presence need is inherent of considerations for global disaggregation. But it might not be as important for other forms of sourcing. Because this research focuses on sourcing in general, it makes sense to consider these three factors separately.

Another interesting insight is that many of the criteria seem to be linked, directly or indirectly, to the level of standardization in the market. That is, a business activity for which there is a market standard will more likely be a favorable candidate for sourcing. Services that are not very complex will often have standard solutions. If the number of suppliers for a certain business activity is high, this could be an indicator that there is a standard way of performing the activity. The ‘inimitability’ criterion of the resource-based view and the ‘competitive differentiation’ factor of the core competence theory are both concerned with the uniqueness of services. When there is a standard on the market for a certain activity, it is of no competitive advantage to the organization. The degree to which a business activity is structured could also be an indicator of the ease to standardize it. Thus, the degree
Reflection on criteria

of market standardization could well be an indicator for sourcing candidacy.

This concludes the gathering of criteria. In total there are now 19 criteria for sourcing which can be used as input for the decision-model. An overview of the criteria is given in Table 9.1.

Table 9.1: The list of compiled criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01</td>
<td>If the cost of performing services within the domain internally is higher than the cost of sourcing outside the firm, then the domain is a favorable candidate for sourcing.</td>
</tr>
<tr>
<td>C02</td>
<td>The higher the prior sourcing experience of the retained organization, the higher the chances for successful sourcing.</td>
</tr>
<tr>
<td>C03a</td>
<td>The higher the stability in service packages within the domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C03b</td>
<td>The higher the level of standardization in service results within the domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C03c</td>
<td>The higher the level of standardization in service execution within the domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C04</td>
<td>The lower the complexity of services within the domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C05</td>
<td>The higher the number of suppliers that can supply the services within the domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C06</td>
<td>The lower the asset specificity in services within the domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C07</td>
<td>The higher the frequency of services within the domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C08</td>
<td>The lower the competitive advantage realized by services within a domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C09</td>
<td>When the services within a domain do not involve or consist of a core competency, the domain is a favorable candidate for sourcing.</td>
</tr>
<tr>
<td>C10</td>
<td>The higher the level of formalization of immaterial services within a domain is, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C11</td>
<td>The lower the customer contact need in services within a domain are, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C12</td>
<td>The lower the physical presence need in services within a domain are, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C13</td>
<td>The greater the lack of internal human resources for services within a domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C14</td>
<td>The lower the degree of integration of services within a domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C15</td>
<td>The lower the number of employees within a domain that perceive sourcing as negative, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C16</td>
<td>The less legal hurdles to overcome when sourcing services within a domain, the more favorable a candidate for sourcing it is.</td>
</tr>
</tbody>
</table>
9. CRITERIA FOR SUCCESSFUL SOURCING

C17 The less services within a domain are subject to frequent change, the more favorable a candidate for sourcing it is.
Chapter 10

Operationalizing criteria

In the previous chapter, criteria have been found, through literature research, that can be used to determine whether or not a domain is a favorable candidate for sourcing. These are all theoretical criteria, and may not be suitable for use in practice in their current form. In this chapter we will operationalize the criteria to make them useful in practice.

10.1 On attributes

A Criterion can be made operational by introducing a way in which domains can be tested for compliance to it. In other words, a way of expressing the criterion in terms of measurable attributes of a domain. A domain can then be tested for these attributes to measure its level of compliance with a criterion.

10.1.1 Quantitative and qualitative proxy attributes

Some attributes people intuitively think of using are objective in nature. That is, there already exists a commonly understood quantitative scale for that attribute and its levels are objectively measurable. However, there are attributes for which no objective index exists and a subjective index, a qualitative scale, must be constructed. (Keeney and Raiffa 1976) Sometimes no reasonable attributes can be found. To surmount this difficulty, proxy attributes can be used. A proxy attribute is one that reflects the degree to which an associated criterion is met but does not directly measure the criterion. Thus, proxy attributes indirectly measure the achievement on a stated criterion. (Keeney and Raiffa 1976) From now on when attributes are mentioned, proxy attributes are meant.

10.1.2 Desirable properties of attributes

It is important that the set of attributes be (Keeney and Raiffa 1976):

complete – covering all important aspects of the problem.

operational – so that it can be meaningfully used in analysis.
decomposable – so that aspects of the evaluation process can be simplified by breaking down into parts.

non-redundant – avoiding double counting.

minimal – keeping the problem dimension as small as possible.

10.2 Formulating measurable attributes

In workshop 2 (see Appendix C) sourcing experts were asked to formulate measurable attributes for each criterion. The formulated attributes and their units will now be discussed. Note that there will be quantitatively as well as qualitatively measurable attributes. The quantitative attributes will be expressed in senseful units. Qualitative attributes will be assigned a qualitative scale as a unit. This will make it possible to assign a subjective score to the qualitative level of the attribute.

C01 cost

- internal cost
- external cost
This attribute is clear. It is a quantitative attribute and it can be expressed in (%).

- yearly operational cost
This attribute is clear. It is a quantitative attribute and it can be expressed in [(Euro / service execution)].

- costs of: raw materials; use of resources, storage, machines, people; production time; volume; necessary expertise
This attribute is already covered in [yearly operational cost / service execution] so, in keeping with the non-redundancy property, this attribute will be left out.

- internal cost of 1 hour of service
This attribute is too specific. This makes it non-decomposable and non-operational. Moreover, it is already covered by [yearly operational cost / service execution]. Therefore, this attribute will be left out.

- business case
This attribute is already covered by [yearly operational cost / service execution], and will therefore be left out.

- cost finance function
This attribute is clear. It is a quantitative attribute and it can be expressed in (%).

C02 prior sourcing experience

- [# positive sourcing experiences]
This attribute is clear. It is a quantitative attribute, and it can be expressed in (experience).

- [# negative sourcing experiences]
This attribute is clear. It is a quantitative attribute, and it can be expressed in (experience).

- [# employees with sourcing experience]
This attribute is clear. It is a quantitative attribute, and it can be expressed in (employee).

- Total man-years of sourcing experience + distribution over employees
This can be operationalized as [total man-years sourcing experience / employee] with which the total man-years
Formulating measurable attributes

sourcing experience per employee can be measured. It is a quantitative attribute, and it can be expressed in \( \text{man-year/employee} \).

**C03a stability**
- \( \frac{\# \text{changes in services}}{\text{year}} \) This attribute is clear. It is a quantitative attribute, and it can be expressed in \( \text{change/year} \).
- \( \frac{\Delta \text{cash value of services}}{\Delta \text{cash value of all enterprise services}} \) This attribute is clear. It is a quantitative attribute, and it can be expressed in \( \% \).

**C03b standardization in results**
Here, no propositions for operationalization were made.

**C03c standardization in execution**
- \( \frac{\text{certified work}}{\text{total work}} \) This attribute is clear. It is a quantitative attribute, and it can be expressed in \( \% \).

**C04 complexity**
- \( \frac{\# \text{physical handovers}}{\text{service}} \) This attribute is clear. It is a quantitative attribute, and it can be expressed in \( \text{handover/service} \).
- [degree of formalization] This attribute is clear. It is a qualitative attribute, and it can be expressed in \( \text{qualitative scale} \).
- AO/IC (Administrative Organization / Internal Control): In order? In writing?; When tested last? What were the audit results? This proposed attribute needs to be clarified. To test whether the AO/IC is in order, [quality of AO/IC] can be measured, which can be expressed in \( \text{qualitative scale} \). To test when the AO/IC was last audited, [age of AO/IC audit results] can be measured, which can be expressed in \( \text{week} \). To test what the last audit results were, [result of AO/IC audit] can be measured, which can be expressed in \( \text{qualitative scale} \).

**C05 number of suppliers**
- What are your competitors doing? To which parties? These are great questions to ask, but they are not measurable so they cannot be made operational. They will be left out of the attributes.
- \( \# \text{suppliers} \) This attribute is clear. It is a quantitative attribute, and it can be expressed in \( \text{supplier} \).
- \# suppliers that focus on a specific service (inter)nationally This is a further specification of supplier. Hence, it is already covered in \( \# \text{suppliers} \) and is thus redundant. To avoid double counting it will be disregarded as a attribute.
- [QoS required] This attribute is clear. It is a qualitative attribute, and it can be expressed in \( \text{qualitative scale} \).
10. Operationalizing Criteria

- **Availability + use of a supplier audit** This is an important and handy instrument to use when selecting suppliers, however it does not measure the number of suppliers. Therefore, it will be left out of the attributes.

**C06 asset specificity**
- **how specific or generic?** To determine how specific the services in a domain are, the decision-maker could be asked exactly that. This will subjectively measure the [level of specificity] and it can be expressed in (qualitative scale)
- [# employees needed on site] This attribute is clear. It is a quantitative attribute, and it can be expressed in (employee).
- [# weeks needed for training new employees] This attribute is clear. It is a quantitative attribute, and it can be expressed in (week).

**C07 frequency**
- [frequency · execution time] This attribute is clear. It is a quantitative attribute, and it can be expressed in (service execution · h).

**C08 competitive advantage**
- **Why is your organization unique in this?** This is a good question to ask, but it does not measure uniqueness. This will be left out.
- [Δ profit of services in domain - Δ profit of all enterprise services] This attribute is clear. It is a quantitative attribute, and it can be expressed in (%).
- # patents + profit contributed These can both be measured quantitatively by [# patents] expressed in patent, and [profit contributed by patents] in (Euro).
- **What are the returns on your uniqueness?** This question can be measured qualitatively by [level of returns on uniqueness] expressed in qualitative scale.
- **What is your position in the market?** This question can be measured qualitatively by [position in the market] expressed in qualitative scale.

**C09 core competency**
- **why is this (not) a core competency?** Another good starting question, but it does not measure involvement of core competencies. Measuring this is difficult, but the decision-maker should know enough about the enterprise to know what its core competencies are. Ways to determine this can be found in [Quinn and Hilmer 1994], [Greaver II 1999]. Therefore the decision-maker can be asked to qualitatively specify the [level of ‘coreness’ of the domain], expressed in (qualitative scale).

**C10 formalization**
Here, no propositions for operationalization were made.
C11 customer contact need

- **How core is the customer contact?** This question can be measured qualitatively by \([\text{level of coreness of customer contact}]\), expressed in \((\text{qualitative scale})\).

- **Does the customer contact need to be real-time?** What is actually desirable to know here is what is \(\frac{\text{real-time customer contact}}{\text{total customer contact}}\) for services in the domain. This can be expressed in \((\%)\).

- \(\frac{\text{time customer is in contact with service facility}}{\text{total time required for service creation}}\) This attribute is clear. It is a quantitative attribute, and it can be expressed in \((\%)\).

C12 physical presence need

- **What physical presence is needed in execution?** This question is difficult to make operational for a domain. The following two will cover it adequately enough, so this one will be disregarded.

- **Which processes within the domain allow employees to work remotely / outside office hours?** Another, more measurable, way to approach this is to look at \(\frac{\text{services that are location independent}}{\text{total services in domain}}\), which can be expressed in \((\%)\).

- \(\frac{\text{time spent in physical actions}}{\text{total time spent in service execution}}\) This attribute is clear. It is a quantitative attribute, and it can be expressed in \((\%)\).

C13 lack of human resources

- **Which departments / what processes are more or less continuously understaffed?** This can be measured by \(\frac{\text{continuously understaffed services}}{\text{total services in domain}}\), which can be expressed in \((\%)\).

- \(\frac{\# \text{ lacking internal resources}}{\# \text{ same resources lacking in marketplace}}\) This attribute is clear. It is a quantitative attribute, and it can be expressed in \((\%)\).

- **Factors that are related to understaffing: Very specific knowledge / expertise?; Degree of specialization?; FTE in relation to workload?** Very specific knowledge / expertise and degree of specialization can be measured qualitatively by \([\text{level of specific knowledge/expertise needed}]\) respectively, both expressed in \((\text{qualitative scale})\).

  Workload is a more difficult subject. Much study has been done into workload measurement. Since this is beyond the scope of this research it is not possible to specify a more specific attribute at this time. Therefore, workload will be measured quantitively as \(\frac{\text{workload \ FTE for domain services}}{\text{FTE for all enterprise services}}\) expressed in \((\%)\).

C14 degree of integration

- \(\frac{\# \text{ physical handovers}}{\text{service}}\) This attribute is clear. It is a quantitative attribute, and it can be expressed in \((\text{handover/service})\). Note that this is the same attribute as used in C04.

- \(\frac{\# \text{ moments of interaction}}{\text{service execution}}\) This attribute is clear. It is a quantitative attribute, and it can be expressed in \((\text{interaction/service execution})\).

- **Is a service an independent product or is its result input for another service?** This is already covered in the above two attributes. Therefore, it will be disregarded.
## Operationalizing Criteria

### C15 number of negative employees

- \( \frac{\text{employees who voted 'yes'}}{\text{total domain employees}} \) This attribute is clear. It is a quantitative attribute, and it can be expressed in (\( \% \)).
- **What success stories are there in your organization w.r.t. sourcing? Why were they successful? And if not, why not?** This is a good question, but it is very difficult to measure the number of employees that view sourcing as negative from success stories. Therefore, this will disregarded.

### C16 legal hurdles

- \( \# \) laws applicable to domain] This attribute is clear. It is a quantitative attribute, and it can be expressed in (laws).
- [cost to comply to laws] This attribute is clear. It is a quantitative attribute, and it can be expressed in (Euro).
- \( \# \text{ fiscal hurdles to overcome} \) This attribute is clear. It is a quantitative attribute, and it can be expressed in (fiscal hurdle).

### C17 frequent change

- **How often do you have process changes?: How many in the last 5 years?; How well are they documented?** To measure these questions, \( \frac{\# \text{ domain process changes}}{\text{year}} \) can be quantitatively determined, expressed in (process change year), and, [quality of documentation of process changes] can be qualitatively determined, expressed in (qualitative scale).

This concludes the operationalizing of the criteria. An overview of the motives is given in Table 10.1.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Attribute [unit]</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01 cost</td>
<td>\textbullet \frac{\text{internal cost}}{\text{external cost}} % \text{ year service execution} (Euro service execution)</td>
</tr>
<tr>
<td>C02 prior sourcing experience</td>
<td>\textbullet # positive sourcing experiences (experience)</td>
</tr>
<tr>
<td></td>
<td>\textbullet # negative sourcing experiences (experience)</td>
</tr>
<tr>
<td></td>
<td>\textbullet # employees with sourcing experience (employee)</td>
</tr>
<tr>
<td></td>
<td>\textbullet \frac{\text{total man-years sourcing experience}}{\text{employee}} %</td>
</tr>
<tr>
<td>C03a stability</td>
<td>\textbullet \frac{# \text{ changes in services}}{\text{year}} %</td>
</tr>
<tr>
<td></td>
<td>\textbullet \frac{\Delta \text{ cash value of services}}{\Delta \text{ cash value of all enterprise services}} %</td>
</tr>
<tr>
<td>Attribute</td>
<td>Description</td>
</tr>
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<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>C03b</td>
<td>Standardization in results</td>
</tr>
<tr>
<td>C03c</td>
<td>Standardization in execution</td>
</tr>
<tr>
<td>C04</td>
<td>Complexity</td>
</tr>
<tr>
<td>C05</td>
<td>Number of suppliers</td>
</tr>
<tr>
<td>C06</td>
<td>Asset specificity</td>
</tr>
<tr>
<td>C07</td>
<td>Frequency</td>
</tr>
<tr>
<td>C08</td>
<td>Competitive advantage</td>
</tr>
<tr>
<td>C09</td>
<td>Core competency</td>
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<tr>
<td>C10</td>
<td>Formalization</td>
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<tr>
<td>C11</td>
<td>Customer contact need</td>
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<tr>
<td>C12</td>
<td>Physical presence need</td>
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</tbody>
</table>
10. OPERATIONALIZING CRITERIA

<table>
<thead>
<tr>
<th>C13 lack of human resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>• continuously understaffed</td>
</tr>
<tr>
<td>• # lacking internal resources (#)</td>
</tr>
<tr>
<td>• # same resources lacking in market place (%)</td>
</tr>
<tr>
<td>• level of specific knowledge/expertise needed (qualitative scale)</td>
</tr>
<tr>
<td>• degree of specialization (qualitative scale)</td>
</tr>
<tr>
<td>• workload for domain services (%) for all enterprise services</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C14 degree of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• # physical handovers (handover service)</td>
</tr>
<tr>
<td>• # moments of interaction (interaction service execution)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C15 number of negative employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>• employees who vote ‘yes’ (%) total domain employees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C16 legal hurdles</th>
</tr>
</thead>
<tbody>
<tr>
<td>• # laws applicable to domain (laws)</td>
</tr>
<tr>
<td>• costs to comply to laws (Euro)</td>
</tr>
<tr>
<td>• # fiscal hurdles to overcome (fiscal hurdle)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C17 frequent change</th>
</tr>
</thead>
<tbody>
<tr>
<td>• # domain process changes (process change) year</td>
</tr>
<tr>
<td>• quality of documentation of process changes (qualitative scale)</td>
</tr>
</tbody>
</table>
Chapter 11

Linking motives and criteria

This chapter briefly touches upon the concept of a link between motives and criteria. The concept is explained and some results from workshop 2 (see Appendix C) are presented.

The link between a motive and a criterion is a representation of the relation between attributes of a domain and the chance that a motive will be achieved. The satisfaction of some attributes will lead to a higher chance of achieving a motive than others. This means that there is indeed a link between criteria and motives and that each link will have a different impact. Thus, the link between a motive \( i \) and a criterion \( j \) depicts that \( j \) positively influences the achievement of \( i \) in some way, with weight \( \alpha_{ij} \).

During workshop 2 (Appendix C), sourcing experts were asked to divide 4 points per motive over the criteria, as they saw fit, to indicate a link between them. The result of this is shown in Table 11.1. Regretfully, due to time constraints and the limited means at the disposal of this researcher, this was all the information that could be gathered on the links between motives and criteria.

The results in Table 11.1 can be interpreted as a rough indication of the weight of links between motives and criteria. However, it is far from ready for use in practice. Further research is required.
Table 11.1: The links between motives and criteria attributed by sourcing experts in workshop 2 (Appendix C)

<table>
<thead>
<tr>
<th></th>
<th>C01</th>
<th>C02</th>
<th>C03</th>
<th>C04</th>
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<th>C14</th>
<th>C15</th>
<th>C16</th>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>M15</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Chapter 12

Ordering Criteria

In this chapter an order for checking the criteria will be determined. The goal of this is to make it possible to introduce a phased approach to the decision-making process. What follows is a proposal for determining this ordering.

12.1 Distinguishing power, the level of difficulty and return on effort

As mentioned, the goal which this research strives towards, is to create a stepwise decision-making process for distinguishing candidate domains for sourcing in which those domains which are definitely unfavorable can be detected and disregarded early on. As a result, a way must be found, via some heuristic method, to roughly determine favorability in a speedy fashion. This entails determining a rough measure of favorability, and a way to measure it relatively quickly.

The criteria have already been operationalized so that they can be used to indicate whether a domain is a favorable candidate. But, some criteria will show this more than others. In other words, some criteria will have a greater distinguishing power $P_j$ than others.

Time is another matter. It is difficult to measure how long it will take to check whether a criterion is satisfied. However, it can be posited that the more difficult a criterion is to check, the longer it will take to check. As a result, the level of difficulty $D_j$ can be used as a proxy to measure how long it will take to check criterion $j$.

The criteria can then be assigned a score $ROE_j$ for the return on effort for checking criterion $j$, by expressing $P_j$ in terms of $D_j$ as in (12.1).

$$ROE_j = \frac{P_j}{D_j} \quad (12.1)$$

The result is a rough indication of how much can be distinguished in a certain amount of time. Now it is possible to compute $ROE_j$ for each criterion $j \in J$. Subsequently, the criteria can be ordered on it. The higher the value of $ROE_j$, the more distinguishing power per unit of time a criterion exhibits.
12. ORDERING CRITERIA

12.2 Determining the order of the criteria

To determine the order of the criteria presented in Chapter 9, a survey was sent to the experts with the goal of measuring the distinguishing power and the checking difficulty of the criteria. In order to measure these, the experts were asked to score these properties per criterion on a qualitative scale from 1 to 5; 1 being very low and 5 being very high. The results can be found in Appendix D. Based on these results, the order of the criteria was determined, as presented in Table (12.1).

<table>
<thead>
<tr>
<th>order</th>
<th>$C_j$</th>
<th>$P_j$</th>
<th>$D_j$</th>
<th>$ROE_j$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C02</td>
<td>3</td>
<td>4.25</td>
<td>1.7143</td>
</tr>
<tr>
<td>2</td>
<td>C01</td>
<td>4.25</td>
<td>3.25</td>
<td>1.5454</td>
</tr>
<tr>
<td>3</td>
<td>C13</td>
<td>3.25</td>
<td>3.75</td>
<td>1.4444</td>
</tr>
<tr>
<td>4</td>
<td>C11</td>
<td>3</td>
<td>3.75</td>
<td>1.3333</td>
</tr>
<tr>
<td>4</td>
<td>C12</td>
<td>3</td>
<td>3.75</td>
<td>1.3333</td>
</tr>
<tr>
<td>5</td>
<td>C03b</td>
<td>3.25</td>
<td>3.5</td>
<td>1.3</td>
</tr>
<tr>
<td>6</td>
<td>C05</td>
<td>3.25</td>
<td>3.5</td>
<td>1.3</td>
</tr>
<tr>
<td>6</td>
<td>C17</td>
<td>3.5</td>
<td>3.25</td>
<td>1.2727</td>
</tr>
<tr>
<td>7</td>
<td>C08</td>
<td>4</td>
<td>2.75</td>
<td>1.2308</td>
</tr>
<tr>
<td>9</td>
<td>C09</td>
<td>3.25</td>
<td>3.5</td>
<td>1.2</td>
</tr>
<tr>
<td>12</td>
<td>C06</td>
<td>3.25</td>
<td>3.25</td>
<td>1.1818</td>
</tr>
<tr>
<td>12</td>
<td>C04</td>
<td>3.25</td>
<td>3.25</td>
<td>1.1818</td>
</tr>
<tr>
<td>15</td>
<td>C16</td>
<td>4</td>
<td>2.5</td>
<td>1.1429</td>
</tr>
<tr>
<td>16</td>
<td>C10</td>
<td>3</td>
<td>3.25</td>
<td>1.0909</td>
</tr>
<tr>
<td>17</td>
<td>C15</td>
<td>2.5</td>
<td>3.333</td>
<td>0.9375</td>
</tr>
<tr>
<td>18</td>
<td>C03c</td>
<td>3.5</td>
<td>2.25</td>
<td>0.9333</td>
</tr>
<tr>
<td>19</td>
<td>C15</td>
<td>2.667</td>
<td>3</td>
<td>0.8889</td>
</tr>
</tbody>
</table>

The same survey also asked the experts in what order they would check the criteria. The intention of this was to be able to compare the intuition of the experts with the ordering based on $ROE_j$. The result of this comparison is depicted in Figure 12.1. The preferences of the experts vary considerably with the $ROE$-based ordering. Why this is the case is difficult to say. It could be that the experts focus on determining what they find an important criteria first, instead of on determining those that are more quickly assessable and distinguish greatly.

12.3 Concluding remarks

It is hard to put a number on the value of the ordering that has been determined in Table (12.1) since it was based on the subjective ratings of a mere 4 sourcing experts. In order to further improve this...
ordering, this exercise must be repeated with a much larger group of sourcing experts. Furthermore, a better $ROE_j$-based ordering can be determined if the criteria are scored on a more precise scale.
Chapter 13

Stepwise Decision Process

In this chapter a stepwise decision-making process (SDMP) for deciding whether or not a domain is a favorable candidate for sourcing is introduced. A decision-making system is conceptualized, which assigns a score to the favorability for sourcing of a domain. This score is based on the relative importance assigned to the motives for sourcing by the decision-maker, the scores of criteria for the domain, and the weight of the links between the criteria and the motives. The stepwise nature will be realized through a heuristic order of measuring the criteria.

In the previous chapters the following information has been gathered which can be used as input for the SDMP:

- The motives for sourcing.
- The criteria for sourcing.
- The measurable attributes of the criteria for sourcing.
- The links between the criteria for sourcing and the motives for sourcing and the weights depicting the relative contribution of a criterion towards achieving a motive.
- The ordering of the criteria based on ease of checking and discriminating power.

The output of the SDMP is a favorability score.

For the sake of clarity, the system is first approached conceptually. Afterwards, the earlier results will be incorporated and the stepwise decision-making process will be introduced.

13.1 The System

Figure [13.1] presents the hierarchical structure, of the motives and criteria, to be used to determine the favorability for domain D. It shows the motives in relation to sourcing, and the criteria that influence the achievement of the motives. Additionally, the relative weights $\beta_i$ of the motives, the scores $\delta_j$ of the criterion measurements, and the weights $\alpha_{ij}$ of the links between motives and criteria are depicted. The idea for the system is to compute a favorability score $F_D$, for domain D, based on $\beta_i$, $\delta_j$, and $\alpha_{ij}$. 

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That is, per motive \(i\) the relative weight of the motive is multiplied with the summation of the scores of the criteria measurements, multiplied by the weights of the links between the criteria and \(i\). This gives an idea to what degree a motive is expected to be achieved, in the domain in question, through sourcing. The score of all the motives is then summed up to produce \(F_D\). The favorability equation \((13.1)\) will produce a value between 0 and 1, 0 being the minimally favorable, 1 being maximally favorable.

\[
F_D = \sum_{i=1}^{M} \beta_i \sum_{j=1}^{C} \frac{\alpha_{ij} \delta_j}{C}
\]

(13.1)

with:

\[
0 \leq \beta_i \leq 1;
0 \leq \alpha_{ij} \leq 1;
0 \leq \delta_j \leq 1,
\]

where:

\(M\) = the number of motives;
\(i\) = the motive index;
\(C\) = the number of criteria;
\(j\) = the criterion index.

To be able to use \((13.1)\), \(\beta_i\), \(\delta_j\), and \(\alpha_{ij}\) need be determined. Methods to arrive at these values will now be described.
13.1.1 $\beta_i$: **Weighting of the motives**

The weighting of the motives for sourcing needs to be determined. To this end, the decision-maker first chooses the motives that definitely do not apply to his situation. These are assigned a weight of zero (this means that they can be left out of the process). The weighting of the remaining motives is done by the decision-maker based on his preference. The decision-maker assesses the relative importance of the motives for sourcing with respect to the domain. This is done by pairwise comparisons as per the analytic hierarchy process (AHP) (Saaty 1987; 2008).

To compare the motives, a scale of numbers is needed that indicates how much more important or dominant one motive is over another, with respect to sourcing. This scale is presented in Table 13.1. Now a motive matrix for pairwise comparison can be created and motive $i$ can be compared with another motive $z$ and the question “How much more important is $i$ than $z$?” can be answered.

<table>
<thead>
<tr>
<th>Intensity of Importance</th>
<th>Definition</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Equal importance</td>
<td>Two motives contribute equally to the objective</td>
</tr>
<tr>
<td>2</td>
<td>Moderate importance</td>
<td>Experience and judgment slightly favor one motive over another</td>
</tr>
<tr>
<td>3</td>
<td>Strong importance</td>
<td>Experience and judgment strongly favor one motive over another</td>
</tr>
<tr>
<td>7</td>
<td>Very strong</td>
<td>A motive is favored very strongly over another</td>
</tr>
<tr>
<td>9</td>
<td>Extreme importance</td>
<td>The evidence favoring one motive over another is of the highest possible order of affirmation</td>
</tr>
</tbody>
</table>

Reciprocals of above motives

If motive $i$ has one of the above non-zero numbers assigned to it when compared with motive $z$, then $z$ has the reciprocal value when compared with $i$.

2, 4, 6, 8

For compromise between the above values

(Adapted from Saaty 2008).

The priorities can be obtained in exact form by raising the matrix to large powers and dividing each by the total sum of all the rows, or approximately by adding each row of the matrix and dividing by the total, thus computing the normalized principle eigenvector or priority vector. The sum of the priorities always add up to 1. The AHP has been used in many sourcing decision-making models.
13. **Stepwise Decision Process**

(Padillo and Diaby, 1999; Yang and Huang, 2000; Wang and Yang, 2007; Yang et al., 2007; Grewal et al., 2008; Kulkarni and Jenamani, 2008), indicating its usefulness. It provides a clear indication of the priorities that the decision-maker gives to the motives is provided. See Table 13.2 for a three motive example of pairwise comparison.

<table>
<thead>
<tr>
<th>M01</th>
<th>M02</th>
<th>M03</th>
<th>weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/3</td>
<td>1/6</td>
<td>0.091</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1/4</td>
<td>0.218</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>1</td>
<td>0.691</td>
</tr>
</tbody>
</table>

### 13.1.2 $\delta_j$: determine criterion score

In Chapter 10 criteria found in literature were operationalized by specifying measurable attributes for them. Several quantitative as well as qualitative attributes were found. However, they are not yet ready for use in the system as is. The problem is that a way to compute a score $\delta_j$ for criterion $j$ needs to be determined. For this two things need to be done:

1. The relative importance of the attributes in $K_j$, where $K_j$ is the set of attributes that measures criterion $j$, must be determined. That is, the relative weight $\phi_{j,k}$ of the attributes in measuring criterion $j$ must be made explicit. As this is not within the scope of this research, there is no room for this task here. What can be said, however, is that this should be performed by a group of experts. A way of determining this is by again using pairwise comparisons to measure the weight that the experts assign to the attributes. This is an essential part to the functioning of the system and needs to be researched further.

2. The attributes need to be measured and attributed a score $\phi_{j,k}$ against an ideal value. That is, a benchmark of sorts needs to be put in place to allow the attributes to be measured and scored uniformly for an arbitrary domain. For qualitative attributes this will be easier than for quantitative attributes, in that the qualitative attributes can be scored qualitatively, e.g., on a 10 point scale from 0 to 1 (you want the score of a attribute to be between 0 and 1). For quantitative attributes, on the other hand, a ratio needs to be determined in order to fairly measure this attribute in an arbitrary domain. That is, domains have different sizes, service packages, numbers of employees, workload, etc. To fairly measure a criterion for different domains, a ratio that takes these type of things into account is necessary. This aspect too, falls outside the scope of this research. Further research is needed to tackle this momentous problem.

If these two aspects are known (13.2) supplies the score $\delta_j$ for criterion $j$. 

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\[ \delta_j = \sum_{k=1}^{A_j} \phi_{j,k} \varphi_{j,k} \] (13.2)

with:
\[
0 \leq \phi_{j,k} \leq 1; \\
0 \leq \varphi_{j,k} \leq 1,
\]

where:
\[ A_j \] the number of attributes measuring criterion j;
\[ j,k \] the attribute index for criterion j.

13.1.3 \( \alpha_{ij} \): determine weights of the links between motives and criteria

In Chapter 11 a rough indication was given of the weight of the links between criteria and motives. This is a start, but the weights need to be determined with more precision. This is, however, easier said than done. To determine the weights for every link requires \( i \cdot j \) considerations to be made. With the 16 motives and 19 criteria this equates to 304 considerations. A mammoth task! One way to tackle this is to split the work up into manageable chunks, to determine these weights with the help of sourcing experts over several sessions.

13.1.4 The complete equation

From the above the following complete equation (13.3) of the system for a can be formulated:
\[ F_D = \sum_{i=1}^{M} \beta_i \sum_{j=1}^{C} \alpha_{ij} \sum_{k=1}^{A_j} \phi_{j,k} \varphi_{j,k} \] (13.3)

with:
\[
0 \leq \beta_i \leq 1; \\
0 \leq \alpha_{ij} \leq 1; \\
0 \leq \delta_j \leq 1; \\
0 \leq \phi_{j,k} \leq 1; \\
0 \leq \varphi_{j,k} \leq 1,
\]

where:
\[ M \] the number of motives;
\[ i \] the motive index;
\[ C \] the number of criteria;
\[ j \] the criterion index;
\[ A_j \] the number of attributes measuring criterion j;
\[ j,k \] the attribute index for criterion j.

The only input coming from the decision-maker are weights of the motives and the information to assess the criteria.
13. **Stepwise Decision Process**

13.2 The stepwise decision-making process

Finally, the point has been reached where the stepwise nature is introduced to the system. Before the model is presented, the concept of criteria clusters shall be introduced.

13.2.1 Ordered criterion cluster

In Chapter 12 a way to determine the order of criteria was formulated. This ordering will be used to impart the stepwise nature to the SDMP. The idea is the create ordered criterion clusters (OCC). That is, groups of criteria whose $ROE_j$ scores are close each other. As an example, taking the weights in Table 12.1, the following clustering could be created:

- OCC$_1$ for $ROE_j \geq 1.4$: C01, C02, C13;
- OCC$_2$ for $1.2 > ROE_j \geq 1.4$: C03b, C05m, C07, C08, C11, C12, C17;
- OCC$_3$ for $1.0 > ROE_j \geq 1.2$: C03a, C04, C06, C09, C16, C14;
- OCC$_4$ for $ROE_j \leq 1.0$: C10, C03c, C15.

The $FD$ can then be determined for each OCC$_x$.

13.2.2 The SDMP

Now the steps of the SDMP will be presented. The SDMP is depicted in Figure 13.2

**Step 1** – The first step is to distinguish the domains for sourcing.

**Step 2** – The second step is the assignment of the weights to the motives by the decision-maker.

**Step 2+x** – Dependent on the amount $X$ of OCC’s, the process will loop through this step $X$ times, each time computing $FD(OCC_x)$ according to (14.3). $FD(OCC_x)$ is subsequently compared to a certain threshold. If it is below this threshold, the domain is unfavorable, and the process ends. If it is above this threshold, the process checks if this is the last OCC by comparing $x$ to $X$. If $x$ equals $X$, then this is the last iteration, and $D$ has been found favorable for sourcing. If not, $x$ is incremented by 1 and the step is repeated.

$$FD(y) = \sum_{i=1}^{M} \beta_i \sum_{j \in y} \alpha_{ij} \sum_{k=1}^{A_j} \phi_{j,k} \phi_{j,k} C,$$

with $y$ as a set of criteria.

Due to the check at the end of every Step 2+x against a certain threshold, the unfavorable candidates can be disregarded, leading to a relatively quick and effective decision-making process to distinguish favorable domains for sourcing.
Figure 13.2: The stepwise decision-making process
Part III

Discussion
Chapter 14

Conclusions and recommendations

In the preceding chapters, an attempt was made to answer the main problem that was formulated in Chapter 3:

How can one decide which domains in an enterprise are favorable candidates for sourc- ing?

In order to tackle the main problem, the research was divided into 6 sub-questions of which the results will be presented here. First, the contributions of the research that were gathered in researching these questions will be summarized. Subsequently, a reflection on the limitations of this research is in order. Finally, recommendations for future research will be presented.

14.1 Contributions

The main question can be decomposed into two important sub-questions:

1. How can domains be distinguished?

2. How can be decided if a domain is favorable?

In this section, the results of these two questions will be discussed. Subsequently, their synthesis into a stepwise decision-making model will be presented.

14.1.1 How can domains be distinguished?

Due to the fact that this research is the first of its kind, there was no useful literature on distinguishing domains within an enterprise. To this end, input from sourcing experts was sought to be able to tackle this question. A workshop with sourcing experts was organized (see Appendix B) in which the following was discussed:

1. What is a useful definition of domain?

2. Through which dimensions can domains be distinguished?
Together with the sourcing experts, the following tentative definition for domain was formulated:

*A domain is a collection of services with a clear-cut interface, exhibiting high internal and low external interaction, producing a finished result.*

As a way of distinguishing domain, the use of dimensions was proposed. That is, approaching the organizations from different viewpoints to distinguish domains that are otherwise not easily recognized. The discussion with the experts proved fruitful and the following list of dimensions was discovered:

**Organization dependent**
- Primary/secondary activities (Porter’s value chain/ COPAFIJTH)
- Front-/mid-/back-office
- Product classes
- Departments/Business units

**Nature of the work**
- Location dependent/independent, geography
- Market segment
- Required mobility (offshore)
- Processing Similarity
- Production cycle time/frequency
- Highly v. low skilled work
- Mass-produced v. custom-made
- Teamwork v. individual work

These results are a first step towards answering the question: *‘How can domains be distinguished?’*

### 14.1.2 How can one decide if a domain is favorable?

To answer this question the following mathematical system was developed in Chapter [13](#), which computes a favorability score $F_D$ for a domain $D$.

$$F_D = \sum_{i=1}^{M} \beta_i \sum_{j=1}^{C} \frac{\alpha_{ij} \delta_j}{C}$$

(14.1)

At the start of this research, the weights of motives for sourcing $\beta_i$, the score of the criteria for sourcing $\delta_j$, and the weights of the links between motives and criteria $\alpha_{ij}$, were unknown. To determine these
Contributions

values, first, an extensive literature survey of the motives for sourcing was performed, to compile the most cited motives. After extensive literature research (Chapter 8) and discussion with sourcing experts during a workshop (Appendix C), the list of motives, depicted in Table 14.1, were compiled.

Table 14.1: The list of compiled motives

<table>
<thead>
<tr>
<th>Motives</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M01</td>
<td>Reduce operational costs</td>
</tr>
<tr>
<td>M02</td>
<td>Transform fixed costs into variable costs</td>
</tr>
<tr>
<td>M03</td>
<td>Improved cost control</td>
</tr>
<tr>
<td>M04</td>
<td>Reduce investments in assets, freeing up resources for other purposes</td>
</tr>
<tr>
<td>M05</td>
<td>Focus on core competencies</td>
</tr>
<tr>
<td>M06</td>
<td>Gain access to external expertise</td>
</tr>
<tr>
<td>M07</td>
<td>Improve quality of operations</td>
</tr>
<tr>
<td>M08</td>
<td>Regain control over internal domains</td>
</tr>
<tr>
<td>M09</td>
<td>Duplicate success/Copy competitors</td>
</tr>
<tr>
<td>M10</td>
<td>Reduce/Share risk</td>
</tr>
<tr>
<td>M11</td>
<td>Improve time to market</td>
</tr>
<tr>
<td>M12a</td>
<td>Increase flexibility in the type of service</td>
</tr>
<tr>
<td>M12b</td>
<td>Increase scalability of operations</td>
</tr>
<tr>
<td>M13</td>
<td>Improve client centricity</td>
</tr>
<tr>
<td>M14</td>
<td>Improve customer ownership</td>
</tr>
<tr>
<td>M15</td>
<td>Make mergers and acquisitions more efficient</td>
</tr>
</tbody>
</table>

Subsequently the same was done for the criteria, which resulted in the list depicted in Table 14.2.

Table 14.2: The list of compiled criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01</td>
<td>If the cost of performing services within the domain internally is higher</td>
</tr>
<tr>
<td></td>
<td>than the cost of sourcing outside the firm, then the domain is a favorable</td>
</tr>
<tr>
<td></td>
<td>candidate for sourcing.</td>
</tr>
<tr>
<td>C02</td>
<td>The higher the prior sourcing experience of the retained organization, the</td>
</tr>
<tr>
<td></td>
<td>higher the chances for successful sourcing.</td>
</tr>
<tr>
<td>C03a</td>
<td>The higher the stability in service packages within the domain, the more</td>
</tr>
<tr>
<td></td>
<td>favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C03b</td>
<td>The higher the level of standardization in service results within the domain,</td>
</tr>
<tr>
<td></td>
<td>the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C03c</td>
<td>The higher the level of standardization in service execution within the</td>
</tr>
<tr>
<td></td>
<td>domain, the more favorable a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C04</td>
<td>The lower the complexity of services within the domain, the more favorable</td>
</tr>
<tr>
<td></td>
<td>a candidate for sourcing it is.</td>
</tr>
<tr>
<td>C05</td>
<td>The higher the number of suppliers that can supply the services within the</td>
</tr>
<tr>
<td></td>
<td>domain, the more favorable a candidate for sourcing it is.</td>
</tr>
</tbody>
</table>
14. CONCLUSIONS AND RECOMMENDATIONS

C06  The lower the *asset specificity* in services within the domain, the more favorable a candidate for sourcing it is.

C07  The higher the *frequency* of services within the domain, the more favorable a candidate for sourcing it is.

C08  The lower the *competitive advantage* realized by services within a domain, the more favorable a candidate for sourcing it is.

C09  When the services within a domain do not involve or consist of a *core competency*, the domain is a favorable candidate for sourcing.

C10  The higher the level of *formalization of immaterial services* within a domain is, the more favorable a candidate for sourcing it is.

C11  The lower the *customer contact need* in services within a domain are, the more favorable a candidate for sourcing it is.

C12  The lower the *physical presence need* in services within a domain are, the more favorable a candidate for sourcing it is.

C13  The greater the lack of *internal human resources* for services within a domain, the more favorable a candidate for sourcing it is.

C14  The lower the degree of *integration* of services within a domain, the more favorable a candidate for sourcing it is.

C15  The lower the *number of employees* within a domain that perceive sourcing as negative, the more favorable a candidate for sourcing it is.

C16  The less *legal hurdles* to overcome when sourcing services within a domain, the more favorable a candidate for sourcing it is.

C17  The less services within a domain are subject to *frequent change*, the more favorable a candidate for sourcing it is.

The criteria could now be made operational, which was done with the help of experts during workshop 2 (see Appendix C). For the results, refer to Chapter 10. Now that the criteria were operational, it was possible to determine $\delta_j$. During the same workshop the experts assigned a first indication of weights to the links between criteria and motives (Chapter 11). Due to time constraints it was only an indication, but it did provide us with a set of $\alpha_{ij}$ values. Additionally, a way was devised for decision-makers to determine $\beta_i$ by pairwise comparison of the motives.

With these results, it is now theoretically possible to determine a score for the favorability of a domain for sourcing.

14.1.3 Stepwise decision-making model (SDMP)

Now that a system to determine the favorability for a domain was put in place, the SDMP could be created. In order to do so, the criteria needed to be ordered in a smart way. An ordering system based on the distinguishing power $P_j$ and the level of difficulty $D_j$ of the criteria was developed. In this way the criteria could be ordered on a value $ROE_j$, that represents the return on effort when checking the criterion, as per (14.2).

$$ROE_j = \frac{P_j}{D_j}$$  (14.2)
Contributions

In a survey (see Appendix D), the sourcing experts were asked to specify the level of difficulty and the distinguishing power of each criterion on a qualitative scale from 1 to 5. The results were averaged and the values $ROE_j$ were determined. Based on this, an ordering of the criteria could be determined. The results are illustrated in Table 14.3.

Table 14.3: The criteria ordered on $ROE_j$

<table>
<thead>
<tr>
<th>order</th>
<th>$C_j$</th>
<th>$P_j$</th>
<th>$D_j$</th>
<th>$ROE_j$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C02 prior sourcing experience</td>
<td>3</td>
<td>4.25</td>
<td>1.7143</td>
</tr>
<tr>
<td>2</td>
<td>C01 cost</td>
<td>4.25</td>
<td>3.25</td>
<td>1.5454</td>
</tr>
<tr>
<td>3</td>
<td>C13 internal human resources</td>
<td>3.25</td>
<td>3.75</td>
<td>1.4444</td>
</tr>
<tr>
<td>4</td>
<td>C11 customer contact need</td>
<td>3</td>
<td>3.75</td>
<td>1.3333</td>
</tr>
<tr>
<td>4</td>
<td>C12 physical presence need</td>
<td>3</td>
<td>3.75</td>
<td>1.3333</td>
</tr>
<tr>
<td>6</td>
<td>C03b level of standardization in service results</td>
<td>3.25</td>
<td>3.5</td>
<td>1.3</td>
</tr>
<tr>
<td>6</td>
<td>C05 number of suppliers</td>
<td>3.25</td>
<td>3.5</td>
<td>1.3</td>
</tr>
<tr>
<td>6</td>
<td>C17 subject to frequent changes</td>
<td>3.5</td>
<td>3.25</td>
<td>1.2727</td>
</tr>
<tr>
<td>9</td>
<td>C08 competitive advantage</td>
<td>4</td>
<td>2.75</td>
<td>1.2308</td>
</tr>
<tr>
<td>10</td>
<td>C07 frequency</td>
<td>2.75</td>
<td>3.75</td>
<td>1.2222</td>
</tr>
<tr>
<td>11</td>
<td>C03a stability in service packages</td>
<td>3</td>
<td>3.5</td>
<td>1.2</td>
</tr>
<tr>
<td>12</td>
<td>C04 complexity</td>
<td>3.25</td>
<td>3.25</td>
<td>1.1818</td>
</tr>
<tr>
<td>12</td>
<td>C06 asset specificity</td>
<td>3.25</td>
<td>3.25</td>
<td>1.1818</td>
</tr>
<tr>
<td>12</td>
<td>C09 presence of core competencies</td>
<td>3.25</td>
<td>3.25</td>
<td>1.1818</td>
</tr>
<tr>
<td>15</td>
<td>C16 asset specificity</td>
<td>4</td>
<td>2.5</td>
<td>1.1429</td>
</tr>
<tr>
<td>16</td>
<td>C14 degree of integration</td>
<td>3</td>
<td>3.25</td>
<td>1.0909</td>
</tr>
<tr>
<td>17</td>
<td>C10 level of formalization in service execution</td>
<td>2.5</td>
<td>3.333</td>
<td>0.9375</td>
</tr>
<tr>
<td>18</td>
<td>C03e level of standardization in service execution</td>
<td>3.5</td>
<td>2.25</td>
<td>0.9333</td>
</tr>
<tr>
<td>19</td>
<td>C15 number of employees with negative view on sourcing</td>
<td>2.667</td>
<td>3</td>
<td>0.8889</td>
</tr>
</tbody>
</table>

Based on this ordering, Ordered Criterion Clusters (OCC) were created which can be checked in steps. The following is the end result of this thesis. The stepwise decision process:

Step 1 – The first step is to distinguish the domains for sourcing.

Step 2 – The second step is the assignment of the weights to the motives by the decision-maker.

Step 2+x – Dependent on the amount $X$ of OCC’s, the process will loop through this step $X$ times, each time computing $F_D(OCC_x)$ according to (14.3). $F_D(OCC_x)$ is subsequently compared to a certain threshold. If it is below this threshold, the domain is unfavorable, and the process ends. If it is above this threshold, the process checks if this is the last OCC by comparing $x$ to $X$. If $x$ equals $X$, then this is the last iteration, and $D$ has been found favorable for sourcing. If not, $x$ is incremented by 1 and the step is repeated.

$$F_D(y) = \sum_{i=1}^{M} \beta_i \sum_{j \in y} \alpha_j \sum_{k=1}^{A_j} \phi_{j,k} \phi_{j,k} / C,$$

(14.3)
14. CONCLUSIONS AND RECOMMENDATIONS

with \( y \) as a set of criteria.

### 14.1.4 Summary of the contributions

**Cn1:** A first step towards the conceptualization of a domain that can be tested for favorability for sourcing, and a way of distinguishing these types of domains.

**Cn2:** A list of motives for sourcing, and a way to assign subjective weights to them.

**Cn3:** A list of criteria that indicate favorability for sourcing.

**Cn4:** Measurable attributes of the criteria.

**Cn5:** A method to determine how much influence a criterion has on the achieving of a motive.

**Cn6:** A method by which criteria can be ordered based on distinguishing power and level of difficulty.

**Cn7:** A system to determine the favorability score for sourcing for a domain.

**Cn8:** A stepwise decision-making process to distinguish domains that are favorable candidates for sourcing.

### 14.2 Limitations

This research has answered many questions, and naturally sparked many new ones. Reflecting on the past year of research the following limitations come to mind.

#### 14.2.1 Organizational limitations

**limited time** – Since this subject is still in its infancy, each of the research questions in this research warrants a study of its own. Due to the limited time, amongst other things, most of the research questioned could only partially be answered.

**limited resources** – Due to the limited resources at this researcher’s disposal it was very difficult to organize and workshops and get experts together for input on the research.

**limited availability of experts** – With this research, limited availability of experts equals limited reliability of results. Much of the input for this research has come from workshops 1 and 2, and a survey. In these a total of only 7 participated. And only 2 experts participated in all 3 of these research methods.

#### 14.2.2 Research limitations

**first time study** – Because this is the first time this subject has been researched there was very little information to be found literature. Thus, there was no scientific basis to build on.

**few workshops** – Because only two workshops could be organized, a vast amount of information needed to be processed in each workshop. This may have had affect on the quality of the results.
limited number of experts in workshops – Due to busy schedules, it was difficult to get sourcing experts to spare some of their free time to participate in the workshops. Therefore, much of the data in this research is based on the knowledge of a limited number of experts (3 in workshop 1, 5 in workshop 2).

14.3 Recommendations for future research

This research should be seen as a conceptualization of a method for distinguishing favorable domains for sourcing. Therefore, the list of future research recommendations could be endless. The following recommendations are key to the further development of the stepwise decision-making process.

- **Further conceptualize domains for sourcing**
  
  This research has merely scratched the surface on this topic. Yet, it is extremely important. Some questions that remain are:
  
  - What is the most useful definition of domain for sourcing decision-making?
  - What is the best way to distinguish domains?
  - What are the best dimensions to use to distinguish domains?
  - How can services, that are part of the same domain, distinguished through different dimensions, be handled?
  - What information is minimally needed to distinguish domains?

- **Further develop the operationalization of criteria**
  
  Questions that remain here are:
  
  - Are there more measurable attributes per criterion?
  - How can the threshold values, necessary for the testing of a domain, of the attributes be determined?
  - What is the relative weight of the attributes in relation to the criterion?
  - Are all attributes complete, operational, decomposable, non-redundant, minimal?

- **Further research the links between motives and criteria**
  
  Possible actions here are:
  
  - Repeat the exercise of determining weights in more manageable chunks, with a larger group of experts.
  - Make the links explicit. That is, find out what exactly constitutes the link.

- **Further develop the ordering of criteria**
  
  Questions here are:
  
  - Are there other characteristics of criteria that need to be factored in to the ordering?
  - What is the influence of the maturity of an organization on the level of difficulty of checking the criteria?
– Does this ordering work in practice?

- **Further develop the stepwise decision-making process**
  Possible actions here are:
  
  – Test the SDMP! Will it work in practice?
Bibliography


Appendix A

Search for literature

• Executing the search query [“business area(s)” AND sourcing] in ISI Web of knowledge resulted in 1 hit. This result was not deemed useful.

• Executing the search query [“business area(s)” AND outsourcing] in ISI Web of Knowledge resulted in 1 hit. This result was not deemed useful.

• Executing the search query [domain AND sourcing] in ISI Web of Knowledge resulted in 30 hits. Refining these results by filtering on outsourcing decision-making yielded 3 results. Upon examination none of the these were deemed useful.

• Executing the search query [domain AND outsourcing] in ISI Web of Knowledge resulted in 54 hits. Refining these results by filtering on outsourcing decision-making yielded 7 results. Upon examination none of the these were deemed useful.
Appendix B

Workshop: Domains for sourcing

Account of the workshop: Domains for sourcing

Date: 07 April 2010

Time: 09:00 – 12:00

Facilitator: Martin Op 't Land

In attendance:
- Birgitte van Starrenburg
- Jan van Santbrink
- Oedger Meijborg
B. Workshop: Domains for Sourcing

Due to the absence of literature on distinguishing domains within an enterprise in particular for use in sourcing decision-making, we sought necessary input elsewhere. We invited 10 experts from Capgemini to participate in a workshop, in which we would discuss the following problem:

“How can one distinguish domains within an enterprise that can be tested for favorability for sourcing?”

The goal of the workshop was:

“Sharing and exchanging ideas on how to distinguish domains, within an enterprise, that can be tested for favorability for sourcing.”

The proceedings and time spent on each subject is presented below:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Speaker</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick off</td>
<td>Martin Op ’t Land</td>
<td>3 min</td>
</tr>
<tr>
<td>Rounds of introductions</td>
<td></td>
<td>11 min</td>
</tr>
<tr>
<td>Presenting the agenda</td>
<td></td>
<td>2 min</td>
</tr>
<tr>
<td>Introducing the subject</td>
<td>Martin Op ’t Land</td>
<td>88 min</td>
</tr>
<tr>
<td>Brainstorm about defining domain</td>
<td>Pano Maria</td>
<td>11 min</td>
</tr>
<tr>
<td>• What is a definition for domain, which is useful to apply in sourcing decision-making?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brainstorm about distinguishing domains</td>
<td>Martin Op ’t Land</td>
<td>57 min</td>
</tr>
<tr>
<td>• Is there a universal way of dividing an arbitrary enterprise into domains?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Through what dimensions can one realize a useful division in domains?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• What information does one minimally need to distinguish domains within an enterprise</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regretfully, in the end, only 3 experts were able to make it to the workshop. Nonetheless, the workshop produced some interesting discussions.
During the workshop we discussed four questions.

1. What is a definition for domain, which is useful to apply in sourcing decision-making?
2. Is there a universal way of dividing an arbitrary enterprise into domains?
3. Through what dimensions can one realize a useful division in domains?
4. What information does one minimally need to distinguish domains within an enterprise (as a language for sourcing decisions)?

The questions were subject to the following actions.

- Experts were asked to think about and write down a couple of answers in keywords on post it notes, which were stuck on a large canvas on the wall.
- Then each expert was asked to explain their post it notes.
- Each expert got 3 green and 2 red stickers, to vote, respectively, for and against the answers, by sticking them to the canvas.
- Discussion about the chosen answers
- Synthesis of the results
What is a definition for domain, which is useful to apply in sourcing decision-making?

**Proposed answers**

- Services – A domain is a collection of services.
- Processes – A domain is a collection of processes.
- Actor roles – A domain is a collection of actor roles.
- A domain can be everything – It’s difficult because a domain is something associative.
- Restrict to business – Not only business but also other means/resources such as, but not exclusively, ICT resources.
- Resources
- Finished product with clear interfaces – People that work together to create one finished product.
- Well-delineated process – A clear cut end-to-end process with much interaction within the process.
- Processes and actors that deliver a certain output
- Same expertise – People that work together with the same expertise.
- Amount of interaction – Strong mutual interaction as opposed to loose external coupling is a characteristic of a domain.
- Shared goal
- Organizational unit – How is the organization structured? Are there different designated units? Can these be domains? Often the organization has grown/evolved ‘organically’, and through internal and external politics. That is, the not so rational or objective reasons.
- Core activities of an organizational unit – Distinguishing domains based on core activities.

**Voting**

For the voting round, the answers were grouped into possibly useful units with which to define a domain. This meant leaving out some of the proposed answers, because they were deemed not suitable for use as units with which to express domains. Take for example, the amount of interaction. This was the subject of much discussion during the workshop, and possibly one of the most important indicators or characteristics of a domain, yet you cannot express domains in terms of it.

**Unit group** | **Proposed answers** | **Votes**
--- | --- | ---
Actor roles | Actor Roles | 1
Services | - Services
- Finished product with clear interfaces
- Processes and actors that deliver a certain output | 3
Processes | - Processes
- Well-delineated process | 3
Discussion
In this section the results of the discussion after the voting round are compiled and presented.

Processes
Processes that are clear-cut and end-to-end can be a useful unit. You don’t want to split such a process. It also has many ties with creating a finished product.

Services
A finished product with clear interfaces. People working together to make a well-rounded finished product, or a well specified service, of which the result can be checked.

Organizational unit
An organizational unit is not a good unit for domains. It can, however, give a first indication of domains within the organization, but even this is dangerous. Organizational units are often not created by a rational series of events, rather have grown this way historically, organically, politically. So its usefulness will vary quite a bit from organization to organization, making it impossible to count on in general.

A pro argument given was that the units are generally easier to split off, because it is already seen as a separate entity throughout the enterprise, and because there is usually less interaction between units that within the unit.

Shared goal
This is very close to ‘finished product’. Delivering a finished product is also a, usually shared, goal. Though, the goal says more about the quality. And when delivering a finished product there is the goal of the customer and the goal of the group delivering the product. So an organization will say: “We want to focus on our client’s goals”. This can be a reason to organize the enterprise in a way that centers on these goals.

So, a shared goal can be useful to distinguish domains with, but it can be difficult to express a domain in terms of shared goals. In some cases clustering on shared goals can be useful, but in other cases it may be less useful. The following example, presented by Martin Op ’t Land during the workshop, showed that every actor (role) within a certain sub-section can have their own personal goal, inherent to fulfilling their role as well as possible, that may or may not clash with other personal goals within that subsystem.

The figure below shows the construction operator who operates a sluice. His goal is to operate the sluice as well/efficiently as he possibly can. But he has to do with several other roles, like the captain, who wants to get to his destination as quickly as possible, or the incident manager, who has to make sure that, e.g., the pollution is kept at a minimum. It is conceivable that these (personal) goals are conflicting.
Yet, they are certainly roles in what can be considered one domain. This example shows that a shared goal is not always easy to find. It depends on which level one contemplates these goals, how granularly one considers these goals. It might become quite a challenge to cluster on shared goals.

**Resources**

Any resource, for example IT resources, could be used to express a domain in. However resources are not always very clearly defined, and sometimes hidden.

**Same expertise**

Same expertise was first proposed here, but later on we will see that this is better suited as a dimension than a unit to express a domain in.

**Reflection**

This was a very difficult question, and it was very difficult to think in terms of finding a useful unit with which to express a domain. The aim was not to find the ultimate definition, but more a first step toward conceptualizing what a domain is. Several interesting ideas have resulted from this part of the workshop.

All experts seemed to agree that well delineated processes and services with a well defined interface were very useful units to express a domain with.

As mentioned earlier, the amount of interaction was not included in the voting process. This sparked some discussion in the group. Because, why was it not included? An excellent question indeed, because
it was mentioned several times during the explanation rounds, and seems to be one of the main characteristics of what one would consider to be a domain. Interaction can occur between many entities. Interaction between processes, between man and machine, between people, etc., the latter still being the most important. Even though it often does not happen face to face, great value is still attached to communicating with people. It can also impact an organization’s global network by bringing in to play aspects like cultural difference, different languages, and the like. So, interaction is not a unit with which to express a domain, but it is definitely a criterion that characterizes a domain.

There were several questions that came up once or more times during the discussions. The level of detail, for example, was brought up several times during the discussion. What is the optimal level of detail for a domain? How large must a domain be?

Conclusion
It seems that services with a clear-cut interface producing a finished result is what the experts agreed on to be a useful unit to express domains in. Thus, a definition could be: A collection of services with a clear-cut interface, exhibiting high internal, and low external interaction, producing a finished result.
Is there a universal way of dividing an arbitrary enterprise into domains?
For this question we decided not to do a round of voting, only a group discussion.

Discussion
This was perceived as a very difficult and very dangerous question by the group.

Several criteria were just given for the definition of a domain, and that list is quite probably not exhaustive. Furthermore, we only just made a first attempt at defining a domain. To then state that there is one way to divide an arbitrary enterprise in domains is far from realistic.
Through what dimensions can one realize a useful division in domains?

For this question the experts expanded the list of proposed answers and subsequently explained them. After the explanation round the propositions were discussed. Again, voting was not deemed necessary.

**Proposed answers**

- Primary/secondary activities (Porter’s value chain/ COPAFIJTH)
- Location dependent/independent (think e.g. catering)
- Highly skilled v. unskilled
- Processing Similarity
- Front-/mid-/back-office
- Market segment
- Product classes
- Production cycle time/frequency
- Departments/Business units
- Type of skill
- High v. low expertise
- Geography
- Required mobility (offshore)
- Mass-produced v. custom-made
- Nature of the work
- Teamwork v. individual work

**Explanation by the Experts**

**Production cycle time/frequency**

If groups must produce work on different production cycle times or with different frequencies, it may be a reason to keep them separate. Consider a newspaper business that publishes a weekly and a daily paper. They will have completely different schedules and ways of working.

**Departments/Business Units**

The existing structure of the organization. Organization’s often have a department or business unit structure. This can be an indicator of different domains.

**Type of Skill, high v. low expertise, highly skilled v. unskilled**

The question was posed if there is a difference between skill and expertise. After some discussion it was concluded that there certainly was a difference: one is a characteristic of a person and the other is the characteristic of the work. So, for clarity it was decided to use highly skilled v. low skilled work or highly v. low skilled workers, instead of expertise. From these, the skill level of work was deemed more useful than that of the worker, for the discussion on sourcing. Because prior training doesn’t always mean that a worker cannot or does not perform a highly skilled task. So, the work is the better dimension to consider.
Geography, location dependent/independent, required mobility (offshore)
Geography and location dependence can be work that is bound to a specific geographic location. Take for example the pizza delivery business. The sale itself is something immaterial, and is in fact a good example of a location independent act. It can be handled in China for example. But the packaging and delivery must be done within, say, a 5km radius of the buyer, making it location dependent. So, there you have an example of how location dependence clearly creates two domains.

Required mobility is related to this. Workers that must travel a lot to perform their work, could be seen as a separate domain. Think of people working on oil rigs v. secretaries. An extreme but clear example of two different domains within an organization.

Mass-produced v. custom-made
This is processes that are relatively standardized, which produce great volumes of products, versus custom-made, a product/service tailored to a specific request. If both kinds of work exist within an enterprise, it seems quite logical to keep these separate.

Processing similarity seems to be related to this dimension.

Nature of the work
The nature of the work can determine a division in domains. Take for example a hospital. There are different doctors/physicians specialized in different areas of medicine.

Teamwork v. individual work
Delivering a product/service as an individual or contributing to a larger work as a team might be an indicator of different domains.

Discussion
For the discussion the experts were asked to state which of the dimensions would be the most useful for the purpose of distinguishing domains for sourcing decision-making. Again, this proved to be a difficult question. The feeling of the experts was that one could find a useful example for all of the mentioned dimensions.

The discussion did not lead to clear favorites.

Reflection
Several dimensions were proposed, but it was difficult for the experts to give preference.

However, from the proposed dimensions one can distinguish two groups of domains.

Nature of the work seems to have many ties with other domains. Location dependent v. independent, processing similarity, highly skilled v. low skilled work, market segment, mass-produced v. custom-made, teamwork v. individual work.
The remaining dimensions, primary/secondary activities, front-/mid-/back-office, product classes, departments/business units can be classified as organization dependent.

Perhaps this insight will help in further understanding this problem.
**B. Workshop: Domains for Sourcing**

What information does one minimally need to distinguish domains within an enterprise (as a language for sourcing decisions)?

The purpose of this final question was to find out what information has the potential to most sharply demarcate different domains within the enterprise. What information does one minimally need for this? Some tentative answers were given and, due to time constraints, a short discussion ensued.

**Proposed answers**
- An overview of all services
- An overview of all actor roles
- A flowchart of all processes
- A function model (goal-tree)?
- Process hierarchy
- Organization independent overview of services
- Business function model
- Value chain

**Discussion**

Instead of a flowchart, a process hierarchy was suggested because the sequentiality is left out in this way. The critique here, however, was that there are already arrangement assumptions ingrained in this. That is, it was not organization independent, and that is not desirable.

NOTE: We had to end this discussion early, because the time was up.

**Reflection**

The difficulty in this question is twofold. It is related to what you wish to express domains in. Because we only just started discussing a definition for domains, it makes it quite difficult to answer this question. Based on our tentative definition for domain it could be something along the lines of an overview of all services with clear-cut interfaces. Though, organization independence was also expressed to be an important aspect, which should be added to the wish list.

The other, more practical, difficulty is that often the necessary information is not readily available about the organization. This would mean that it would have to be produced before one can start tackling the problem of distinguishing domains. This aspect clearly added a different dimensions to the discussion, because the experts had this in the back of their minds. The struggle between finding an answer that is practically relevant, yet theoretically sound was quite evident during this last discussion.
Conclusion
This workshop was a first exploration of the question: 'How can one distinguish domains within an enterprise that can be tested for favorability for sourcing?'

It is clear that this is an iterative process and that there are many iterations to go before we reach the desired level of understanding of this problem. However with this workshop a first step in the right direction has been set.

Summary of the results
Note that these results are tentative.

What is a definition for domain, which is useful to apply in sourcing decision-making?
A collection of services with a clear-cut interface, exhibiting high internal and low external interaction, producing a finished result.

Is there a universal way of dividing an arbitrary enterprise into domains?
This is unlikely.

Through what dimensions can one realize a useful division in domains?

- Primary/secondary activities (Porter’s value chain/ COPAFIJTH)
- Front-/mid-/back-office
- Product classes
- Departments/Business units
- Location dependent/independent, geography
- Market segment
- Required mobility (offshore)
- Processing Similarity
- Production cycle time/frequency
- Highly v. low skilled work
- Mass-produced v. custom-made
- Teamwork v. individual work

What information does one minimally need to distinguish domains within an enterprise?
An organization independent overview of all services with clear-cut interfaces.
Appendix C

**Workshop: On motives and criteria for sourcing**

**Account of the workshop:**
**On Motives and Criteria for Sourcing**

**Date:**
03 June 2010

**Time:**
13:00 – 16:00

**Facilitator:**
Martin Op ‘t Land

**In attendance:**
- Birgitte van Starrenburg (Capgemini)
- Eric Bunk (Capgemini)
- Hugo Messer (Bridge)
- Jan van Santbrink (Capgemini)
- Klaasjan Doeswijk (Capgemini)
C. Workshop: On motives and criteria for sourcing

Due to the absence of literature on several subjects pertaining to motives and criteria for sourcing, we sought necessary input elsewhere. We invited 25 experts from different industries to participate in a workshop, in which we would discuss the following problem:

“How can one determine if a domain is a favorable candidate for sourcing?”

The goal of the workshop was:

“Sharing and exchanging ideas on how to determine when a domain is a favorable candidate for sourcing.”

The proceedings and time spent on each subject is presented below:

<table>
<thead>
<tr>
<th>Subject</th>
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<th>Time</th>
</tr>
</thead>
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<td>7 min</td>
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<td>Rounds of introductions</td>
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<td>10 min</td>
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<tr>
<td>Presenting the agenda</td>
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From the 25 invited, 5 experts were in attendance.
During the workshop the following was discussed:

1. The criteria found in literature were discussed (and some adapted) to form a shared understanding within the group.
2. The criteria were operationalized.
3. The motives found in literature were discussed (and some adapted) to form a shared understanding within the group.
4. The links between the motives and criteria were identified. (This was not completed due to lack of time)

Not discussed due to lack of time:

- We were not able to determine the ordering of the criteria in the time allotted for the workshop. To still be able to extract this information from the experts, a survey was sent after the workshop. This survey garnered 4 results.
Operationalizing criteria for sourcing

This section started off with a presentation of criteria for sourcing found in literature. The presentation was meant to spark discussion amongst the experts so as to create a mutual understanding for each criterion, and if necessary make adjustments, prior to the operationalization exercise.

What follows is a summary of the presentation in which each original criterion is presented, followed by a summary of the discussion if applicable, and the resulting changes. The changes are depicted in green.

Presenting and discussing criteria

**C01 If the cost of performing services within the domain internally is higher than the cost of sourcing outside the firm, then the domain is a favorable candidate for sourcing.**

Explanation

If the market is able to perform certain services cheaper than is possible for the organization, it makes sense for the organization to acquire the services from the market.

Discussion

None

Changes

None

**C02 The higher the prior sourcing experience of employees within a domain, the higher the chances for successful sourcing.**

Explanation

When the knowledge and skills to specify requirements, to select appropriate suppliers, to draw a good contract and to manage and control suppliers of the employees in the business area is great, there will be less unforeseen costs and other pitfalls during the sourcing period. Thus, an organization that has prior experience with sourcing initiatives will likely have a higher degree of rationality.

Discussion

The experts expressed their doubts about this criterion, because it focused on the prior sourcing experience of employees within a domain. But since with sourcing the employees often leave the organization it is not likely that employees within a candidate domain will have sourcing experience. The experience instead lies within the retained organization. Therefore, it was decided to change the criterion as such.

Changes

C02 The higher the prior sourcing experience of the retained organization, the higher the chances for successful sourcing.

**C03 The higher the possibility to gather all the information about services within the domain to make an informed decision, the more favorable a candidate for sourcing the domain is.**

Explanation

Many services are conducted under uncertainty. This can be caused by unpredictable markets and economic or technological trends. Also, unpredictable developments in the organization's business processes and environment can cause uncertainty, which makes it difficult to gather all the necessary information to make an informed decision. This may be reflected in the completeness of contracts and the quality of the output by a supplier. Moreover, it may lead to opportunistic behavior by the supplier.
Discussion There was much discussion about this criterion. The first point made was that saying: “to gather all the information” was too boundless. Also, the relationship between the availability of information and favorability for sourcing was put into question. It was concluded that the formulation was too vague. And from the explanation of the criteria three different aspects were split off:
- the stability in service packages.
- the level of standardization in service results.
- the level of standardization in service execution.

Changes

C03a The higher the stability in service packages within the domain, the more favorable a candidate for sourcing it is.

C03b The higher the level of standardization in service results within the domain, the more favorable a candidate for sourcing it is.

C03c The higher the level of standardization in service execution within the domain, the more favorable a candidate for sourcing it is.

C04 The lower the complexity of services within the domain, the more favorable a candidate for sourcing it is.

Explanation When a service is complex, there are many alternatives in a certain decision situation, and many interrelated variables that affect the situation. This makes it difficult to create a complete contract, possibly leading to opportunistic behavior by the supplier. Also, complex activities tend not to have standard solutions, making it difficult for suppliers to perform at lower cost than the client organization.

Discussion The experts had their doubts about this criterion. There opinion was that this criterion might be outdated. Because nowadays very complex operations, e.g. IT, have been sourced successfully. In the olden days, the advice would be to first standardize a complex process, then outsource. But this is not the case anymore in current times. It was decided to leave this criterion as is, because when linking motives to criteria later on it would be filtered out.

Changes None

C05 The higher the number of suppliers that can supply the services within the domain, the more favorable a candidate for sourcing it is.

Explanation Markets with a multitude of suppliers minimize opportunism due to the rivalry among the suppliers. Furthermore, the fact that there are many suppliers in the market shows that there is a market standard for these activities, and that more organizations have sourced from the market. This makes it possible for suppliers to achieve economies of scale, driving down costs.

Discussion None

Changes None
C06 The lower the asset specificity in services within the domain, the more favorable a candidate for sourcing it is.

Explanation: Asset specificity refers to the level of customization associated with the service. When durable equipment or products are generated by the sourcing arrangement and they have little value outside of that service, asset specificity is high. A supplier has little incentive to put resources into maintaining or upgrading the durable items because they have no value for him apart from the agreement. Thus, the asset is specific to a particular exchange because it sustains its value only in the context of that exchange. This can lead to opportunistic behavior by the supplier, e.g. the supplier can have greater leverage to charge higher rates.

Sub-criteria:
- **Site specificity** - transactions that are available at a certain location and can only be transported at great cost
- **Physical asset specificity** - the degree of necessary specialization of equipment to successfully complete transaction, i.e. how specialized the equipment must be. Some transactions do not require any special equipment or configuration, others must be personalized to meet an organization’s needs.
- **Human asset specificity** - the degree of necessary specialization of the required knowledge to successfully complete the transaction. Examples are special training and knowledge of an organization’s processes.

Discussion: None

Changes: None

C07 The higher the frequency of services within the domain, the more favorable a candidate for sourcing it is.

Explanation: Frequency refers to how often an organization seeks to initiate the transaction. Thus, if certain activities occur only once or infrequently, the initial costs associated with meeting the conditions for being able to execute the activities often cannot be justified. These costs are more easily justified for high frequency activities.

Discussion: The explanation talks of initiating transactions instead of executing transactions which was deemed the more useful. Also, frequency was thought to have only relative value, because frequency does not say anything about the time spent executing the service.

Changes: None

C08 The lower the competitive advantage realized by services within a domain, the more favorable a candidate for sourcing it is.

Explanation: When a firm employs a value creating strategy not simultaneously being employed by any other current or potential competing firms and when these other firms cannot duplicate the benefits of this strategy, the firm has competitive advantage over the other firms. If activities within a business area have no or very little competitive
advantage, they cause no harm to the organization’s success, and may even lead to more success, when they are not sourced from within the firm.

**sub-criteria:**

- **Value** - Firm resources can only be a source of competitive advantage when they are valuable, that is, when they enable a firm to conceive of or implement strategies that improve its efficiency and effectiveness so as to exploit opportunities and/or neutralize threats in its environment.

- **Rareness** - A firm enjoys a competitive advantage when it is implementing a value-creating strategy not simultaneously implemented by large numbers of other firms. If a particular valuable resource is possessed by several other firms, then each of these firms have the capability of exploiting that resource in the same way, thus making it impossible to have a competitive advantage.

- **Inimitability** - Valuable and rare firm resources can only be sources of sustained competitive advantage if firms that do not possess these resources cannot obtain them, i.e. they are imperfectly imitable. Firm resources can be imperfectly imitable for three reasons:
  - **unique historical conditions** - Firms are intrinsically historical and social entities and their ability to acquire and exploit certain resources depends on their place in time and space. Once this time in space passes, firms that have not utilized these resources to create new ones cannot obtain these resources, and thus these new resources are imperfectly imitable.
  - **causal ambiguity** - Causal ambiguity exists when the link between the resources a firm controls and a firm’s competitive advantages are not (perfectly) understood. In this case it is difficult for competing firms to duplicate a successful firm’s strategies through imitation of its resources, because they do not know which resources to imitate. If the link is known within the organization, other firms can also learn about that link
  - **social complexity** - A firm’s resources may be very complex social phenomena which cannot be systematically controlled or managed by other firms. Examples are interpersonal relationships among managers, a firm’s reputation, a firm’s culture, etc. To imitate these social phenomena is beyond the capabilities of most firms.

- **Non-Substitutability** - There must be no strategically equivalent valuable resources that are themselves either not rare or imitable. Two valuable (bundles of) firm resources are strategically equivalent when they each can be exploited separately to implement the same strategies.

**Discussion**

Competitive advantage does not translate one-to-one into core competencies. These must be considered separately.

**Changes**

None

**C09** When the services within a domain do not involve or consist of a core competency, the domain is a favorable candidate for sourcing.
A firm should concentrate its own resources on a set of core competencies where it can achieve definable preeminence and provide unique value for customers. Other activities for which the firm has neither a critical strategic need nor special capabilities can be sourced from outside the firm.

**sub-criteria:**

- **Customer Value** - A core competency must make a significant contribution to customer-perceived value.
- **Competitor Differentiation** - To be a core competency, a capability must also be competitively unique. This does not mean that it must be uniquely held by a single firm, but it means the firm must be substantially superior in executing it.
- **Extendibility** - There must be a way to imagine an array of new products or services issuing from a competency if it is to be core. What was a core competency in one decade may become a mere capability in another. If the competency has no value in the future, it should not be core.
- **Skills** - Competencies are sets of skills cut across traditional business functions. They allow a firm to consistently outperform functional competitors and to continually improve as markets, technology, and competition evolves.
- **Flexibility** - Flexible skill sets and constant conscious reassessment of trends are hallmarks of successful core competency strategies.
- **Limitedness** - When the amount of core competencies become too large, it becomes impossible to outperform the specialized competition in the respective competencies.
- **Uniqueness** - When a firm has a competency for which there is a market, and which no other firm has, it has a competitive advantage over other firms.
- **Domination** - When a firm is more effective than any other competing firm at performing certain activities, thus dominating the competition, this constitutes a competitive advantage.
- **Embeddedness** - A competency cannot be core if it resides in a small number of employees, for if these employees leave the company, the competency leaves with them. The competency must be embedded in the firm’s business processes, systems, corporate reputation and culture.

**C10** The higher the information intensity in services within a domain is, the more favorable a candidate for sourcing it is.

**Explanation** Information intensity is the ratio of time spent in dealing with information in a service to the total time spent in that service. According to Apte & Mason (1995), the higher the information intensity of a service, the easier it is to use information technology to perform the service, and thus the easier it is to disaggregate the service and perform it at a remote location. When the information intensity is high it is easier to use information technology for performing the service at an arbitrary time and location.
Information intensity was interpreted by the experts as being immaterial services for which the business logic could be automated completely. That is, how formalizeable is the service. Therefore, it was decided to change the criterion to make it more intuitive.

**C10** The higher the level of formalization of immaterial services within a domain is, the more favorable a candidate for sourcing it is.

**C11** The lower the customer contact need in services within a domain is, the more favorable a candidate for sourcing it is.

**Explanation**
Customer contact need is the ratio of time during which the customer is in direct contact with the service facility to the total time required for the creation of the service. Customer contact is further divided into:

- *in-person customer contact* between customer and service provider, that is necessary for service creation, acquisition or consumption.
- *symbolic customer contact* between customer and service provider, where the main purpose of a customer’s presence is to exchange information necessary in service creation and consumption.

In general the lower need for customer contact, in particular in person customer contact, the easier it is to disaggregate the service, because when the customer contact need is low customers cannot introduce much variability and uncertainty in the creation of services.

**Discussion** None

**Changes** None

**C12** The lower the physical presence need in services within a domain is, the more favorable a candidate for sourcing it is.

**Explanation**
Physical presence need is the ratio of time spent in physical actions to the total time spent in a service. The physical presence need is related to physical object manipulation, that is, the movement, transformation or creation of physical objects. When physical presence need is low, it is easier to perform the service at a remote location.

**Discussion** None

**Changes** None

**C13** The greater the lack of internal human resources for services within a business area, the more favorable a candidate for sourcing it is.

**Explanation**
When the workforce cannot handle the load for a service, sourcing from outside the company becomes a better option, providing that there are suppliers that can perform the service.

**Discussion** Some discussion arose as to whether or not this was a useful criterion. If there was a lack of internal human resources, would there be any in the market? And why would the organization not have hired them? But some experts had indeed seen this exact
situation in practice, where an organization needed specialized employees that were difficult to find. So there were only 1 or 2 employees that could not handle the workload and could not exchange or share knowledge. This can be a reason to group these specialized individuals together into one organization or a SSC, or at least centralize them.

Changes None

C14 The lower the degree of integration of services within a domain, the more favorable a candidate for sourcing it is.

Explanation The more integrated a service, i.e., the more embedded, the less separable, the more of its connected services will be affected. That is, if it is disentangled and moved across firm boundaries, it will become difficult to effectively communicate, interact and coordinate within it and with the organization. Differing organizational cultures and motives may also intensify this. Therefore, a low degree of intended integration is preferable.

Discussion The discussion here was about if this criterion clashes with the definition of domain resulting from workshop 1. This was an interesting point. This could mean that the domain being tested was not correctly distinguished. But it could also mean that this was a tradeoff between a useful size for a domain and correctness.

Changes None

C15 The lower the number of employees within a domain that perceive sourcing as negative, the more favorable a candidate for sourcing it is.

Explanation Employees are a huge source of knowledge and skills for organizations. If a significant amount of employees are negatively affected by the sourcing endeavor, they might look for employment elsewhere. Also employees may rebel and work against the success of the endeavor.

Discussion This criterion sparked a very interesting discussion. Some experts believed that the very opposite of this criterion was true instead of this one. That is, the higher the number of employees within a domain that perceive sourcing as negative, the more favorable a candidate it is. The argument being that if employees realize that there are suppliers that can do what they do more efficiently and at a lower price, they will attempt to thwart a sourcing endeavor. Thus, this behavior could be an indication that there is indeed great potential in sourcing for this domain. All experts agreed that change management was necessary to manage these things, and that this was an issue best tackled later on in a decision process.

Changes None

C16 The less legal hurdles to overcome when sourcing services within a domain, the more favorable a candidate for sourcing it is.

Explanation When there are many legal hurdles, the cost of overcoming these together with the
further sourcing-related costs can become higher than performing the activities internally.

Discussion
The discussion indicated that legal hurdles are indeed an issue.

Changes
None

C17 The less services within a domain are subject to frequent change, the more favorable a candidate for sourcing it is.

Explanation
When activities frequently need to be adapted, e.g. due to unanticipated internal or external influences, it is difficult to disaggregate these.

Discussion
One point made was that it was not impossible to source frequently changing services. An example mentioned was taking the evolution of a field up into the contract, e.g. IT, meaning that the supplier would have to invest in resources to keep up with the state-of-the-art.

Changes
None

Operationalizing Criteria
At this stage of the workshop the experts were asked to think of measurable factors or questions to derive information about measurable factors per criterion. The results and summaries of the discussions or explanations (when necessary) are presented below.

C01 If the cost of performing services within the domain internally is higher than the cost of sourcing outside the firm, then the domain is a favorable candidate for sourcing.

- **# internal cost / # external cost**
  This is a simple formula that can be used as a benchmark. This question should be asked from the start. If the ratio is above a certain amount this could be an indication of how favorable a domain is.

- **yearly operational cost per output**
  Instead of focusing on the total costs per year, focus on the costs per output, or per service delivered, and compare with the market.

- **costs:**
  - raw materials
  - use of resources, storage, machines, people
  - production time
  - volume
  - necessary expertise
    This is a further expansion on factors to determine costs. This enhances the ability to compare with other services.

- **Internal costs of 1 hour of a service**
  A further specification of costs.

- **Business case**
  If a business case has already been made, it will have cost information in it.
C. Workshop: On motives and criteria for sourcing

- **benchmarking**
  - *e.g.: cost of finance function as % of cost of sales*
    This can be used as a benchmark. If the cost of the finance function as a percentage of the cost of sales is higher than a certain value, then this is an indication that you have a problem in that area which should be addressed.

C02 The higher the prior sourcing experience of the retained organization, the higher the chances for successful sourcing.

- **# positive/negative sourcing experiences**
  Prior sourcing experience is an important factor. Not only the experience, but also whether or not they were positive, and the profit they generated. The number of sourcing experiences clearly indicates the level of sourcing experience.

- **# employees with sourcing experience**
  The number of employees with sourcing experience in the retained organization is an indication of the level of sourcing experience within the organization.

- **Total man-years of sourcing experience + distribution over employees**
  Another indicator can be the amount of man-years of experience. This adds another dimension that measures experience.

C03a The higher the stability in service packages within the domain, the more favorable a candidate for sourcing it is.

- **Δ#services / year**
  To measure the stability in services one can look at the number of changes in services per year.

- **Δ#services(€) / total #services(€)**
  To measure the stability in services one can look at the changes in services measured in money per the changes in all the services in the enterprise also measured in money. This can be used to indicate whether or not the changes are hurting the enterprise.

C03b The higher the level of standardization in service results within the domain, the more favorable a candidate for sourcing it is.

No propositions for operationalization were made.

C03c The higher the level of standardization in service execution within the domain, the more favorable a candidate for sourcing it is.

- **Certified work / total work**
  An indicator of the level of standardization in service execution within a domain could be the ratio of the amount of work that is certified within a domain vs. the total amount of work in the domain.
C04 The lower the complexity of services within the domain, the more favorable a candidate for sourcing it is.

- **How many physical handovers in (each of) the processes**
  The number of physical handovers within the processes of the services within the domain was posited as a way to measure complexity within the domain. The discussion around this was that if this is the case it could be that the processes are just poorly arranged. What you actually would want to know is what the superfluous handovers are. But this is unknown, unless you analyze every process.

- **How formalized are the services?**
  A service may be complex but if it is formalized it is much easier to source.

- **CIA**
  CIA (Confidentiality Integrity Availability) was proposed as a benchmark for complexity. CIA is an information security benchmark with which the services could be classified.

- **AO/IC (Administrative Organization / Internal Control)**
  - **In order? In writing?**
  - **When tested last?**
  - **What were the audit results?**
    If the AO/IC is in order and has recently been audited it can be used to determine the complexity of the services within a domain.

C05 The higher the number of suppliers that can supply the services within the domain, the more favorable a candidate for sourcing it is.

- **What are your competitors doing? To which parties?**
  Every enterprise should know what their competitors are doing. And if they are outsourcing, to whom are they outsourcing?

- **# suppliers**
  This one is straightforward. The number of suppliers that can supply the services in the market is relatively easy to find out.

- **# suppliers that focus on a specific service (inter)nationally**
  This is a further specification on the suppliers.

- **QOS required**
  - **Costs**
  - **Production quality**
  - **Fast production**
  - **Flexibility**
  - **Availability**
  - ** Deliver on demand**
    When looking at how many clients are on the market, also consider what QoS they are able to deliver. Maybe some suppliers will not qualify to the standards of a certain enterprise.

- **Availability + use of a supplier audit**
  If the enterprise has a standard supplier audit procedure in place, this can be used to audit the suppliers to assess their candidacy.
C06 The lower the asset specificity in services within the domain, the more favorable a candidate for sourcing it is.

- **How specific or generic?**
  This is a simple question which asks the decision-maker to give a qualitative description of how specific or generic a service is.

- **# people needed on site to manage the service**
  This can be used to determine the site specificity.

- **# weeks needed for training new staff**
  This can be used to measure the human asset specificity.

C07 The higher the frequency of services within the domain, the more favorable a candidate for sourcing it is.

- **Frequency * execution time**
  Here the argument was that frequency alone is to narrow a factor. If execution time is factored in it gives a better picture as to the impact of the frequency of a certain service.

C08 The lower the competitive advantage realized by services within a domain, the more favorable a candidate for sourcing it is.

- **Why is your organization unique in this?**
  A decision-maker's gut feeling may tell him that the services within a certain domain are unique. But this question delves deeper. It asks to substantiate your answer to the 'what' question. This gives insight into the uniqueness and the substitutability aspects that constitute competitive advantage.

- **\( \Delta \text{profit( services in a domain) / \Delta \text{profit (all enterprise services)} } \)**
  The ratio of profit from the domain vs. profit of the entire enterprise is interesting, because the enterprise can be unique in what it does, but if this does not lead to profit, than there is something wrong.

- **# patenten + profit contributed**
  An indicator of uniqueness in a domain is the number of patents that are held in the services in that domain. When you also factor in how much profit these factors contribute you have another proxy to measure competitive advantage with.

- **What are the returns on your uniqueness?**
  This question makes the decision-maker think about what the actual returns are on the uniqueness in a domain. This can be a follow up question of the first question.

- **What is your position in the market?**
  This could also be a follow up question for the first question. This question will be more difficult to answer though.

C09 When the services within a domain do not involve or consist of a core competency, the domain is a favorable candidate for sourcing.

- **Why is this (not) a core competency?**
  As with competitive advantage, this question asks the decision-maker to substantiate why he thinks a certain competency within the domain is core.

- **Operationalize these:**
  - Customer Value
  - Competitor Differentiation
Another proposition was to operationalize the above sub-criteria.

C10 The higher the level of formalization of immaterial services within a domain is, the more favorable a candidate for sourcing it is. None given.

C11 The lower the customer contact need in services within a domain is, the more favorable a candidate for sourcing it is.
- **How core is the customer contact?**
  How important is customer contact in this domain? This is an important question to ask, because it dictates how this criterion should be approached.
- **Does the customer contact need to be real time?**
  This question has to do with time zone differences which can give insights as to where sourcing is possible.
- **Ratio of time during which the customer is in direct contact with the service facility to the total time required for the creation of the service**
  Customer contact need is the ratio of time during which the customer is in direct contact with the service facility to the total time required for the creation of the service.

C12 The lower the physical presence need in services within a domain is, the more favorable a candidate for sourcing it is.
- **What physical presence is needed in execution?**
  Are the people necessary on site to perform a certain service? This can be of influence on the sourcing decision.
- **Which processes within the domain allow employees to work remotely / outside office hours?**
  What processes are location-independent?
- **The ratio of time spent in physical actions to the total time spent in a service**
  This can be used as a benchmark to measure physical presence need by.

C13 The greater the lack of internal human resources for services within a business area, the more favorable a candidate for sourcing it is.
- **Which departments / what processes are more or less continuously understaffed?**
  This question can be a starting question to finding those services where understaffing is a problem.
- **# lacking internal resources / # lacking resources in the marketplace**
  This can be used to see if the only enterprise or if this is a problem spread across the market.
- **Factors that are related to understaffing:**
  - Very specific knowledge / expertise?
  - Degree of specialization?
C14 The lower the degree of integration of services within a domain, the more favorable a candidate for sourcing it is.
- **# physical handovers**
  Just like with complexity the number of physical handovers can be used to determine the degree of integration of the services. The less handovers the less the services are integrated.
- **# moments of interaction**
  If this is known, it gives a clear insight into the degree of integration of services.
- **Is a service an independent product or is its result input for another service?**
  This is another indicator for the degree of integration of services. If the service result is input for another service then it adds to the level of integration of services in the domain.

C15 The lower the number of employees within a domain that perceive sourcing as negative, the more favorable a candidate for sourcing it is.
- **People who vote ‘yes’**.
  A possibility is to let all the employees in the domain vote on this matter.
- **What success stories are there in your organization w.r.t. sourcing?**
  - **Why where they successful? And if not, why not?**
  Another way to find out about the perceptions about sourcing is to ask about success stories and what made them a success or failure.

C16 The less legal hurdles to overcome when sourcing services within a domain, the more favorable a candidate for sourcing it is.
- **# laws / regulations applicable**
  The number of laws and regulations that are applicable to the domain gives an indication of the number of legal hurdles that have to be overcome.
- **What are the costs to comply to laws / regulations**
  The costs to comply with laws and regulations are another aspect that is very interesting and must be added to the considerations.
- **# fiscal hurdles**
  Fiscal hurdles are another aspect that can attribute the amount of legal hurdles.

C17 The less services within a domain are subject to frequent change, the more favorable a candidate for sourcing it is.
- **How often do you have process changes?**
  - **How many in the last 5 years?**
  - **How well are they documented?**
  These questions can be asked in order to classify level of process change that occurs in the domain.
Linking Criteria to Motives

This section started off with a presentation of motives for sourcing found in literature. The presentation was meant to spark discussion amongst the experts so as to create a mutual understanding for each criterion, and if necessary make adjustments, prior to the linking exercise.

What follows is a summary of the presentation in which each original motive is presented, followed by a summary of the discussion if applicable, and the resulting changes. The changes are depicted in green.

Presenting and discussing motives

**M01 Reduce operational costs**

**Explanation**

Cost reductions can be achieved, when suppliers’ costs are low enough that even with added overhead, profit and transaction costs suppliers can deliver a service or product for a lower price. Suppliers can achieve this through specialization and economies of scale. Economies of scale reduce average costs by spreading fixed costs over a large amount of units of output and by receiving volume discounts on the input. Moreover, suppliers will apply superior resources, competencies, cutting-edge technologies, state-of-the-art equipment, experienced management, and motivated and well-trained personnel. Therefore the provider performs better, faster, and more efficiently using fewer resources.

Another much explored and utilized way of cost savings is through labor costs. This is done by moving, typically low-skilled, labor-intensive activities to other low cost markets.

An enterprise can benefit from the economies of scale enjoyed by specialized suppliers through outsourcing. That is, these suppliers will usually have several clients with from which they have insourced similar operations.

Of course, in reverse roles, the enterprise can increase their economies of scale through strategic insourcing. Offshoring is an example of exploiting labor costs for cost savings. Moving an operation to low-wage countries could lead to significant cost reductions.

In large enterprises identical or similar activities may be performed in different areas of operation, often with outdated systems. Redesign and consolidation of these activities into a Shared Service Center could result in cost savings due to economies of scale.

**Discussion**

None

**Changes**

None

**M02 Transform fixed costs into variable costs**

**Explanation**

For most organizations, employee related costs and the associated overhead are relatively fixed. Through sourcing fixed costs can be turned into variable costs. Providers can handle varying demand more efficiently because of their economies of scale. Consider, e.g., an activity that is only used for a couple of months per year.

By sourcing this activity from outside the organization the servicing costs are
eliminated and the supplier is paid per use, leading to cost savings.

Discussion None
Changes None

M03 Improved cost control
Explanation In many organizations, activities that produce costs directly related to user demands, and are generally allocated, can cause users to excessively demand and consume resources. Outsourcing or sharing can be a way to control the costs, because the excessive consumption of resources is taken away. The supplying party will utilize cost controls that more directly tie usage to costs.
Discussion Some of the experts had their doubts about this being a useful motive. Because controlling costs could be done without sourcing. It could be possible to reach this goal through sourcing, but it has more to do with how sourcing is implemented. For example if you setup a SSC as a cost center instead of a profit center, you will not make costs more visible. This indicates that there is also an implementation side that you have to take into account with this motive.
Changes None

M04 Reduce investments in assets, freeing up resources for other purposes
Explanation Sourcing allows an opportunity to transfer assets and ongoing investments to the provider, freeing up resources and lowering future costs. Moreover, it eliminates the need for future investments for the services in question.
Discussion None
Changes None

M05 Focus on core competencies
Explanation During the 1990s many large organizations abandoned their diversification strategies and concentrated their resources on what where considered their core competencies. Behind this was the notion that the most important sustainable competitive advantage is strategic focus. By this logic organizations should concentrate on what they do better than anyone else and consider outsourcing everything else to best-in-class suppliers. Nike demonstrates this kind of strategy. According to Lonsdale & Cox (1998), organizations can increase their focus on core activities in two different ways. First, outsourcing support activities, which do not provide competitive advantage, frees up valuable management time. Consequently, managers can concentrate on core business activities. The fact that outsourcing enables reducing capital investment requirements is another way for organizations to focus on their core competencies. That is, because organizations only have limited resources, it is essential to target those resources on activities which contribute to competitiveness.
In order to concentrate on core competencies, it is necessary for organizations to know on which three main value drivers - customer intimacy, product leadership or operational excellence, they concentrate. They all contribute value to customers, but capabilities and cultures that promote them differ depending on the organization. For example Nike has focused on product leadership, whilst Dell on operational excellence and customer relationship management.

**M06 Gain access to external expertise**

**Explanation** One of the greatest advantages of sourcing is the full utilization of external suppliers’ innovation, investments and specialized professional capabilities. By using outside suppliers, organizations are able to take advantage of state-of-the-art expertise that would be prohibitively expensive or even impossible to duplicate internally. A similar, more technical, motive for outsourcing is to gain access to new technologies. This is the case especially in the areas, where technology develops fast, like IT.

**M07 Improve quality of operations**

**Explanation** Many organizations use sourcing to enhance the consistency of their service. For example, sourcing all help desks to a single supplier or shared service center will standardize service and guarantee appropriate service level. Quality improvements can also be achieved through outsourcing, because organizations can in most cases choose a best-in-class supplier which will deliver high quality services. Because the providers’ survival depends on superior performance in a narrow business scope, they are highly motivated to achieve it. This motivation is surrounded with superior resources, core competencies, cutting-edge technologies, state-of-the-art equipment, experienced management and well-trained, motivated personnel.

**M08 Regain control over internal domains**

**Explanation** Sometimes decision-makers consider sourcing activities which are performing poorly or which they have lost control over. Instead of making drastic managerial changes internally and incurring the costs associated with turning around poorly managed domains, sourcing can be implemented if there is a corresponding supplying market.
M09 Duplicate success/Copy competitors
Explanation When an organization uses sourcing very successfully, other organizations may try to imitate this success by copying the successful organization.
Discussion None
Changes None

M10 Reduce/Share risk
Explanation Sourcing outside the organization can be seen as a way to reduce a risk by sharing it with suppliers. Investments can be risky. Markets, competition, government regulations, financial conditions and technologies all change extremely quickly and keeping up with these changes is risky, especially when it requires a significant investment. By outsourcing, organizations can spread the risks of technology development across a number of suppliers.
Discussion None
Changes None

M11 Improve time to market
Explanation By outsourcing organizations can considerably improve the time in which it can launch its products to market. When best-in-class suppliers work simultaneously on individual components of a system, it enables to reduce design-cycle time. An ability to improve time to market is particularly important in a market where capabilities and requirements are permanently and rapidly changing. By improving the time to market, an organization is able to satisfy its customer’s needs more efficiently and as a consequence it could become more competitive and highly profitable.
Discussion None
Changes None

M12 Increase flexibility to meet change in services
Explanation Through sourcing an organization can change its service portfolio to meet new conditions. The organization is not invested in the existing resources that the supplier is. Also, the supplier’s core competencies allow them to stay on the cutting edge, making it possible for them to adapt to changes in service levels. When demand surges, new provider capacity can be added and when demand slackens, capacity can be reduced, with much littler cost to the organization. Furthermore, providers with new technologies, that best match the organization’s needs, can be sourced from as the needs emerge, with minimal up-front risk and investment.
Discussion There was some discussion here because the experts felt that there were two different aspects of flexibility at play; the flexibility in the type of service and the scalability of operations. Since both were thought to be valid motives the decision was made to split
the motive in two.

### Changes

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<td>Increase flexibility in the type of service</td>
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<td>Through sourcing an organization can change its service portfolio to meet new conditions. The organization is not invested in the existing resources that the supplier is. Also, the supplier’s core competencies allow them to stay on the cutting edge, making it possible for them to adapt to changes in service levels.</td>
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<td>Increase scalability of operations</td>
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<td>When demand surges, new provider capacity can be added and when demand slackens, capacity can be reduced, with much littler cost to the organization. Furthermore, providers with new technologies, that best match the organization’s needs, can be sourced from as the needs emerge, with minimal up-front risk and investment.</td>
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<td>M13</td>
<td>Improve client centricity</td>
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<td>Explanation</td>
<td>Improving client centricity for internal as well as external customers can be a motivation for sourcing. This means that the customer experiences attention, closeness and flawless service. This is a typical motivation associated with sharing services. Shared services operations are service-oriented and focus on specific activities within services to support business partners, which can either be internal or external clients, depending on the business model.</td>
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### M14 Improve customer ownership

| Explanation | Improving customer ownership for internal as well as external customers can be a motivation for sourcing. That is, give decision authority to employees that are close to the customer, to deliver high quality services, which create maximum customer value. Again, with this motivation, shared services are typically associated. A Shared service center operates as a single entity and has the autonomy to be able to arrange their operations to concentrate on applying best practices and delivering high quality services in a cost effective manner. |
| Discussion  | None |
| Changes     | None |

### NEW

| Explanation | None |
| Discussion  | There was another motive that was proposed which was not covered by one of the other motives. The example given was of an organization that wanted to set up a SSC for a set of services in order to get those services organized so that they could acquire |
similar services from other organizations and easily integrate them through the SSC.

Changes

M15 Make mergers and acquisitions more efficient
Setting up a shared service center for a certain set of services, will make it easier to acquire parties that perform similar services.
Linking motives to criteria

Here the experts were asked to divide 4 stickers over the criteria that most influence the potential of achieving a motive. The result was:

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Note that not all experts placed all their stickers due to lack of time and sheer volume of possible links 255 in all. In retrospect this was quite an impossible task, especially in the short time and after several hours of intensive work. It would have been more fruitful to divide this exercise up in chunks over several workshops. This being said, the value of these should be taken for what it is; a first indication of the weights of links between motives and criteria.
Appendix D

Survey on ordering motives and criteria for sourcing

Survey Results: Ordering motives and criteria for sourcing

Due to the lack of time and unforeseen length of discussions in workshop 2, not all questions that we set out to answer could be answered in the set time. Therefore, a survey was set up and sent to the experts in attendance as a way to still get some answers to these questions.

The survey assignments were:
1. Rank the motives to your preference.
2. Specify the level of difficulty of checking the criterion.
3. Specify the ‘distinguishing power’ of the criterion.
4. Rank the criterion from the one you would check early in a decision process to the ones you would check at the end.

4 experts were able to perform the survey. The results will be presented and discussed next.
**Rank the motives to your preference**

1. Please rank the following motives to your preference.
2. 1 = best, 16 = worst
3. If some are the same rank according to you, please specify this in the comments section!
4. The ones that are not ranked will be seen as not useful according to you.

Please give short explanations in the comments box.

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The results were as follows:

1. Ranking of motives on personal preference of experts

From this the following ranking resulted (from **first** to last):

1. **M03** Improved cost control
2. **M01** Reduce operational costs
3. **M10** Reduce/Share risk
4. **M11** Improve time to market
5. **M02** Transform fixed costs into variable costs
   - **M08** Regain control over internal domains
6. **M05** Focus on core competencies
7. **M04** Reduce investments in assets, freeing up resources for other purposes
8. **M07** Improve quality of operations
   - **M12b** Increase scalability of operations
9. **M14** Improve customer ownership
10. **M13** Improve client centricity
12. **M09** Duplicate success/Copy competitors
14. **M15** Make mergers and acquisitions more efficient
15. **M12a** Increase flexibility in the type of service
D. Survey on Ordering Motives and Criteria for Sourcing

Specify the level of difficulty of checking the criterion

2. What is the 'level of difficulty' of checking the criteria?

Please give short explanations in the comments box.

| CO1 | The cost of performing services within the domain internally is higher than the cost of sourcing outside the firm, then the domain is a favorable candidate for sourcing. |
| CO2 | The higher the prior sourcing experience of the retained organization, the higher the chances for successful sourcing. |
| CO3a | The higher the stability in service packages within the domain, the more favorable a candidate for sourcing it is. |
| CO3b | The higher the level of standardization in service results within the domain, the more favorable a candidate for sourcing it is. |
| CO3c | The higher the level of standardization in service execution within the domain, the more favorable a candidate for sourcing it is. |
| CO4 | The lower the complexity of services within the domain, the more favorable a candidate for sourcing it is. |
| CO5 | The higher the number of suppliers that can supply the services within the domain, the more favorable a candidate for sourcing it is. |
| CO6 | The lower the asset specificity in services within the domain, the more favorable a candidate for sourcing it is. |
| CO7 | The higher the frequency of services within the domain, the more favorable a candidate for sourcing it is. |
| CO8 | The lower the competitive advantage realized by services within a domain, the more favorable a candidate for sourcing it is. |
| CO9 | When the services within a domain do not involve or consist of a core competency, the domain is a favorable candidate for sourcing. |
| CO10 | The higher the level of formalization of immaterial services within a domain is, the more favorable a candidate for sourcing it is. |
| CO11 | The lower the customer contact need in services within a domain is, the more favorable a candidate for sourcing it is. |
| CO12 | The lower the physical presence need in services within a domain is, the more favorable a candidate for sourcing it is. |
| CO13 | The greater the lack of internal human resources for services within a business area, the more favorable a candidate for sourcing it is. |
| CO14 | The lower the degree of integration of services within a domain, the more favorable a candidate for sourcing it is. |
| CO15 | The lower the number of employees within a domain that perceive sourcing as negative, the more favorable a candidate for sourcing it is. |
| CO16 | The less legal hurdles to overcome when sourcing services within a domain, the more favorable a candidate for sourcing it is. |
| CO17 | The less services within a domain are subject to frequent change, the more favorable a candidate for sourcing it is. |
The results were as follows:

1 = very low, 2 = low, 3 = average, 4 = high, 5 = very high

From this the following ranking resulted (from least difficult to most difficult):

1. C02 prior sourcing experience
2. C07 frequency
   - C11 customer contact need
   - C12 physical presence need
   - C13 internal human resources
3. C03a stability in service packages
   - C03b level of standardization in service results
   - C05 number of suppliers
4. C10 level of formalization of immaterial services
5. C01 cost
   - C04 complexity
   - C06 asset specificity
   - C09 presence of core competencies
   - C14 degree of integration
   - C17 subject to frequent changes
6. C15 number of employees with negative view on sourcing
7. C08 competitive advantage
8. C16 legal hurdles
9. C03c level of standardization in service execution

Note:
One expert had no opinion about C10.
Another expert was of the opinion that the information for all of these criteria should be available in organizations or with help of external (sourcing) partners/ parties. Therefore, the expert gave all a low difficulty score except C15 for which he had no opinion. Because of this the expert’s scores pulled down the rating across the criteria. When leaving out his scores the following is the result (the order does not change much of course):

![2. Level of difficulty of checking criteria (3 experts)](chart)

Additional comments from the experts:

C01: Often the internal administration is not sufficiently detailed to produce costs of operations, which are comparable with external offers. Especially the product aspect is frequently missing.

C17: Rarely a solid history is kept about changes in services and service levels, especially as long as services are supplied internally.
Specify the ‘distinguishing power’ of the criterion

3. What is the ‘distinguishing power’ of the criterion?

With ‘distinguishing power’ of a criterion we mean how much the criterion distinguishes a domain as being favorable.

Please give short explanations in the comments box.

<table>
<thead>
<tr>
<th>Criterion Description</th>
<th>Very Low</th>
<th>Low</th>
<th>Average</th>
<th>High</th>
<th>Very High</th>
<th>No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>C01 The cost of performing services within the domain is lower than the cost of sourcing outside the firm, then the domain is a favorable candidate for sourcing.</td>
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<tr>
<td>C02 The higher the prior sourcing experience of the parent organization, the higher the chances for successful sourcing.</td>
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<tr>
<td>C03 The higher the stability in service packages within the domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C04 The higher the level of standardization in service provision within the domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C05 The higher the number of suppliers that can supply the services within the domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C06 The lower the cost specificity in services within the domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C07 The higher the frequency of services within the domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C08 The lower the competitive advantage realized by services within a domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C09 When the services within a domain do not involve or consist of core competency, the domain is a favorable candidate for sourcing.</td>
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<tr>
<td>C10 The higher the level of formalization of immaterial services within a domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C11 The lower the customer contact time in services within a domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C12 The lower the physical presence needed in services within a domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C13 The greater the lack of internal human resources for services within a business area, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C14 The lower the degree of integration of services within a domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C15 The lower the number of employees within a domain that perceive sourcing as negative, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C16 The lower the legal barriers to overcome when sourcing services within a domain, the more favorable a candidate for sourcing it is.</td>
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<tr>
<td>C17 The lower the services within a domain are subject to frequent change, the more favorable a candidate for sourcing it is.</td>
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</table>
The results were as follows:

1 = very low, 2 = low, 3 = average, 4 = high, 5 = very high

From this the following ranking resulted (from high distinguishing power to low distinguishing power):

1. C01 cost
2. C08 competitive advantage
   C16 legal hurdles
4. C03c level of standardization in service execution
   C17 subject to frequent changes
6. C03b level of standardization in service results
   C04 complexity
   C05 number of suppliers
   C06 asset specificity
   C09 presence of core competencies
   C13 internal human resources
12. C02 prior sourcing experience
   C03a stability in service packages
   C11 customer contact need
   C12 physical presence need
   C14 degree of integration
17. C07 frequency
18. C15 number of employees with negative view on sourcing
19. C10 level of formalization of immaterial services

Note:
Two experts had no opinion about C10. One expert had no opinion about C15.
Additional notes by the of experts:

C3a, C3b, C14: With less standardization there is more to win for the outsourcing partner.
Rank the criterion from the one you would check early in a decision process to the ones you would check at the end.

4. Please rank the following criteria from which ones you would check early in a decision process, and which ones you would check at the end.

1 – earliest, 16 – last

If some are the same rank according to you, please rank them sequentially and specify this in the comments section.

The ones that are not ranked will be seen as not useful according to you.

Please give short explanations in the comments box.

<table>
<thead>
<tr>
<th>Criterion</th>
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<td>C03c level of standardization in service execution</td>
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<td>C08 competitive advantage</td>
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<td>C09 presence of core competencies</td>
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<td>C10 level of formalization of intangible assets</td>
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<td>C15 number of employees with negative view on sourcing</td>
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<td>C17 subject to frequent changes</td>
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</table>
The results were as follows:

From this the following ranking resulted (from apply *earliest* to apply latest):

1. **C08** competitive advantage
2. **C01** cost
3. **C03b** level of standardization in service results
4. **C09** presence of core competencies
5. **C16** legal hurdles
6. **C05** number of suppliers
7. **C02** prior sourcing experience
   - **C17** subject to frequent changes
8. **C04** complexity
9. **C07** frequency
10. **C14** degree of integration
11. **C06** asset specificity
    - **C11** customer contact need
    - **C13** internal human resources
12. **C12** physical presence need
13. **C03c** level of standardization in service execution
14. **C10** level of formalization of immaterial services
15. **C15** number of employees with negative view on sourcing
16. **C03a** stability in service packages

Notes from the experts:
- Expert 1: **C03** till **C07** are related to each other. You should want to give them the same ranking.
- Expert 2: This was very difficult, and I believe this result is not very reliable. This should be a conclusion from the 2 previous questions. Now you are testing how good a consultant's intuition is. Was this the intention?
Expert 3: My ranking based on the distinguishing power of the criteria.
Expert 4: C01 to C05 are the most important to me.