Commercial Exchanges in B2B Dyads

M.E. Moreno Bragado

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This book, dealing with the topic of decision-making in fast changing markets, is the result of five years of decisions in a fast changing environment. To approach this work was like entering a labyrinth where every step implied new choices that in many cases led to new and interesting trails, and occasionally to a dead end. In finding a way out I have had the help and experience of many friends and colleagues. I just hope to find the proper words to express my gratitude as each of them deserve.

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This book is dedicated to my family, and in particular to my parents:

En las páginas que siguen está resumido lo que ha sido mi trabajo durante los últimos cinco años. Sin embargo vosotros sabéis mejor que nadie que ni doscientas ni dos mil páginas pueden reflejar por completo lo que hemos vivido durante este tiempo. Hay mucha gente a la que le debo gratitud por su amistad y por su contribución a este trabajo. Pero con vosotros tengo una deuda mucho mayor: me disteis las alas y la libertad para aprender a utilizarlas. Va siendo hora de volver a casa…

Mª Elisa Moreno Bragado
Enschede, 6 February 2003

"[...]
The sea that calls all things unto her calls me, and I must embark.
For to stay, though the hours burn in the night, is to freeze and crystallize and be bound in a mould.
Fain would I take with me all that is here. But how shall I?
A voice cannot carry the tongue and the lips that give it wings. Alone must it seek the ether.
And alone and without his nest shall the eagle fly across the sun.
[...]
Sons of my ancient mother, you riders of the tides,
How often have you sailed in my dreams. And now you come in my awakening, which is my deeper dream.
Ready am I to go, and my eagerness with sails full set awaits the wind.
Only another breath will I breathe in this still air, only another loving look cast backward,
Then I shall stand among you, a seafarer among seafarers."

Kahlil Gibran (The Prophet, 1923)

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> *"Things being thus ordered, he would defer the execution of his designs no longer, being spurred on the more vehemently by the want which he esteemed his delays wrought in the world, according to the wrongs that he resolved to right, the harms he meant to redress, the excesses he would amend, the abuses that he would better, and the debts he would satisfy."*
>
> Miguel de Cervantes Saavedra (Don Quixote, 1605)

1.1 The Paradox of the Market for Telecommunication Products and Services

The liberalisation of the Dutch market for telecommunications in the early 1990s created the conditions necessary for growth in the number of providers, products and services. It stimulated the development of alternative strategies for the provider, and in turn, new options for the customer. The new situation brought both benefits and problems for organisations involved in the exchange of telecommunication products and services.

Up to that point, customer organisations in the Netherlands could only decide on the type of product they wanted, but with only one telecommunications provider, there was no choice among different offers. Thus, apart from the direct benefits in terms of price reduction, the appearance of competing alternatives brought with it the possibility of making choices, with the usual problems that are associated with a decision-making process. It is clear as well, that some customers would decide not to choose (not to go to another provider), but even that implies some kind of decision.

On the provider side, Dutch organisations faced a new range of decisions on how to approach their potential or actual customers. New providers lacked experience in the sector, and incumbent operators faced the novelty of competition. The kind of decisions that these companies had to make was different from what they were accustomed to: in a monopolistic frame of reference, providers do not need to choose among different marketing strategies, because their products/services will be the only ones in the market.

Although the variety of alternatives promised a lowering of prices, and a shift in market shares, such a phenomenon did not occur instantly; it took more time than expected in a sector where changes occur at a continuous pace. In the Netherlands by 1999 (three years after the opening of the market for hard-wired telephony), 80% of industrial customers were still using the incumbent operator's services for national telecommunications (Verkouter, 2000). Also in 1999, four years after the opening of the mobile telephony market, the incumbent operator held more than a 50% market share

for mobile communication (OPTA, 2002). The data indicates that while competitors' prices were lower than those of the incumbent operator's, customers considered other issues when choosing a telecommunication provider. The question is why and how customers and providers reached the decisions that were implicit in their actions.

This is the background for my research and the topic of this book: commercial exchanges in the telecommunications market. This sector is subject to continuous changes, and yet these are not directly reflected in commercial exchanges between customers and providers. My general objective is to offer an *adequate explanation of how business-to-business commercial exchanges take place in a sector subject to continuous critical changes*.

Buying and selling of telecommunication products and services has become an essential part of business activities. That is why this research focuses on the business-to-business market, and in particular on commercial activities for the exchange of telecommunications products and services between organisational customers and telecommunications providers. On the one hand organisational customers can profit from the use of telecommunications in their internal information systems, or in communicating with or approaching their markets. On the other hand, as the telecommunications provider is concerned "[…] over half of the revenues of most European telecommunications operators are generated by less than 10% of the company's total customers" (Aguado Gómez, 1998).

Besides the practical importance of studying commercial exchanges in the telecommunications market, there is also a theoretical benefit derived from the study of this empirical problem. As Weiss and Heide (1993) pointed out: "the emerging stream of research on [high-tech] markets is a response to two particular problems: an historical bias in the marketing literature toward low-tech products […], and growing recognition that high-tech contexts impose unique demands on market participants […]". The telecommunications sector has certain characteristics of a high-tech market (it is subject to continuous changes) and it has a distinct influence on organisational user's core activities, which make it a very attractive sector to research.

To begin with the study of commercial exchanges in the telecommunication sector, *Section 1.2* describes the main characteristics and changing conditions of the telecommunication sector. These conditions affect the nature of commercial exchanges involving telecommunication products and services as presented in Industrial Marketing and Purchasing Literature (*Section 1.3*). These existing ideas can be complemented with empirical observations and with Organisational Theories on Decision-Making (*Section 1.4*). Finally, in order to compile and focus this research, *Section 1.5* presents the research objective and research question as well as the most appropriate research methodology.

1.2 Deciphering Changes in the Telecommunications Market

The previous section introduced the opening of the market as the seminal change, affecting both organisational customers and providers of telecommunication products

and services in the Netherlands[1]. However, it is more accurate to understand the opening of the market as an event that indicated the existence of changing conditions affecting commercial exchanges. It can be interpreted both as the trigger that initiated a change process in the Dutch telecom market, and as the culmination of ongoing changes. Liberalisation was probably the clearest indication of the turmoil then taking place in the telecommunication sector. That is why we need to further investigate those changes in order to better understand the commercial exchanges that occur within this sector.

It is difficult to find a definition of change without appealing to institutional concepts. In general terms change implies the introduction of something new, but it is not always easy to determine when or how the event that unleashed a change process occurred. In my view, changes in the Dutch telecommunications sector can be divided into two general groups according to the sources of change: changes caused by industrial policy regulation, and changes caused by technological innovations.

The opening of the European market in general and the Dutch market in particular, was very much pushed forward in the 1980's by the liberalisation of the US market, and in turn, the UK market. These processes resulted in the emergence of new actors competing for national and international transmission services. Just one example of these consequences: in The Netherlands in 1999 the state granted 60 new licences for supplying public telecommunications services (OECD, 1999b). Even if only a few of these providers actually entered competition in the market (i.e. they did not only obtain the license, but also had the infrastructure and organisation needed to exploit it), the number of alternative providers is substantial.

In addition to this increase in the number of providers, there was a growth in the variety of products and services offered through those channels. This expansion was stimulated by technological innovation. In 1998, almost 35% of total business R&D expenditures were dedicated to research concerning ICT (OECD, 1998). In the Netherlands, public telecommunications investment per access line grew about 60% between 1987 and 1997 (OECD, 1999a). One clear effect of these investments was the digitalisation of transmission networks and a subsequent widening of service options and transmission capacity. In 1990 for instance, nearly 40% of the fixed telecommunications network in OECD countries was digital; seven years later, this percentage reached 90%, and for the Netherlands 100% (OECD, 1999a).

Apart from the wider variety of products, technological developments also meant greater versatility in the use of telecommunications products and services: the same basic product could serve many functions within an organisational user. As a consequence, service engineering became a common tool for creating new services, thereby reducing installation costs. Service engineering implies that different services can be provided within the same basic telecommunications infrastructure. These services may also have different applications according to the final user's objectives.

[1] The focus on the Dutch telecommunication sector is explained not only by practical reasons (the empirical investigation took place in the Netherlands) but also by the fact that the liberalisation of the telecommunication sector in Europe depended to a large extent on each nation's political decisions.

These changes in the telecom sector certainly influenced commercial exchanges for telecommunication products and services. It has already been noted that change had effects on both the demand (the buying side of commercial exchange) and the offer (the selling side of commercial exchange). The question at this point is how were these parties influenced.

1.3 Telecommunications Commercial Exchanges: Existing Theories

This section explores how changes in the telecommunication market affect commercial exchanges as they are represented in existing buying and selling models. These effects are placed in three groups: effects on the elements of a commercial decision, the effects on the buying or selling process itself, and influence on the perspectives for analysing commercial exchanges. A final section will present "the aspect" of a model for commercial exchanges in the telecommunication section that reflects the way in which existing buying and selling models change due to forces in the marketplace.

1.3.1. Changes in Commercial Exchanges Models

Elements of Commercial Exchanges

After the opening of the market, telecommunications providers encountered competition and were (supposedly) compelled to adopt customer-oriented strategies in dealing with market demands. From the customer point of view, there was a broad new spectrum of providers, products, technologies and (expected) solutions. So these changes involved the introduction of a wide array of *alternatives* for customers (more products and providers) and for providers (more solutions to serve a more diverse customer base). The existence of alternatives implies a need for information on the different options. Information then becomes an essential asset: providers require information on customer demands, and customers require information on provider's offers. Regarding this search for information, both parties need to answer two general questions: "where it is possible to find information" and "what kind of information is really needed".

The literature on marketing and purchasing theories offers answers to these two questions. Traditionally, these theories highlighted the importance of the first point, where the information could be found. Access to plenty of information was supposed to support good decision-making because it reduced uncertainty problems. The more information the decision-maker had, the easier it would be to anticipate the future consequences of decisions, and therefore to reduce uncertainty –or so the theory goes.

Currently, with the extensive use of Internet and other means of communication, access to information is not elusive or scarce: western society is immersed in information. Therefore the problem might lie in the ability to process so much data. Besides, in the telecommunications sector, where technology continuously changes, the acquisition of current and useful information becomes more difficult because data is often valid for a very limited period of time. Customers and providers must expend a great deal of time and resources keeping their databases current. For these two reasons (the sheer quantity of data, and frequent changes in the known about alternatives) the critical issue is to know what kind of information is really needed for the decisions at hand.

This question is related to the *objective* that a decision-maker is trying to achieve with the buying or selling of a certain product or service. According to that objective, he will formulate the required characteristics of the product, and search for specific information related to preferences. In this case it may be difficult to secure a proper answer. As previously stated, technological innovations have had the effect of increasing the versatility of telecommunications products and services. This implies that organisational customers can alter their initial objective in view of unexpected possibilities of the already acquired product. These changing objectives may bring undesired changes and higher costs.

Buying and Selling: Overall Processes

According to existing selling and buying models (Industrial Marketing and Purchasing Theories) providers are supposed to offer what their customers demand, and customers are expected to evaluate options and choose according to their objectives. These ideas imply the existence of intentionality on both sides: customer and provider have the intention to buy or sell something. In order to achieve those objectives, they will follow a sequence of steps (from alternative building to choice), which constitute the models proposed by Industrial Marketing and Purchasing literature. Nevertheless, such a tidy assumption might be questioned: the speed of change in the telecommunication market complicates the fulfilment of a sequential process. Instead, emergent strategies and improvisation might prove more suitable. This does not mean that linear models are never valid: it implies that non-linear ways of action can be equally valid.

Perspectives for the Analysis of Commercial Exchanges

Apart from the impact of change on alternatives, objectives, and the overall buying and selling process, a characteristic present in all commercial exchanges (although more significant in telecommunication exchanges) is that decisions on supplying and buying occur within the parameters of relationships between (at least) two parties: the supplier and buyer. Relationships here refer not only to partnerships or long lasting relations, but also to any form of contact between two entities that play a relevant role in making buying decisions. Organisational customers have certain knowledge about telecommunications products and providers within the market, either because they have worked with them, or through references obtained from other users. Providers, on their part, also have contractual or referral contacts with organisational customers. Decisions on what to buy or sell are made within the frame of existing or potential relationships, and because of that, the identification of the "real" decision-maker becomes difficult. Since the decision-maker is that person or organisation that participates in making a decision, both provider and customer are decision-makers in a commercial exchange situation.

After considering that changes in the telecommunications market affect the decisions and actions of both customers and providers, and that both parties make decisions within a relational framework, it is reasonable to accept that the exchange of telecommunications products and services is a problem that must be studied both from customer and provider perspectives. My starting point is to consider that organisational customers and telecommunications providers do not make decisions (on what to buy or sell) in isolation. This is the same approach adopted by the IMP (Industrial Marketing and Purchasing) Group. They contribute highly useful tools for defining and typifying

inter-organisational networks, although they do not seem to offer a general explanation of how commercial exchanges between these organisations happen.

1.3.2. Commercial Exchange Models in Fast Changing Markets

In the former paragraphs I have presented the two main elements of a commercial exchange (alternatives and objectives) and how changes in the telecommunication sector affect them. Changes affect the alternatives that customers and providers have, and their objectives when buying or selling a certain telecommunications product or service. These effects can be analysed in terms of decisional problems. One such problem is the difficulty of anticipating future consequences of present actions, usually because the information on alternatives is incomplete or inaccurate (this is the definition of *uncertainty*). A second problem is the inconsistency of preferences, usually because the objective has unexpectedly changed (this is the definition of *ambiguity*). Even so, Purchasing and Marketing Models seem to overlook ambiguity problems, by assuming that organisational objectives remain unchanged throughout the buying or selling process.

A second issue is the questionable value of linear commercial exchange models in fast changing environments. In those situations dynamic models should be used because they can deal with emergent and improvised actions.

A third issue is the relationship between customer and provider where the decision takes place. Commercial exchange should be analysed from that relational point of view. As organisations are immersed in networks of relationships, the network perspective is most appropriate for an analysis of these organisations' activities.

These three issues need to be addressed in a commercial exchange model that seeks to explain commercial exchanges in the telecommunication market. As said before, commercial exchanges have been explained by Marketing and Purchasing Theories. Within the marketing tradition, the IMP Group offers a research approach to analyse these exchanges in terms of relational issues. These theoretical accounts offer prototypical models to explain commercial exchanges, but insofar as they do not completely recognise the characteristics indicated by empirical evidence, it is necessary to design a "new" model to more fully interpret that data.

When designing this model I can benefit from the concepts and ideas of industrial marketing and purchasing literature. But even more important is the grounding of the research contributions on empirical observation: empirical evidence has determined the characteristics of the desired model, and it will also be the source of information to substantiate them.

Although these three characteristics are based on empirical evidence, I found that Organisational Theories consider the same elements when modelling decision-making. The next section will address Organisational Theories on Decision-Making and their applicability to commercial exchanges in the telecommunication sector.

1.4 In search of a New Model of Commercial Exchanges

Buying and selling in the telecommunication market is an inter-relational process, subject to uncertainty and ambiguity, and it is not necessarily linear. Moreover, existing buying and selling models do not seem to consider the required relational approach, the importance of ambiguity problems, or the non-linearity of buying and selling activities.

In search for information to fill in these theoretical gaps, I investigated Organisational Theories on Decision-Making. These are a series of models that study strategic and managerial decisions, and have their roots in policy-making studies. They adopt a relational perspective for the study of decision-making within the borders of an organisation: they analyse the relationships between different individuals and groups, and explain the dynamics and problems that affect all the parties. Organisational Theories also consider the problems caused by the co-existence of different objectives, which means that ambiguity is taken into account. Because their findings are grounded on empirical observations, their initial assumptions are closer to reality, avoiding predetermined ideas on the linearity of decision-making models.

Under the Organisational Theory label, there are theories grounded in empirical observations of (intra-)organisational behaviour. That is why their explanations of decision-making processes and problems are rather fragmented. In an attempt to comprehend these ideas, March (1988) stated two general types of decision-making models. According to him, decision-making models consider that organisations make their decisions according to either a "calculative" or an "appropriateness logic"[2].

A *calculative logic* implies that the decision-maker evaluates different options and chooses the best one after evaluating and comparing them. On the other hand, an *appropriateness model* of decision-making means that the organisation follows a pre-established behavioural rule attached to each decisional situation. Marketing and Purchasing Theories can be conceived as calculative models because in both theoretical streams the idea of evaluation and choice of the optimum option appears. Bureaucratic models are examples of "appropriateness" decision-making, where the sought solution is a satisfactory option accepted by the involved parties.

The formulation of these two "decision-making logics" permits the modelling of decision-making in terms of the problems that decision-makers encounter, namely uncertainty and ambiguity. On one hand, the existence of alternatives subject to unpredictable changes provokes uncertainty. Therefore, uncertainty problems may occur whenever the decision-maker is considering different alternatives, as in the calculative models of decision-making. On the other hand, ambiguity occurs when the decision-maker does not have consistent objectives over time, or those objectives are not compatible with other organisational goals. If objectives change, appropriateness models will be affected because they are based on a decision-making rule that is determined by the decision-maker's objective.

[2] March (1994) uses the concept of "logic" to indicate a line of reasoning: logic is the general way of approaching a certain decision. Decision-making logic can be assimilated within a decision-making process. But there is an advantage when using the "logic" concept: "process" is easily associated with an ordered/linear set of activities, while "logic" is not attached to any consideration on the linearity or non-linearity of the set of activities.

March's Decision-Making Theory allows us to define two general decision-making models according to the logic that guides the decision-making (calculative or appropriateness logic), and in terms of the decision-making problems (uncertainty and ambiguity) that the decision-maker might encounter. These models take into account that decisions are not taken by an individual person or group, but are the result of action and interaction, thus adopting a relational approach to the study of decision-making. Even though, this action and interaction has been observed within the borders of an organisation, while this research is concerned with commercial exchanges, which occur in inter-organisational settings involving at least two organisations (customer and provider).

The research contribution to Organisational Theories of Decision-Making will be the design of a model that substantiates March's theory on decision-making with observations from inter-organisational settings. In inter-organisational environments each organisation may follow different logics and have different problems. By observing commercial exchanges in the telecommunications sector I can analyse the logic followed by organisational customers and providers, the problems they face, and how they relate to each other (i.e. the relational form that binds them). A comparison of empirical observations will also help to identify relationships between these three elements: logics, problems, and relational forms.

In previous sections I explained the rationale for my choice of a research topic and how I would proceed. At this point I will position my research empirically and theoretically, by defining the key research elements:

- The research topic: commercial exchanges of telecommunication products and services, in the context of rapid and continuous change.
- The research objective: to find an appropriate model that can explain those exchanges.
- The theoretical framework: this research takes place in a framework formed by Industrial Marketing and Purchasing Theories, the IMP Group's network approach, and Organisational Theories on Decision-Making.
- The research method: empirical observation of commercial exchanges in the telecommunications sector.
- The research contributions to the IMP Group Approach and Decision-Making Theory.

The next section presents the research design, where these elements are merged in the overall plan of investigation.

1.5 Research Problem: the Designing of a Model of Commercial Exchanges in the Telecommunication Sector

The objective of this research is to *design a model that explains commercial exchanges in fast changing markets*. The telecommunications sector was chosen as an example of

such an environment. Such a model should take into consideration *(1) the different types of decisional problems faced by organisational customers and telecommunication providers, (2) the non-linearity of buying/selling decision-making, and (3) the relational perspective of commercial exchanges*.

A *model* is a schematic description of phenomena that account for all or part of its known properties. In this case, the phenomenon under investigation is the commercial exchange of telecommunications products and services. A *commercial exchange* is a situation where a provider of telecommunication products and services sells his products to an organisational customer. A *telecommunications provider* is a company that sells telecommunications products or services, independent of the fact that these products may be developed and produced by another company. For the scope of this research, an o*rganisational customer* is a business organisation whose main activity *is not* the production or re-selling of telecommunications products or services.

My intention is not so much to present a normative sequential model that organisational customers and providers need to follow to make optimal decisions, but to offer an appropriate explanation of what happens in empirical settings. In these empirical settings, the intentionality assumed of buyers or sellers is jeopardised by the existence of decision-making *problems*: uncontrollable alternatives (uncertainty), and changing objectives (ambiguity). Secondly, the linearity of buying and selling models is questioned by the existence of actions that are the result of emergent processes. And thirdly, commercial exchanges are not unilateral processes, so their study requires the adoption of a relational perspective.

Given these characteristics, instead of referring to buying or selling as an intentional, unilateral and sequential process, I have defined *decision-making* (on buying and selling) as a conscious or unconscious process that leads to the actual commercial exchange of a certain telecommunication product or service.

Once these concepts have been identified, the research objective can be formulated in terms of a central research question: "*is it possible to design a model that adequately describes and/or explains the decision-making of organisational customers and telecommunication providers regarding the commercial exchange of telecommunications products and services?"* The appropriateness of a model is determined by its capacity to reflect and explain empirical observations.

To begin with, two main bodies of literature have focused on buying and selling situations: *Purchasing* and *Marketing Theories*. The models that they propose offer useful concepts and ideas, but do not seem to apply to the situation observed in the telecommunication market. In the first place, their initial assumptions seem rather strict. Secondly, the inter-organisational character of commercial activities indicates the need for a research perspective that takes into consideration both customer and provider's points of view, which traditional theories do not seem to recognise. And third, in the case of the telecommunication market, the rapid changes that affect these commercial exchanges require theoretical models that are dynamic in nature.

Regarding Industrial Marketing and Purchasing Theories, the *Industrial Marketing and Purchasing (IMP) Group* provides a Network Approach for the analysis of inter-organisational relationships. The use of a network approach requires an initial limitation of the network under study. This issue goes beyond the core objective of this investigation: a model for the exchange between an organisational customer and a

telecommunication provider. For this reason, instead of a network approach, I have adopted a *dyadic approach* to study empirical settings. Although the IMP Group offers a way to describe inter-organisational networks, they do not provide a model that explains how commercial exchanges actually occur.

As these models must be compared with reality in order to understand their deficiencies, it is essential to employ a research methodology that recognises the central role of empirical data. Because my main inputs are based upon actual observations, I turned to the ideas of *Grounded Theory* (Strauss and Corbin, 1990, 1998). This work offers analytical tools that are more appropriate for interpreting observations and for building a theoretically sensitive model. Grounded Theory is: *"Theory that is inductively derived from the study of the phenomenon it represents. It is discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon"* (Strauss and Corbin, 1998, p. 12). In this undertaking, my aim is not the discovery of a theory strictly speaking, but the *design* of a new model partially based on existing theories and theoretical concepts.

The discussion on empirical observations (briefly presented in previous sections) raises questions about the validity of traditional commercial exchange models. It asserts that buying and selling processes are decision-making processes where the decision-maker is subject to both uncertainty and ambiguity. Thus, one may also find information on decision-making from an inter-relational perspective by referring to *Organisational Theories on Decision-Making*. These theories study the making of strategic, managerial and political decisions affecting and involving several actors on different organisational levels. Although organisational ideas can shed some light on how organisations make decisions in rapidly changing environments, they have not been directly related to buying situations.

From a theoretical point of view, I expect to contribute to the existing body of knowledge on commercial exchanges and organisational decision-making theories, with evidence from empirical research on the telecommunications sector. I will present *four case studies* organised around different organisational customers and their providers, thus employing a dyad approach. The observation of the behaviour of each party allowed the identification of their decision-making logic and decision-making problems. The observation of the behaviour between each customer/provider pair (observation of the relationship) facilitated the classification of general types of relational forms. Differences in acquisitions, problems, and relationships require both identification and explanation. This research suggests that such differences are caused by the existence of different types of relationships between organisational customers and providers.

As the resulting model is based on empirical evidence from the telecommunication sector, another research question appears: *"Does this model also apply to commercial exchanges of products and services in other fast changing markets?"* I expect the answer to be affirmative, when considering that telecommunications commercial exchanges are a prime example of commercial exchange decision-making in markets of continuous change.

1.6 Dissertation Contents

There is a large and important body of literature that treats commercial exchanges problems and processes. It can provide concepts and ideas to help in building a theoretical framework that can be strengthened through the use of empirical observations. This theoretical framework is presented in *Chapter 2*. This chapter investigates the ideas of Purchasing Theory, Marketing Theory and the IMP Group. It identifies the key research perspectives that relate to the study of buying and selling situations. The limitations of these theories justify a search for literature that takes into consideration empirical evidence.

My theoretical objective is to contribute to the existing theoretical literature by designing a model that explains commercial exchanges, a model grounded on empirical evidence. *Chapter 3* positions this research in relation to Qualitative Methodology, considering both model development and the importance of empirical evidence. The choice for a particular research method is presented in this chapter.

As shown in this introductory chapter, the consideration of ideas that are more rooted in empirical observations implies the use of Organisational Theories on Decision-Making. They are presented in *Chapter 4*, and will be used to create an initial and schematic model that will be supported by empirical evidence.

The empirical observation of commercial exchanges in the telecommunication sector is done via four case studies that are analysed from the standpoint of Grounded Theory. Case study data collection, data analysis, the selection of the different cases, and the sources of information are presented in *Chapter 5*.

Chapter 6 presents a description of the empirical field: the Dutch telecommunications sector. Here I introduce the main actors in the market and a description of events that affected the demand and offer side of the market. I also divide these events (i.e., the sources of change) into two main groups: the liberalisation of the market that allowed the entrance of new telecommunications providers, and technological innovations that allowed the appearance of new telecommunications products and services. These descriptions can be interpreted in terms of the uncertainty and ambiguity problems that they may create for telecommunications providers and organisational customers. These interpretations are plausible, although not certainties, so a closer examination of the case studies is necessary.

Chapter 7 introduces the first two cases, open questions and partial conclusions derived by comparison. *Chapter 8* contains the last two case studies and comparisons between them and the cases in *Chapter 7*.

The conclusions derived through empirical observation are translated into theoretical constructs that create a Model of Commercial Exchanges in *Chapter 9*. *Chapter 10* presents a summary and the contributions of this research.

Chapter 2. Theoretical Background: Buying and Selling Theories

> *"Even when the work of a genius is subjected to critical analysis and no error are found, it is important to realise that everything he has discovered in a particular field is nothing in comparison with what remains to be discovered."*
>
> S. Ramón y Cajal (Advice for a Young Investigator, 1916)

2.1 Introduction

The objective of this research is to provide an appropriate explanation of commercial exchanges in fast changing sectors, and in particular in the telecommunication market. Before designing a new explanatory model I investigated the existing literature, notably the models of Purchasing and Industrial Marketing, as well as the network perspective of the IMP Group.

These models offer concepts and ideas that are certainly useful for understanding buying and selling processes and problems. Even so, when Industrial Marketing and Purchasing Models are applied to the telecommunications market, certain important elements seem to be missing. These elements are: the consideration of changing objectives, the relational approach to analysing commercial exchanges, and the non-linearity of the proposed models. This chapter begins with a look at existing buying and selling models, and a discussion of how I concluded that those elements are missing in the existing models.

Section 2.2 presents the principal assumptions and characteristics of Industrial Marketing, Purchasing and the IMP Group Models. Industrial Marketing and Purchasing Theories offer normative processes for buying and selling, based on an evaluation of existing alternatives. On its part, the IMP (Industrial Marketing and Purchasing) Group, although grounding its research in empirical observation (producing more realistic basic assumptions), lacks a generalisable and more normative theory of buying/selling decision-making.

Section 2.3 explains and justifies the need for a relational approach when studying decision-making. Existing studies on commercial exchange decisions (Industrial Marketing and Purchasing literature) take a rather unilateral approach to the study of buying/selling decisions, adopting either the customer or the provider point of view. Such a perspective seems inadequate in the current marketplace, where the globalisation of business activities favours a relationship-based analysis of decision-making. The

Network Approach offers a more realistic perspective for analysing commercial exchanges, contributing some useful tools for the construction of empirical descriptions.

2.2 Industrial Marketing and Purchasing Models

Buying and selling are the primary decisions (although not the only ones) leading to the commercial exchange of products and services. Special interest has always been bestowed upon the modelling of buying behaviour in *business-to-business* settings, and to the investigation of marketing strategies in *industrial markets*. These buying and selling decisions are core subjects for the research literature of Purchasing and Industrial Marketing. This literature understands that the "engine" that drives action has an intentional character, and is in the hands of the buyer or seller in control of the decision-making. In this respect, what they propose are normative buying/selling models that both describe and guide the decision-maker's intentions on the way to a satisfactory decision.

In addition to Industrial Marketing and Purchasing Theory, this section presents an integrative approach offered by the IMP Group, which contributes empirical insight, and a rather positivistic view of the former theories.

2.2.1. Purchasing Theories

Purchasing Theories study the buying decisions of organisational customers. These theories can be divided into three main groups or sub-approaches:

- *Procurement Management* studies the process used to obtain supplies and deal with sellers (Corey, 1976). Negotiation with vendors and measurement systems are essential.

- *Supply Chain Management* studies the planning, obtaining, storing and distribution of materials, goods and services to satisfy internal and external customers (Saunders, 1994). "An integrative philosophy" directs the management of the whole production process, from supplier to the ultimate user (Cooper and Ellram, 1993). This definition adds logistical considerations to the procurement function.

- *Buying Behaviour* literature focuses on the process and steps that lead to the selection of a certain provider and/or product: from problem identification on to the choice of a provider. The focus is not so much on negotiation and management, but on the decision-making process itself.

The first two groups (Procurement and Supply Chain Management) consider managerial issues: apart from the acquisition itself, there are decision processes and events that support, complement, or are otherwise related to buying activities. These models mainly describe the buying of production materials or repetitive buying situations (office supplies, stationery, etc.). Buying Behaviour studies focus on a specific buying decision process, namely the choice of a certain product and/or provider, independent of the kind of product. To a certain extent Procurement and Supply Chain Management *add* managerial considerations to the theoretical models for Buying Behaviour. That is why this discussion focuses on Buying Behaviour literature.

One of the most representative models for Buying Behaviour is the *Buyclass* or BUYGRID model by Robinson, Faris and Wind (1967). Subsequent decision-making models (Webster, 1972; Sheth, 1973; Anderson, Chu and Weitz, 1987) are based upon the *Buyclass Model*, adding more factors to bring the model closer to reality. Since the latter models are based on the *Buyclass Model*, the coming paragraphs will treat its main characteristics.

The *Buyclass Model* begins with a recognition of the situation faced by the decision-maker. Depending on the type of purchase (situation), the decision process can vary. The typified situations are: new task, modified re-buy, or straight re-buy. After (1) characterising each situation, the buyer will (2) collect data, (3) evaluate the existing alternatives and (4) choose the option that best supports the buyer's goals. The simplicity of this model is one reason for its success. But when approaching the study of buying situations in complex and fast changing markets, these actions may be harder to perform.

An example of this difficulty can be observed in the buying of telecommunication products and services. *Chapter 6* describes in detail the situation in the telecommunication sector, but let us suppose that an organisational customer decides to buy a new telephony system. This may not be a new problem as such, but its solution becomes far more complex due to all the environmental changes (namely technological developments and the entrance of new competitors). This solution involves not only a new product[3], but also the consideration of a whole new situation[4]. Additionally there can be a strong dependence on former providers and a high level of unfamiliarity with new technologies and products. In this case, the decision-maker needs a maximum level of information in order to have a full picture of the alternatives that must be considered.

The *Buyclass Model* lacks a certain degree of reality due to the very characteristics that promote its wide acceptance:

- The linearity of the buying process (i.e., a logical sequence of steps) is assumed, but does not always occur in real settings.
- It assumes that the decision-maker's intentionality helps him to recognise the situation at hand.
- Finally, the purchasing perspective of buying decisions overlooks inter-relational questions (to be elaborated in *Section 2.3*).

In order to arrive at an explanation of *linearity* in the model, assume that the buyer can recognise the buying situation for what it is (this will be challenged below). After the initial identification, each steps in the linear buying process must be followed: from recognition of the problem on to the evaluation of providers. This linear model has been empirically tested (e.g.: Anderson, Chu and Weitz, 1987), although mainly from an *a posteriori* perspective and mostly in modified and straight re-buys. Later work still does not challenge the linearity assumption: much of the purchasing literature, implicitly or

[3] Besides the traditional copper connection, the buyer may opt for an ISDN or ADSL connection that offers more features, such as data transmission or image transmission.

[4] The customer faces new technologies, but also new providers, changing prices, and changing competition rules.

explicitly, considers the fact that organisational customers collect information, evaluate alternatives and choose the best option (e.g. Tanner, 1990). Bunn (1993) extended the Buyclass Model by elaborating a taxonomy of six different buying situations based on literature research and information from buyers. According to the importance of the purchase, the task uncertainty, the size of the choice set and the buyer's power in relation to the provider, the purchaser will approach these activities in different ways:

- The search for information,
- The use of research techniques to achieve an objective analysis of the alternatives,
- Proactive focusing or the extent to which the buying decision considers the strategic objectives of the firm, and
- Procedural control or how the final choice meets existing policies, procedures or history.

As shown here, recent work still accepts that organisational decision-makers go through several decisional stages until they act: buyers approach a decision with help of information gathering and analytical techniques, with the final goal of achieving an objective image of existing alternatives (Day and Barksdale, 1994). But empirical observations show that action might not be the result of an intended linear decisional process. Buying decisions, just like any other managerial decision, might occur without a conscious plan (Agor, 1989; Ciborra, 1998; Mintzberg, 1987, 1994). In practice, decision-making processes are not always so neatly structured. There is a shift to less restrictive assumptions in recent work. Patton's (1996) work illustrates this, when he accepts that: "the classic linear decision model may not always be appropriate", since psychological and individual factors influence the final decision.

In the second place, there are the assumptions about the buyer's ability to recognise the situation that he is facing. The recognition of a problem implies the existence of an objective or need. In general the objective is to solve that problem or meet a need by buying a certain product or service. Therefore, the *buyer's intentionality* implies the following:

1. A customer's *objective*: The decision-maker can identify the problem he is facing and anticipate a solution. This final goal can be placed within certain parameters (product or service parameters such as price, features, quality).
2. Different *alternatives*: According to the former parameters, the decision-maker can identify the relevant information and analyse it in an efficient way in order to determine whether there are comparable alternatives. From this set of alternatives, the buyer will choose the option that best fits the final goal(s).

The buyer who is aware of the final buying objective can describe the buying situation he encounters in terms of this goal. For instance, the acquisition of telecommunications products and services can be either a straight re-buy or new task, depending on previous purchases of the same telecommunication product or service, as well as on the final application of the product. The description of the final objective determines the parameters for the buyer's analysis of alternatives, and also the information needed to define those alternatives. Recent work on purchasing theory shows a more flexible version of this assumption. An example is Weiss and Heide's (1993) work: although

still considering goal-oriented behaviour, their investigation included the possibility and advantages of emergent patterns of action and improvisation. Similarly, Dawes, Lee and Dowling (1998) present the benefits of emergent decisional centres. Further, Jackson Keith and Burdick (1984), Tanner (1996), and others, included perceptions of buyer behaviour in their analysis, thus signalling the importance of subjective factors in the analysis of buying decisions, although maintaining an assumption of linearity in the buying decision process.

To summarise the foregoing, *Table 2.1* outlines the steps in the Buyclass Model and key assumptions about customer behaviour. These assumptions are necessary to approach and follow the buying process.

Buyclass Model Steps	*Assumptions about the Customer*
1. Problem/Situation Recognition	a. Existence of Intentionality/Objective
2. Data Gathering	b. Identification of data collection parameters
3. Evaluation of Alternatives	c. Ability for building alternatives
4. Choice	d. Existence of parameters for sorting alternatives

Table 2.1: Purchasing Model Assumptions

To sum up, it is important to note how the recent literature allows more flexible assumptions about the intentionality of the buyer and the linearity of the buying process. The purchasing literature is shifting toward a more behavioural approach, allowing more flexible assumptions and accepting individual (psychological) factors, improvisation, and emergent behaviour. My intention is to go further along these lines, seeking new insights into the buyer's behaviour with the help of the Organisational Studies literature.

2.2.2. Industrial Marketing Theories

The primary idea behind all Marketing literature is that organisational activities ought to be seen from the customer's point of view (Drucker, 1954). The customer becomes the starting point to plan the processes and products of an organisation (Levitt, 1960). Therefore the provider organisation must be designed and managed according to customer requirements.

This marketing concept of management implies the planning and implementation of market-driven strategies based on the gathering of information about customer requirements and needs, and organisation of the different business processes to meet a final objective of supplying what the customer wants. To a large extent, the main focus of the Marketing literature has been either on searching for explanations on the success or failure factors of seeking a market orientation in terms of business performance (Kotler, 1977), and on the issue of (successfully) implementation of the marketing concept within an organisation (a.o.: Webster, 1988; Day, 1990; Kotler, 1997; van Raaij, 2001). Normative models of marketing strategy formulation are based upon knowledge of the customer and the employment of that knowledge to manage or control the market.

In industrial markets, however, the implementation of a marketing strategy is a different task than in consumer markets. Ames (1968) highlights two main differences between consumer and industrial markets: (a) the multiplicity of customers with whom the provider organisation interacts; and (b) the dependency of marketing success on other business activities within the provider organisation (i.e., research and development, manufacturing, engineering, etc.). That is why industrial marketing models start with the assumption that successful implementation of the marketing concept depends on an assessment of the target market. The demand part of this market presents several characteristics that hinder assessment: the derived character of demand for industrial goods, the diversity of purchasing procedures and organisations, and the relationships between manufacturers and buyers (Cox, 1979). Therefore, successful implementation of the marketing concept is rooted in proper knowledge of the customer, and more specifically of the decision-maker within the customer organisation (Bonoma, 1982; Thomas, 1984; Tanner, 1999). Such is the basis of the Industrial Market Response Model (Choffray and Lilien, 1978; Woodside and Wilson, 2000), which positions the organisational customer as the final decision-maker for the purchase of the product. In this scenario, the provider must modify and adapt its strategies (even its corporate strategy) in order to meet customer requirements.

More recently Anderson and Narus (1999) presented the idea of "Business Market Management [as] a process of understanding, creating and delivering value to targeted business markets and customers" (p. 4). For developing a business market strategy the provider needs to know the customer's "purchasing orientation" in order to adjust its market strategy and management. The different purchasing orientations correspond to the buying approaches presented in *Section 2.2.1* (namely: procurement orientation, supply chain management orientation, and buying orientation). The most novel contribution of Anderson and Narus' work is the inclusion of customer perceptions of the provider: the customer will not (only) evaluate the information received from the provider as it relates to the offered product or its price; the customer will also interpret this information according to his perceptions of the provider (for instance, whether the provider is trustworthy).

The underlying assumption for all these theoretical models is that *customers know* what they require and need. The provider will then organise its activities according to those requirements, and may attempt to modify or "manipulate" them to the benefit of both parties. However, observation shows that the identification of potential market needs does not necessarily result in clear strategic planning and implementation. Emergent strategies and improvisation (Hutt, Reingen and Rochetto, 1988; Mintzberg, 1987, 1994; Moorman and Miner, 1998) turned out to be equally successful strategies (in terms of business comparative performance) without resorting to a fully rational, programmed, and strategic approach.

Within marketing literature, there is also a debate about the customer's ability to express their desires. In this regard, Slater and Narver (1998, 1999), and Connor (1999) distinguished between customer-led orientation and market orientation: while the former indicates that marketers should follow customer's expressed desires, the later is a long-term approach based on understanding both the expressed and latent needs of the customer. These ideas were to a certain extent based on the work of Christensen and Bower (1996) that studied innovation in technology driven markets. Therefore, they enter the field of strategic management since a market orientation will in the long-run lead to innovation.

And finally, CRM (Customer Relationships Management) is a theory for approaching the customer. It offers tools for measuring customer satisfaction as well as the weaknesses and strengths of the customer/provider relationship, in order to exploit the advantages and avoid problems. Such a marketing strategy recognises that organisational customers do not necessarily behave within the orderly processes presented by traditional theories. To a certain extent CRM principles enter the field of Organisational Theories.

2.2.3. The IMP Group

Section 2.3.3 will present the IMP Group as a perspective on the analysis of buying/selling situations, notably the network approach. But the IMP Group also presents an integrative attempt to bridge the ideas of Marketing and Purchasing Models. In this section I will identify the basic assumptions of this approach in search for ideas to support a critique of the traditional perspectives.

The Industrial Network Approach (Håkansson, 1987; Håkansson and Snehota, 1995; Scott, 1983) adopted by the IMP Group is an interdisciplinary organisational perspective for Industrial Marketing that combines sociological and economic viewpoints, thus accepting Granovetter's (1985, 1992) argument of social embeddedness of economic decisions. This perspective recognises that organisations do not work in isolation, but in a co-operative and competitive environment. Therefore management decisions (including commercial exchanges) influence other organisations, and vice versa.

Networks are defined as modes of co-ordination of organisational activities. Industrial networks have three main elements: a*ctors*, the *activities* of those actors, and the *resources* used when performing those activities. The definition of actors in a network is similar to the definition of *roles* because actors are seen *in relation* to the activities they perform, the resources they have and how their position in the network defines the role they play. These three elements are also structured as networks, bound together by dependence forces (Håkansson, 1987; Håkansson and Snehota, 1995):

- *Functional Interdependency*: within the network different needs are satisfied by different resources that are themselves part of a network structure.
- *Power Structure*: control over activities and resources influences the power relations between actors. At the same time power relations will affect the way in which activities are performed.
- *Knowledge Structure*: the design of activities and use of resources are determined by the knowledge and experience of actors.
- *Inter-Temporal Dependency*: changes in the network are influenced and determined by its history and past experience.

Combining the network elements and inter-dependent forces, the relationship between two organisations is defined in the following terms (Håkansson and Snehota, 1995):

- *Activity links*: they are related to all kind of activities (production, marketing, technological research, etc.) that are connected between organisations as a relationship develops.

- *Resource ties*: these are the connections of concern resources within and between the participating organisations. These ties also constitute a resource for the companies.

- *Actor bonds*: relationships between actors are related to the organisational identity, the perceptions that actors have of each other, and changes in perception as the relationship develops.

Changes can affect the way in which activity links, resource ties and actor bonds are articulated, and therefore potential changes in the formal structure of the network. The source of change can be exogenous (outside the network) or endogenous (provoked by actors and interactions within the network). In this sense, the IMP Approach takes into consideration the way that interactions themselves can provoke a change in the way buyers or providers make decisions in commercial exchanges.

The IMP Group also recognised the importance of ambiguity and uncertainty when approaching business activities (Snehota, 1990). But the research on these issues remains rather theoretical. The empirical work done in this field is rather descriptive: the Network Approach offers some interesting tools for analysing and describing relationships, but it does not provide a theoretical model to explain the differences in how organisational decision-makers take their decisions.

In this section I have put forth the rather unrealistic basic assumptions of both the Purchasing and Industrial Marketing models. First, there is the idea that organisations are able to identify the buying situation they are facing and are able to choose between different but comparable alternatives (either alternative providers or products). Industrial Marketing literature takes these assumptions to be true. Thus, marketing management rests upon credible knowledge of market requirements, and on the design of rational objective-driven strategies. However, these assumptions about the customer's awareness of needs are challenged by empirical observations. The ideas of the IMP Group offer a promising approach because its basic assumptions are closer to empirical observations. They offer useful tools to describe relationships, but there is still a need for a theoretical explanation of how organisations behave in their commercial exchanges.

Once the main characteristics of these theoretical streams have been discussed, I will focus on the research perspective of each theory. The goal is a theoretical approach which recognises that economic as well as social activities and exchanges cannot be fully understood nor explained from just one vantage point, that of the customer or provider.

2.3 Research Perspectives: in Search of a Relational Approach for the Study of Buying/Selling Situations

The globalisation of business activities, stimulated by the intensive use of communication and information technologies, can be understood as the most important driver of organisational interdependency. As communication and information are essential for the making of decisions, no less important are the relationships wherein communication and information exchanges occur. This interdependency is reflected in

the increasing importance of business networks. Within these relationship networks, organisations make their decisions and perform their activities. In this sense, a relationship between two or more parties is any kind of connection between them that involves an exchange of tangible resources (like product or money) or intangibles (like reputation or information).

If relationships influence business activities, decision-making, or the processes that leads to these activities, all will be equally affected. This influence, while pervasive, may be more potent among telecommunication providers and customers because of the specific characteristics and potentials of these products and services. Telecommunications facilitate the de-integration of large vertically integrated organisations, and simultaneously enable the combination of otherwise dispersed activities, resources and actors in order to create new products, services or structures for managing (new) business activities. They strongly influence the structure and manner in which business organisations approach their activities. Telecommunication products and services may become an integral part of the customer's activities, creating a greater dependence between customer and provider.

As an example, let us suppose that a customer firm uses an Internet connection to serve its customers. The Internet provider may be just a supplier of the connection without an influence on the firm's core activities and performance when the Internet is used only as a promotion tool. Or it may be an essential part of the firm's distribution channel, providing ordering and payment services over the Internet (with all the attendant security issues). It is clear that the product's demands on the provider will be different depending on the situation. Depending on the importance of the product, the level of commitment between the two parties may also differ. That level of commitment describes the relationship between customer and provider.

Another example that points to the importance of relational factors in this study is the fact that all organisational customers have had a commercial relationship with the incumbent operators at some point in their histories. These relations began with commercial contacts for the provision of telecommunication connections; investments in infrastructure may be part of these relationships. For instance, a firm that acquired a PABX system from an incumbent operator together with a telephony connection might be reluctant to cancel the existing contract even if the newcomers' tariffs were cheaper. If this firm does not want to replace the PABX because the investments have not amortised, cancellation of the connection contract might damage relations with the provider who is still responsible for maintenance of the system.

In any of these cases (dependency based on the importance of the telecommunication product, or historical dependency) the type of relation between customer and provider is different. This difference will influence the way in which customers and providers make decisions about buying and selling telecommunication products and services. Although the importance of relationships in decision-making has been largely recognised, studies on commercial exchanges persist in a unilateral research perspective: either from the customer (Purchasing Theories, *Section 2.3.1*) or the provider perspective (Marketing Theories, *Section 2.3.2*). The ideas of the Industrial Marketing and Purchasing Group (*Section 2.3.3*) have been included in this discussion because they contribute a relational approach to the study of buying/selling exchanges. These theoretical streams are explored in the next paragraphs.

2.3.1. The Customer's Approach

Purchasing Theories pertain to buying processes that occur within the boundaries of the customer organisation. They assume that the customer is more or less free to choose the providers and products that can supply the optimum utility in terms of known needs. Therefore this approach assumes that the customer has a clear knowledge of the purchasing organisation and its needs.

Section 2.2.1 presented the three main subcategories of Purchasing Theories (Supply Chain Management, Procurement Management and Buying Behaviour Theories). In these three situations, the organisational customer is the active player, while the provider seems to be a source of information and deliverer of the product or service. The relationship with the provider does not seem to be an effective variable within the decision-making process. Of course, there are exceptions: within the Supply Chain Management literature, Choi and Hartley (1996) and Kim (2000) (a.o.) studied the benefits of properly co-ordinating efforts within a buyer/supplier relationship. Also Shin, Collier and Wilson (2000) investigated Supply Management as "the management efforts or philosophy necessary for creating an operating environment where the buyer and supplier interact in a co-ordinated fashion". These authors highlighted the importance of co-ordination, adaptation and integration of buyer and supplier's activities within the buyer's value chain, although recognising that the buyer is the actor who decides and chooses the provider with whom a relationship may develop[5]. In this case the relational perspective is used to study management of the relationship, not the way in which a proper counterpart is chosen.

This fact is repeated in Procurement Management literature: studies in this field focus on how to improve long-term customer/buyer relationships under the assumption that such co-ordination is advantageous for both parties. Within this procurement literature, Hahn, Kim and Kim(1986) considered the advantages and disadvantages of purchasing practises that promote competition, i.e., practises based on evaluation and choice among different alternatives.[6]

For their part, Buying Behaviour Models are most directly concerned with buying decisions. They present the buyer as the decision-maker who is in charge of discovering and formalising his problem, collecting information about possible solutions, evaluating the characteristics of different providers, and selecting the one that maximises customer's utility. As said before, the provider must furnish accurate and sufficient information to facilitate the customer's decision-making processes, while adapting to customer requirements. Within this framework, Joshi and Arnold (1998) studied the relation between the level of commitment that binds customer and provider, and the issue of product importance in industrial markets, but still from the purchaser's point of view. Cannon and Perreault (1999) highlighted the importance of buyer/seller

[5] Choi, Dooley and Rungtusanatham (2001) introduced the idea of supply networks as complex adaptive systems, accepting as well the emergence and evolution of these systems in order to achieve mutual adaptation between suppliers and customers.

[6] Iyer (1996) also pointed out the strategic consequences that a buying decision might have on the type of relationship formed between customer and provider. The customer's consideration of the required product's strategic importance is therefore essential for planning a buying process. In this case, the intentionality assumption is not jeopardised, although relationships are taken into consideration.

relationships, providing a taxonomy of business relationship types, although they recognised a bias in their work –the empirical data upon which the taxonomy was based was analysed from the customer's viewpoint. Therefore, even if the importance of inter-organisational relations and their effects on decision-making was recognised, it was only partly explored.

2.3.2. The Provider's Approach

Leaving Purchasing Theories for the moment, Marketing Theories assume that the customer plays the leading role in the making of a buying decision. The provider has to adapt its products to the needs of the customer, and in order to do so, the organisation must change and be managed according to market needs. These studies take the view of the practitioner (within the provider organisation) who wants to improve the market orientation of its activities, hence lacking the inter-relational perspective I aim at. However, the study of relationships in Industrial Marketing cannot be labelled as a "new issue".

Based on the ideas of the Social Exchange Theory (Thibaut and Kelley, 1959), Anderson and Narus (1984) studied the importance of personal relations within the framework of the working relationship between distributors and manufacturers. Brennan and Turnbull (1999) highlighted the importance of relationships between individuals in accommodating customers and buyer's behaviour. The role of relationships in buyer/seller situations, and issues such as control, power and trust between the counterparts, received renew attention in the 1990s; examples include work of Ganesan (1994), Morgan and Hunt (1994), Lusch and Brown (1996), Lewin and Johnston (1997), Smith (1997), and Siguaw, Simpson and Baker (1998). Here relationships are understood as co-operative links between the parties, and as an already existing entity that can and should be managed (through power, control or trust) in order to obtain the best result. This co-operative perspective implies that both parties share common objectives, which is not always the case in buyer-seller situations. Thus, to a certain extent, the viewpoint of Relationship Marketing is still on the provider's side because the desired co-operation creates a new organisational setting for the sale of products or services to end users.[7]

Therefore, in both the Purchasing literature and Industrial Marketing theories, the relationship seems to be external to both parties: it is present, and can be used and managed to benefit the customer or the provider. They do not seem to consider that the actions and reactions of both parties mutually and simultaneously modify the relationship. Because the relation with the counterpart is so essential for the development of one's activities, it is difficult to define the boundaries of an organisation, and to determine the extent to which the relationship influences each organisation's activities or is influenced by them. That is why a different approach is necessary: a perspective that gives ample consideration to the central role of

[7] Slightly different is the point of view expressed in the Customer Relationship Management (CRM) literature (Anton, 1996). CRM theories stress the importance of relationships between organisational customers and industrial providers as sources of information and customer satisfaction.

relationships in organisational activities. Such a relational perspective has been overlooked by traditional Marketing and Purchasing Theories.

2.3.3. The Network Approach

This assertion of a unilateral perspective for the study of business-to-business markets must be examined. Dwyer, Schurr and Oh (1987) indicated the importance of developing a research approach which recognises that commercial exchanges are not "discrete entities" but "relational exchanges" that evolve through time due to the interaction of both customer and supplier. Sharing this idea, the work of the IMP Group (Håkansson, 1982, 1987; Håkansson and Snehota, 1995; Ford, 1998; Ford and McDowell, 1999; Gadde and Snehota, 2000) clearly supports recognition of the importance of relationships in managing organisational activities. They acknowledge that organisations do not work in isolation, but are immersed in relationship networks that influence each involved party's activities. At the same time, the interactions of these involved parties are the ones that create the specific character of each relationship. In contrast to classical buying/selling approaches, the Network Approach does not explicitly suggest a normative buying model. They are rather more descriptive, with special emphasis on the definition of networks and the study of relationship components and their influential factors.

Networks are defined as modes of co-ordination of organisational activities, thus accepting the blurred borders of organisational structure. Industrial networks have three main elements: actors, activities performed by those actors, and resources engaged in those activities. This resulting framework does not present a classification of relationships, but the different elements that characterise relationships in industrial networks. The connection between two actors (i.e., the relationship between them) is always particular to those involved in the relation, which makes it difficult to elaborate a typology of relationships.

Although a typology of relationships would be an interesting tool for the analysis of my research problem, it is not my intention to embark on such task. Besides, an investigation of the relationship network that affects the activities of a certain customer or its providers goes beyond the main objective of this research (the study of decision-making problems and processes). Even so, I share the IMP Group's view that it is not possible to ignore or understate the importance of relationships. That is why I have chosen to approach this research, not from a network perspective, but from the dyad customer-provider viewpoint. Customers and providers are joined together by different types of relationships depending on the kind of products or information they exchange, the necessary investments, and the duration of the relationship, among other factors. Simply, each empirical situation will reflect a different relationship.

Summarising this section, the current changing situation requires careful consideration of the parties involved in commercial exchanges because these parties are themselves affected by such dynamism. Thus, in order to approach the study of complex buying/selling situations it is essential to adopt a relational perspective, in which providers and customers are considered. The dyad formed by these linkages is the point of view that I have adopted for analysing this research problem.

This research seeks to find a decisional model for the acquisition of products or services in environments of constant and fundamental change. Continuous changes require the use of dynamic models to explain buying/selling situations. This concept is especially important, given the fact that I will apply the resulting model to commercial exchanges in the telecommunication market, and that I will base my observations on the exchange of telecommunication products and services, a domain characterised by rapid changes in technology and swings in demand.

Despite the empirical basis and descriptive benefits of the Network Approach, I submit that *the relational modelling of decision-making problems and situations may contribute an explanatory theory to the Industrial Network Approach*. Organisational theories might overcome these deficiencies because their assumptions and propositions are based on empirical investigations. These theories go beyond the classical, normative Purchasing and Industrial Marketing theories, and the inter-organisational approach of the IMP Group, because they take into account the complexities of inter-relations and the dynamism of economic (and social) activities.

2.4 Summary

This chapter has presented the theoretical background that constitutes the initial basis for my research. Although I have shown that Industrial Marketing, Purchasing Theories and the IMP Network Approach have their critics, it was pertinent to present them. It is impossible to overlook such an important body of literature, for it can nonetheless provide useful concepts and ideas.

My research focuses on the investigation of commercial exchanges in environments of critical and fundamental change. The goal is to find a way to explain how these commercial exchanges operate. Empirical observations from the fast-changing telecommunication market will complement the existing models. Therefore, the *new model will take a relational perspective, will not need to consider the intentionality of buying and selling decision-making, and will clearly accept the non-linearity of commercial exchanges*.

A successful empirical investigation requires the choice of a research methodology that agrees with the characteristics of the topic in question. Existing models on commercial exchanges have been empirically tested, but according to the critics, they are not entirely valid because their basic assumptions prove to be inaccurate when investigating fast changing markets. That is why my objective is the design of a theoretical model. Quantitative Methodology and model designing ideas will help to position this empirical investigation. The selection of a methodology is presented in *Chapter 3*.

Chapter 3. Research Methodology

> *"A mere engineer –that is to say, an engineer without a real scientific mind- can be as useful to design a railway as a good lawyer to defend a lawsuit; but as the former would not make any contribution to science, neither would I entrust the reform of a nation's constitution to the later"*
>
> M. de Unamuno (Verdad y Vida, 1908)

3.1 Introduction

In *Chapter 1* I introduced the research problem, core question and objective of this investigation. The objective is *to design a model that adequately explains commercial exchange in fast changing sectors*. As an example of a rapidly changing sector, I have selected telecommunication market. In *Chapter 2* I discussed the existing models for buying and selling decisions, concluding that they could not provide an adequate explanation of commercial exchanges in the telecommunication industry. In this chapter I will present a methodology for filling in the theoretical gaps left by traditional buying and selling models.

In the earlier chapters it was implicit that a scientific approach to this question would require appropriate choices, starting with the very choice of what to investigate. The question is now how to approach this research, because the scientific value of the conclusions will depend on sound investigative methods. Therefore, my first task is to position this research in a methodology that is appropriate given the characteristics of the research problem. That done, I will be able to identify how to proceed with the theoretical and empirical investigation, as a basis for an explanatory model of commercial exchanges in the telecommunication sector.

Section 3.2 presents the research paradigm for this investigation. This is primarily a qualitative approach, which requires the use of qualitative tools for collecting and analysing information.

Section 3.3 treats the design cycle of this research. My objective has both a theoretical and empirical character. Both purposes are intertwined in the design cycle, a cycle in which one can obtain a better understanding of the relationships and roles played by the theoretical and empirical aspects of this research.

3.2 Methodological Positioning

There have been many discussions about proper research methodologies for studying socio-economic problems. This quest is a matter of making choices: the researcher must

select the proper strategies and tools given the research problem, objective, and core questions. In this section I will position my research within an appropriate research methodology, i.e., the use of empirical observations and qualitative methodology in order to build a theoretical model.

The most extended and general classification of research methods divides them into quantitative and qualitative approaches. Creswell (1994) considered this as the first choice every researcher must make once he has found the focus of the research. According to Creswell, quantitative research is the traditional, positivist, experimental or empiricist paradigm; qualitative research is the constructivist and interpretative approach.

Qualitative research has three main characteristics (Baarda, Goede and Teunissen, 1995): (1) the correspondence between the research problem and a practical situation, (2) the holistic view of reality, and (3) the direct evaluation of the research problem and situation. On the other hand, quantitative research is mainly characterised by the quantification (the translation into a formal language) of the different variables that constitute a certain situation, as well as by the use of statistical procedures to express results (Verschuren and Doorewaard, 1998, pp. 135). Either approach offers both advantages and disadvantages for studying socio-economic problems because social sciences are not an exact science[8], often making it difficult to find *the* perfect method.

Traditionally, qualitative research has been labelled as the most imprecise of both methodologies because data analysis largely depends on the researcher's interpretations that may be highly subjective. Therefore special attention has been given to increasing the scientific accuracy of qualitative analysis. Clear examples are Yin (1984) with his work on qualitative research and case study analysis, and Strauss and Corbin (1990) on theory building research. During 1990's analytical tools with a statistical component were developed giving rise to a whole group of Computer Assisted Qualitative Data Analysis Software (CAQDAS)[9]; examples of such software programs are QSR NUD*IST 4 (1997) or Kwalitan (1991).

Nevertheless these efforts to reduce the subjectivity of qualitative research do not take into consideration the subjectivity that also enters into the choices made by researchers when planning and developing a quantitative research protocol (Ebbesen and Konečni, 1980). My intent is not to underestimate the validity of one methodology in favour of the other, but to show that both are in principle equally suitable (or unsuitable) ways to approach a research problem.

The choice for either qualitative or quantitative methodology should not be driven by a search for objectivity, but by the characteristics of the research problem itself. In this way, the researcher, instead of making a personal choice, is guided by the research problem and objectives that determine whether the investigation requires a qualitative or a quantitative approach.

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[8] In the last century, the exactness of scientific findings in Physics (traditionally considered a pure science) has even been questioned (cf. Capra, 1982).

[9] For a compilation of literature on the topic, see Fielding and Lee (1991) and Kelle (1995).

In this regard, a classification made by van der Zwaan (1995) distinguishes the following research forms, depending on the role of theory in the study of a particular research topic:

- *Exploratory research*: There is little theory on the topic. Research aims at finding new theoretical ideas to complement existing ones.
- *Descriptive research*: There is theory on the topic. These ideas provide the research approach to analyse the research problem.
- *Explanatory research*: There is theory on the topic but it is insufficient and research is necessary in order to complete these theories.
- *Test research*: There is sufficient theoretical base for the research. With help of these theories, a hypothesis will be formulated and tested. This research requires a more quantitative approach for the formulation and contrasting of the hypothesis.

In any case, the former classification is rather rigid: it is difficult to use this in practice because the same investigation may have characteristics of more than one typology. For instance an explanatory research venture might need a descriptive element in order to situate the research problem within a larger framework. The descriptive and exploratory approaches are very similar, although the former does not lead to new findings but to the validation of existing theories.

My research has both testing and descriptive aspects, because commercial exchanges are a major topic of research among Purchasing and Marketing theorists. Nevertheless, hypothesis testing is complicated because the existing theories do not seem to fully explain this research problem (as discussed in *Chapter 2*). On the other hand a description of my research problem according to the existing theoretical framework would prove incomplete. Therefore my research objective is not theory testing, and at the same time, it goes beyond the purely descriptive analysis of commercial exchanges.

My research aims at theory construction, and is positioned between an explanatory and a descriptive research (van der Zwaan, 1995). My initial objective is *explanatory*: to explain commercial exchanges in the telecommunication sector. To achieve this, I will introduce empirical situation *descriptions* that are elaborated with the framework of existing buying and selling theories. Even then, the telecom sector presents empirical situations that are insufficiently described, because the existing theoretical framework offers only partial explanations. These considerations will shape my approach to an explanatory model for commercial exchanges in the telecommunication sector.

In order to produce a theoretically plausible model, the analysis of empirical observations must be based upon proven analytical tools. In this respect Grounded Theory offers the desired theoretical soundness because its analytical tools support the discovery of the researched phenomenon, the elaboration of concepts, and the analysis of cause/effect relations, without overlooking the scientific character of the resulting theories. Grounded Theory is: "*[…] theory that is inductively derived from the study of the phenomenon it represents. It is discovered, developed, and provisionally verified through systematic data collection and analysis of data pertaining to that phenomenon"* (Strauss and Corbin, 1998, p. 12). Grounded Theory will be further discussed in *Chapter 5*.

Once the research is positioned, it will be important to define the role that theory and empirical observation will play in the building of my new theoretical model. The next section will explain the design cycle of a theoretical construction. This cycle intertwines the intellectual sub-cycle (*theoretical research*) with the practical sub-cycle (*empirical research*).

3.3 Facing Model Construction: the Designing Cycle

Theory construction is at the same time opposed and complementary to theory application (van Engelen and van der Zwaan, 1994). *Theory construction* requires both description and explanation. On the other hand, *theory application* requires theory diagnosis, construction, and implementation. Therefore when building a theory, the researcher must take into account that the new theory will only be valid as long as it is applicable to other situations.

The inter-relation between theory building and theory application is reflected in the Design Cycle (Muller, 1999) presented in *Figure 3.1*. In order to reach the research objective of designing an explanatory model of commercial exchanges, the researcher needs both to investigate existing theory and to observe existing empirical evidence.

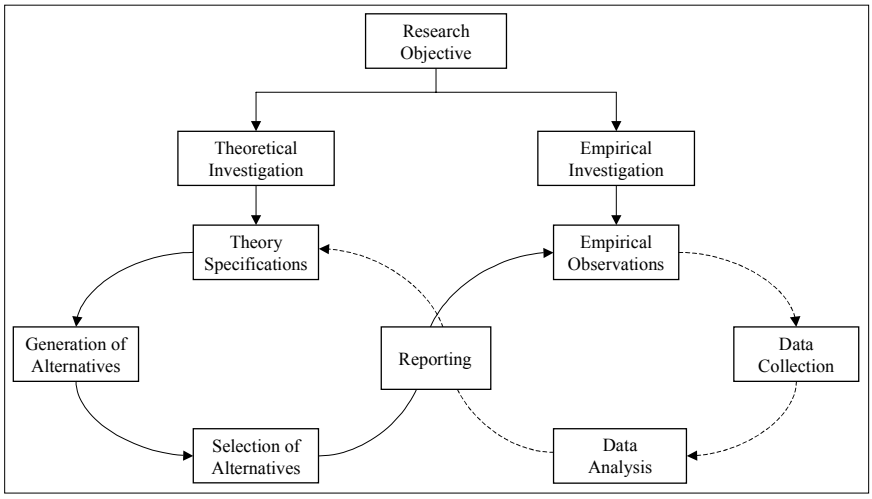

Figure 3.1: The Theory Designing Cycles

In the first place, existing theoretical models are selected according to the general empirical situation under study. The selected theoretical alternatives are then reported and confronted with initial empirical observation. This initial contrast helps to define the theory specifications that result in new theoretical alternatives or a prototypical model. The prototypical model is again tested against empirical observations based upon exhaustive data collection and analysis. Such an analysis refines the specifications of the prototype, and the cycle will start again.

In this research effort, I have investigated existing theories for the analysis of commercial exchanges. From this starting point, I have selected *three models* that can partially explain commercial exchanges in business-to-business markets. These models are proposed by Industrial Marketing Theory, by Purchasing Theory, and by the IMP Group. As discussed in *Chapter 2*, when these theories are applied to telecommunications, they may offer useful concepts and ideas, but they do not entirely fit the telecom market. They fail to comply with three important *theory specifications*:

1. the relational perspective to approach commercial exchanges,
2. the consideration of non-linearity and non-intentionality in social and economic exchanges, and
3. the application of behavioural ideas to the research of buying/selling situations.

With these specifications in mind, I looked for other suitable theoretical models. As noted in *Section 1.4,* Organisational Theories on Decision-Making agree with the former specifications. In particular, Decision-Making Theory (March, 1988) provides a prototypical model for decision-making in fast changing environments, such as telecommunications. By contrasting Decision-Making Theory with observations of commercial exchanges in the telecommunication sector, it is possible to substantiate this prototype and to create a sound theoretical model for commercial exchanges.

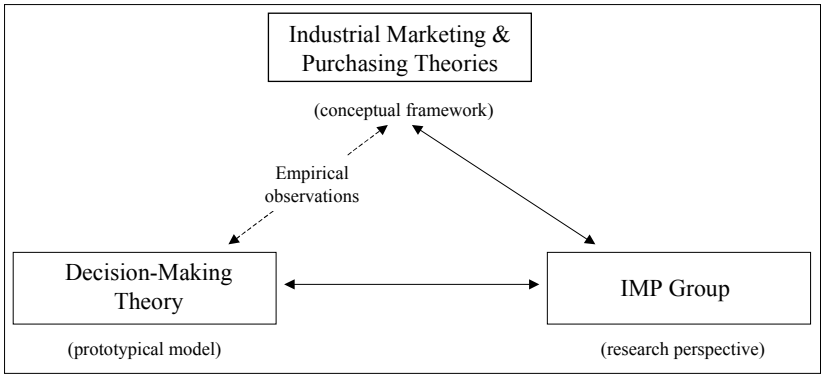

Figure 3.2: Theoretical Framework

The role of the different theories used in this research has been introduced in previous chapters. Schematically this is presented in *Figure 3.2*. In the first place, Industrial Marketing and Purchasing Theories contribute with useful concepts and ideas, and with partial models that in principle can explain commercial exchanges. The IMP Group network approach contributes a more realistic research perspective to those theories. This research approach understands that organisational activities are not isolated, but embedded in networks of relationship. This inter-relational approach is shared by Decision-Making Theory, although its ideas have not been tested in commercial exchange situations. The main goal of my research is to contribute empirical insights to these theories.

3.4 Summary

In this chapter I have classified this research by positioning it within a qualitative methodology. Within this general classification, my research will aim at the construction of a theoretical model based upon empirical observation and theoretical investigation. To then ensure sufficient theoretical validity in the resulting model, Grounded Theory will provide analytical tools for dealing with empirical data[10].

Because this is a theory building inquiry, both theory and empirical observations are intertwined in the research design. By analysing the research design, the role of Industrial Marketing, Purchasing, and the IMP Group ideas becomes clear.

I have also explained the methodological basis for including Decision-Making Theories in this research. Decision-Making Theories provide a schematic model that can be substantiated with empirical information. The presentation and discussion of this prototype is the subject of the next chapter. The different elements of the model will be considered in planning empirical data collection and analysis.

[10] Data collection and Grounded Theory analytical tools are presented in *Chapter 5*.

Chapter 4. Searching for a Prototypical Model of Decision-Making: Organisational Theories and Commercial Exchanges

"Every intellectual effort sets us apart from the common place and leads us by hidden and difficult paths to secluded spots where we find ourselves amid unaccustomed thoughts."

J. Ortega y Gasset (What is Phylosophy, 1958)

4.1 Introduction

This research focuses on the design of a theoretical model that can properly explain commercial exchanges in the telecommunication sector. As discussed in *Chapter 2,* traditional models of commercial exchanges (based on Purchasing and Industrial Marketing Theories) assume that decisions leading to buying or selling involve a conscious construction of *alternative* options or marketing strategies, and a choice of the most appropriate one. This appropriateness is defined by the customer's *objective* of meeting quality requirements at the lowest possible price, or for the seller, meeting that required quality at the highest possible price. Nevertheless, when buying and selling telecommunication products and services, customers and providers encounter a market subject to continuous change. Change affects the alternatives and objectives of both customers and providers, and the way in which they approach buying and selling decisions. To some extent this invalidates the existing buying and selling models.

Given the inadequacy of existing theories, there is a need for a model that, from a relational viewpoint, can explain commercial exchanges, taking into account the non-intentionality of buying and selling activities, and the possible non-linearity of commercial exchanges. Because buying and selling activities may emerge from various organisational activities, I will place this in a more general context: this is about decision-making that leads to commercial exchanges.

Decision-making is the engine that drives action and leads to performance. Decision-making is a cognitive process with elements, influencing factors, and causal relations that are sometimes concealed to an external observer (for instance, a researcher). Nevertheless, Organisational Theories have indeed modelled decision-making processes. Organisational ideas start from a behavioural approach, are rooted in political decision-making, and draw their conclusions from empirical observation. This chapter will present the main ideas of Organisational Theories of Decision-Making and how they can be applied to commercial exchanges.

Section 4.2 addresses the assumptions and findings of Organisational Theories. These theories take a multilevel approach to decision-making, although they do not directly apply their ideas to commercial exchange decisions, but to strategic choices. Organisational Theories approach strategic decision-making from a behavioural perspective, stressing the importance of clear organisational objectives and of avoiding conflicts between the interests of the organisation and individuals. They are also characterised by the variety of perspectives or decision-making models used to explain decision-maker's behaviour (*Section 4.2.1*). In an attempt to collect these decisional models, March (1988) proposes a Decision-Making Theory (*Section 4.2.2*) that groups the former models in two large clusters: calculative or evaluative models (commercial exchange theories can be included in this group) and rule-following or appropriateness models (which include organisational models).

The distinction between calculative and appropriateness logic facilitates the study of decisional problems (see *Section 4.3*) because this succinctly shows the relation between calculative models and alternatives, and between rule-following models and decisional preferences. Calculative decisions are made by evaluating each option, calculating the pros and cons of each, and choosing the option that optimises the achievement of a certain decisional goal. Rule-following decisions are made according to a pre-established rule based on the preferences of the decision-maker. Problems affecting alternatives are dealt with by the uncertainty concept, and problems affecting preferences are neatly classified as ambiguity problems.

At this point the issue is how a relational perspective for studying commercial exchange decisions affects the study of decisional logics and problems. A relational approach means that the decisional logics of both participating parties in a commercial exchange are taken into account. After analysing this problem theoretically, I will offer a sketch of this model, although empirical evidence will be needed to "fill-in" the schema. This schematic model is presented in *Section 4.4*. By then observing actual commercial exchanges in the target sector I will build a theory that adequately deals with the relational perspective.

4.2 Organisational Decision-Making Theories

As defined by Möller (1985), "organisational buying is an example of a multi-phased, multi-person, multi-departmental, and multi-objective process". As concluded in my analysis of the existing literature on commercial exchange models, we should also see this as a multi-organisational process. This research and modelling problem has not been properly addressed in the literature. My search for a more complete explanation is then based on the following issues:

1. The unrealistic starting assumptions (intentionality and linearity) of classical Industrial Marketing and Purchasing theories, and the rather positivistic approach of the IMP Group (presented in *Section 2.2*), and

2. The rather unilateral perspectives presented by these theories, with the exception of more recent theoretical works and the IMP Group's perspective (see *Section 2.3*).

In order to remedy these inadequacies, we might delve into the field of behavioural studies. Behavioural theory approaches organisational decisions by analysing empirical

situations. Behavioural ideas are based on the principle of bounded rationality (Simon, 1982): i.e., organisations lack perfect rationality because the amount of available data exceeds their capacity to process it. Since only part of the existing information can be taken into consideration, the decision-maker cannot have complete knowledge of all existing alternatives, which also implies the impossibility of choosing "the" best of all possible options. The idea of "utility maximisation" is then replaced by the concept of "utility satisfaction": the decision-maker can determine a desired objective, and he decides which alternative best fulfils that objective. The different ways in which an organisation selects and processes information give rise to different "rationalities" or attempts to interpret the observed empirical evidence.

Traditional theories of choice consider that the kind of rationality that supplies this deficiency is economic. This economic rationality (Williamson, 1985; North, 1990) implies that the decision-maker gathers information that casts some light on a pre-established economic objective until the cost of obtaining such information exceeds the expected benefits. At that point the decision-maker evaluates the information and chooses the most suitable option by comparing alternatives, or by applying an institutionalised economic rule. However, economic activities are embedded in social actions and inter-actions (Granovetter, 1985): organisations are not only driven to, or constrained by, economic issues (either economic goals or rules). They must also attend to social objectives (social recognition, approval, personal satisfaction, etc.) and behavioural constraints.

Such a socio-economic approach, much closer to reality than the purely economic or purely sociological perspectives, can be found in the Organisational Theories of decision-making. Organisational theories (a.o.: Allison, 1971; Cyert and March, 1963; Crozier and Friedberg, 1980; Pfeffer, 1981; Schoemaker, 1993) propose decisional models that accept the bounded rationality of decision-makers, and the importance of economic as well as social factors for motivating decision-making and solving decisional problems.

While adopting a more realistic starting point, most behavioural theories still view decision-making as a conscious process, in which decision-makers have a clear idea about their ultimate objective. Without such an objective, they cannot process the information properly, or choose the decisional rule most likely to produce a satisfactory result. In March's words (1988, p. 1), traditional models usually "portray decision-making as intentional, consequential and optimising", assuming that the decision-maker is aware of his preferences (goals, wishes and subjective utilities), and knows the consequences of choosing different alternatives.

The existence of both *awareness* and *knowledge* might be jeopardised. Regarding the awareness of preferences, one should take into account that there may be different and opposite co-existing preferences within an organisation, and that there is a limited ability to understand all of them. As for knowledge of alternatives, there is limited time for gathering information about their possible consequences.

Organisational theories of decision-making mainly focus on explaining why decision-makers centre their attention on certain preferences. They are, so to speak, theories of allocation of attention (March, 1988). Besides and because the existence of opposite co-existing preferences is allowed within an organisation, many of these theories come

with political models that try to explain the prevalence of certain preferences over others (as a result of conflict resolution, negotiation, power, etc.).

Both policy-making and organisational decision-making studies share the idea that the resulting decisional models depend on the research perspective used to analyse the decisional situation. That is why, before going further in the study of Decision-Making theory, I will present the different alternative views in decision-making studies.

4.2.1. Alternative Views of Organisational Decision-Making

In order to approach the study of decision-making topics, it is important to consider the initial perspective of the researcher. The importance of such a research perspective was observed by Allison (1971) in a study of the U.S. government's decisions during the Cuban missile crisis. He presented three different viewpoints (cited in Schoemaker, 1993):

- One can assume that the decision depends on and affects a well-defined decisional unit (*unitary actor model*).
- A decision might also be understood as the result of co-operation and co-ordination of different parts in the organisation to achieve a common objective (*organisational model*).
- A decision can also be the result of a struggle between the objectives of different parts of the organisation (*political or power model*), because individuals and organisational goals do not necessarily have to match.

Schoemaker (1993) added a fourth model: the *contextual view*. This perspective agrees with the ideas of March and Olsen (1976). "This view holds that organisational environments are so complex and human desires so varied, that each decision context becomes its own reality, with limited consistency across situations and goals" (Schoemaker, 1993).

The unitary model is characterised by the simplicity and rationality of the different parts of an organisation that are able to work as a unit, following common objectives, and using common tools. This perspective is adopted in the traditional literature on buying/selling decisions, like Purchasing and Industrial Marketing Theories.

Organisational models of decision-making (Cyert and March, 1963) assert that an organisation's participants pursue common interests and goals, but they do not necessarily follow a predetermined decisional path. They share similarities with the already mentioned models of emergent strategies proposed by Mintzberg (1987, 1994).

The political models of decision-making encompass bureaucratic and power-seeking models. The bureaucratic theories of decision-making (Crozier, 1964) suggest that decision-makers make their decisions according to the rules and constraints that constitute the organisation. Organisations are sets of different behavioural rules that shape departments and the hierarchical levels. Decision-makers just have to follow the right procedures. Bureaucratic decision-making can be found in institutions such as the army, in which there is a high degree of inflexibility.

Power theories (Pfeffer and Salancik, 1978; Pfeffer, 1981; Pichault, 1995) hold that in the event of conflict, decisions will be made by and according to the most powerful decision-maker, who wants to achieve more power. The position of an individual or organisation within the network of relations will determine the amount of power and control over decisions that concern the rest of the network. According to these theories, decisional motivation is the achievement of control and power, not necessarily the achievement of organisational objectives.

Finally, a contextual view of decision-making (Schoemaker, 1993) is also mentioned by Pfeffer (1997) as "casual decision-making". In this case, decision-making is a rather eclectic activity where chance plays an important role. Under this label, one can find intuitive models of decision-making (Agor, 1984, 1986, 1989) as well as "garbage can" models (March, 1988, 1994, 1999).

4.2.2. Decision-Making Theory

In an attempt to collect all these different views, March (1994) grouped decision-making models into two clusters. According to him, decision-making is a cognitive process that leads to action. Instead of being a predetermined set of steps, the process is a logic beneath the action. Such process can be disentangled (to a certain extend) by observing actions and interactions. These decision-making 'logics' are:

- *Logic of Calculation*: decision-makers perform their activities in order to achieve a certain goal, either social or economic.
- *Logic of Appropriateness*: a decision-maker follows a (social or economic) rule according to his identity, after examining the situation he is facing and assessing a certain function or rule to solve it.

One could place an existing decision-making model within one of these groups. On one hand, traditional choice models (like the Industrial Marketing and Purchasing) fall into the first group because they are based on a calculative evaluation of different alternatives[11]. They consider that the decision-maker's objective does not change. That objective helps to build a set of preferences that will structure the alternatives.

Figure 4.1 schematically represents a calculative model of decision-making: it starts with the recognition of a problem, and the formulation of an objective/solution that is depicted in preferences that precede and guide the sequential process of alternative selection and choice.

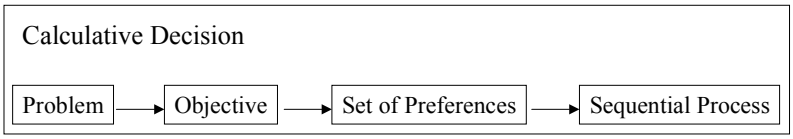

Figure 4.1: Calculative Logic of Decision-Making

[11] However within these theoretical traditions, I found exceptions: for instance the work of Leigh and Rethans (1984) that applies Script Theory to marketing decisions is an example of rule influence in buying decision-making.

On the other hand, bureaucratic and power-seeking decisional models can be interpreted as appropriateness models. In this case the organisation follows a rule established by the managerial board, or a pre-established bureaucratic path, or accepts constraints imposed by powerful actors within the organisation. This decisional rule depends on stable preferences that together form an organisational objective. An objective is associated to a particular identity[12], and leads to a decisional rule either through evolution[13] or through learning (Levinthal and March, 1981; Herriott, Levinthal and March, 1985).

Figure 4.2 is a schematic representation of appropriateness logic in decision-making: once the decision-maker recognises the situation he is facing and defines objectives according to that situation, he will assume the identity associated with the achievement of that objective, and he will act according to the rules attached to that identity.

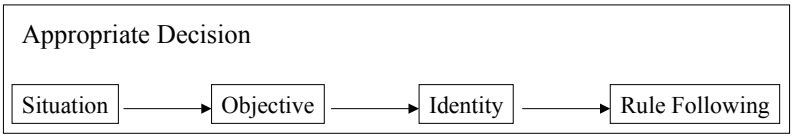

Figure 4.2: Appropriateness Logic of Decision-Making

The use of a rule for the making of decisions saves time and resources, especially when information gathering and the calculation of existing alternatives becomes an arduous task. If a decision-maker follows a certain rule, he implicitly assumes that either alternatives do not change, or that alternatives change so rapidly that there is no way to anticipate the shape of future alternatives.

Logic Enactment

Given these two logics, a question remains: *why does a decision-maker choose one logic and not the other?* This may be approached differently depending on who is answering the question. From the point of view of the decision-maker, the question can be rephrased as *"how do I make my decisions?" or "what choices do I have to make in order to approach a decision?"* In this respect, research in general and organisational psychology is very relevant.

Special attention is given to the building of preferences and weights, either those that individual decision-makers attach to each option (e.g.: Fiske, 1980; Gavanski and Hui, 1992; Kirkwood and Corner, 1993; Sanbonmatsu, 1997; Kray, 2000), or those that influence the researcher's choices (e.g.: Ebbesen and Konečni, 1980; Fischhoff, 1991; Keren, 1991). Other research pertains to the underlying cognitive processes of making routine decisions (Aarts, Verplanken and Knippenberg, 1998; Verplanken et al., 1998;

[12] For instance the identity "buyer" is associated with the objective "acquire at the cheapest price", that leads to the rule "buy from the cheapest provider," applied whenever the buyer needs a certain product

[13] Evolution is the result of interactions between different systems (either individuals or organisations). Interaction leads to the emergence of institutionalised rules of behaviour (Scott, 1983; DiMaggio and Powell, 1983; Carroll, Goldstein and Geynes, 1988; Leblebici et al., 1991; Mizruchi and Galaskiewicz, 1993) that may also lead to decision-making rules.

Betsch et al., 2001); to information gathering (Aarts, Verplanken and Knippenberg 1997; Verplanken, Aarts and Knippenberg 1997); to the making of judgements about others (Hamilton and Huffman, 1971; Yaniv and Kleinberger, 2000), and/or how subjective occurrence probabilities (Tversky and Koehler, 1994) are constructed. These scholars generally used experiments to empirically compare their findings. Their works view decision-making in individual and group contexts, assuming that the group where the decision takes place belongs to one organisation and possesses a common objective. The decision-making models they present are explanatory: they explain how individuals behave in reality. Thus, a subjective view comes into play when decision-making is investigated from a psychological perspective.[14]

My investigation benefits from psychological and sociological research, but is focused on the observation of decision-makers' actions. Thus, I have adopted the perspective of an external observer, seeking to explain the processes behind a certain decision without going into the cognitive processes of the decision-makers. In this case, one answer may be that the application of a certain decision-making logic depends on an evaluation of the environmental situation faced by the decision-maker. If he believes that alternatives do not change, or that they change so rapidly that probabilities cannot be assessed, then an appropriateness logic would be the most suitable decisional model –it avoids the evaluation of alternatives.

Both logics consider that the decision-maker has consistent objectives and is conscious of them: the decisional entity can define its preferences, and they will be kept consistent through time. If there are opposite views, the conflicting parties will co-operate and co-ordinate their efforts to achieve common goals. The idea that organisational decision-making "makes sense" (Weick, 1979) for the whole organisation is implicit in this assumption. Because organisation participants' conflicting views can be side-stepped (by negotiation or appropriate rewards) in order to achieve a common goal, the organisation as a whole will be able to proceed with a decisional process that is accepted and homogeneously interpreted by all the organisational participants.

As mentioned previously, this theoretical assumption conflicts with the fact that organisations are a composite of different groups, each with different objectives, each attached to particular interests, and each involved in different activities. In many situations negotiation does not lead to the achievement of a common goal. Each of the participants may interpret the organisational objectives and decisional processes according to their particular expectations.

Garbage-Can Logic and Role Theory

The acceptance of these two decision-making logics (calculation and rule-following) is still a theoretical construct. Empirical observation might reveal a third situation: sometimes (more often in highly dynamic environments), organisational actions do not seem to fit into one of these "logics". Decision-making seems like a chaotic process that makes sense for the actual participants, but not for the whole organisation or an external observer. Observations seem to agree more with the models proposed by the theories of accidental decision-making, such as the Garbage Can model (Cohen, March and Olsen,

[14] Relevant publications in this area are: *Organizational Behavior and Human Decisions Processes*, *Acta Psychologica* and *Journal of Behavioral Decision-Making*.

1972; Warglien and Masuch, 1995). They assert that a particular decision depends on the actions and interactions of different individuals who are simultaneously involved in other decisions and other activities.

In this scenario individuals report stories that make sense for them, but there is no organisational sense, in that the individual stories do not necessarily combine to form a congruent or coherent picture. These stories provide certain degree of stability (at least in the eyes of the storyteller). This non-concurrency means that decisions are not ordered by any clear rule, nor do they follow any structured calculative process, but are sorted by time.

The garbage-can models can be better understood when adopting the Role theory approach. The focus of Role Theory (Turner, 1978; Biddle, 1979) is the study of the different individuals who participate directly or indirectly in the making of a certain decision, and the roles they play. This theory *"explore[s] how individuals interact during the buying process"* (Tanner, 1999). *"The central premise of role theory is that the individual should be viewed as a collection of social roles"* (Montgomery, 1998). These theorists do not only take into account the functional area where each person is located (and the "formal" role attached to that function), but also the role they currently play and the impact of that role-playing in the making of decisions. Biddle (1979) presented the definition of role as "a behavioural repertoire characteristic of a person or a position; a set of standards, descriptions, norms, or concepts held for the behaviours of a person or social position, or a position itself" (p. 9). Roles are those behaviours characteristic of a set of persons within a given context.

Role Theory is behavioural in nature: it focuses on the observation of the actions of those subjects under investigation. The same role categories that characterise a certain role (facets) are then considered within the context where they take place. Besides the recognition of context importance, Role Theory can also be considered as a relational theory: roles cannot be understood without recognising that individuals and organisations are parts of relational networks, either as active (those behaving) or passive (those "suffering" the behaviour) participants.

Taking into account how a role is defined in terms of facets, the relational network, and the context where it is played, Turner (1978) states that each role-player will have expectations about these three elements:

- Expectations about the script: what factors define a certain role.
- Expectations about the other players: how the other players may react vis-à-vis this role, and what role they may play.
- Expectations about the audience: how the context affects (as a reference framework) the behaviour and consequences of role-playing.

This conceptualisation of "role" at the individual level has certain parallels with the IMP Group concept of "actors" given at the organisational level. Even so, the role concept offers an advantageous feature: it helps us to understand that actors are immersed in different networks of relations, so they can simultaneously develop and play different roles depending on the network involved in and/or affected by the decision.

Within these different networks, meetings and discussions are the tools and mechanisms for making "garbage-can" decisions (Weick, 1995). Decision-makers will make decisions considering the expectations, opinions and perspectives acquired from others.

This section has provided an introduction to the different models of decision-making in Organisational Theory. When compared to buying and selling models, organisational models of decision-making seem to be closer to reality because they are based on direct observation, although they have not been directly applied to commercial exchanges situations. Lastly, within the framework of Organisational Models, Role Theory provides a useful conceptual tool for understanding why fuzzy decision-making logics can exist.

As my objective is to explain how decision-making processes work, I will now present decision-making problems within the framework of the pertinent theoretical models. I hope to shed some light on decision-making problems, for these problems are insufficiently analysed in the traditional commercial exchange literature.

4.3 Theoretical Perspectives on Decision-Making Problems

Having defined calculation, appropriateness and garbage-can decision-making logics, March (1988, 1994) also looked at decision-making in terms of the problems that affect decision-making processes. The modelling of decision-making in terms of decisional logics would not provide a complete explanation of how decisions occur, because calculation and appropriateness logics are subjected to rather questionable basic assumptions, and garbage-can logics are quite difficult to model.

As in March, I will also start by questioning the basic assumptions for the calculative and appropriateness models. In the previous section, I mentioned that calculative and appropriateness decision models are based on the following assumptions:

1. decision-makers have certain knowledge about the different *alternatives* that they have before them, and

2. decision-makers can define an organisational *objective* that will itself define a certain decision and/or decisional process.

Models of decision-making attempt to reconcile the problems inherent in these two assumptions: by approaching a decision through a certain logic, decision-makers can avoid or solve their decisional problems.

In the first place, decision-makers may face a change in their alternatives. Organisations' current decisions have consequences in the future, so decision-makers need to understand those future consequences and whether they agree with stated goals. In other words: decision-makers must solve or avoid the problems created by not knowing the future state of alternatives. The problem of not knowing the future state (and associated consequences) of existing alternatives is called *"uncertainty"*.

Second, there is the matter of stable and consistent objectives. Organisations (apart from being composites of particular interests and contrasting objectives) are dynamic entities that evolve and learn; therefore objectives are subject to change over time. If the

organisation is not conscious of such changes, it will not change its preferences (because they are based on the original goal). According to these preferences, an organisational decision-maker will choose some alternative, but the utility achieved by such a decision will not be satisfactory. The unconsciousness of changing objectives is the problem called *"ambiguity"*.

On the one hand, Industrial Marketing and Purchasing Theories, as calculative models of decision-making, present buying and selling models in which uncertainty can be solved or avoided. On the other hand, as appropriateness models of decision-making avoid the consideration of uncertainty, they mainly focus on the solution of ambiguity problems (a consistent and generally accepted objective is settled in the organisation or the commercial exchange by enforcing a rule of behaviour).

However, it is reasonable to accept that ambiguity might also affect calculative decision-making. And appropriateness logic might be a very useful decision-making tool when the level of uncertainty is so high that the evaluation of different alternatives becomes an extremely difficult and costly task.

Besides the blurredness of the relationship between decision-making logics and its associated problems, there is yet another issue that the modelling of decision-making according to decisional logics does not address. In empirical settings calculation and rule following are intertwined in garbage-can decision-making processes. In this type of observed situations apart from finding elements of calculation and appropriateness logics, one may also find uncertainty and ambiguity problems occurring simultaneously.

For this reasons the modelling of decision-making cannot be restricted to the formulation of decisions in terms of logics, but also in terms of problems. In the next paragraphs I present a conceptualisation of these decision-making problems, and propose theoretical solutions.

4.3.1. Uncertainty or the Issue of Changing Alternatives

Industrial Marketing and Purchasing Theories have defined uncertainty as the difficulty in making decisions due to unknown changes that affect the alternatives available to the decision-maker. Some scholars see coping with uncertainty as the essence of management (Weick, 1979; Thompson, 1967; Achrol and Stern, 1988). Even then, there is no commonly accepted definition of uncertainty (Argote, 1982, and Downey and Slocum, 1982, cited in Lipshitz and Strauss, 1997), as little has been done to research and compile the different conceptualisations of uncertainty. An exception is Lipshitz and Strauss (1997), who define uncertainty as a sense of doubt that blocks or delays action; but this definition is so broad that virtually any decision-making problem can involve uncertainty.

It is not my objective to analyse and collect all the definitions of uncertainty in the literature. But it is important to reach a congruent definition, for uncertainty is a core concept in my analysis of the empirical data. Although there is no unitary definition, there are common denominators in the definitions proposed by the Industrial Purchasing, Marketing and Organisational theorists.

Within the Industrial Marketing and Purchasing literature, the concepts of uncertainty and risk are closely related. A risky situation is characterised by knowledge of the

possible changes affecting an option (option understood as the outcome of the decision); with appropriate information about those changes, the decision-maker can assess the occurrence probabilities for each scenario. On the other hand, an uncertain situation implies that not all the alternatives are known, and therefore it is impossible to assess the exact probabilities (Smith and Taylor, 1985). If a decision-maker chooses one option whose characteristics change unpredictably (uncertainty occurs), he will have problems adapting to the new consequences.

According to Purchasing scholars (Robinson, Faris & Wind, 1967; Webster, 1972; Sheth, 1973; Anderson, Chu and Weitz, 1987), it seems that risk situations can be solved by using a calculative decision making model. If the decision-maker is able to assess certain occurrence probabilities, the decision is based on an evaluation of the different alternatives. The final choice is the option that maximises the ratio of quality/price. If the decision-maker is unable to assess those probabilities (he faces an uncertain situation), then the first step is a search for information to support a subjective or objective construct of occurrence probabilities.

Within the framework of the Industrial Network Approach, uncertainty is also considered as a decisional problem. Both customers and providers experience uncertainty derived from different sources (Ford, 1998):

- Problems caused within the organisation itself: Buyers face difficulties when trying to identify what they need from the supplier (*need uncertainty*). Suppliers will have difficulties forecasting the potential production demand (*capacity uncertainty*).

- Problems within the counterpart's organisation: Buyers may be uncertain about the future of the provider's offerings and/or organisation (*market uncertainty*). Suppliers may have problems determining the exact use of their products within the buyer organisation, which will have an impact on the actual product requirements (*application uncertainty*).

- *Transaction uncertainties*: Both parties may be uncertain about the counterpart's fulfilment of its part of the deal (payment or delivery)

Uncertainty in these cases can be known and used by the counterpart to its benefit: by knowing the weaknesses of the other party and reacting to them, the customer or provider can gain an advantage. In this case, uncertainties are another element in a relationship. This problem can be resolved by the party that does not experience it (e.g., a supplier can solve a customer's market problems by providing information about market trends).

On their part, Organisational theorists recognised and expanded the concept of uncertainty, as well as the problems associated with unclear or changing objectives. In Organisational studies uncertainty is the difficulty of anticipating the future consequences of present decisions (Thompson, 1967; Anderson et al. 1981; March, 1988). This concept, developed in the traditional theories of choice, was also expanded by including behavioural elements. As this happened, normative decision-making models began to be questioned.

Behavioural considerations in various Organisational studies[15] contributed the idea that changing alternatives are not the only factors behind uncertainty problems. Duncan (1972) had already identified subjective factors as one dimension of uncertainty. This uncertainty dimension was defined as the degree of the decision-maker's confidence regarding environmental influences on a certain decision. Accordingly, the decision-maker's understanding of the effects of environmental changes on alternatives is essential. Otherwise environmental changes will not have an impact on decision-making. Milliken (1987) also contributes to this concept by defining uncertainty as "an individual's perceived inability to predict something accurately". The inclusion of perceptions in decision-making means that each organisational decision-maker may understand the same environmental changes differently. This will have consequences when generalising from empirical findings, because perceptions are specific to each organisational setting. But from a theoretical perspective, normative decision-making models would be equally acceptable.

In calculative decisions, the search for information and the application of the proposed normative models help to alleviate uncertainty problems. In order to approach such issues, decision-makers should know: (a) what kind of information is required; (b) where such information can be found; and (c) how the relevant information can be identified. The application of the proposed normative models does not answer these questions. It is assumed that decision-makers know the answers because they have a clear sense of objectives. The objective (i.e., the ideal situation sought by buying or selling a certain product or service) shapes the decision-maker's image of what is required or wanted (question a). The decision-maker can obtain the data from the providers, customers, or from other parties in the market (question b), with the idea that the more intensive the search for information (i.e., the greater the amount of data collected), the better the chances are of finding relevant answers. Because the desired image is clear, it should be relatively easy to distinguish the relevant information from the surrounding data (question c).

4.3.2. Ambiguity or the Issue of Changing Objectives

The second assumption in decision-making models is that the decision-maker's objectives do not change over time, and are consistent with the rest of the organisation's objectives. Neither calculative or appropriateness models are very much concerned about the problem of changing objectives or preferences *in* decision-making.

To begin with, calculative models of decision-making proceed from an assumption of the decision-maker's intentionality and therefore do not consider changing preferences. The appropriateness models take into account the problems created by changing identities, where an organisation or individual's identity is linked to a particular objective. Inconsistent identities (objectives that differ between the parties) can be resolved either by negotiation or power mechanisms before the actual decision takes place. Nevertheless, a decision is also a process, and neither agreements nor power can guarantee that organisational objectives and preferences will not change.

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[15] In Marketing literature, there have been attempts to include behavioural issues. For instance Achrol and Stern (1988) included perceptions in the analysis of uncertainty in marketing channels, as did Bunn (1993), who defined uncertainty as the "perceived lack of relevant information".

Problems related to preferences are grouped under the ambiguity concept. Ambiguity comes from the impossibility for knowing the future state of actual preferences: decision-makers are not always certain of the future consistency of their choices (March, 1988, 1994). Nonetheless the very concept of ambiguity is characterised by its own vagueness. That is why in this section I will explore and explain the concept further.

March and Olsen (1976) acknowledged the problem of ambiguity as "opaqueness" in organisations. They distinguished four kinds of ambiguity according to its cause: ambiguity of intention (inconsistent objectives), ambiguity of understanding (impossible to guess future consequences), ambiguity of history (wrongly interpreted past), and ambiguity of organisation (unclear organisational pattern). The concept of uncertainty is included in this typology because ambiguity of understanding agrees with the former definition of uncertainty. Similar to this concept of ambiguity is Weick's definition of equivocality: "the multiplicity of meanings which can be imposed on a situation" (Weick, 1979, 1995). Multiple simultaneous interpretations of reality are the cause of ambiguity problems.

Lysonski (1985) also mentioned role ambiguity as a decision-making problem "when there is insufficient information to do the job adequately, when it is unclear what peers expect, and when performance evaluation methods are ambiguous". In his argument, the factor that enforces a certain rule is the type of functional role that one plays; if such function is not well identified, there will be ambiguity. The weakness of this definition of ambiguity is that behavioural rules do not necessarily emerge from functional roles, but from a larger conceptualisation of role that also includes informal roles and relationships.

Johnston and Lewin (1996), attempting to integrate the work done on organisational buying behaviours, gave quite a similar definition of role ambiguity: "the degree to which clear information is lacking about the expectations, the methods for fulfilling known purchase expectations, and/or the consequences of role performance". Ambiguity is still defined as a lack of information.

These conceptualisations lead us to a summary: appropriateness decisional models are based on the existence of a decisional rule, which is developed within the framework of an existing and clear organisational objective[16]. Such a rule can be designed under the condition that there is a direct correlation between organisational goals and the set of preferences. In principle, changes in the objectives that shape organisational activities imply that the preferences of the organisation will also change. However, the opposite is also true: changes in preferences reflect changes in the organisational objective. If such a correlation does not exist (i.e., if preferences change without any effect on the organisational objective, or vice-versa), the applied rule may not be the most appropriate one. This lack of correlation can be associated with an ambiguity problem.

So far, uncertainty and ambiguity as well as decision-making logics have not been directly related to commercial exchange decisions, but to decision-making in general. In

[16] As mentioned, organisational objectives and the objectives of its different sections are not necessarily equivalent, which implies that conflict might occur. That is why it is necessary to assume that conflicting situations have been avoided or solved before considering the making of a decision.

the coming section I will investigate these problems in commercial exchanges situations.

4.4 A Model of Multiple Actors Decision-Making

In the previous sections I presented the existing theories of organisational decision-making logics (or processes) and decision-making problems. In Organisational Theory, these models and problems are studied within the boundaries of an organisation where a decision is the result of interaction between multiple individuals who form teams (March, 1994). *Team decision-making* in Organisational Theory, is an intra-organisational process of interaction *between individuals*, and offers ideas that can be used to better understand commercial exchanges, although these interactions take place *between organisations*.

The study of team decision-making (either from a calculative or an appropriateness logic approach) considers that although there might be disagreement between different individual identities, such an *inter-personal inconsistency* can be solved by power mechanisms, bargaining, or negotiation, prior the actual making of the decision or application of a decision rule (see *Section 4.2.2*, analysis of decision-making logics). Once these inter-personal inconsistencies have been solved, the decision can be implemented.

After the decision is implemented, *uncertainty* (see *Section 4.3.1*) can be resolved or avoided through information gathering, interpretation, and a sequential process (following calculative logic) or through rule-following (following an appropriateness logic).

As explained in *Section 4.3.2*, yet another situation has not been taken into account either by the calculative or appropriateness decision-making logics. They do not consider the possibility of changes in the decision-maker's intentionality or objectives, or in other words, they do not consider *ambiguity* problems.

Neglecting either uncertainty or ambiguity problems in decision-making analysis leaves key questions about decisional problems unanswered. As Weick (1995, p. 95) pointed out: ambiguity calls for social construction of an invention, while uncertainty calls for more careful scanning and discovery. But what kind of problems really emerge in empirical settings? Adopting an inter-relational perspective for observing reality, and focusing on the type of relationship and its use, I intend to shed some light on this problem.

March (1994) took into account inter-personal inconsistencies, uncertainty, and ambiguity, to construct a model that explains decision-making in terms of the problems faced by the decision-maker. This Model of Team Decision-Making is presented in *Table 4.1*.

If one considers two general ways to make a decision (calculation and appropriateness), the decision-maker first must deal with inter-personal inconsistencies. According to calculation logic, this is solved via negotiation and bargaining, while according to appropriateness logic, it is solved through power enforcement. Problems *in* the decision itself are uncertainty and ambiguity. Uncertainty is palliated by additional information

or by following a certain rule, depending on the decision-making logic that the decision-maker is using. As for ambiguity, this problem is handled by garbage-can logic of decision-making, where both calculation and appropriateness are intertwined and opportunistic behaviour is recognised.

D-M Logic	***Inter-personal Inconsistency***	***Uncertainty***	***Ambiguity***
Calculation	Negotiation	More information	Garbage Can decision-making
Appropriateness	Power	Rule following	

Table 4.1: Model of Team's Decision-Making

4.5 A Prototypical Model for Decision-Making in Commercial Exchanges

Decision-making in commercial exchanges shares similarities with team decision-making, because they both involve units of analysis formed by multiple actors. Nevertheless, team decision-making involves groups of individual actors, while commercial exchange decisions involve pairs of organisational actors (dyads). Besides, team behaviour (calculative or rule-following) is homogeneous to a certain extent, because the inter-personal inconsistencies have been solved via negotiation or power enforcement. Inter-organisational inconsistency persists in commercial exchanges because (in principle) customer and provider do not pursue the same objective[17]: each party may follow a different type of decision-making logic (calculation, appropriateness, or garbage can). In this case, the resulting behaviour within the dyad of customer/provider is reflected in the type of relationship that they develop through both negotiation *and* exercise of power.

Where inter-organisational inconsistency persists, the customer and provider may still make a single decision regarding a commercial exchange. This variant will not be dealt with in the prototype.

The key elements of the model are the behaviour shown within the dyad (i.e., the *relational form*), the decision-making *logics* applied by each of the parties, and the uncertainty and ambiguity *problems* faced by customer and provider.

The interpretation of inter-organisational behaviours in terms of the participants' logics might show that both calculation and appropriateness are intertwined, thus complicating the theoretical design of a decision-making model: as there are (empirical) cases when decision-making logics cannot be clearly defined and operationalised (e.g. garbage-can decisions) decision-making logics should not be considered as the main variables that explain how decisions take place. On the other hand, the study of uncertainty and

[17] When analysing the case studies I will present a pair of customer/provider that has developed a partnership, and therefore they have solved their inter-organisational inconsistency (*Chapter 8*).

ambiguity (i.e.: the interpretation of commercial exchanges behaviours in terms of decision-making problems) may contribute to the explanation of inter-organisational behaviour, since both variables can be independently operationalised.

Taking a theoretical view of the dyad, the buyer and seller might face different decision-making problems, and each dyad might depend on different types of relationships. The relation between each pair of problems and the relational form is discussed in the following paragraphs: I will then present a model that will theoretically explain commercial exchanges within the dyad.

4.5.1. Uncertainty in Commercial Exchanges

When using the dyad to analyse uncertainty in commercial exchanges, one must identify the uncertainty faced by the customer *and* provider organisations. If both parties value different alternatives, they will face uncertainty because there is always the chance that those alternatives will change over time.

In the telecommunication sector, changes occur at a very fast pace, and therefore the likelihood of changing alternatives is very high. Given that the same changing situations affect both customer and provider, both parties will face the same level of uncertainty at the same point in time. Because of the rapidity of changes in the telecommunications market, it is reasonable to assume that uncertainty exists at a relatively high level when compared with other facilities and equipment markets[18].

Solutions or reactions to uncertainty in commercial exchanges can be found in the Industrial Marketing and Purchasing literature. Heide and Weiss (1995) viewed uncertainty as a problem that affects customers and is related to information. They stated that uncertainty in high-tech markets might be caused by information gaps at the time of purchase or by conditions that reinforce those gaps. They concluded that buyers, seeking to reduce uncertainty, tend to increase their information gathering efforts, and at the same time are more reluctant to switch vendors. On their part, Patterson and Dawes (1999) stated that in fast changing markets when there is information overload, organisational customers seek to reduce uncertainty by applying a set of *"stop rules"* that limit their options.

These two approaches to the resolution of uncertainty agree with the differentiation made between calculative and appropriateness logic. More information helps to resolve uncertainty by sharpening the evaluation of alternatives. Nevertheless, if uncertainty is very high, organisational customers may decide to follow a rule to avoid uncertainty problems. Although these ideas have been applied only to the customer side of commercial exchanges, from a relational perspective they may as well apply to the provider side.

Paswan, Dant and Lumpkin (1998) used these ideas to analyse distribution channels relationships. According to them, as uncertainty increases both bureaucratisation (the use of rules of behaviour) and relationalism (closer relationships between the involved parties) increase as well. Relationalism implies a relationship where there is solidarity

[18] Each organisation's perceptions about the market will determine the gravity of its uncertainty problem. The consideration of such perceptions played a role in my choice of research methodology and the use of empirical field analysis (*Chapter 3*).

and long-lasting co-operation between the involved organisations. This partnership-like relationship was previously reported by Podolny (1993, 1994), Garud (1994), and Gulati (1995). They claim that in cases of high uncertainty, organisations will exhibit a behaviour that indicates a co-operative relationship, closer to a partnership, than to the arm's length relationships that characterise commercial exchanges under low levels of uncertainty.

Table 4.2 shows this relation:

Levels of Uncertainty	*Relational Form*
Low	Arm's Length Relationship
High	Partnership

Table 4.2: Uncertainty Situations

High/low uncertainty, and arm's length/partnership relationships are the extremes of a spectrum. To distinguish between high and low uncertainty situations requires a comparison of the situation before and after a specific event that is supposed to have increased the decision-maker's uncertainty. A parallel might be the analysis of uncertainty levels associated with decisions involving two different economic sectors. Even so, this might not produce a generalisable result because each organisation or individual might evaluate the same situation differently. Perceptions and judgements will enter into his evaluation. In this research I will be able to determine whether an organisational customer or provider faces uncertainty understanding that uncertainty is inherently higher in a fast changing economic sector such as telecommunications.

As regards the relational forms presented in *Table 4.2*, even when considering a high uncertainty situation, either in arm's length relationships or partnerships, there are multiple relational forms that bring together customer and provider. I should then be able to analyse whether these relationships are closer to one relational form or another.

Empirical observation and analysis will help to elaborate what would otherwise be a vague model. The content of the model will be discussed after considering of the empirical research findings.

4.5.2. Ambiguity in Commercial Exchanges

The other problem that I have discussed is ambiguity. Ambiguity is related to appropriateness logics of decision-making because it affects the decision-maker's preferences, and subsequently the followed rule. In my view, ambiguity can affect calculative decisions as well, because the evaluation of a set of alternatives implies the acceptance of an objective and a set of preferences.

Ambiguity has been studied as a decision-making problem, although not directly regarding commercial exchange decisions. Buying/selling decisions are but one part of the decisional grid of an organisation, although they influence a range of activities. In order to better understand the decision network within one organisation, certain

concepts of Systems Theory may be useful. It is important to clarify that, for the scope of this research, such concepts will only be used to visualise an organisation's decisional network.

According to System Theory, an organisation is formed by several systems that need to be tuned and aligned to each other in order to perform their respective functions efficiently (van Engelen, 1989). The general management system responsible for co-ordinating the activities of the whole organisation has three main subsystems: buying (of production materials), production (the core activity of the organisation), and selling (of products and/or services).

These system and subsystems must be organised in such a way that the decisions made in one system do not contradict the others. Therefore the objectives pursued in each part must be consistent with all parts, so as to avoid ambiguity. When the objective pursued with the buying/selling of a certain product does not agree with the production objective or the general objective of the company, *inconsistency*[19] will complicate the making of buying/selling decisions.

Figure 4.3 shows these subsystems and how uncertainty and ambiguity (inconsistency) problems represent misalignments between these parts.

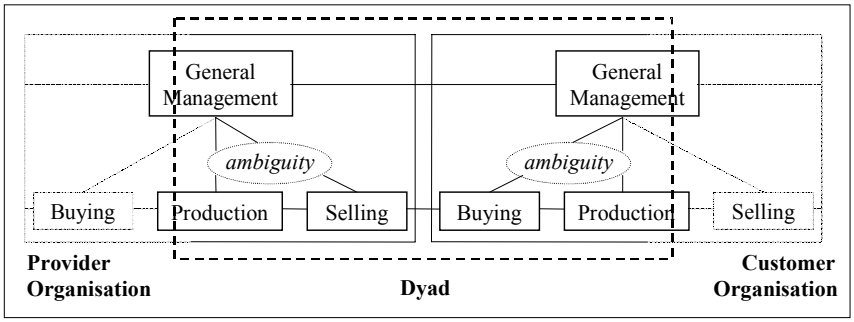

Figure 4.3: Alignment Model
(Adapted from van Engelen, 1989)

In this research I have looked at two organisations (provider and customer), and their subsystems. I have focused on the dyad formed by the two parties, and in particular the dyad formed by the customer's buying subsystem and the provider's selling subsystem. Within the same organisation, when the objective pursued by the selling/buying subsystem conflicts with the objective pursued by the production or general management subsystems, there will be an ambiguity problem.

Besides inconsistency, there is yet another kind of ambiguity. When the objective of the buying/selling subsystem changes over time, decisions on what to buy or sell will also be affected. This kind of ambiguity is what I call *incoherency*[20]. Incoherent behaviour

[19] Inconsistent = in + co-existent: it does not agree with things that exist at the same time.

[20] Incoherency = in + co-herency: it does not agree with its own heritage, its past.

might have consequences in terms of the general objectives of the organisation, because of the existing relation between the buying/selling and the production subsystems.

Whether incoherent or inconsistent, these problems can be experienced either by the customer or the provider organisation (see *Table 4.3*), with a consequent effect on the behaviour of both parties, as reflected in the relational form that links them. In contrast with uncertainty problems, I did not find an existing study that associated a specific ambiguity problem with a relational form. Even so, one interpretation is that the complexity of the decision is higher when both organisations face variable preferences (both ambiguous in their behaviour), and (following the reasoning that applies to relational forms under uncertainty) they would develop a partnership. When both organisations have no ambiguity they would develop a relationship more in the arm's length mode.

Sit.	***Provider's Preferences***	***Customer's Preferences***
(1)	Consistent	Consistent
(2)	Consistent	Variable
(3)	Variable	Consistent
(4)	Variable	Variable

Table 4.3: Ambiguity Situations

Ambiguity problems have not been analysed in commercial exchanges or in any other inter-relational setting. That is why I must draw upon empirical sources in order to establish the type of relational form that exists between customer and provider. Examples of the situations showed in the *Table 4.3* include:

(1) Both provider and customer have consistent preferences: e.g., the buying of a PABX system to connect telephone extensions within a building. The customer is clear about the use of the PABX and the provider is certain about its objective (to sell PABX equipment).

(2) The provider has consistent preferences and the customer is ambiguous about his objectives: in this case the customer would choose the provider according to his preferences at the moment of signing the contract. In this example of the buying of a PABX, let us suppose that the main activity of the customer is the installation and maintenance of coffee machines in different buildings. If the customer changes his business activity by offering maintenance and counselling services via the telephone, the PABX will have to be extended by adding new features like a connection to an information system with client data, or a call centre.

(3) The provider has variable preferences and the customer is unambiguous in his behaviour: let us suppose that the only activity of the provider in this example is the selling of PABX and call centre equipment. If one of his customers has plans for an expansion of his activities to e-commerce (implying a need for a PABX, transmission lines, Internet connections, etc.), the provider might see a new business opportunity. If the provider decides to change his business focus from selling equipment to providing

e-commerce products and services, he might be in conflict with other customers who only demand equipment.

(4) Finally, the situation where both customer and provider are subject to variable preferences would be assimilated to a very high uncertainty situation, and may lead to a partnership. Within the partnership, the ambiguities and uncertainties of both parties will be concealed because they will co-operate and achieve satisfactory solutions for both.

4.5.3. A Decision-Making Prototypical Model for Commercial Exchanges

The previous examples of ambiguity, as well as the relational forms under uncertainty, are just suppositions of what would happen in empirical settings. They do not provide clues about the behaviour that the customer and provider may exhibit when approaching commercial exchanges.

Since uncertainty and ambiguity may occur in the customer and/or provider organisation, and since there seems to be no existing explanation for their relational behaviours, my model has been designed to answer the following question: *what happens in empirical situations where ambiguity and uncertainty might occur simultaneously? What is the possible explanation for the different relational behaviours that each dyad of customer/provider exhibits?*

This model of decision-making in commercial exchanges is schematically represented in *Table 4.4*, where empirical research will allow completion of the different cells.

			Provider			
	Unc.		Aye		Nay	
		Amb.	Yes	No	Yes	No
Customer	Aye	Yes	--	--	--	--
		No	--	--	--	--
	Nay	Yes	--	--	--	--
		No	--	--	--	--

Table 4.4: A Prototypical Model of Decision-Making in Commercial Exchanges

Observing commercial exchanges between customer and provider allows us to understand whether each party faces uncertainty and/or ambiguity. It also reveals the relational form that binds them together. Such a relationship may evolve from an arm's length relationship to a partnership. But whether the dyad's relationship is closer to one of those poles, or occupies a point in between, is something that only empirical observation and analysis will provide.

4.6 Wrapping-up

This research is focused on an investigation of commercial exchanges in environments of critical and fundamental change. My goal is to explain why those commercial exchanges happen in a certain way. To do this, I have adopted a behavioural approach that implies a focus on observed commercial exchange. Behaviour in commercial exchanges cannot be observed from either the customer or the provider's point of view. That is why the relational form that exists between the parties provides useful information about the nature of the commercial exchange. Observing how customer and provider relate to each other allows us to interpret their behaviours through the decision-making logic driving their decisions. This also makes it possible to explain just how the parties relate to each other.

Along these lines, I have presented the processes or logics that decision-makers might follow when approaching their decisions. March (1988, 1994) considered two large groups: *calculative models* where decisions are made by analysing existing alternatives and choosing the most satisfactory one; and *appropriateness* (or *rule-following*) *models* where decisions are made by setting a rule that agrees with a predetermined objective, and by fulfilling that rule.

These two logics deal with the predictability of alternatives and the stability of objectives, by considering two different decision-making problems: uncertainty and ambiguity. Uncertainty problems are mainly associated with the calculative models (Industrial Marketing and Purchasing Models) because uncertainty affects alternatives. On the other hand, ambiguity problems are mainly associated with appropriateness logics (Bureaucratic Models of decision-making) because ambiguity affects the objective that determines the rule to be followed by the decision-maker.

In commercial exchanges where two different organisations are involved, we need to consider the different combinations of decision-making problems that affect customer and provider. This combination is related to the behaviour (i.e. the relational form) of the dyad. The character of such relations and the different relationship forms will be investigated with the help of empirical research on commercial exchanges in the telecommunication sector.

Before presenting my actual empirical investigation, *Chapter 5* will review the data collection methods and analytical tools that were employed. In *Chapter 6* I will discuss the market changes that affected the commercial exchanges of telecommunication products and services. Those changes will explain the existence of uncertainty problems, and also why telecommunication product and service transactions may give rise to ambiguity problems.

Chapter 5. Data Collection and Analysis Method

"With his intelligence, man knows or aims at knowing what real things are. These things are 'given' by the senses. […] What is sensed is always and just the 'data' of an intellectual problem."

X. Zubiri (Notas sobre Inteligencia Humana, 1966)

5.1 Introduction

In previous chapters I discussed the research objective (*Chapter 1*), and theoretical background (*Chapter 2* and *Chapter 4*) of this investigation. In order to design a model that can adequately explain commercial exchanges in fast changing environments, I looked at Industrial Marketing and Purchasing Theories, as well as Organisational Theories of Decision-Making, seeking concepts and ideas that could provide a basis for making initial assumptions. Although this theoretical work has been helpful in constructing a prototypical model of decision-making in terms of decision-making problems, the validity of the model depends on empirical evidence.

Given this objective, and the role of existing theories in this field of inquiry, I then positioned my research within a qualitative methodology (*Chapter 3*). Such a positioning implies the choice of a specific data collection method and technique for data analysis.

Case study is the primary data collection method in qualitative research. The choice of case study and the selection of cases is explained in *Section 5.2*. The analysis of qualitative empirical data when building a theoretical model is discussed in *Section 5.3*. In this section I will discuss the tools that Grounded Theory provides for the analysis of information taken from different case studies.

Having defined methods for data collection and analysis, *Section 5.4* presents the underlying research concept[21].

5.2 Collecting Empirical Data: Research Method

A method is a particular tool, a logically ordered plan (American Heritage, 2000). It is part of a research strategy, defined by Yin (1994, pp. 15) as "a way of investigating an empirical topic by following a set of pre-specified procedures".

[21] The descriptive structure for the different case studies will be presented when introducing the first two cases.

Taking into consideration the qualitative methodology chosen for this investigation, the data collection method should be open, flexible, not limited by prior standardisation and structure, and it should allow for role-assumption and intensive contact between researcher and research subject (Baarda, Goede and Teunissen 1995). Case study, as method for collecting qualitative data, fulfils these requirements.

A case study involves the observation and description of an empirical phenomenon, although its elements may vary depending on the goals set for data collection. Den Hertog and van Sluijs (1995) identified three uses of case studies: as tool for theory testing, as tool for theory forming, and as a strategy for problem solving. The last point need not be discussed here, as it mainly applies to policy-making research where the central issue is the solution of a practical problem, disregarding theoretical considerations.

Case study as a tool for theory testing has been largely investigated by Yin (1984). Empirical observation had been criticised as an erratic research method, so to strengthen the scientific aspect of social research, Yin (1984) proposed a qualitative research method based on case study. He asserted that case study is a way of doing qualitative research, but not all qualitative research is based on case studies. When using a case study approach, the objective is to evaluate the validity of a theory through an "analytic generalisation" (Yin, 1984), rather than a "statistical generalisation".

The elements of case study design are:

1. *Research questions*: the questions that must be answered by doing the research.
2. *Research proposition*: the initial assumption or hypothesis that will be analysed through the empirical investigation.
3. *Unit of analysis*: the individual, organisation, or event upon which the research is focused.
4. *Linking data to propositions*: this is done via 'pattern-matching', or the grouping of information in different patterns that can be matched to specific theoretical propositions.
5. *Criteria for interpreting empirical findings*: the pattern-matching link must be sufficiently clear in order to produce a scientifically acceptable interpretation of the research findings.

Although my objective is the design of a new explanatory model, existing theoretical work in this field initially facilitates the use of case study as a research strategy. Giving due consideration to the theoretical aspect, it is possible to refine the first three elements of a case study, mentioned above: questions, propositions, and units of analysis.

1.- Research question: *Which model adequately describes and/or explains the decision-making of organisational customers and telecommunication providers regarding the commercial exchange of telecommunications products and services?*

This central research question is characterised by its generality. Taking into account that existing theories on decision-making and buying/selling behaviour cannot fully answer this question, my goal is to make a theoretical contribution that can fill the gap. As this

is a research grounded in empirical evidence, new questions may arise from the empirical observations. The continuous formulation of new questions in view of empirical evidence is a characteristic of Grounded Theory studies.

2.- Supposition: *The levels of uncertainty and ambiguity faced by both customers and providers may determine the way they relate to each other when buying/selling a certain telecommunication product or service.*

The initial proposition regarding the relation between uncertainty and relational forms was based on the work of Podolny (1994), Garud (1994) and Paswan (1998) and on the observation of current practices in the sector. The supposition regarding ambiguity and relational form is an extension of their proposition, if one assumes that ambiguity is one form of a high uncertainty problem.

3.- Main unit(s) of analysis: *The central unit of analysis is the behaviour exhibited by the dyad formed by an organisational customer and a telecommunication provider.*

This unit of analysis is a situation defined by customers and providers involved in commercial exchanges, by the product that they exchange, and by the relationship that binds them together.

Regarding the remaining two elements of the case study, the search for patterns is an essential part of this research, but the interpretative criteria continue to evolve. Thus, it is necessary to find an analytical approach that allows for such evolution.

Therefore, in this research a case study is a "description of what has occurred" (Easton, 1982), as a basis for reaching conclusions that are theoretically and empirically relevant. In this way, case study can support theory-forming research.

Case study allows to approach the empirical field (the telecommunication sector) from a relational perspective, by considering the commercial exchange between customer and provider as the main unit of analysis. The flexibility of case studies permits the consideration of dynamism. Moreover case study data provide a very important input for building new theories or contributing to existing ones.

Given the goal of a new theoretical model, one with high levels of data validity and generality (or external validity), triangulation strategies are essential (Bonoma, 1985). Case study research permits a high degree of triangulation due to its flexibility. A triangulated measurement "tries to pinpoint the values of a phenomenon more accurately by sighting on it from different methodological viewpoints" (Brewer and Hunter, 1989, p. 17). Baarda, Goede and Teunissen (1995) distinguished four kinds of triangulation research:

- Method Triangulation, or the combination of different research methods[22].
- Data Triangulation, or the combination of different types of data (interviews, documents, literature, etc.).
- Researcher Triangulation, or the combination of different researcher's skills.

[22] Brewer and Hunter (1989) distinguished four empirical methods for data collection: fieldwork (case studies), survey, experimentation and non-reactive research.

– Theoretical Triangulation, or the combination of different theories.

In this research, case study is the only data collection method, although it is possible to talk about data triangulation. In the next sections I will discuss the selection of case studies, as well as the different data types that I employed in this research.

5.2.1. Case Selections

In order to empirically investigate and explain commercial exchanges, I needed to find an empirical field characterised by rapid changes. My goal was not to directly study change processes, but to understand commercial exchanges. That is why I chose a sector that *a priori* could be characterised by constant change.

The buying and selling of telecommunication products and services experienced a great change when the market was opened to competition. Because liberalisation occurred at different points in time in different countries, I decided to conduct my case studies in Dutch organisations, or at least in organisations operating in the Netherlands, where the liberalisation of the market was evident from 1995[23].

I decided to start the investigation by contacting organisational customers of telecommunication products and services. Although it would seem easier to start in the more limited community of telecommunication providers, that proved to be a difficult task. The providers were very keen on the privacy of their customers and unwilling to share the information on the relationship with their clients unless those clients gave their permission. Thus, it was more productive to contact the customers directly.

I looked for organisational customers with different business activities because my goal is a model of telecommunications commercial exchanges, independent of the core activity of each customer. Given the exploratory and empirically grounded character of this research, the variety of the case studies would improve the generality of the results.

I also looked for organisational customers who had more than one line of telephony connection. This implied an organisation that a telecommunication provider would regard as an industrial customer. Another implication of this feature was that, between two organisational actors, the type of relationship that brought them together would be affected by their commercial exchange relationship, and not so much by differences in positional power between large and small organisations.

The data was initially collected at the Information Systems department of the organisation, or the department in charge of contracting the telecommunication products and services. Because selection of the telecommunications provider was not necessary until the liberalisation of the market, some organisational customers did not have a clear view of who should be responsible for such decisions. Therefore the department with this task might be different in each case. The contact started with a telephone conversation or letter sent to the manager of this department, explaining the general objective of the research and the possibility for a first interview.

Working back from each customer organisation, I initiated contacts with their providers. On the provider side, the interviews started at the marketing or sales department. With

[23] The changes in the Dutch telecommunication sector will be further described in *Chapter 6*.

these interviews I focused on the type and intensity of relations between organisations in a buying/selling activity.

I conducted five case studies centred on five different organisational customers. Only four of them were used for this research, since one involved a public organisational customer, and that introduced a different set of research issues (for instance, a public customer deals with social interests that a priori are not present in the other cases). These organisations provided several types of data that I discuss in the coming section.

5.2.2. Data Triangulation

Interviews

The main sources of data were interviews at the organisational customer and telecommunication provider organisations. I looked for persons responsible for making factual decisions on what telecommunication product or service, what provider should be contracted, or the way to approach a given organisational customer. Because of the novelty of the decision (no alternative choices before 1995), I found significant differences between industrial customers in their organisation of the telecom purchasing task. Before the opening of the market, telecommunications purchases were usually in the hands of the Facilities Department. If the company was not big enough as to have a facility department, the decision was put in the hands of an administrative employee.

A checklist was prepared for each interview (see *Appendix A*), although the conversations were open and new questions could arise. After each conversation new questions were added in light of the information obtained in the previous meeting. All of the interviews were tape-recorded. Most were carried in English, and only a small number were done in Dutch. The use of English was not a problem since all the interviewees were proficient in the use of this language. There are memos of all the meetings, as well as transcriptions of the interviews and working notes. Each conversation took approximately one hour.

The questions in the checklist were divided in five groups: first, the general characteristics of the company, the department where the subject worked, and his specific tasks. Secondly, there were questions on the telecommunication products and services that the organisation needed and used the most. For the telecommunication provider there were questions about its product portfolio and the most important products or services in terms of economic benefit or demand increase. The third group contained questions about the process that each organisation followed for the buying or selling of telecommunication products and services. The fourth group of questions related to the subject's view of the telecommunication market. The fifth part of the interview checklist dealt with the relationship between the organisational customer and its provider(s), including information on when, how and why that relation began, as well as subsequent events and problems. Using a "snowballing technique" (Moriarty and Bateson, 1982), at the end of each conversation, the respondent was asked for the name of persons in the counterpart organisation with whom they had the most contact, so that new interviews could be planned.

In general terms, the interviews can be placed in two large levels depending on the topic of the interview: strategic/planning or operational. The first group deals with the issue

of the decision itself: the manager of the ICT department or the facility manager of the customer organisation, and the account manager of the provider organisation are central figures in this group (although there are important differences depending on the organisation). They were people who collected and analysed information about the problem to be solved in a telecommunications purchase. In fact, they were the decision-makers. In some cases the purchaser was also involved in the decision about the choice of product or provider because he was in charge of negotiations over price and service level. From these interviews I deduced what the most important products were for the organisational customer.

The interviews belonging to the second level were focused on these particular products, because they were related to the installation, implementation and usage. Consequently, the second group (operational level) of conversations encompassed the project managers of both the customer and the provider organisations who were in charge of the installation of the telecommunication product or service in the customer location.

After working out the case study descriptions, copies were sent to the organisations in order to check the accuracy of the collected data and described events. From a total of 32 interviews with 30 managers (16 at customer organisations and 14 at provider organisations) in 11 different organisations (4 customer organisations and 7 provider organisations), I sent 11 feed-back requests to the most relevant interviewees (4 ICT managers, and 7 account managers). Their relevance was measured in terms of the times they were mentioned as sources of information.

Three of the contacted account managers could not be located, as they were no longer working for the provider organisations. Only one of the ICT manager offered remarks on the use of contracted telecommunications products and services. The rest of the interviewees had no further comments.

Documents, Archival Records, and Literature

Another important source of information would have been the documents exchanged by the involved organisations: e.g., contracts and requests for bids. In the case of contract documents, the customer and provider companies were unwilling to share the formal conditions of their relationship. The reason for secrecy lies in the specific treatment conferred upon a given customer and reflected in the contract. Most of the economic and service clauses in a business-to-business contract (at least in the contracts I investigated) are specific to a given relationship. It would not be to the advantage of the provider for its organisational customers to know that more favourable treatment was offered to other customers.

In other cases, the interviewed person delegated the decision about sharing contract details to the customer organisation. In this organisation, contractual documents are in the hands of the legal department. In any case, all the parties felt that I could not find additional information in those documents, and moreover, that the contracts did not contain language that actually emerged in the course of the relationship.

Memorandums and minutes of meetings for negotiations on telecommunication products and services are virtually non-existent. Only in one of the cases were there records of such conversations, although not in an archive.

I had access to non-official but binding documents, although those were quite scarce. These were business service agreements made at the operational level (e.g., between a group of users and maintenance personnel), or plans for the installation of a certain infrastructure.

As for information on the decisional process, the negotiation of contracts, and the relation between customers and providers before the liberalisation of the telecommunication market, it was surprising to find very little documentation. Some of the customer companies even lacked an internal account of the telecommunication products and services that they were currently using. In case of new contracts (purchases made after the opening of the market), attempts to collect that information became more common, although they were inconsistent.

In order to prepare the interviews and to complete the information on each company, annual reports and activities statements were consulted. These documents offered information about the general objectives, vision, and mission of the organisations.

Newspapers as well as economic and business journals gave day-to-day information about the telecommunication market. It was important to view the interview data in a dynamic and changing context.

Internet was also an important tool for gathering information. Industrial policy and economic institutions, customers and providers companies, organisational customers associations, and consulting enterprises, offer a substantial amount of information on the telecom market. Internet was also quite useful as a "dictionary" on technological terminology used by the interviewees. In this context of rapid and continuous change, it is difficult to maintain a specialised dictionary, for its contents would change every other month. Internet is then the perfect solution: some web pages specialise in collecting technological concepts and terms, which can be easily updated.

After a brief explanation of the data collection method, I will discuss the analytical tools offered by Grounded Theory (Strauss and Corbin, 1990). Grounded Theory techniques provided useful tools for analysing data, and reaching the research objective.

5.3 Analysing Data: Grounded Theory Analytical Tools

Given the content of this research, and the role of theory as a starting point and foundation for building new concepts and ideas, I chose a Grounded Theory analysis based on "coding techniques" to approach empirical observations.

In a grounded theoretical study, the analytical phase involves the use of coding techniques. There are two main coding techniques: *Open Coding* and Axial Coding. The former is the "part of the analysis that pertains specifically to the naming and categorising of phenomena through close examination of data" (Strauss and Corbin, 1998, p. 101). It is a process that occurs at the moment of conducting a case study, when the researcher looks for the patterns that constitute new concepts. *Axial Coding* is the "procedure whereby data are put back together in new ways […] by making connections between categories" (Strauss and Corbin, 1998, p. 123). This is based upon relating categories to their subcategories. A *category* is defined as a "concept that stands for a

phenomenon" (Strauss and Corbin, 1998, p. 101). A *phenomenon* and therefore a category, can be deduced from the empirical field: a phenomenon is a repeated pattern of happenings in response to a certain problem or situation. This phenomenon is influenced by certain *conditions* and *contextual conditions* that in a way explain how and why such situation is a problem.

In my research, the investigative problem involves the modelling of decision-making in commercial exchanges (buying/selling), in terms of decision-making problems (uncertainty and ambiguity). The work on decision-making under uncertainty has been a constant in the economic and social disciplines. It is particularly important in Industrial Marketing and Purchasing literature where industrial commercial exchange (selling/buying) behaviour has been extensively studied. Organisational studies (Organisation Theory) have also taken a strong interest in how organisations make their decisions and the importance of uncertainty.

The *phenomena* associated to this problem (found via empirical observation as well as literature research) are the difficulties that some organisational customers and telecommunication providers face when dealing with choices in a new market situation. The new situation in the telecom market (the entry of new competitors and a wider range of new products) enables choice, implies new decisions, facilitates competition, and stimulates new market opportunities. Organisational customers can choose among different telecommunication providers or products, but they lack sufficient or accurate information to make those decisions. On their part, telecommunication providers encounter new business opportunities, although competition and changes in the technology affect their vision of the market, thereby making it more difficult to formulate marketing plans. The purchase of telecommunication products and services was a novel task for most of these organisations, a task for which they were not well prepared. For telecommunication providers, the new market demanded new approaches to planning and customer relations. Uncertainty (and ambiguity) is expected to affect these companies, influencing the way in which companies approached decisions. These organisations made their decisions following a logic that seems quite "irrational", in the sense that they did not pursue a cost minimisation/utility maximisation. Social rules, counterpart's reputation, third party reports, past experience, and chance were factors that apparently influenced the decisions of organisational customers.

When approaching the study of these phenomena, during the first stage of the analysis (*open coding*) I used the concepts or *categories* found in existing theory to describe the situations that organisational customers and telecommunication providers reported in their interviews. The categorisation of "uncertainty", the consideration of "decision-making logics" in commercial exchanges, and the characterisation of different relationships ("relational behaviours") were part of the open coding process that happened at the time of analysing each of the interviews. Besides these categories, there were certain situations or phenomenon that could be better associated to the existence of "ambiguity" problems. This category was not intentionally sought during the data collection process.

After this initial analysis of the interviews, the a*xial coding* occurred at the time of elaborating the different case studies descriptions: while reporting the observed situations it was possible to connect the different elements that I observed by comparing the different cases and finding patterns among them.

Continuing with the different components of the axial coding paradigm, I could then draw that the observed phenomenon were influenced by certain *conditions* that in some way explain how and why such a situation is a problem. Organisational customers and providers see the decision on buying/selling telecommunication products and services as problematic because they perceive *uncertainty* (they are uncertain about the future alternatives for choice), and they experience *ambiguity* (their preferences are subject to change). Uncertainty and ambiguity are therefore causal conditions whose impact may be altered by intervening factors. In this research, the importance of telecommunication products or services in the organisational customer's business, or the customer's desire for innovation and novelty can be intervening factors.

Finally, the *contextual conditions* are those patterns of conditions that created the problem. Uncertainty and ambiguity are subjective problems, in that the same conditions do not necessarily cause the same uncertainty or ambiguity for all organisational customers. Therefore, the causes are mainly individual and subjective, but it is still possible to identify objective events as the reason for an occurrence. Technological innovation and industrial policy changes might explain an increase in the scope of choices among different telecom products and services, and the entrance of new competitors with new pricing and marketing strategies.

An essential aspect of this analytical framework is the ability to make comparisons that will enhance the theoretical sensitivity of the research. *Theoretical sensitivity* is an awareness of subtle meanings in the data. The researcher must continuously question the validity of the data, judging whether different criteria are needed to compare two or more phenomena.

5.4 Summary

Before discussing the empirical investigation, I will briefly review the objectives and methodology. This is illustrated in a schematic diagram presented in *Figure 5.1*.

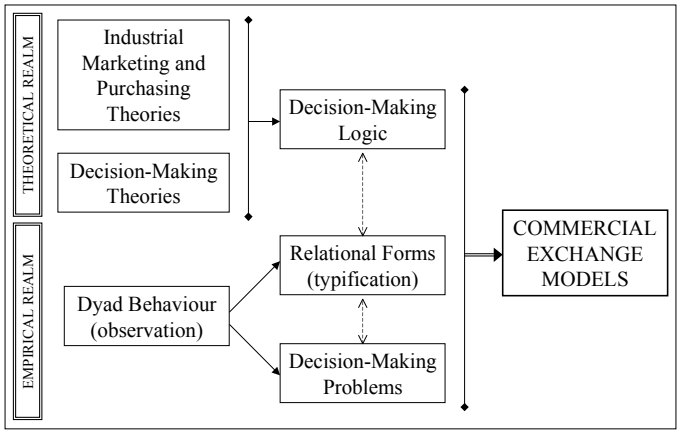

Figure 5.1: Research Conceptual Model

My theoretical investigation of the research problem led to an analysis of the existing literature on Industrial Marketing, Purchasing, and Organisational (Decision-Making) Theory. By combining and contrasting these ideas, and following March's (1988) classification of decision-making models, I identified two main decision-making logics: calculative and appropriateness logic.

Decision-making problems (uncertainty and ambiguity) were defined from a theoretical standpoint. Uncertainty and ambiguity concepts can easily be associated with the calculative and appropriateness logics, for in reality these two problems are intertwined. This combination of problems also implies a combination of decision-making logic: decisions in empirical settings are the result of both calculation and rule following, or in other words, they are the result of garbage-can decision-making logic.

In order to disentangle reality, one must interpret decision-making in terms of the problems faced by the customer and provider, and analyse the behaviour shown with their relationship. To that end I have elaborated a prototypical model for decision-making in commercial exchanges (*Table 4.4*) that can be substantiated with empirical research.

Empirical observations are focused on the behaviour that customer and provider exhibit in their commercial exchanges. Their behaviours may be classified within very general relational forms. I have approached commercial exchange decisions from a relational perspective, making it possible to interpret behaviours in terms of the decision-making problems encountered by both parties. These interpretations of empirical observations will support a model that explains commercial exchanges in fast changing environments.

The empirical aspect of this dissertation begins with an analysis of the contextual conditions that affect all organisational customers and may cause uncertainty and ambiguity problems (*Chapter 6*). In *Chapter 7* and *Chapter 8* I will present the case studies. In each the intervening conditions are different because not all the organisational customers use their telecommunication products and services in the same way or confer the same importance to the same telecommunication product or service.

Chapter 6. The Dutch Telecommunication Sector: Actors and Dynamics

"Each of these questions are two […]: with one you ask what the elements are, and with the other, what they are made for. […] And maybe in my answer there is a mistake that would do you wrong. Because when listening and speaking this happens: although one tells many good reasons, if among them he says a not so good one, men tend to consider the one that is not well told, and not the others, even if they are well said."

Don Juan Manuel (Libro del Caballero y del Escudero, 1326)

6.1 Introduction

To begin a study of telecommunications commercial exchanges, first we need to define what we mean by telecommunications. The problem is that there is no commonly accepted definition of what the telecommunication market encompasses. In order to proceed with empirical research we will simply have to arrive at a definition. This will also make it easier to understand this dissertation.

It is also important to identify the actors who play the role of providers in the sector, since the customer side is defined by the organisations that took part in the case studies.

Once the main concepts are established, I will undertake an analysis of commercial exchanges of telecommunication products and services. A basic assumption in this chapter is that the organisational customers and telecommunication providers have a "bounded rationality", and will make buying/selling decisions because a problem can be solved by purchasing a certain product or service. I will adopt a traditional buying/selling perspective where the actors are presented with alternatives and have objectives to fulfil through their choices.

Two main types of changes affect the telecommunication sector: changes derived from the liberalisation of the market (transformation based on competition) and changes prompted by technological innovation. These changes are discussed from the point of view of the provider (*Section 6.3*), and from the point of view of the customer (*Section 6.4*).

According to the traditional theories of decision-making, changes in the telecommunication sector should help decision-makers to construct different potential scenarios. The organisational customer and the telecommunication provider, using collected information and past experiences, can recognise these scenarios and calculate

the probability of their occurrence. That should help them to determine the degree of uncertainty that attaches to a given decision.

The problem is that if the conditions that determine product requirements and alternatives continuously change, so that information is constantly obsolete, then it is impossible to visualise potential scenarios or to calculate the likelihood of their occurrence. Besides, technological innovation expands the possible applications of telecommunications products and services, which implies that ambiguity will occur if decision-makers are unaware of the new applications.

These two issues should help us to understand why marketing and purchasing decisions involving telecommunication products or services are subject to high levels of uncertainty and ambiguity. That said, the real impact of uncertainty and ambiguity in telecommunication exchanges must be determined through empirical observations.

6.2 Telecommunication Sector Definition and Market Actors

This research focuses on commercial exchanges of telecommunication products and services. The question is what do we mean by telecommunication products and services? The boundaries of the telecom market are somewhat vague, probably because of the constant use of these concepts without a standard definition.

Telecommunication products and services are part of *Information and Communications Technologies (ICT)*. ICT products and services have received increasing attention over the past ten to fifteen years. The International Telecommunication Union (ITU, 1995) tells us that the *Information and Telecommunication Technologies (ITT)* sector includes:

- Telecommunication services and equipment.
- Computer software, services and equipment.
- Sound and television broadcasting and equipment.
- Audio-visual entertainment.

Telecommunication products and services (the first group) make possible the communication of voice, data or pictures. The ITU defines telecommunications as “any transmission, emission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems”. (cited in Bekkers and Smits, 1998). ICT is utilised in all of these areas.

The ITT concept takes in a wide range of products and services. Since the concept is so general, it also encompasses computer systems that provide information about business operations, or in other words, Management Information Systems (MIS)[24]. However, it is rather complicated to separate the MIS aspect of a business enterprise from its telecommunications transmission systems. The MIS aspect of an organisation depends on the type of telecommunication system supporting it: not all transmission infrastructures support the implementation of management tools or software

[24] Definition from http://www.whatis.com.

applications. This may be due to security concerns or infrastructure capacity. At the same time, the information tools that an organisation uses will also influence the type of telecommunication system that an organisation will need to obtain from telecom providers.

A separation of the decisions on MIS and telecommunications systems could be an advantage or disadvantage. For an organisational customer who is preoccupied with his primary business activity, an effort to grasp all the complexities of technology may only increase his confusion when the time comes to purchase telecommunication or MIS systems. However, this concern cannot be ignored, for an organisational customer might make an inappropriate decision and be burdened with incompatible MIS and transmission systems.

6.2.1. Offer of Telecommunication Products and Services

A definition of telecommunications must accommodate different activities and therefore different kinds of providers. The segmentation given by Adams and Willetts (1996) provides a clear view of the services in the telecom market combined with a geographical segmentation of the market (*Figure 6.1*), and it can be used to define telecommunication market actors.

Adams and Willetts identified four main groups of telecom services: basic voice services, value-added voice services, data services and multimedia service. These services may be transmitted (offered) locally or within a certain area, nationally (between two different areas), or internationally. Basic voice services are telephony, independent of the basic infrastructure (fixed or mobile). Examples of value-added services are storage and forwarding on request, versatile routing, and customised billing (Flood, 1997). Data services may include the transmission of written documents either in analogue or digital form, and multimedia services include the transmission of images.

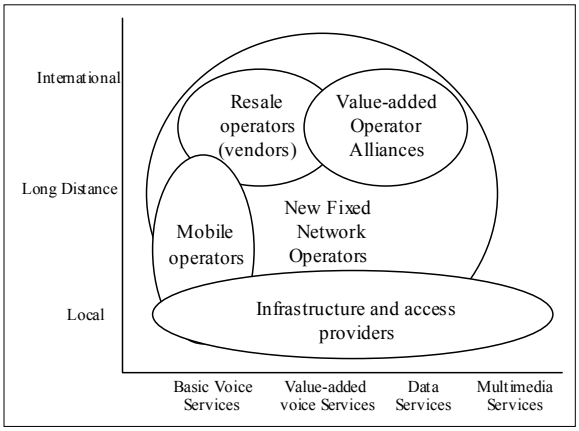

Figure 6.1: Telecommunication Services Segmentation
(Adapted from Adams and Willets, 1996)

As presented in *Figure 6.1*, given the type of product or service and the transmission coverage, we find infrastructure and access providers, mobile operators, resale operators, value-added operator alliances, and new fixed-network operators. But an analysis of the different actors can also be done by charting the value-added chain of any telecom product. The value-added chain of telecommunication services is shown in *Figure 6.2*.

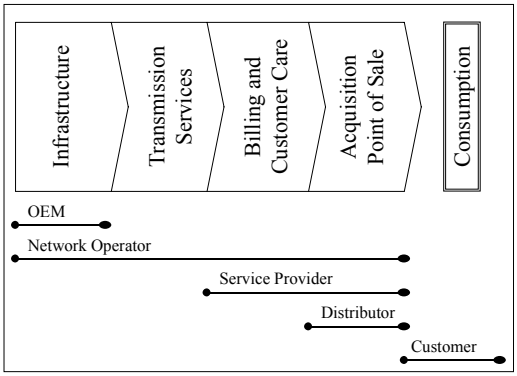

Figure 6.2*:* Telecommunications Products and Services Value Chain
(Adapted from: Kooistra and van der Meulen, 1999)

The first step in the value-added chain is occupied by the Original Equipment Manufacturers[25] (OEMs) who research and develop the infrastructure (cabling and hardware) where telecommunication services are based. The network operators (also called telecom providers) are the owners of the infrastructure. Some of these network operators research and develop their own infrastructure, but most acquire and exploit it. They are responsible for telecommunication infrastructure maintenance although they may subcontract this task to another company (not necessarily the OEM). Network operators focus their research on market needs and service requirements because their major activity is the provision of services.

Service providers rent the infrastructure from the network operators, usually packaged with products and services, and distribute them to the final customer. Here the added value lies in the billing and customer care services supplied by the service providers. In some instances distribution is placed in the hands of independent organisations or retailers. Service providers and retailers are mainly concerned with consumer markets. A network operator might decide to delegate the service and distribution part of its business to other companies because:

– Its sales force is not well trained or its distribution channels are not well developed. (This could be the case with an incumbent operator that is unprepared for an open market, or a newcomer who is too small as to have its own sales force)

[25] This concept has no standard definition. According to Whatis.com, an OEM "is a company that uses product components from one or more other companies to build a product that it sells under its own company name and brand". According to Cenet.com, it is "a company that produces hardware to be marketed under another company's brand". I use the second definition and view the OEM as producers of telecommunication equipment regardless of commercial branding.

– The network operator's strategy is addressed to industrial markets because industrial customers generate more revenue and profit.

Organisational customers may decide to contact any of these actors in order to obtain a product. The advantage of a contract with a network operator is that the provider will attend to the whole product from the installation of infrastructure on to the telecommunication connection and transmission. The disadvantage is that the network provider depends on OEMs who "own" the knowledge of the infrastructure. Another possible disadvantage is that an operator with a broad score of activities may give less attention to some areas (for instance, an emphasis on technical matters at the expense of customer relations).

Apart from the strategic choices that each telecommunication provider must make, other factors may influence its business activities. Government regulations may prevent some network providers from offering all the products and services required by the organisational customer. The key point is that the attributes of products and services change, so do the uncertainties and ambiguities that organisational customers and telecommunication providers may encounter.

6.2.2. Demand for Telecommunication Products and Services

The previous section describes the offer side of the market. The demand side of the market is formed by all kinds of customers, so diverse that I will forego a discussion of the intricacies of telecommunication demand. The cases used for my empirical research were based upon specific organisational customers, without reference to the telecommunication providers they were using or planned to use. These choices were explained in *Chapter 5*.

It is possible, however, to offer some general remarks on the demand side of the telecommunication market. The main segments of that market are residential consumers, organisational customers, and the wholesale market. *Residential consumers* are most numerous, but also the least profitable. They are mainly users of telephony (fixed or mobile) and basic data communication (Internet, e-mail, etc.). An *organisational customer* is any organisation (public or private) that makes use of telecommunication products and services. The needs of these customers and the provider's strategy for approaching them are different depending on the size of the organisation and its core activities. The last group, the *wholesale market* is formed by telecommunication providers who are suppliers of telecommunication connections or equipment, but do not own the telecommunication transmission infrastructure they use. The wholesale market has been excluded in order to reduce the complexity of the research topic. It would be difficult to understand the relationship between a provider and supplier when a relational perspective is being used to analyse the case studies.

In addition to understanding the types of telecommunication customers, it is important to note the advisory role played by organisational customers' associations. In the Netherlands, the ABOC (the Dutch Association of Big Organisational Consumers of telecommunications) offers information about prices and the competitive market situation to its members. Organisational customers may use this information to make decisions on purchasing telecommunication products and services. For some companies (especially the small ones) the main advantage of belonging to the ABOC is the lower prices obtained through membership in the association: if the provider sends only one

invoice to the ABOC, the price will be lower because of the volume of contracted businesses. External consulting companies also monitor the telecom market for organisational customers. The personnel of these consulting organisations play an integral role in the customer organisation over the span of a purchasing process.

Having presented the actors involved in commercial exchanges within the telecommunication sector, and the different products and services on offer, I will now discuss how changes affect both actors and products.

6.3 Changes in Offer Side of the Telecommunication Market

As Flood (1997) pointed out, changes in the telecommunication market are driven by three main factors: market pull (or customer demands), technology push (possibilities created by technological innovation), and competition (mainly promoted by public institutions). To a certain extent the current technological situation is caused both by technology push and customer demand. That is why I have divided the changes affecting the telecommunication market into two groups: changes caused by the *liberalisation of the market* and changes caused by *technological innovation*. Both changes have an impact on the provider and customers, affecting their alternatives and the preferences they may formulate. Continuous changes create varying levels of ambiguity and uncertainty, and in that respect, further complicate decision-making by customers and providers.

This section will focus on the changes in the Dutch telecommunications market. The opening of the market to new providers quickly produced product and service options for organisational customers, and forced providers to consider alternative market strategies. However liberalisation was not a monolithic process affecting all kinds of telecommunications products and services in the same manner: each mode of transmission was regulated differently. In *Section 6.3.1* I will explain the liberalisation process and the competitive environment for products and services.

Competition is based, in part, on technological developments that expand the possible applications of telecommunication products and services. Indeed, we have gone beyond basic communications into the realm of information systems. Technology innovation is presented in *Section 6.3.2*

6.3.1. New Competitors: Liberalisation of the Telecommunication Sector

In the Netherlands and other European countries before 1990, the telecommunication market was controlled by government, which also owned the network operator. Every national network operator was the sole supplier of telecommunication products and services within the borders of its country. In order to provide international communications, national operators signed international agreements on fees and transmission prices.

Given technological innovation and global economic forces, governments saw an opportunity to introduce competition in the telecommunication market. Already in the 1980s the United States and United Kingdom had started a process of opening and

liberalising their national telecom markets. This development was officially acknowledged in the *White Paper on Growth, Competitiveness, and Employment* (European Union, 1993). This document stressed the importance of ICT, as these technologies would create competitive advantages for business organisations, and support individual welfare. In order to encourage the use of ICT, the EU strongly urged the national governments to support technological innovation in this field and to liberalise their telecommunication markets.

Following the directives of the European Union and the ITU on liberalisation, the Dutch government announced the "National Action Program: Electronic Highways" in 1994 (van Diepen and Gilbert, 1998). The program had three main goals:

- support for first-class telecommunication facilities for business users,
- assurance that a basic package of telecommunication services would be available for individual users at acceptable prices (universal service), and
- reinforcement of the international position of the Netherlands by means of telecommunications.

To achieve such goals, several policy instruments would be used (Davies and Hulsink, 1998):

- *Privatisation* of the PTT (Postal, Telegraph and Telephone) organisation by selling shares: These network operators are called Public Telecommunication Operators (PTOs).
- *Liberalisation* along three lines: (1) licensing new companies, (2) a structural separation of the integrated structure of the PTT, and (3) asymmetric regulation to encourage the entry of new providers.
- *Regulatory reform* with the creation of regulatory authorities to control prices, quality levels and licensing.

Privatisation of the PTO was completed by 1998, although the Dutch state still holds about 35% of the shares (KPN, 2001). As for the liberalisation process, this would take two different forms: encouraging competition between alternative infrastructures and encouraging competition in services with a common infrastructure (van Diepen and Gilbert, 1998).

Given this two-pronged strategy, the liberalisation of the market did not apply equally to each step in the telecom value chain. Those differences would affect the way that telecom providers offer their products, and in turn the way that organisational customers obtain them. The differential impact on the value-added chain and the attendant uncertainties for organisational customers will be discussed below.

Infrastructure for Fixed and Mobile Communications

In the Netherlands the existing infrastructure for fixed communication was sufficient for the provision of competitive services[26]. When newcomers obtained their licences they obtained leases from the incumbent operator for use of the existing infrastructure. Usually, one of the requirements for the license was the newcomer's commitment to build a certain amount of telecom infrastructure in the coming years, although that requirement was related more to mobile communications.

The network for fixed telecommunications was not liberalised in a single stroke. In order to understand the granting of licenses and the different players in the market, it may help to look at the organisation of the Public Switched Telecommunication Network (PSTN). This scheme made it possible to gradually open the market for new infrastructure.

PSTN makes it possible to have millions of simultaneous telephonic conversations (Flood, 1997); it is formed by lines that connect customer's telephones to one another and to a Private Automatic Branch Exchange (PABX) via exchange lines. These telephones and PABXs are connected to local exchanges via local networks (the Local Loop). And groups of local exchanges are connected to one another through junction networks. The local and junction networks with their related exchange nodes constitute the Local Area Network (LAN) that is connected to the trunk exchange point. This trunk network allows long-distance communication. The final part is the network of international circuits that connects two countries' national networks.

The first part to be opened to competition was the equipment (PABX and telephone sets) market. At the beginning of the 1990s, organisational customers could buy this equipment and the associated cabling directly from the OEMs. Before this time, the monopolistic operators acted as intermediaries between the OEMs and the final customer. It was a common practice for operators and OEMs to set up exclusive arrangements for the sale of equipment

The rest of the fixed telephony market was opened in 1996 with the entrance of a new telecom operator, and the market grew further as new licenses were granted in 1998. Even with the granting of new licenses, the opening of the telephony market is not yet complete. Competition on LAN-delivered services in the Netherlands occurs at a regional level, and is limited to the incumbent operator and the cable companies that formerly held regional monopolies for television. It was expected that the Local Loop would be unbundled (opened to competition) by December 31, 2000. Due to legal and economic problems this did not occur, and two years later there has been no appreciable movement. The fact that the Local Loop (and parts of certain LANs) is still in the hands of the incumbent operator implies that other network operators are to some extent still dependent on the PTO.

The Dutch mobile infrastructure operates under two different standards: NMT and GSM/DCS (Bekkers and Smits, 1998). The earlier one was NMT (Nordic Mobile Telephone), which was adopted by the PTTs of Denmark, Finland, Norway and Sweden

[26] An example: in 1999 the cable network covered around 90% of the households, and investments are still being done to improve it (Kooistra and van der Meulen, 1999, p. 68).

in the 1970s. The OEMs were free to develop technology after those specifications and thus the NMT was created.

As the demand for mobile telephony grew in importance, a new standard that allowed "roaming"[27] was required. The GSM (Global System for Mobile communications) was chosen as the technology standard for mobile services in a global marketplace. In 1982 the CEPT[28] (Conférence Européene des Postes et des Télécommunications) established a special group to oversee the definition and development of the new standard. This group was formed by the PTTs, although they actually represented the OEMs of each country (Telia was representing Ericsson's interests, France Telecom for Alcatel, etc.).

Agreements between different parties have been very important for setting technological standards. In the case of the NMT standard, the PTTs, representing the public authority, were responsible for specifications involving standard features, while the OEMs were in charge of their development. Thus, co-operation between the OEMs was essential. The case of GSM is slightly different because the standards already existed and the public authority chose GSM as the technology that network operators were to use for mobile communications transmission. Each network operator supports at least a GSM/DCS network.

Telecommunication infrastructure (both mobile and fixed) is directly related to the geographical coverage of the products and services. Organisational customers can choose between different providers depending on the geographical coverage that they can offer. Geographical coverage does not depend just on the provider's ability to offer it; it is very much influenced by the type of license granted to the provider.

If an organisational customer wants to purchase a simple telephony connection (either fixed or mobile telephony), two needs must be considered: the kind of equipment, and the range of the connection (local, national or international coverage). The market for telecommunication equipment is today rather stable, with a high concentration of market share in few providers. It is significant that 40% of world wide revenues in 1998 belonged to 20 equipment manufacturers (ITU, 2001). Organisational customers tend to make their purchases within this group of major vendors. As for the coverage issue, the uncertainty lies in the fact that alliances for expanding international coverage are subject both to regulation and other providers' actions. Each time a new licence is granted, the competitive map changes, as well as the decisions confronting the organisational customer.

Transmission Services

The next step in the value chain is the transmission services supplied by the network operators. Those network operators are the PTOs, the new providers that entered the market by buying a license, and the telephony carriers who buy airtime (minutes of phone calls) from the former organisations and re-sell airtime to the final customer.

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[27] Roaming or International Roaming: possibility for using different networks with only one subscription (Bekkers and Smits, 1998).

[28] The ETSI (European Telecommunications Standards Institute) was created as a part of the CEPT and assumed the role of evaluating and recognising technology standards for telecommunications.

Transmission services are related voice and/or data traffic, plus added services such as SMS (Short Message Service) for mobile users, re-routing of telephone calls, 0800- and 0900- service numbers, etc.

Many network operators do not consider telephony carriers as real competitors. Carriers are mere re-sellers of airtime (they do not add any other service), and their only competitive advantage is their very low prices. This would explain carriers' short life cycle: their selling tariffs must cover at least the charges of the network operators. But taking into account the decreasing trend of telephony prices for all providers, the network operators can easily match the price offered by the carriers, adding better quality and therefore eliminating the carriers' advantage.

Public authority plays a central role in the regulation of activities and relationships between network operators. Public agencies oversee the granting of licenses, and they control the network operators' activities in order to safeguard competition. In particular, the public authority regulates the LAN oligopoly, i.e., the incumbent operator's policies for the leasing of infrastructure and its management of the Local Loop. In mobile transmissions the opening of the market has reached a more advanced stage and oversight of competition has been taken up by other juridical bodies (like the commercial court or anti-trust court).

In the Dutch case, two public agencies are in charge of regulation: the HDTP (Telecommunications and Post Department[29]) within the Ministry of Transportation[30], and the OPTA (Independent Post & Telecommunications Authority[31]). The HDTP is responsible for telecommunications policy and regulation, while OPTA is concerned with the proper application and effectiveness of regulation.

After the HDTP grants telecom licenses, a price mechanism for transmission services governs the activities of the network operators. This price mechanism is not completely in the hands of the providers, since the OPTA regulates the marketing activities of network operators, and it controls the prices that the owners of infrastructure can charge to customers either in the wholesale market or final users. The OPTA can intervene in the setting of prices by the major providers, those with more than 25% of the market, in order to maintain fair competition (OPTA, 1998).

Let us suppose that organisational customers know what kind of geographical coverage they need. Then they can base their decision on the price quoted by each provider. Uncertainty about future prices is quite low: organisational customers, mindful of the OPTA's protective outlook, are almost certain that prices will drop. Yet another question is whether it is possible to base a decision just on geographical coverage and price. Setting quality issues aside, price can only be a relevant discriminating factor when it is comparable among providers. In this respect, billing procedures can play a very important role.

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[29] In Dutch: 'Hoofddirectie Telecommunicatie en Post'.

[30] In Dutch: 'Ministerie van Verkeer en Waterstaat'.

[31] In Dutch: 'Onafhankelijke Post en Telecommunicatie Autoriteit'.

Customer Care, Billing, and Distribution

As mentioned before, competition in the Netherlands was first established by opening the service market, rather than the creation of competition in infrastructure. Service providers were able to offer their products through networks with which they had agreements (franchise, contract, etc.). This is more common in the service market for business users where customer care is treated as a core activity. It is also common to find service providers who combine customer care and distribution activities within their organisation. In some cases distribution is placed in the hands of retailers (post offices, supermarkets, electronic equipment shops, etc.) that sell standard service packages.

It seems like price is easy to imitate in the telecom sector. The price for a minute of connection is generally known, and providers can directly reduce their prices to counter the actions of their competitors. The issue here is that the price per minute is not really the price of the connection. There are other costs such as the subscription fee, the price for different services or different types of connections. The real price is (or should be) reflected in the bill sent to the customer. Based on that bill the organisational customer can compare providers' prices as long as these invoices are comparable (contain equivalent items). Such comparability is certainly low.

But let us suppose that price is easy to compare and to imitate, then quality would become the discriminating factor. But the quality of telecommunication services is difficult to determine (Kooistra and van der Meulen, 1999, pp. 81). The reason for this difficulty may be that quality of services is based on subjective measures: the user's satisfaction with the service, with the communication, voice transmission clarity, the number of network failures and the customer's reaction to those problems, etc.

Because price is easily imitated and quality is difficult to determine, organisational customers might focus on other attributes of the telecommunication product and service. Therefore customer service or customer care becomes an essential source of competitive advantage (Woods, 1998). Organisational customers might then centre their attention on the service level, or the kind of relationship offered by the telecommunication providers.

As noted, competitive changes in the telecom market are influenced by industrial policy. There are also technological changes that directly influence the kind of products and services that are available. Obviously technological changes also influence the competitive map of the market: if a provider does not adapt to, accept, or invest in technological innovation, it will be in a weak position relative to its competitors, running a distinct risk of being pushed out of the market. Telecommunication providers have free and equal access to technological innovations. Of course, those innovations are only relevant when they support the product or service that a vendor is permitted to offer, either by regulation or by the permission of the industrial policy-maker. It is reasonable to think that the most immediate consequence of technological innovation relates to the kind of product offered, and not to the competitive situation of the provider.

6.3.2. New Products: Technological Innovation in the Telecom Sector

Organisational customers not only have to choose a provider, but also a product or service to solve a well-defined communication problem. In this sense technological developments play an important role because they bring along new products and services at various prices and levels of quality.

Technological developments in the fixed infrastructure have stressed the attainment of higher transmission capacity. These technologies allow the transmission of both data and voice at higher speed even over copper cable (e.g., ISDN[32] and x-DSL[33]). Developments in optical fibre technology permit all kinds of telecommunication services (including broadcasting) to be routed over a single cable. For the organisational customer, higher capacity telecommunication networks make it possible to support more complex information systems, management support software, and other tools to improve performance. For instance, virtual private networks can connect geographically dispersed outlets of the same company, thereby reducing business travel costs.

In the field of mobile communications, the acceptance of GSM as the European standard for mobile telephony has made it possible to use a common technology for existing and new mobile services throughout Europe. The third generation of mobile communications, the use of radio frequencies for transmission under UMTS (Universal Mobile Telecommunication Standard) was licensed in most of Europe during 2000. This technology supports *high-speed* mobile data communication. Although the technological aspects of UMTS are more or less developed, the network operators have been unable to invest in UMTS services due to the economic downturn in the telecommunication sector that started in 2000. Even so, GSM has served as a basis for wireless communication services that (as UMTS is expected to) allow high-speed data transmission. Specifically, GPRS (General Packet Radio Services) might be considered as the alternative to, or even a next step toward UMTS.

The agreement on a common technology for Europe allows the globalisation of communication services among the European countries, but not into other continents. The standard in the U.S. for mobile telephony is D-AMPS (Digital-Advanced Mobile Phone Service), which is not compatible with GSM. Consequently, intercontinental mobile services are not technically possible.

Along with technological developments in the infrastructure, new developments in information systems software and hardware have strongly influenced the manageability and controllability of telecommunication services and costs.

It is reasonable to think that organisational customers face high uncertainty when deciding what kind of technology to buy, perhaps to a greater extent than when they are contemplating purchases in other sectors. Technological developments in telecommunications are continuous and rapid, which makes it more difficult to anticipate future situations.

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[32] ISDN: Integrated Services Digital Network.

[33] X-DSL: x-Digital Subscriber Line.

6.4 Changes in the Demand Side of the Telecommunication Market

The same changes that affected providers' offers also had an impact on the demands made by organisational customers. They now could choose among different types of products or services to meet different business needs.

6.4.1. New Products and Services

Organisational customers must contend not only with providers, but with two major sources of change: regulation that facilitates competition, and technology development that continuously introduces new services. These changes have stimulated the emergence of different types of telecommunication products and services.

In *Figure 6.3* I have presented a map of the telecom products and services that confront the organisational user. Technological complexity and the dynamics of the new liberalised market increase as you follow the thick black arrow.

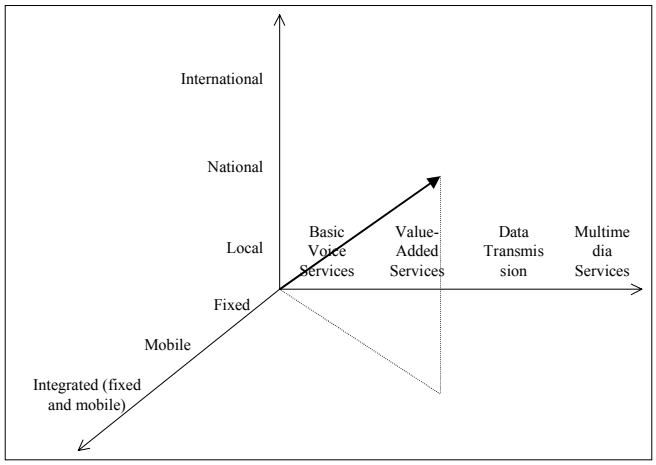

Figure 6.3: Telecommunications Products and Services

Integrated services that make equal use of a fixed and mobile infrastructure are at the moment technologically possible, but not commercially viable because of their high price and perhaps their "un-manageability". However, research in this field may change that situation, in the not too distant future.

In the case of *fixed telecommunications*, national network operators have used strategic alliances to gain entrance to the fixed telecommunication infrastructure of other countries. This has made it possible to offer not only voice transmission but also value-added services throughout the countries in the alliance. However, multimedia services are much less feasible because it is impossible just now to ensure quality service at a reasonable price (e.g. video-conferencing).

Regarding *mobile communications*, international transmissions are possible through "roaming" agreements between the national mobile network providers. These agreements usually come with an increase in price, but they do not include value-added

services. The regulation of the telecom sector does not allow it; free competition in the mobile sector occurs within national borders. Even so, the concept of a global mobile operator is being explored (e.g. the alliance between Vodafone Airtouch and Bell Atlantic; Guerra, 1999). In the area of data transmission and multimedia services, apart from the regulatory issue, the technology is not sufficiently developed. As noted, the third generation of mobile telephony (UMTS) is expected to support voice, data and image transmission on a mobile basis.

Apart from the network providers that deal in transmission and interconnection, the offer side of the telecom market is very much influenced by the manufacturers of hardware and software. They have led the research and development of technological standards for mobile telephony and data transmission (e.g. NMT). An example of their importance is the WAP (Wireless Application Protocol) developed initially by Ericsson, Nokia, and Motorola, and supported by more than one hundred companies (Medios, 1999). This technology allows access to the Internet with a mobile phone. The advantage of WAP is that it does not depend on the technology used for mobile telephony transmission: it can be used either on a GSM network or on a D-AMPS network. Indirectly then, the OEMs influence customer decisions about network providers.

Until now my analysis of the telecommunication product and service market has assumed that organisational customers have a clear notion of what they need. In the next section I will discuss the needs that organisational customers attempt to meet through their purchases of telecommunication products and services. I will also reflect on the versatility of these products, since one item can have many uses.

6.4.2. New Applications of Products and Services

Up to now I have considered the types of providers that organisational customers may deal with when purchasing telecommunication products or services. If an organisational customer is able to assess the attributes of products or providers, then he will make choices according to some order of preferences, presumably the most important attributes of the product. The order of preference is determined by the objective (or solution) that the organisational customer must achieve by obtaining a telecom product.

When the order of preferences changes over time, ambiguity exists. Organisational customers should understand their preferences and keep them consistent in order to avoid ambiguity. It is important to keep the objective in sharp focus throughout the buying process, for the organisational objective will determine which telecommunication attribute is most important. Since the ordering of preferences depends on the particular objectives of each organisational customer, it is not possible to construct a generic preference distribution.

Based on the above, one may consider that the main attributes of telecommunication products and services' are related to the geographical coverage of the connection, price, the relationship with the provider, and manageability. All of these attributes are sensitive to changes in industrial market policy and technological innovation. But the weight of each attribute as well as its practical implications will be different for each organisational customer.

An organisational customer might want to achieve two very general objectives when purchasing a telecommunication product or service:

1. To improve communication between the different parts of the organisation, and between the organisation and its environment.

2. To improve business processes and performance through the use of telecommunication solutions (e.g. a software company that offers online sales and customer service via Internet).

In the first case it is reasonable to think that coverage would be more important than manageability, since the objective is to connect different outlets or locations inside or outside the customer organisation. In the second case manageability might go first: it would be more desirable to have a reliable high-capacity network that allows data and voice communication as well as the use of software applications to manage business processes.

The relationship with the provider would be more important in the second situation since the customer organisation relies on the provider for the realisation of its daily activities. When the telecommunication product is intended to improve communication, then the relationship with the provider might be limited to the signing of the purchasing contract.

The attribute of price is important as well, but it is always viewed in relation to one of the other attributes.

Following this theoretical line, if an organisational customer modifies his objective, then his preferences about the telecommunication product or service will also change, introducing ambiguity to the decision-making process. But there might be the situation where the customer changes his preferences without modifying his main objective. If the customer in the first situation decides to increase the bandwidth of the network, that implies additional costs and possibly unused capacity. If the customer organisation in the second situation decides to expand its network to reach potential clients, it will have to consider coverage and the security issues attendant to a larger network.

Thus, ambiguity is not only a problem of inconsistent preferences, but also a matter of inconsistent objectives. Ambiguity can exist when buying telecommunication products or services because of the products can be utilised in different parts of the customer organisation. This can have unexpected effects on the business processes or on company communications.

6.5 Summary

This has been a somewhat detailed sketch of the telecommunication market in the Netherlands.

A key point is that these changes in the market environment can create uncertainty and ambiguity. An increase in the number of providers and products also increases the alternatives that customers must evaluate. Moreover, competition forces providers to develop alternative marketing strategies to meet the demands of customers. Ambiguity

may creep in when the different applications of a telecommunication product or service make it possible to shift from one business activity to another.

These assertions are based on a theoretical review, accompanied by a rough look at the telecommunication market. In empirical settings, uncertainty problems will depend on an organisation's perception of the telecom market: unless the organisation perceives the market as uncertain, there will be no uncertainty. And so, ambiguity can be created by changes in preferences, which in turn depend on each organisational decision-maker's objectives.

The issues of uncertainty and ambiguity are different for each organisation, whether customer or provider. Changes in the telecommunication market can well explain why uncertainty and ambiguity are more likely to affect organisations that do business in this market. Empirical observation and fieldwork will be needed to determine how much each organisation participating in the case studies is affected by these problems.

Chapter 7. Empirical Investigation (I): From Buying and Selling to Decision-Making

"Life is not what one lived, but what one remembers, and how he remembers in order to describe it."

G. García Márquez (Vivir para Contarla, 2002)

7.1 Introduction

In this research, empirical observations are used to support the existing theories of commercial exchange (buying/selling situations) and decision-making. In order to design a model that can explain commercial exchanges in fast changing markets, I have analysed four case studies in the telecommunication market. In this chapter I will present the first two cases.

For each of the cases I will discuss the process of data acquisition, and then go into the case from a purchasing and marketing perspective. Working within these two theoretical streams (see *Chapter 2*) and taking into consideration the main characteristics of both parties, I will then present the expected decision-making models for the customer and provider organisations.

Given the importance of adopting a relational perspective for the analysis of decision-making, and the starting assumptions of these two theoretical schools, I must concede that the actual empirical observations do not fit perfectly into these models. That is why I will treat the empirical observations taking into consideration the behavioural ideas of Organisational Theories.

Schematically, the cases consist of these elements:

1. *Commercial Exchange from the Purchasing perspective*:

- Main characteristics of the organisational customer (main activity, size, structure).
- Used telecommunication products and services, and usage.
- Expected decision-making model (buying model)

2. *Commercial Exchange from the Marketing Perspective*:

- Principal characteristics of the telecommunication provider(s) (main activity, size, structure)

- Telecommunication products and services portfolio and general marketing strategy.
- Expected decision-making model (market management model)

3. *Commercial Exchange from a relational perspective*:

- Reported commercial exchange process.
- Observed commercial exchange situation.
- Characteristics of dyad behaviour between customer and provider (duration, and character).

4. *Interpretations of customer/provider behaviours*:

- Interpretation of the underlying logic for each decision
- Interpretations of uncertainty and ambiguity.

In all I will present observations on four case studies. Each case study focuses on one organisational customer and its commercial exchanges with telecommunication providers. As this is a grounded theory research, my objective is to describe and compare the empirical observations in order to discover similarities that can be theoretically generalised. To simplify this task, I will first introduce and compare two case studies, offering partial conclusions and questions to consider when looking at the last two cases.

Along with the interpretation of customer and provider's behaviours in terms of decision-making logics, and the inherent problems, I will also look for similarities in behaviour that suggest a classification of the dyad according to different relationship forms. The behaviour of each dyad is reflected in the relationship of the actors. Commercial exchange behaviours can be grouped in several relational forms ranging from arm's length behaviours to partnership behaviours. Moreover, I hope to shed some light on the source of different behaviours (commercial exchange forms) by investigating the decision-making problems that each party faces.

A final remark: to honour requests for confidentiality, the names of all companies (both providers and customers) and other involved organisations have been replaced with pseudonyms.

7.2 Case Study A

The information used to build this case study was obtained during interviews with managers from the ICT Department, the Facility Department, and the Purchasing Department of Customer-A's organisation, as well as the commercial and technical personnel of Customer-A's main telecommunication providers. In all there were twelve interviews between 1999 and 2000.

Case Study A focuses on the products and services that Customer-A bought from Provider-1, Provider-2, and Provider-3. These are not its only telecommunication providers, and while I did not intend to limit this study to those relationships, Customer-

A's personnel assigned a priority to those providers. As I will explain further on, there was no reason to question their recommendations.

Unlike in the other cases, the first persons to be interviewed were not part of the customer organisation (Customer-A), but were attached to one of the telecommunication providers (Provider-2). Usually this is not a good starting point, due to concerns about confidentiality where customer relations are involved. This peculiarity may be a sign of the openness of the relationship, but a more likely explanation is the willingness of Customer-A to participate openly in scientific researches. Provider-2's Account Managers gave me access to the customer organisation by putting me in direct contact with its ICT Manager.

Customer-A's ICT Manager was responsible for worldwide affairs involving telecommunication and information systems. Changes within Customer-A's organisational structure interrupted the research in 1999, but I continued in 2000 when the company was stable and I could interview a new ICT manager. He will be identified here as the Telecommunications Manager, with responsibility for all voice, video-conferencing and data related topics for Customer-A, while the Information Systems (IS) part of his job was delegated to a subcontractor. With his help I contacted Provider-2's new Account Manager, and Provider-3's Account Manager and Project Manager for Customer-A. The personnel at Provider-3 organisation brought us to talk with Customer-A's Project Manager for the installation of Provider-3's products.

As Customer-A considered telecommunications to be a type of facilities products and services, I also interviewed Customer-A's Facility Manager, who was in charge of coaching and managing the different facility departments. The Facilities Purchasing Manager had also responsibilities for the buying of telecommunications products and services, and all non-costing goods for Customer-A. Finally I interviewed Customer-A's Telecom Co-ordinator: this position is the closest to the user of telecommunications products and services; in his own words, he is expected to "make sure that all telecommunications work properly".

Figure 7.1 shows the lists of interviews and the contacts between them.

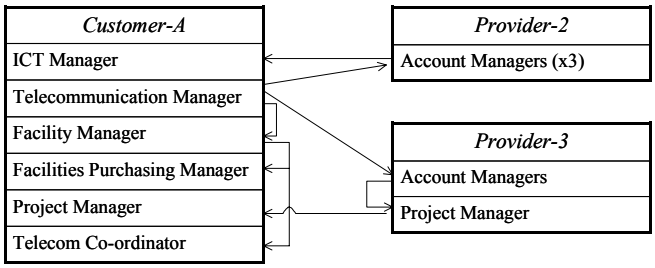

Figure 7.1: Case A Interviews

Another peculiarity of Case A was the existence of documents related to telecommunications. The main document was titled *Information Technologies Principles* and was written in 1997. It is a compilation of the requirements and utilities for different information and telecommunication products and services. This report was

sent to the persons responsible for the purchasing and/or use of information and telecommunication products and services in the outlets and headquarters of Holding-A in Europe and Asia.

7.2.1. Customer-A's Purchasing Perspective

Holding-A is a multinational company dedicated to the manufacturing and marketing of brand-name products for the consumer market. Its activities are spread all over the world, and are divided according to different categories of branded products. Several offices are in charge of co-ordinating a group of activities (such as the purchase of telecommunication products and other facilities) in a particular geographical area. In the Netherlands, Customer-A manages two branded product categories, including the corporation's direct selling activities. In addition, Customer-A's organisation has the management responsibility for all of Holding-A's activities in the Asia Pacific region (including telecommunications management). Besides manufacturing, Customer-A maintains its own distribution channels for direct selling to customers and supply to retailers.

At the time of this investigation, Holding-A was working on a "de-verticalisation" process which they hoped would achieve "higher returns from a lower asset base" (source: Customer-A Annual Report, 1998). This meant that the company would "create value more from the talents and skills of people than from the production of factories" (source: Customer-A Annual Report, 1998). Therefore the personal skills of every employee had to be understood throughout the company in order to yield the maximum advantage from each person. A core requirement in such as process is a communication system capable of co-ordinating the efforts of the different parts of the corporation. Moreover, the efficiency of Holding-A's world-wide distribution channels depends upon an effective communication and data transmission system.

An important issue is that Customer-A's outlets are very diverse in size and structural characteristics, and are accountable for their own costs. All of these factors may hinder the implementation of the same information systems since the outlets do not have equal investment capacity for new telecommunication and information systems products and services.

Of the four case studies, Customer-A offered the clearest organisational structure for making decisions on the purchasing of telecommunication products and services. Customer-A has had an ICT-Concerned department since the 1970s that is in charge of information searches, decision-making, and the co-ordination of all information systems and telecom activities, products and services that Customer-A uses in Europe and the Far East. Among its main tasks are the development and implementation of internal support services (administration, accounting, facilities management, etc.), and the maintenance of an adequate computer and telecom infrastructure for IS implementation.

According to the ICT Manager, the early creation of this department was prompted by the firm's dependency on information technologies. As an example, Holding-A was one of the first companies in its sector to use mainframe technology. It is also part of a US corporation, situated in a country where the telecommunication market was liberalised earlier than in Europe, and where customers always had options for telecommunications purchases. Even so, before 1996 the European part of Holding-A (thus Customer-A among others) was not an intensive user of telecommunications: they only had a small

network for fixed telephony that connected a few outlets. But they knew that the European market was going to open up, and given the example of their parent company, it was not a "shock" when the telecommunication market was liberalised.

In 1997, the hiring of a former executive from a telecommunication provider company led to a critical change in the way that Customer-A approached ICT decisions and activities. This person designed the general policy for telecommunication and information systems that was mentioned above: the Information Technologies Principles. The policy document was addressed to the different outlets of the company, and to the departments and people responsible for decisions on telecommunications. It laid out the vision and mission for products and services, the requirements and intended use of the telecommunication and information systems, and it established evaluation tools for each provider and product. The new policy was intended to support the evaluation of current providers and the selection of new ones.

Another important change in Customer-A's ICT field occurred in 1999, when the company decided to outsource its IS activities through another organisation, keeping control of the telecommunication part. By the time this case study was done there were still discussions about each company's competencies. Initially, the consequences of outsourcing for personnel were uncertain. The main issue was how to divide tasks, personnel and duties into two different departments: one dedicated to information systems, and the other in charge of telecommunications. What seemed clear was that contractual relations with the telecommunication providers were not going to be affected (at least until the end of those contracts).

Thus, so far as telecommunication products and services were concerned, the Information Technologies Principles report was still in use. The interview subjects believed that a new document is required because of the critical changes that the outsourcing of IS will bring, but until such time as a new policy for telecommunication purchases is established, this one is operative.

Decisions on telecommunication products and services were in the hands of the Telecommunication Manager and his departments. Because telecommunications are related to facilities products and services, the Facility Department is also involved in these decisions. Within the Facility Department there is a group of persons dedicated to telecommunications since the characteristics of these products and services differ from those of other facilities (the market is rather more complex).

Telecommunications: Products and Applications

This section outlines the telecommunication products and services that Customer-A was using at the time of the interviews. The outlet in question had these telecommunication products and services:

1. Local fixed voice transmission from Provider-1. These contracts account for 17% of all the costs on telecommunications.

2. National mobile voice transmission from Provider-2. The costs on these products and services are about 37,5% of the total.

3. National data transmission, and international voice and data transmission from Provider-3. They account for the 37,5% of the telecommunication costs.

4. National fixed voice transmission from Provider-4. The expenditures with provider total about 4%.

5. Service numbers (0800/0900) from Provider-5. The costs of using these services run about 4%.

6. Telecommunications equipment (PABXs and cabling) provided directly by the equipment manufacturers.

As said before, this case focuses on the products and services that Customer-A bought from Provider-1, Provider-2 and Provider-3. Regarding Provider-1, apart from the costs of telecommunication products and services, this provider influenced other contracts, as I will later present. For Customer-A the contract with Provider-2 and Provider-3 seemed to be more essential than the arrangement with Provider-4, which is only a carrier. As for Provider-5, Customer-A was not an intensive user of service numbers, so the choice did not imply a critical decision.

Expected Buying Behaviour

Given the products and services that Customer-A was using, the existing contracts with different providers, and the use of assumptions based on the Purchasing Approach (*Table 2.1*), I expect a buying behaviour consistent with the traditional theories presented in *Section 2.2.1*. Customer-A was capable of identifying the encountered situation; it identified different requirements, defined the most appropriate alternative, and carried out an evaluation of possible providers. Therefore in this section my observations converge with expectations about the customer's behaviour.

Customer-A's preferences and objectives for the purchase of telecommunication products and services were described in the Information Technologies Principles report. This company expects a provider to fulfil the following requirements:

A. it has a global coverage or is capable of providing transmission to and from the countries where other outlets of Holding-A are located,

B. its services include management tools for controlling costs and usage,

C. the provider is willing to make technology development investments (multimedia services, mobile/fixed integration, etc.) that will demonstrate an innovative character.

According to this report, to begin the search for such a provider and the required products or services, each outlet should know the telecommunication products and services that they re already using and their actual utility. From 1997, the company had made several attempts to compile accurate data on the information and communication products and services in every location, and about all installed infrastructures on ICT. In the Dutch location in question, this data was in hand by the end of 1999. The delay was not due to the difficulty of the task, but to inadequate personnel for a tedious job. The task could not be delayed further because of the information system outsourcing process. One of the most common problems was that Holding-A was carrying telephone numbers that were no longer in use, but still generating invoices.

In addition to these documents, Customer-A also obtained information on the Dutch telecom market from the ABOC (Association of Big Organisational Customers). The ABOC monitors the Dutch telecommunications market and provides information to decision-makers. In this case, there is an important link with the ABOC: Customer-A's ICT Manager was also chairman of the Mobile Services Group at the ABOC.

Once the company had an overview of the products or services they had or needed, they made a list of requirements by following the existing telecommunication policy. These requirements went into a request for bids that was sent to a number of telecommunication providers. The invited providers were selected according to their market share, so that only the two or three biggest competitors participated. Information supplied by the ABOC, and past experience with a given provider were important criteria for choosing bidders. For instance, Provider-1 was excluded from the last request for bids for mobile voice communication because Customer-A's past experience with that provider was unsatisfactory. The bids were then compared in terms of price and quality. The negotiation of exact terms followed between the successful bidder and Customer-A. The settled contract would be valid for a period of three years. The last stage was the installation and development of the services.

As noted, the relationship with the provider is important when considering the future of a commercial exchange contract. In this case, buying was a unilateral decision, so there was no need for a relational approach. Even so, it is important to consider the counterpart (provider) to fully understand Customer-A's buying decisions.

7.2.2. Providers' Marketing Perspectives

This case focuses on three telecommunication providers: Provider-1, Provider-2 and Provider-3, although there was no interview with personnel from the Provider-1 organisation. The account manager was contacted, but he did not believe that he had any relevant information to contribute. Provider-1 is a network operator with its own telecommunication infrastructure (see *Figure 6.1* and *Figure 6.2*), but in this case Provider-1 only supplies local fixed telephony (LAN transmission).

Provider-2 is a mobile operator. It also has the infrastructure for mobile transmissions, and its activities are focused on providing all kinds of mobile telecommunication products and services.

Provider-3 is a business unit that is actually part of an international network operator. It does not have its own telecommunication infrastructure, but rents it to the various national network operators. This allows Provider-3 to focus on the provision of value-added telecommunication services over a wide geographical area, because the savings on telecommunications infrastructure can be used to expand its international activities.

Product Portfolio and General Marketing Strategy

Provider-1's main commercial strategy is the provision of high quality services, disregarding price considerations. It is positioned as one of the few network operators that can provide LAN transmission. This is significant, for it bestows the competitive

power needed to avoid price competition[34]. Apart from the LAN transmission services, they supply other telecommunication products and services (mobile, fixed, voice and data communication), and they act as intermediaries between certain OEMs and customers. In this case, however, those other business activities did not play a role.

Provider-2 bases its strategy on price/quality in mobile products and services. According to the company, its focus on mobile telecommunication products and services means that the required level of expertise is higher and thus the quality of the products and services is better than in situations where the business activity is diversified.

Provider-3's focus is on the provision of data and integrated (voice/data) solutions. This organisation does not own its own infrastructure for telecommunications, so it depends on contracts signed with the network operators, OEMs, and installation companies. Notwithstanding these dependencies, the final responsibility for the whole provided product or service is in the hands of Provider-3: they are the only contact-point for the customer.

Expected Marketing Model (Commercialisation)

Considering the Marketing Management model presented in *Section 2.2.2*, as well as the (expected) purchasing model of Customer-A, the marketing strategy for these three providers should be driven by information supplied by the customer. As long as they are invited to submit bids, they can make their offers and the customer will choose. Each provider should be carefully listening to the customer's requirements and working to fulfil those expectations.

The commercialisation of products for industrial customers as opposed to consumers or small organisation is quite different. Industrial customers are viewed as a large account in terms of the number of employees and the potential telecommunication expenditures. In the case of large customers, the providers usually appoint an account manager who works for that customer most of the time. The account manager is the primary contact person. If there are problems with the products or services, the customer contacts the account manager who must then direct the problem to the appropriate technical department within the provider organisation Also if Customer-A needs to enlarge the capacity of its data network, or replace the telephone sets, the account manager will be contacted.

When new products are being launched, the account manager contacts the customer to determine its needs, and communicate the existing and new options. In Customer-A's case, as noted above, it was the customer who approached the providers with a request for bids.

If an existing customer's request for a product or service exceeds the functional knowledge of the account manager, he can turn to a technical advisor with the necessary expertise. The use of technical advisors is fairly common where the provider is active in

[34] In *Section 6.3.1* I presented the different levels of telecommunication market liberalisation: the LAN part of the telecommunication network is held by an oligopoly in which two companies are the active providers of LAN infrastructure and services.

several telecommunication sectors (i.e.: a network operator with businesses in mobile, fixed, voice and data communication).

The account manager would also try to place its products or services, increasing the number of commercial exchanges with Customer-A. Since there was an existing commercial relation, the providers (those already working for this customer) may have better information about the customer's needs and requirements than competitors who have never worked for Customer-A.

This expected behaviour was in fact observed during the interviews. Nevertheless each relationship of customer/provider presented differences due to the particular character of the organisations and the views of each provider on its role within the customer organisation. As I said when discussing the customer's expected behaviour, the relational view of commercial exchanges can help us to understand the future of the relationship and the specific characteristics of the customer's decisions.

7.2.3. Relational Perspective

In this section I will discuss what I observed about the telecommunication products and services that Customer-A bought from its different providers. To begin, we will look at the main characteristics (preferences) of each telecommunication product and service requested by Customer-A and reflected in the request for bids (formulated according to the Information Technology Principles document).

For simplicity, I divided Customer-A's telecommunication needs into two large groups: voice communication and data communication. The first group contains mobile and fixed telephony. Due to the fact that its primary activity is not (and is not intended to be) communication, but production and marketing, Customer-A did not need state-of-the-art telecommunication products and was unwilling to contract for mobile data communications (source: ICT Manager and Telecommunication Manager).

Customer-A's main preferences were reflected in its request for bids: (a) *coverage* and (b) *manageability*. Both requirements came from the Information Technology Principles report. There was yet another issue that did not appear in this report: *reciprocity*. Customer-A is a manufacturing and branding company, and it is common practise in this sector to include reciprocity clauses in the contracts or requests signed with its suppliers and providers. Reciprocity means that the organisational customer will only contract with a provider who also purchases the customer's products. The ICT Department did not agree with this policy, because it prevented them from making independent decisions where only telecommunication quality and price were to be considered. *Price* was important, since it represented the bottom-line in choosing among providers who seemed to meet the quality requirements set forth in the request for bids. Even so, price was mainly a consideration of the purchaser, who is responsible for negotiating the precise contract terms once the bid has been accepted.

Turning back to the requirements considered by Customer-A, this company wanted a provider that could furnish services in all countries where Holding-A had operations. Each outlet was also accountable for cost, so they needed to be able to control the usage and expenses of each direct user.

Observed Commercial Exchanges

Let us now examine the contracts for telecommunication products and services that Customer-A negotiated:

1. In the case of *fixed telephony*, as noted, Customer-A needed a carrier capable of transmitting voice to and from any location where the company had interests. For local voice communication the only option was Provider-1. After 1998 the incumbent voice services operators found themselves competing with cable operators on a regional level, but the local loop was not expected to be opened to competition until 2000. Provider-1 offered an integrated service, including local loop connection and maintenance, as well as the operating experience that the cable operators did not have at the time when the last call for bids was issued. The manageability requirement was not considered in this case. Provider-1 was chosen even though Customer-A knew that this point had not been addressed.

2. Regarding *mobile communications*, as of 2000 no mobile provider offered an international coverage: they needed roaming agreements to maintain communications, for most of the services (e.g., voice mail) are lost when the user travels to another country. So in this case, the main requirement to be evaluated was manageability. Provider-2 offered interesting tools for controlling the cost and usage of mobile services.

3. In the case of *national voice transmission*, Customer-A chose Provider-4 as a carrier because it offered the lowest tariffs. For *international voice and data transmission* the main attribute to be analysed was the international capability of the operator. The chosen carrier was Provider-3, which is not only a carrier, but also a virtual private network (VPN) provider for voice and data transmission (Intranet).

As for manageability, Customer-A found that the incumbent providers had a rigid structure with strong dependencies on past actions and investments. That was why they were unwilling to delegate their control of costs and services to their customers. In this case, newcomers had an advantage over the former monopolies (an idea supported by Woods, 1998). This assessment was based on Holding-A's former experience with these incumbent operators (source: ICT and Telecommunication Managers).

Dyad Behaviour

The very existence of a request for bids implied some agreement on the basic terms of commercial exchange between the customer and providers. These terms are then refined in a contract that specifies a term (one or two years), the main characteristics of the desired telecommunication products and services, and the price. This may look like a normal exchange contract, but in each case, the relations (contacts) between provider and customer continued after the contract was signed. There was an evolution of the customer and provider relationship into something different

After the contracts were signed, the account managers who were in charge of selling the product and negotiating the contracts performed slightly different tasks: they became the link between the provider company and the organisational customer. If there were problems with the product, Customer-A would turn to its account manager to obtain a solution. Besides, the provider personnel directly in charge of maintaining the products

and the users in the customer organisations became more involved in the evolving relationship between Customer-A and its different providers.

In this case, the relationship between provider and customer was the framework within which complaints were absolved, and where information about the future of the commercial exchange could be found. As the Customer-A's ICT Manager described the relation with Provider-3, "[we have] a friendly relation on a professional basis". The Account Manager of Provider-2 used the same terms. With Provider-1 the situation was slightly different, so let us look at each of these dyads.

(1) CustomerA/Provider-1

The relationship between Provider-1 and Customer-A seemed less refined than the others. Communications between the companies was less frequent: they talked enough to communicate problems, but only because Customer-A had to resort to Provider-1 if there was a problem.

From the beginning of the relationship, Customer-A had problems with this counterpart. As said before, one of Customer-A's telecommunication requirements for providers was the manageability of the products. In this regard, Provider-1 was not the most appropriate choice because they could not delegate sufficient control of the products and services to Customer-A. This proved to be a source of dissatisfaction, and moreover, the users at Customer-A were quite dissatisfied with the treatment they received from Provider-1. This was mainly because of delays in dealing with their problems: "In many ways I know that Provider-1 has a solution; but I also know that I have to ask lots of times to get some answers and get the solution right" (source: Customer-A's Telecom Co-ordinator).

Since Provider-1 and Customer-A were bound by a contract, the relation could not be broken or modified until the expiration date. Customer-A had the clear intention of terminating the relation with Provider-1 at that moment, unless there were clear indications of change. This termination means that the customer has no intentions of renewing the contract or taking this provider into consideration for future contracts.

(2) Customer-A/Provider-2

The contractual relationship between Customer-A and Provider-2 was reflected in contacts between the personnel of both organisations. Customer-A's telecommunication and facility managers, and the account managers at Provider-2 played an important role by exchanging information about the source of product-related problems. Besides these personnel, other parties entered into the relationship. On a more operational level, project managers from both parties and the facility personnel at Customer-A exchanged ideas about possible solutions to problems.

One example of the relationship as a source of information related to changes in the mobile telephony equipment supplied by Provider-2. A few weeks after the introduction of its equipment for mobile communication, the OEM of the mobile handsets decided to modify its car kits, upgrading the equipment while ceasing to manufacture parts for former versions of the handsets. As a result, Customer-A had to replace the entire unit in the users' cars at its own expense. After a complaint to Provider-2 and a process of negotiation, they reached an agreement for splitting the replacement costs. Customer-A determined that the main reason for this problem was Provider-2's dependence on

OEMs, and its inability to resolve problems before they affected the final user (source: Customer-A's ICT Manager and Provider-2's Account Manager). Without effective informal communication, the telecom provider would have withheld this information, or the contract would have been broken because one of the clauses was not observed. But because their communications were good, they were committed to work together in the future to avoid such problems.

There was yet another issue that affected the relationship between Customer-A and Provider-2. I have already indicated that Customer-A contracted for an integrated service (mobile/fixed) with Provider-2. The dependency of this supplier on OEMs (reflected in the incident with the mobile handsets) was just part of the picture. To actually deliver the integrated services, Provider-2 also depended on a fixed telecommunication operator. At the beginning of the relationship, Customer-A believed that this provider was flexible enough to be an integrated telecommunication services provider. But after they started working together, Customer-A found out that Provider-2 was not willing to enter market segments other than the mobile sector. According to the ICT Manager, this attitude would have adverse effects on a relationship already weighed down by other problems.

(3) Customer-A/Provider-3

As it was with Provider-2, the relationship between Customer-A and Provider-3 served as a channel for information exchange. Although this relationship started in a very formal way (with the call for bids designed by an external consultant), it became more open over time. Close contacts between customer and provider created a better knowledge of the counterpart. For instance, Customer-A's Project Manager believed that they usually knew how the provider was going to react, or the excuse that would be offered whenever there was a problem. Usually the blame was placed on third parties that delivered the services for part of the network, on the maintenance company, or on the OEM. The provider, on its part, acknowledged that those answers were not the ultimate cause of the problems, and that it was responsible for the total quality of service. Both parties felt that a possible solution for repeated problems would be a more structured information exchanges between provider and customer, although the provider's personnel felt that the information exchange was sufficient.

As a closing observation, Customer-A and its providers used their contacts as a way to evaluate their relationship and to make decisions regarding its future. The providers also had an opportunity to obtain first-hand information about the telecommunication needs of the customer and to adapt their products and services to meet those needs. Even so, it is important to note that the customer did not share all types of data with its providers: the exchange of information was limited to the telecommunication products and services that Customer-A considered necessary for its organisation.

In *Table 7.1* I present a schematic summary of these observations. Based on this information, I will now consider customer and provider behaviours in terms of the decision-making logics that each party might have applied.

	Customer-A / Provider-1	*Customer-A / Provider-2*	*Customer-A / Provider-3*
Consideration of Alternatives	No	Yes	Yes
Usage of telecommunications	Communication purposes		
Initial explanation	Purchasing/Industrial Marketing		
Dyad behaviour	Tense relation	Good relation	Good relation

Table 7.1: Case A Observations

7.2.4. Interpretations

Behaviours' Interpretations in Terms of Decision-Making Logic

The existence of a telecommunication policy that guides Customer-A's decision-making suggests two different interpretations on the decision-making logic followed by Customer-A. In the first place it may seem that Customer-A was following a calculative logic based on the evaluation of different alternatives. Nevertheless, the evaluation of alternatives was done according to the Information Technologies Principles. This specific type of evaluation indicates the importance of a group of *rules* (or principles) that guide decision-making. These rules have a clear economic component because they pursue the highest quality at the lowest price, but they do not need to be re-designed every time a new decision is needed on telecommunication product purchases.

To begin, Customer-A used a stop-rule to organise the call for bids: it invited only those providers with sufficient market share. This constraint secured a certain coverage, quality, and prestige (and therefore avoided uncertainty to some extent). The principles contained in the telecommunication policy report were used to construct the request for bids, and ruled the evaluation of different alternatives. Even the reciprocity rule that tended to constrain other decisions did not apply when purchasing telecommunications, because it was not in the Information Technologies Principles report.

Regarding the providers' response to the call for bids, one can assume that their marketing management strategy was based on traditional Industrial Marketing ideas where the provider only has to adjust its offer to meet the demands of the customer. Let us analyse each dyad more in detail.

As said before, Provider-1's market strategy was based upon the high quality of its products. This looks like a *rule-following* strategy, for this provider was not concerned with customers who disagree with that priority. For instance, Customer-A wanted a lower price from Provider-1 (source: Customer-A's ICT Manager), in view of the poor quality of Provider-1's customer service. But at the moment of issuing the call for bids, Customer-A had few options other than Provider-1 for local transmission services. Consequently, Provider-1 persisted with its rule.

Provider-2 responded to Customer-A's expectations by following the specifications that Customer-A placed in its request for bids. That can be interpreted as an *appropriateness logic*. Even so, one requirement that Customer-A valued, and that Provider-2 seemed to fulfil (i.e., the potential to be an integrated fixed/mobile telecommunication provider) changed in the course of the relation. Customer-A thought that it understood Provider-

2's potentials at the time of signing the contract, but found that the information given to them was misleading. In Customer-A's view, this behaviour was good reason to terminate the contract.

The last dyad under analysis is between Customer-A and Provider-3. As with the other two providers, Customer-A issued a request for bids, and after choosing Provider-3, they formed a relationship that went beyond the mere exchange of product by price. Both customer and provider applied an *appropriateness logic* through which the provider met the customer's requirements. The observed behaviour of both parties did not seem to jeopardise their relationship.

These decision-making behaviours can also be interpreted in terms of the decision-making problems faced by customer and providers In the coming section I will discuss this point.

Interpreting Behaviours in Terms of Uncertainty and Ambiguity

Considering all the above, I will now consider the extent to which uncertainty and ambiguity problems affected Customer-A and its providers as they made decisions.

As stated in *Chapter 4* (*Section 4.3.1*), *uncertainty* (or the difficulty of anticipating future consequences) occurs when the decision-maker weighs several alternatives, but it can be avoided if he knows the market situation. That implies that the customer has access to information, and has the skills to interpret information and transform it into knowledge. In *Chapter 6* I defined two main areas of change that characterise the telecommunication market: the competitive situation, and technological innovation. Besides, there are changes in prices. Let us analyse Customer-A's knowledge about these three topics.

In Customer-A's case, I will conclude that its knowledge of the competitive situation and technological innovation were sufficient, at least in terms of this customer's telecommunication needs. Since this is not an organisational customer in need of up-to-date technology, it was easier for Customer-A to know the most suitable product or service based on its familiarity with standard technologies. Regarding price, Customer-A could quantify the usage and prices of each telecommunication product or service because it had designed a standard billing procedure that could be used to compare the prices of the various providers.

Customer-A's ICT and Telecommunication Managers understood the complexity of the market: "I wouldn't say [that I have] a 'clear picture'; that's almost impossible. But I know what there is in the market" (source: Customer-A's Telecommunications Manager). Customer-A knew that the necessary information was "out there", but with so much data available, one must first know what to ask: "when you call them [the providers] you must define the problem you have, and what you want to achieve or avoid. [But] if you go to a vendor and you don't allow him to explain something else, then you eliminate the opportunity to get something extra, but you [always] have to keep in mind for whom you are doing it" (source: Customer-A's Telecommunication Manager). According to this, it is reasonable to believe that telecommunication buying uncertainty existed for Customer-A, since they considered several alternatives, and the problem was aggravated by the large amount of information available in the market.

Regarding the provider organisations, I found no trace of great uncertainty in the statements of their personnel. Indeed, they were rather sure about market conditions. This does not mean that these organisations had no uncertainty problems; on the contrary, they had to face a competitive market with constant changes in prices and technology. One explanation of their reaction is that uncertainty is usually defined in relative terms. Telecommunications customers identify situations of high uncertainty by making comparisons with the purchase of other products; but telecommunication providers only sell products and services, so to a certain extent they are "accustomed" to uncertainty. It is also fair to say that the customer's knowledge of what to ask may have overcome some of the uncertainty problems experienced by providers because it narrowed the range of alternatives that the telecommunication providers had to consider when formulating their offers.

Nevertheless, neither customer nor provider was completely exempt from high uncertainty problems. In fact there were episodes in the relationships between Customer-A and its providers that illustrate uncertainty.

The relationship between Customer-A and Provider-2 reached a crisis point due to the problems with mobile handsets. The problem was caused by the provider's inability to anticipate technological changes in the market for mobile telephones. Thus it can be interpreted as an unpredictable problem (uncertainty) which had to be "absorbed" in the communications between customer and provider.

The relationship with Provider-3 also had its problems. The key objective of the contract with Provider-3 was the creation of a VPN for data and voice communication between the outlets of Customer-A in Europe and Asia. This objective could not be achieved in any normal time frame. The greatest impediment was unequal purchasing power among the company outlets: some could not afford to buy this kind of telecommunication product. These variations imply that the network could not serve all the locations; thus the maximum utility of VPN (i.e., inter-connection of all outlets) could not be achieved. Neither the customer nor provider could anticipate this problem, which can be interpreted as an uncertainty problem on the customer's side. The problem was mitigated by the existence of other contacts between these two parties.

In *Section 4.3.2* I defined *ambiguity* as a miscorrelation between the decision-maker's preferences and the general objectives of its organisation. In this respect, there was an interesting comment from Customer-A's Telecommunication Manager: "you can change a contract, change a [telecommunications] supplier, but you also have to change yourself, and it takes quite an effort to do that". This comment relates to the danger of neglecting the potential effects of acquiring new telecommunication products and services. As Customer-A recognised this risk, it seems that the company would be prepared for the attendant changes and able to avoid unanticipated problems. Therefore, an *unwanted* change of preferences (either incoherence or inconsistency) within Customer-A's organisation (caused by the use of telecommunications) seems to be contemplated by the customer. Ambiguity does not appear to have been a problem here, not only because the managers said so, but also because there was no precedent for this issue. The customer stated its preferences, and the decision-makers tried to meet those requirements over time (avoiding incoherence) and according to organisational objectives (avoiding inconsistency). Therefore, I believe that Customer-A's ambiguity

was controlled by monitoring company telecommunications usage and potential needs, and by keeping both in line with the organisation's history and objectives.

As for the providers' ambiguity, I did not observe inconsistency or incoherence in the behaviours of Provider-1 and Provider-3. The case of Provider-2 is slightly different. In the preceding paragraphs I presented two events that marked the relationship between Customer-A and Provider-2. I have interpreted the event with the mobile handsets as an uncertainty problem. I believe that it had nothing to do with an ambiguous behaviour (inconsistent or incoherent) on the part of the provider, because Provider-2's objectives remained the same before and after the incident.

Conversely, the second event could be interpreted as a sign of provider ambiguity. When the contract for mobile telecommunications was signed, one of the provider's characteristics that Customer-A especially valued was entrepreneurial character: this provider was a mobile operator with plans to become a provider of integrated services (both fixed and mobile, voice and data). This potential was very appealing because the customer organisation would benefit from first hand information about developments in that technological area. Over time it became clear that such plans would not be fulfilled. I would interpret Provider-2's behaviour as ambiguous since its earlier objectives faded away. According to the ICT Manager, this issue would become more important if Provider-2's prices or quality level were not acceptable.

Finally, let us consider the relationship between Customer-A and Provider-3. In this case, I did not find traces of provider ambiguity, but the relationship was not exempt from unexpected events that influenced both parties' behaviour. The unexpected problem of budget differentials between Customer-A's outlets was interpreted as an uncertainty problem. I would not describe this as an ambiguity problem because the objective and preferences of Customer-A regarding VPN remained consistent: the lack of financial resources is independent from the objective or the preferences of the decision-maker.

All of this indicates that market uncertainty problems created by technological innovation, market competition, and price changes affect all the players to about the same extent. Within each dyad there were uncertainty problems that depended on the specific organisational situation and market characteristics (in relation to third parties). As for the ambiguity problem, I observed signs of this in the Provider-2 case, but not in the other cases.

	Customer-A	*Provider-1*	*Provider-2*	*Provider-3*
D-M Logic	Appropriateness	Appropriateness	Appropriateness	Appropriateness
Uncertainty	Yes	No	Yes	Yes
Ambiguity	No	No	Inconsistency	No

Table 7.2: Case A Interpretations

Table 7.2 summarises the interpretations of the decision-making logic, uncertainty, and ambiguity problems of the organisations I studied.

7.2.5. Case A: Wrap-up

This section has covered the observations of Case A, and I have discussed how these behaviours could be explained by the classical theories of Industrial Marketing and Purchasing. In turn, I presented interpretations of customer and provider behaviours as rule-following decision-making logics, and analysed their problems of uncertainty and ambiguity. In doing this I considered how the relationship between customer and provider influenced the type of decisional logic that each party applied.

Even with these descriptions and interpretations, I have not yet explained why each party behaved in a specific way. As I proposed in *Chapter 4*, an analysis of decision-making problems may give us greater understanding and lead to a more rational explanation. In the previous paragraphs I interpreted the decision-making problems faced by customers and providers, and described how they solved or avoided those problems within their working relationship

Several questions arise: is it possible that each relationship type indicates the kind of decision-making logic that both customer and provider apply? In other words: is there a commercial exchange relational form directly linked to each pair of decision-making logics? Further, is there a specific combination of customer/provider decision-making problems to explain the existence of each type of relational behaviour? With just one case study, it is difficult to answer these questions, but I expect to find solutions by making comparisons with other situations.

7.3 Case Study B

The information needed for this case was obtained via interviews with ICT managers and purchasers from Customer-B, and account managers from the Provider-1 and Provider-2 organisations. In total six relevant interviews were realised in 2000, each dealing with telecommunication decisions and usage. There were also interviews with personnel from Customer-B's Facility Department, involving people who were directly concerned with the telecommunication buying decision-making process.

I started the interviews at the offices of Customer-B and with Customer-B's Sales Director: he was involved in decisions on implementing the CRM philosophy; as far as CRM was supported by telecommunication products and services (i.e., Call Centre –CC solutions), he was involved in the ICT-related decision. The Sales Director provided contacts within Customer-B's organisation: the ICT and CC Managers. The ICT Manager was directly in charge of Customer-B's telecommunication products and services, serving as a technical adviser on the use of telecommunication technologies. He put me in contact with Provider-1's Account Manager for Customer-B. The CC Manager was responsible for the co-ordination of all CC activities, and also advised the ICT Manager on telecom decisions involving CC. He referred me to the Facility Purchaser, the person who negotiated the final contracts between Customer-B and its providers. Finally I interviewed Provider-2's Account Responsable for Customer-B.

Figure 7.2 shows these interviews and the relations between them.

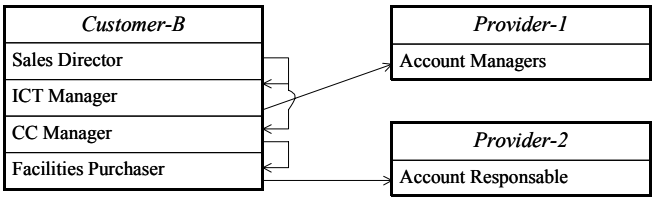

Figure 7.2: Case B Interviews

Neither Customer-B nor its providers have commercial documents that described how their decisions were made. Customer-B documented their telecommunication products and services with the help of the telecommunication provider. Although I had access to these documents, they did not provide relevant data: they were mainly descriptions of how the telecom cabling system was built, the number of telephone lines, the capacity of the user network, etc. Notwithstanding the irrelevance of the documents, it was interesting that, apart from Customer-A's case, I did not find these inventories of telecommunication products and services in the other cases.

Annual reports from the companies provided historical data about the development, general strategy, Customer-B's policy of mergers, and its providers.

7.3.1. Customer-B's Purchasing Perspective

Customer-B is a Dutch health insurance company serving individuals and professional organisations. Until 1992 the Dutch insurance market was divided into regional monopolies. When a policy-holder moved from one region to another he had to obtain insurance with another company. In the 1980s there were several attempts to open this sector to competition, but the inherent problems of regulating competition in a business with a social component prevented the liberalisation of the insurance industry. In 1992 the Dutch government endorsed the concept of choice among insurance companies, allowing customers to keep the same contracts as they moved between regions. This measure created a certain level of competition. Apart from offering better medical service or better policy provisions, customer care became a point of competition.

Customer-B is the result of a series of mergers between different regional companies (former monopolistic organisations). Customer-B as such was born in 1997, when two large companies came together. The merger objective was to expand market share by consolidating effort and experience. At the outset, Customer-B's organisation was situated in two different locations; even some departments were located in two different places. This was the case with Customer-B's CC. Insurance companies use CC solutions to attend to the needs of their external customers CCs are also used to route internal telephone calls. This was complicated by having call centre operations in two places.

At the time of the interviews, Customer-B was implementing the CRM concept. CRM philosophy implies greatly increased efforts to improve customer service. Customer-B expected that CRM would stimulate change throughout the organisation. Even so, the

specific tools and plans needed for a successful implementation of CRM were not then very clear.

Regarding the distribution of buying responsibilities, Customer-B created an ICT-Concerned department in 1999 with the task of managing and supporting telecommunication products and services buying decisions. These tasks were further divided into data and voice related issues. The primary responsibility of the ICT Manager was to provide technical advice about data communication. Because data and voice communication are closely related, the ICT manager also provided information and recommendations to the voice telecommunications decision-maker.

Formal decisions on buying telecommunication (data and voice) products and services above a certain cost were in the hands of the company's board of managers. When those decisions also affected the CC, then the CC Manager's opinions were taken into consideration. And because the CC was related to the core business of Customer-B, the Sales Manager entered the buying group as well.

Telecommunications: Products and Applications

Customer-B's most important telecommunication products depended on or were an integral part of the CC solution. A CC is a central place within an organisation where customer and other telephone calls are handled, usually with some amount of computer automation[35]. In this particular case, the CC was a device with 90 ISDN lines, capable of forwarding calls to the most appropriate personnel or department, by following the commands that the caller sends via his telephone set. It also included computer-assisted services like call screening, which required the building of a data base of incoming user calls. The CC was the "shield around the company, designed to catch all the calls so that the rest of the company could do the real job" (source: CC Manager). The calls received by the agents were mainly service calls (80 to 90%): policy-holders with questions about the coverage of their insurance contracts, payments, and so forth. The rest of the telephonic traffic went to a group that specialised in selling insurance products.

Alongside the CC (which had its own switching system), Customer-B had a PBX system connected to 60 ISDN lines for back-office services. About 750 people depended on the PBX in the two locations where Customer-B had different organisational departments.

Provider-1 supplied the IDSN and DSL lines, as well as the CC solution and PBX equipment. The investment in these products and services accounted for 92% of the total telecommunications costs.

Besides these fixed telecommunications products and services, Customer-B had a contract with Provider-2 to supply mobile telephony to a small number of users. This closed user group used a standardised product package designed by Provider-2 for small and medium-sized organisations.

[35] Definition from http://www.whatis.com

Expected Buying Behaviour

I have divided Customer-B's telecommunication products and services into two large groups: fixed and mobile telecommunications. I also follow that classification below.

Starting from a purchasing perspective, let us describe Customer-B's expected behaviour when buying the CC solution. One consideration is the importance of telecommunications products and services for the CC, which advises against tendering. It is fair to assume that a call for bids would be sent to several providers.

It is possible to study Customer B's behaviour from a Purchasing Theory perspective because I can first accept the existence of intentionality, and then the existence of parameters for collection of purchasing data. Each provider's offer constitutes an alternative for the customer to consider. Ultimately, Customer-B would choose the alternative that offered the best price, since the quality parameters were determined in the call for bids.

In fact a call for bids is the normal procedure for all purchases of equipment within Customer-B's organisation: after they define the problem or need, and the service requirements for the new product or service, they write a call for bids with the help of the purchasing agent in the Facility Department. The ICT Manager is also consulted when telecommunication products and services are involved.: The ICT Manager understands the technical requirements, but the purchasing agent has the necessary information on prices and contract terms.

The process of evaluating alternative telecommunication providers did not seem clear when I observed the relationship between Customer-B and Provider-1. Customer-B considered factors that were not in the call for bids, and that swayed its decision toward that provider. By looking at the relation between Customer-B and Provider-1 one can more easily understand my observations.

Next, I will discuss the buying of mobile telecommunications as an example of a situation in which Customer-B identified the problem or need, collected data, built a set of alternative offers, and choose one alternative according to predetermined criteria. Thus, for the buying of mobile products, the expected customer's behaviour (according to the purchasing approach) rather agrees with the observed situation.

In Customer-B's case, mobile telephony was limited to board members or those persons who had to travel between the cities where the company was located. Customer-B did not have the minimum number of users that telecommunication providers require for a customised solution. But as an organisational customer, Customer-B received a different treatment from the provider organisation: contacts with Provider-2 were established through the provider's Business Point (BP) situated in the region where Customer-B had its offices. The person in charge of buying was the Facilities Purchaser. Customer-B bought a standard package for mobile telephony that included the connection, handsets for a limited number of users, and services such as SMS, business invoice, constraints on cost and usage, etc. The contract had a one-year duration.

The purchaser analysed the geographical coverage of the service in order to reach a decision on buying this mobile telecommunication package. The intended users were not supposed to travel abroad, but they travelled extensively within The Netherlands.

National coverage was a key requirement. This reduced the options to only two providers: Provider-1 and Provider-2. The price of the standard package became the primary concern, and Provider-2 was the cheapest of the two options. As the committed investment was not very high, the permission of the board of managers was not required. Not even the ICT Manager was aware of the reasons that led to the choice of Provider-2 as the mobile provider.

Customer-B's behaviour in the buying of mobile telecommunications seems to follow a purchasing approach, so a relational perspective might not offer new insights to explain the observed situation. Even so, the relational approach can help to explain Customer-B's behaviour when buying fixed telecommunication products and services.

7.3.2. Providers' Marketing Perspectives

Provider-1 is the supplier of all fixed transmission products and services, including the CC solution. As noted in Case A (*Section 7.2.2*) Provider-1 is a network operator (see *Figure 6.1*), which implies it owns its transmission infrastructure, and that it is also in charge of selling, billing, and customer care services (see *Figure 6.2*). Its infrastructure is spread all over the Dutch landscape, and it supplies services to both consumers and organisational customers. Part of its business in the industrial market is based upon re-selling or leasing infrastructure. Moreover, Provider-1 is active in all segments of the telecommunication market, from voice transmission to multimedia services (either mobile or fix), and from local to international communication.

For its part, Provider-2 is a mobile operator. The interviews for Case Study B were done at the Provider-2 regional Business Point (BP). Because the size of Customer-B's user group of mobile communications is relatively small (according to Provider-2's criteria), this provider did not allocate an account manager, but it followed the relation with Customer-B through the regional BP.

Product Portfolio and General Marketing Strategy

Provider-1's core strategy was based on supplying high quality products and services at prices generally higher than those of other providers. The opening of the telecommunication market had created very strong price competition. Provider-1 handled that situation by increasing the quality of its products and services. It also tried to overcome its loss of market share by expanding into foreign markets, and by investing in joint ventures or partnerships for the buying of telecommunication licenses. Contacts with customers were handled by the commercial department of Provider-1's organisation. The Account Manager became the bridge between the customer organisation and the production part of Provider-1.

Provider-2 was focused on providing mobile products and services. Regional outlets all over The Netherlands served as contact points for small and medium size organisations. Although Customer-B was not a small organisation (in terms of number of employees and turnover), Provider-2 considered it a small account because it had a limited number of mobile communications users who fit into an existing mobile product and service package. This package consisted of the mobile connection to Provider-2 network,

handsets for the final users, and some value-added services (like SMS or re-routing of calls).

Expected Marketing Model (Commercialisation)

Starting from the assumption that Customer-B could define its communications problem or need, and demand the appropriate telecommunication products and services, I would expect this to fit into a classical marketing model from the provider side.

Provider-1 would answer the call for bids issued by Customer-B and try to match the customer's requirements. But as the customer had unclear parameters for weighing the offers of alternative providers, Provider-1 could not assume that the calls for bids would lead to a proper decision. Therefore the classical marketing approach does not provide an adequate explanation of the interaction between Customer-B and Provider-1.

The contract with Provider-2 was slightly different: Customer-B was interested in a specific mobile product, so Provider-2 could fill the request with a standard product.

Since the ordering of options did not seem clear from either the customer or the provider perspective, I will now look at this from a relational perspective. As stated, the relationship between Customer-B and Provider-2 cannot be sufficiently explained by Purchasing and Industrial Marketing theories. That is why a relational approach can help to analyse the relationship between Customer-B and Provider-1.

7.3.3. Relational Perspective

The observed commercial exchanges between Customer-B and its providers are described in this section. Customer-B had no policy on telecommunications, at least no written document containing the technological, price, and quality requirements that each product or service would have to meet. Both the ICT and the Sales Managers believed that Customer-B raised far more important issues than the design of a telecommunications policy. Two of these issues were the strategy of mergers between insurance companies, and the implementation of CRM ideas (although none of the interviewees seemed able to specify the operational part of the CRM strategy).

Because of this lack of a telecommunications buying policy, I will analyse the commercial exchange that involved Customer-B, Provider-1, and Provider-2. Since the customer's ordering of alternatives for choosing a fixed telecommunications provider was unclear, and because the provider's marketing strategy cannot be subjected to that ordering, I believe that each organisation's behaviour might be explained by their interactions.

Observed Commercial Exchanges

Although a call for bids led Provider-1 into its current commercial contract with Customer-B, the relationship between both parties evolved over time. A good place to start is the initial purchase and installation of Customer-B's CC.

The CC at Customer-B was created in 1994, before the organisation went through changes as the result of mergers. Three years later, the first merger placed Customer-B

in possession of two CCs in two different geographical locations. The new organisation also had a problem with the rapid obsolescence of equipment, which usually needs to be updated every year and replaced after five to ten years. So in 1999 the time was coming for a new CC solution to combine both CCs while simultaneously updating the existing equipment. The combination of the CCs also required a contract for the connection line between the two locations. According to both Customer-B's Sales Director and ICT Manager, the main requirement for the new CC was a *capability for combination* with other CCs. This recognised the likelihood of future merger activity. As for the connection line between CCs, *reliability* was then the most important requirement for Customer-B. The customer issued a call for bids with specifications for the CC and the connection, and sent it to the biggest providers in the telecom market. The final decision was in favour of Provider-1, based on its ability to deliver the CC solution and a point-to-point telecommunication connection. All the other competitors had to subcontract part of the telecom network to Provider-1; and even if they could offer a total-service agreement (provider is fully responsible for the quality of the delivered product or service), Customer-B preferred Provider-1. From the customer's standpoint, Provider-1 had a better reputation than the others: "this location could have used a cheap opportunity [provider], but it didn't work that well: we couldn't fully rely on them" (source: Sales Director). The ICT Manager stated: "all of those providers are looking for a way to get into the market, but they are not very successful, I think". Customer-B based its trust on earlier satisfactory experience with this provider.

In this first part of the commercial exchange between Customer-B and Provider-1, the customer had recognised the problem or need and had chosen the provider according to a particular ordering. Thus, from among providers capable of supplying the requested product and service, Customer-B had chosen the provider with the highest reliability. Customer-B believed that it could only rely on a known provider and therefore made a rather subjective decision on the offers before it. The fact that Customer-B issued a call for bids implies that the customer had some knowledge of the market, and could consider different alternatives. However, its selection criteria devolved to a "known provider", which ruled out any provider other than Provider-1.

This idea is supported by events that followed between Customer-B and Provider-1. In 1999 Customer-B decided to place the CC in a single location, a move that had to be completed by October 1999. The decision of creating a single CC, and the deadline, was the result of corporate re-organisation plans: the company had to restructure and re-locate departments in order to unify organisational efforts. In the words of the Sales Director: "[in 1999] we put the CC together; first we needed to change our own organisation, internally, and now we are working on building it and improving it".

With the move of the CC, Customer-B also decided to upgrade its telecommunication connection from analogue to digital. ISDN seemed to be simplest and most appropriate step. Data communication had taken on much greater importance because Customer-B's organisation had decided to implement CRM principles; that created a need for a much-improved flow of customer information within the company. The capacity of an ISDN-based network is greater than that of analogue networks, and ISDN can support both voice and data communication. The installation of these lines had to be completed by October 1999. These decisions were made in consultation with Provider-1. In this case there was no call for bids, and while other providers were asked whether they could provide the necessary telecommunication products and services, they could not guarantee delivery by October 1999. Therefore Provider-1 was chosen as the supplier. A

last remark: in spite of the potentials for data communication offered by ISDN lines, Customer-B is using its lines for Internet access and e-mail, but not for other forms of data transmission.

The choice for Provider-2 was very simple: Customer-A made a comparison and chose the cheapest provider. There was very little interaction between the two parties, thus it is rather difficult to analyse their commercial exchange from a relational perspective.

Because the behaviour between Provider-1 and Customer-B reflects the way that their last decisions on telecommunications were made, I will now consider the content of such relationship.

Dyad Behaviour

Provider-1 was not a stranger to Customer-B. From its position as network operator, Provider-1 had contacts with virtually every organisation and company in the region where Customer-B was located. Customer-B was aware of the limitations and capabilities of Provider-1 because they had worked together in the past. Provider-1's reputation for reliability (one of the factors that Customer-B took into consideration) could only be verified through the direct experience of the counterpart. In this case Customer-B had worked only with Provider-1, had a satisfactory experience, and good working relations with the provider's personnel.

Customer-B had good references for Provider-1, but that does not imply that the other providers were unreliable. In order to get such insight, Customer-B would have to obtain information from the other providers. In that regard, the ICT Manager stated: "The information you get by Internet, mail, etc. is quite commercial, but to make a good decision you have to do more research". This could mean direct contacts. If the information obtained in this manner is unsatisfactory, or it is not presented in a proper way (something that reflects on the capabilities of the commercial people), then the customer will not trust the newcomer. As "Provider-1 is providing [Customer-B] with enough information to be able to make this kind of decision" (source: ICT Manager), this provider has a stronger image of reliability.

After the installation of the CC and the necessary equipment, the CC Manager had further contacts with Provider-1. According to the CC Manager: "[the relationship with the provider] depends also on the kind of person, on the account manager that you have, on the person you get the information from". Here again the source of the information is critical because it determines whether or not the information is reliable.

In addition to trust, openness was highly valued by both Customer-B and its provider. Continuous communication was also essential, but the success of the contacts was not measured by the number of conversations, but by the quality of those conversations[36]. Besides, this relationship with Provider-1 provided a way to measure the reliability of the information that they were supplying.

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[36] For instance, the contacts between Customer-B and Provider-2 happened on a weekly basis, but the relationship between them did not seem as close as between Customer-B and Provider-1. Probably in this case, the kind of product that Customer-B is contracting was not so essential as to invest time and efforts on strengthen the relationship.

Table 7.3 presents a summary of these observations. The row indicating the dyad behaviour presents a very general idea about the behaviour that both parties showed.

	Customer-B / Provider-1 (1997)	*Customer-B / Provider-1 (1999)*	*Customer-B / Provider-2*
Consideration of Alternatives	Yes	No	Yes
Usage of telecommunications	Communication	Distribution	Communication
Initial explanation	Purchasing / Industrial Marketing	??	Purchasing / Industrial Marketing
Dyad behaviour	Close relation	Close relation	Distant relation

Table 7.3: Case B Observations

At this point I will consider the decision-making logics followed by the customer and provider, as well as the decision-making problems they encountered.

7.3.4. Interpretations

Behaviours' Interpretations in Terms of Decision-Making Logic

It appears that Customer-B and Provider-2 applied a calculative logic for making their decisions. However, as noted in the Case Study A discussion, I found that Provider-1 followed the rule of providing high quality products. Far from what happened with Customer-A, in this case Provider-1 seemed to fit Customer-B's ordering of requirements.

In principle Customer-B chose providers according to the buying process described in purchasing literature, a process based on a *calculative-economic rationality*. In this case, the "best" option would have been the one that agreed with the technological requirements at a lower price but with better service. Provider-2 was in fact the cheapest provider for the required quality (quality measured in terms of area coverage). On the other hand, Provider-1 was not the cheapest, but its quality met the customer's requirements.

Since quality is a vast concept, let us analyse the case of Provider-1 more in detail. For Customer-B one aspect of the quality delivered by Provider-1 was the good past working experience. Moreover, Provider-1 could supply a direct communication link between the locations of the CCs. The customer organisation emphasised that this link was a key qualitative factor in its decision. There is a possibility that after years of experience with this customer, the provider understood the need for this communication link, and that it used this knowledge to present the product in a more appropriate and customised way. Thus, I question whether there was a real comparison of the offers. The quality provided by other competitors (apart from Provider-1) could not be proven by past experiences with them. Moreover, the references obtained from other organisational customers did not seem to contradict Customer-B's own image of the

provider it chose. Therefore, I submit that after the evaluation of providers, the decision process led to a satisfactory, but maybe not optimum result.

These arguments take on greater weight if we look at the history between Provider-1 and Customer-B. The change in the way Customer-B made its decisions is clearer in the second part of this case. When the CCs were consolidated in a single location, there was no need for a connection between two locations. The fact that Provider-1 was the provider and owner of that line had been decisive in Customer-B's choice. With the line no longer needed, and assuming that Customer-B would continue with its calculative logic, I would expect a new call for bids.

In fact there was a monitoring of the market, which indicates an inclination toward a calculative logic. In this case the immediate requirement was a deadline for delivery, since the choice of equipment was settled. When choosing this product, Customer-B made use of references provided by other CC users in the region, and the information obtained from Provider-1. It is reasonable to think that the relation between Provider-1 and Customer-B created a privileged source of information that enabled Provider-1 to outbid its competitors. Further, it is reasonable to assume that this relationship and the trust built within could be "used" by the provider and customer as an opportunity to install the new ISDN telecom lines.

To conclude: to the extent that relations between provider and customer were satisfactory, their way of making decisions also changed. From a decision-making logic based on information gathering, evaluation, and choice, Customer-B shifted to a mixed logic in which factors such as past experience, third party references, and the reliability of information gained in importance. The more the customer relies on the provider as a source of trustworthy information, the more dependent it becomes, and the more difficult it will be to make calculative decisions since they will be biased by the information supplier.

Interpretations of Behaviour in Terms of Uncertainty and Ambiguity

According to Marketing and Purchasing Theories, *uncertainty*, or the inability to anticipate future consequences, can be eliminated when the decision-maker has sufficient information about the environment and its influence on the available alternatives. In general terms, Customer-B believed that it had sufficient information about the telecommunication products and services available in the market. This information should have allowed them to build a set of decision alternatives, but the views on this issue varied from one interviewee to the next.

The Sales Director, who is responsible for the CC, lacked information about the stability or instability of the telecommunication market. His most urgent tasks were in other fields and occupied most of his time. The CC and the associated products and services are highly dependent on technology, which changes rapidly and is more difficult to keep up to date. Curiously, the CC's main problem did not come from technology, but from human resources. CC organisations find it quite difficult to retain their work force because of low job satisfaction in the work they do. Their investment in personnel training and development is lost before it can be paid off. These human resource issues were a priority for the Sales Director, thus he had delegated the search for data on telecommunications, so that the information he received on customer preferences or requirements was already "filtered", perhaps even settled.

The ICT Manager, who was in charge of the information gathering, believed that the telecommunication market was stable. The number of competitors, or more accurately, the competitors who are worth considering in the market is stable (the "big players" are known). Such stability is due to the history of the provider companies. After five years of performance in the market, they have acquired a reputation and a market share.

Apart from information about the considered providers, Customer-B also needed information on product requirements (e.g., technology, service, quality, pricing, etc.). This kind of data was obtained directly from the providers. But as said before, Customer-B was not satisfied with the information obtained from other providers, so they relied on a known party (Provider-1). As I see it, a provider can know Customer-B's needs either through past experience, or through communication with the customer. In this case, Provider-1 knew the customer's needs because of their common history, and it knew how to present that information most effectively. Therefore, the telecom provider (in the words of Provider-1's Account Manager) could tailor the information for Customer-B to fit the needs of that company: "if I take all the information I have and give it to the customer, that's too much; you have to select depending on the customer. I try not to get into too much knowledge on technology: there is this problem, I have these solutions, and I let them see the benefits of each solution" (source: Provider-1 Account Manager). In other words: the account manager was in charge of presenting solutions, not technologies. If the provider selects the information to present and somehow avoids technological issues (which tend to increase uncertainty because decision-makers cannot keep track of rapid changes in technology) then the organisational customer can make its decisions by more or less omitting this problem. But that approach is only possible as long the customer relies on the information delivered by the provider, and that reliability is based on past experience.

Following this argumentation on the importance of reliable sources of information as modifying factors of uncertainty, the CC Manager stated: "I receive information from a lot of companies; I think sometimes I get too much information [and] I still don't have a clear picture [of the telecom market]". In order to select reliable information, the CC Manager works with the Call Centres Association, a CC users' group that provides him with references from other users about the providers on the market. These references give at least some basis for forecasting the consequences of Customer-B's decisions.

On its part, Provider-1 was subject to uncertainty problems, especially when the 1997 contract was signed. Other competitors were invited to submit bids and that would be the main source of Provider-1's uncertainty. Some mitigation of this problem came from Provider-1's past experience with Customer-B. From that experience, Provider-1 had exclusive knowledge of Customer-B's needs. Common experience also worked to Provider-1's advantage when the 1999 contract was signed.

Regarding the *ambiguity* problem, it seems that Customer-B was certain about its preferences when deciding about the CC in 1997 (the main requirement being the interfaces with other CCs). Technical requirements were included in the request for bids, but the subsequent evaluation of alternative providers did not fully comprehend this requirement. Apparently all the providers could supply the requested CC solution and links between the locations where the CCs were situated, but only Provider-1 also owned the line between the CCs and that fact prevailed over the technical requirements. I would not classify this situation as inconsistency, because Customer-B's objective

(combination of two CCs) agreed with the major corporate objective of improving services for insurance policy-holders. However, I see some incoherence between Customer-B's objectives in the call for bids (i.e., the most profitable contract in terms of quality and price) and an actual choice based upon trust and past experience. I must point out that my interpretation is based upon events in 1997 that were recounted in 1999, and thus some distortion may have crept in over time.

By looking at Customer-B's posterior history, it may be possible to find other explanations for this problem. The second decision related to the CC was the consolidation of the CCs to one location, with a simultaneous upgrading of the equipment. In principle Customer-B only wanted to move the equipment and update it. Eventually they converted their entire network into digital, leasing an ISDN connection between the locations with plans to use this for data communication. Data communication systems were to play a key role in the CRM plan of the company. In this respect, Customer-B is not experiencing inconsistencies because the renovation objective for the CC solution agrees with the general objective of implementing CRM ideas.

But the actual use of the installed products and services illustrates some incoherence in Customer-B's behaviour. The installation of digital telecommunication technology was intended to improve Customer-B's information systems, so long as these systems were actually used. The problem arose when the primary CRM objective was set aside and no application for data communication was created. The first consequence is that Customer-B had a network capable of transmitting a large amount of data, but that capacity was underused. This implies an incoherence problem: the organisational customer made a major investment that was not fully used. If Customer-B had anticipated a change in organisational priorities, this investment might well have been delayed. Supposing that the investment on digital technology was postponed, Customer-B might have been able to acquire a more advanced solution based on wireless technology or ADSL, or a more adjusted solution like frame relay.

Regarding ambiguity, I found no sign of this problem in Provider-1, for its activities and objectives were consistent and stable through time.

As for Provider-2, it did not display uncertainty or ambiguity problems when exchanging its products with Customer-B.

To sum up: according to Customer-B, they obtained enough information to make decisions about which telecom product or service to buy. The data was supported by Customer-B's own knowledge about Provider-1 (gained by past experience), and by the references of other organisational customers. This was reliable information that allowed Customer-B to be more certain that it was making an appropriate decision, thereby reducing its uncertainty. Ambiguity (incoherence) was a problem because the company could not fulfil certain objectives for CRM implementation; that led to the under-utilisation of the installed base network.

Table 7.4 presents a summary of the interpretations on the decision-making logic and the decision-making problems affecting these organisations.

	Customer-B (1997)	*Customer-B (1999)*	*Provider-1*	*Provider-2*
D-M Logic	Calculation	Appropriateness	Appropriateness	Calculation
Uncertainty	Yes	No	Yes	Yes
Ambiguity	No	Incoherence	No	No

Table 7.4: Case B Interpretations

7.3.5. Case B Wrap-up

My presentation of Case Study B includes observations on the telecommunication products and services that Customer-B contracted to Provider-1 and Provider-2. I have discussed the possible explanations for their behaviours from the perspective of Purchasing or Industrial Marketing theory. While Customer-B's choice for Provider-2 can be explained in these ways, the choice for Provider-1 seems more complicated. That is why I interpreted the behaviours of customer and provider according to the calculation and appropriateness logics proposed in organisational theory. In order to gain more insight into the possible explanations for these behaviours, I also interpreted these behaviours in terms of decision-making problems (namely, uncertainty and ambiguity).

In the coming section I will compare Case A and Case B in order to reach conclusions about the type of relationship that brought customer and provider together. I will also try to provide an explanation for each party's behaviour.

7.4 Case A and Case B Comparison

The opening of the Dutch telecommunication market to competition meant a broader scope of choice for both Customer-A and Customer-B. In *Chapter 6* I presented these changes to justify a belief that organisational customers and providers experience higher levels of uncertainty in buying and selling activities, when compared to commercial exchanges in other market sectors.

As presented in *Section 4.5.1*, Paswan, Dant and Lumpkin (1998) asserts that under high uncertainty, the use of standard procedures becomes more acceptable than the use of evaluation and economic calculation. Furthermore, Podolny (1993, 1994), Garud (1994), and Gulati (1995) state that as uncertainty increases, organisations tend to relate more with known counterparts with whom they then develop a relationship in which uncertainties can be resolved or at least reduced.

In the case of high uncertainty, organisational customers and providers will tend to apply an appropriateness logic. Furthermore, they might decide not to look for new counterparts (and to continue an existing relationship), or they will realise their commercial exchanges within the framework of a relationship. The relationship concept as presented by the previously cited authors is far too broad; the only limitation is that a relationship is not an arm's length relationship. An arm's length relationship occurs and

is limited to the moment of product exchange. The question is whether it is possible to further narrow the relationship concept.

Moreover, the behaviour within each customer/provider dyad (reflected in their relationship) needs an explanation. Uncertainty is perhaps one reason why organisational customers and providers do not limit their relationship to a mere product/price exchange (arm's length relation). But ambiguity will also play a role in the way that the parties relate to each other.

A clear justification for seeking a more complete explanation can be found by comparing Case A and Case B: although participants in both cases encountered the same market and competitive changes (in principle, the same level of uncertainty), each party approached its decisions in a different way. It is arguable that these differences can be explained by the unique characteristics of each organisation (different activities, experiences, telecommunication products and services). But, as discussed in *Chapter 5*, I consciously chose different types of organisations to produce a richer illustration of the research situation and problem. These differences are taken into consideration in the comparisons. Let us analyse each case in order to find the comparable points.

7.4.1. Interpretation of Observations

As discussed in *Section 7.2*, the interpretation of Customer-A's appropriateness logic assumed that the customer followed a set of principles that guided its purchases of telecommunication products and services. This issue was considered in the Information Technologies Principles report. With this tool, Customer-A could avoid uncertainty problems.

Besides, the customer's consideration of the needs which had to be met reinforced the use of the Information Technologies Principles, and prevented ambiguity problems from arising in its purchase of telecommunication products and services. In other words: the customer was clear about its objectives and needs, and could communicate them to the different providers; thus, Customer-A's decisions were free of ambiguity.

I can also see that Customer-A's providers were subject to uncertainty, so they applied an appropriateness logic by following the requirements of the customer. This was the case with Provider-2 and Provider-3. Provider-1 continued to enforce its market strategy rule of "providing high quality products", but with a quality concept that differed from Customer-A's understanding of quality.

Regarding the providers' ambiguity problems, since Customer-A approached its commercial decisions from a rule-following and unilateral position, I believe that its providers had very little room to "push" their products, or to change their core activities to conform to their relationship with the customer. Even so, I see ambiguous behaviour in the case of Provider-2: from Customer-A's viewpoint, Provider-2 failed to meet the objective of becoming an integrated telecommunications provider.

The situation described above can be compared to my observations in Case Study B. I will start by comparing Case A with the initial relationship between Customer-B and Provider-1. I determined that Customer-B followed a calculative logic based on making an optimal choice from among several alternatives. Customer-B had knowledge of the

telecommunication providers in the market, and about the available technologies that might meet its organisational needs. This information was used to build a call for bids that could guide the acquisition of fixed telecommunications as well as mobile telecommunication products and services.

Thus, at first glance, ambiguity did not seem to affect the decisions of this organisation. As for uncertainty, it affected Customer-B in the same way that it affected all other organisations active in the telecommunication market.

On the provider side, it was observed that Provider-1 followed a rule of providing high quality products, which in this case agreed with Customer-B's requirement for fixed telephony. Provider-2, with its calculative logic for delivering mobile products also met Customer-B's requirement for a mobile product with a national coverage, at the most advantageous price.

Following the development of the relationship between Customer-B and Provider-1, I observed that these parties were engaged in a more committed relationship. The continuation of the relationship implied contracts for more products, and that would have a significant impact on the core activities of Customer-B. This evolution toward a closer relationship also marked a change in the type of decision-making logic that Customer-B employed: from a calculative logic (based upon the call for bids), it moved toward a rule-following logic of "doing business with Provider-1".

As for the contract with Provider-2, both parties were committed until the end of their contract. Afterwards, Customer-B was willing to investigate market alternatives and chose the cheapest one.

7.4.2. Type of Relationship

As observed, the behaviour shown in each customer/provider dyad indicates that these customers and providers were not brought together by an arm's length relationship. Through the contractual link between Customer-A and its providers, both parties exchanged information not only about product and price, but also relevant information about each organisation. Within that relationship they could seek solutions to problems (e.g., the problem between Customer-A and Provider-2 regarding mobile equipment). But this was not an informal relationship. It developed within the constraints agreed upon in the commercial contract. This document included specifications for the products, their price, and provisions for termination of the relationship.

The relationship between Provider-1 and Customer-B was similar to the one described for Customer-A and its providers (except Provider-1). These relationships went beyond an arm's length relationship in which only product and price information is exchanged. Since these relationships were neither partnerships (each dyad did not have common objectives or structures to achieve those objectives), nor arm's length relationships. Their activities were subject to contractual agreements, so this should be considered a *"Contractual Relationship"*.

The reason why each party developed relationships in one way or another has not yet been explained. I must explain why Customer-A was willing to terminate its

relationship with Provider-1 and Provider-2, and why Customer-A and Customer-B were willing to continue their relationship with Provider-3 and Provider-1.

7.4.3. Explanation of Behaviours

As noted, Customer-A employed a set of rules for laying out its call for bids, and it had sufficient information about its needs and requirements for telecommunication products and services. Each issue implies in turn a controlled level of uncertainty and a non-ambiguous behaviour. Let us separately analyse each of Customer-A's relationships.

In the first place, Provider-1 enforced a rule-following marketing strategy that did not agree with the customer's preferences. The customer knew of this rule because the organisations had worked together before. And while Customer-A's preferences conflicted with Provider-1's rule, the customer chose Provider-1 because it presented the only feasible alternative. No uncertainty or ambiguity can explain the continuation of the relationship despite the feuds. Those issues cannot be used either to explain why Customer-A wanted to terminate the relationship once the contractual obligations were fulfilled.

An explanation might be found in the powerful position that Provider-1 occupied in the field of local transmission. With the arrival of new competitors, it was assumed that this power was going to diminish, and that the contractual relationship was to be terminated. At first glance the argument for considering decision-making problems as explicative variables of behaviour seems inapplicable in this case. In defence of that argument, I can adduce that since the local transmission telecommunication market is a *de facto* monopoly, there are no real alternatives, and therefore there is no uncertainty. As for the ambiguity problem, this type of telecommunication product is suited for a relatively narrow range of applications, which may not create ambiguity.

Customer-A's contract with Provider-2 was not framed in a quasi-monopolistic situation, like the one with Provider-1. In this case, Customer-A was fairly well satisfied with its relationship with Provider-2. Eventual uncertainty problems (e.g., those caused by the OEMs' changes in the mobile sets) could be resolved within the contractual relationship that existed between the two parties. But Provider-2's ambiguity (about combining its fixed and mobile telecommunication businesses), created other difficulties that led Customer-A to consider termination. Given that Customer-A was aware of its alternatives, it was in a position to select another provider by excluding Provider-2 from the next call for bids.

Let us now analyse Customer-B and its providers' behaviours. It is understandable that in an situation of uncertainty, like the one faced by Customer-B when first contracting for the CC, this customer chose to enter a contract with a former supplier. This behaviour is consistent with the classical Purchasing theory, and it can be explained in terms of uncertainty. As explained before, given the market situation, Customer-B's uncertainty about buying fixed telecommunications was higher than when approaching other purchases. It was still higher than in purchases involving mobile products because in the fixed telecommunication case the products were expected to play an important role in the activities of Customer-B. That is why Customer-B did not accept an arm's length contract for buying fixed telecommunications, but selected a provider from the alternatives elicited by the call for bids. Customer-B chose a known provider, justifying

this choice by the provider's reliability as the owner of the pertinent communication infrastructure.

However, this argument does not completely explain the development of the contractual relationship between Customer-B and Provider-1. It is not clear why instead of directly choosing Provider-1, Customer-B decided to issue a call for bids. If Customer-B's final objective was to obtain reliable information on the market, the call for bids would have been unnecessary. There is yet another interpretation for Customer-B's behaviour: its preferences (telecommunication product and service requirements in order of importance) changed over time (inconsistency) and therefore Customer-B needed a provider that could handle those changing requirements. An example of this explanation can be found in the later history of the relationship between Customer-B and Provider-1. This ambiguity would then explain why trust was a preference factor in the evaluation of providers during the first call for bids. It may explain why the customer seemed to rely fully on Provider-1's ability to understand and meet its needs since this relationship was like a "safety net" where the customer could modify its objectives and preferences, mitigating the effects of those changes on both parties (e.g., customer's inefficient use of telecommunication investments, conflict with providers due to neglected contractual agreements, etc.).

As for the contract for mobile communication with Provider-2, Customer-B had knowledge of the market (i.e., uncertainty was reduced by information), and it chose a provider based on an evaluation of the price. Thus, in this case there was little uncertainty and no ambiguity. The minor uncertainty observed by Customer-B in this case could be explained by the minor role of mobile products in the organisation and its activities. On the basis of usage alone, mobile telecommunication probably seemed of minor importance to Customer-B, which implies less uncertainty than one would expect in a commercial exchange in the telecommunication sector. The low levels of uncertainty and ambiguity could explain why both parties were brought together by a quasi arm's length relationship where contacts were reduced to the exchange of product and service.

7.4.4. Summary and Case A-B Conclusions

Regarding the type of decision-making logic:

- Customer-A employed an appropriateness logic for choosing its providers based on the Information Technologies Principles report. Provider-1 employed a rule-following logic when devising its approach to Customer-A. The rule was basically to emphasise high quality products that would sell at a comparatively higher price. Provider-2 and Provider-3 employed an appropriateness logic as well, based upon meeting Customer-A's requirements. These logics were known by the vendor and buyer, and remained unchanged in the relationships between the customer and its various providers.

- Customer-B in principle employed a calculative logic for choosing providers; this logic changed over time, evolving into more of an appropriateness logic. On the provider side, Provider-1 employed a rule-following logic while Provider-2 used a calculative logic for approaching this customer; neither of these providers seemed to have changed its decisional logic. Each party was aware of the counterpart's

decision-making logic, and even Provider-1 perceived Customer-B's logic evolution because it happened within the framework of a closer relationship.

Regarding the type of inter-organisational relationship:

- Customer-A and its providers were joined together by a *contractual relationship*. The development of their relationship indicated a chance for a limited relationship with Provider-1 and Provider-2.

- Customer-B and Provider-1 were joined together in a *contractual relationship* which had a potential for growth, strengthening, and continuation. There was an *arm's-length relationship* between Customer-B and Provider-2.

Regarding the level of uncertainty:

- Customer-A, Customer-B, Provider-1, Provider-2 and Provider-3 were exposed to the alternatives offered in the telecommunication market, and thus to a similar level of uncertainty. However, it seemed as if Provider-1 (above all when selling products to Customer-A) did not consider alternative strategies, and therefore its uncertainty was low.

- Customer-B's approach to buying mobile services is different since these products did not play a major role in its operations, and therefore any uncertainty was greatly reduced.

Regarding the existence of ambiguity:

- Customer-A did not experience ambiguity. Provider-1 did not show any sign of ambiguity, and neither did Provider-3. Provider-2 displayed some incoherence.

- Customer-B displayed certain symptoms of inconsistency. Provider-1 did not show any sign of ambiguity, nor did Provider-2.

Partial Conclusions:

- *High uncertainty explains a tendency towards an appropriateness logic.*

Given high uncertainty in the telecommunication sector, I submit that organisational customers and providers tend to base their decisions on generally accepted rules. These rules may have either a purely economic character (price, quality, utility), or a more social one (consideration of trust, past experience or reputation).

- *Uncertainty explains the non-use of an arm's length relationship.*

As uncertainty is relatively high when buying telecommunication products and services, customers and providers will not risk a wrong decision with an exchange based on price by product. In Case B, I also found that uncertainty is directly related to the intended use of the telecommunication product.

- *One party's ambiguity can be misleading for its counterpart*.

In Case A, Provider-2 misled Customer-A in that one item of information that the customer evaluated when choosing this provider proved to be inaccurate. Customer-A could have continued to demand the fixed/mobile integration, but this was no longer

among the provider's goals. In Case B, Customer-B misled Provider-1 because in fact it was evaluating social (trust and reputation) issues when choosing Provider-1, instead of conforming to the quality/price rationale of the call for bids. If Provider-1 understood that Customer-B had not changed its preferences, the provider would not have been willing or prepared to provide more than what the customer initially demanded.

Because decisions were made on the basis of perceptions of the other's preferences before any change occurred, there was a miscorrelation between the decisions of both parties. Therefore *the role played by perceptions of the other party's preferences needs to be recognised and investigated in future cases*. If the perceptions are not clear (one of the parties is misled), then the issue is the *"vagueness of the dyad relationship"*.

The question raised here is whether an unnoticed change in the counterpart's preferences (i.e. ambiguity) always creates a problem (a situation that leads to a breakdown in the relationship between customer and provider).

- *Ambiguity problems have a direct impact on the customer/provider relationship.*

The case studies show that the existence of uncertainty can explain a non-arm's length relationship for the pursuit of commercial exchanges. But ambiguity can provide more information about the type of relational form that links provider and customer, and that allows the solution or avoidance of the problem.

Case A and Case B illustrate a contractual relationship as the relational form in which the commercial exchanges occurred. This contractual relationship is a translation of the behaviour shown by customers and providers. Even though, the contractual relationship was different depending on the dyad:

– The dyads formed by Customer-A/Provider-1 and Customer-A/Provider-2 were *limited relationships*.

– The dyad formed by Customer-A/Provider-3 was a *continuing contractual relationship*.

– The dyad formed by Customer-B/Provider-1 was a *strengthened contractual relationship*.

These differences cannot be explained by uncertainty problems but by ambiguity. Based upon these two cases, I would say that if the ambiguity is on the provider side, the customer will terminate the relationship because the provider has not met expectations. When ambiguity rests with the customer, the contractual relationship will continue and perhaps move toward a partnership-form where the customer's changing preferences can be observed and concealed.

These assertions are based upon Case B and Case A, but they are far from being conclusive. It would be equally fair to assume that under conditions of provider ambiguity, the customer will seek a partnership that offers mutual benefits; or the customer's ambiguity will be interpreted as an obstruction and as cause for termination. What is clear is that the customer/provider relationship has a direct effect on the ambiguous behaviour of the parties. *The existence of ambiguity builds to a crisis point in the relationship, and that still needs to be investigated*.

The partial conclusions obtained from Case Study A and Case Study B leave two open questions:

1. Is there any case in which ambiguity does not imply a problematic situation?
2. When ambiguity is faced by the customer (or provider), does this indicate the type of relational form that links them together?

In order to answer these questions, I will present two further case studies that will shed further light on the conclusions reached up to this point.

Chapter 8. Empirical Investigation (II): From Decision-Making Logic to Garbage Can Logic

"[…] The society is a mutual exchange of reciprocal disadvantages. And the greatest link that bonds it together, by an inexplicable contradiction, is precisely what seemed condemned to clash it: the selfishness."

M.J. Larra (La Sociedad, 1835)

8.1 Introduction

The previous chapter covers the first two case studies in my empirical investigation. In Cases A and B, customer and provider decision-making behaviours and relationships could to a certain extent be linked to the logics shown in Industrial Marketing and Purchasing theories, although those theories alone could not provide a complete explanation. The two cases make it clear that a relational perspective is essential for understanding how commercial exchanges are approached and carried out. Even if Industrial Marketing and Purchasing Theories can more or explain the exchanges in those two situations, their unilateral analytical perspective justifies a search for a more satisfactory explanation.

From the comparison of Case A and Case B, I concluded that:

I. High uncertainty explains a tendency towards an appropriateness logic.

II. Uncertainty explains why an arm's length relationship may not be acceptable.

III. One party's ambiguity can mislead its counterpart.

IV. Ambiguity problems have a direct impact on the customer/provider relationship.

Through an analysis of Case Study C and Case Study D, these partial conclusions are put to the test. I also kept some questions open that still need an answer:

1. Does ambiguity always lead to a problem situation?

2. Is the ambiguous participants' character directly related to the direction of the change in the relationship?

8.2 Case Study C

Data for this case was collected at the corporate offices of Customer-C and the commercial offices of its only provider (Provider-1) during 2000. In all there were nine

interviews in the customer organisation and telecommunication provider company. All of the interviews were with persons involved in making decisions on telecommunications commercial exchanges during 1999. The first contact was with Customer-C's Manager of Technical Support & Communication. He was responsible for all voice-related telecommunication issues, including decisions related to telephony products and services. He mentioned Provider-1's Account Manager as the person with whom he worked closely at the provider organisation: whenever questions arose concerning the commercial relationship with Provider-1, this manager contacted that Account Manager. The Network Engineer for Customer-C's organisation was a contact of the Manager of Technical Support & Communication, also mentioned by the Account Manager. He referred me to Customer-C's Team Leader Telecom (responsible for the management of telecommunication equipment installation projects), and with the ICT Managing Director (responsible for human resources, quality, and ICT department strategies). Customer-C's Team Leader Telecom was the bridge to Provider-1's Responsable for the Business Support Desk (BSD) who co-ordinated and accounted for the Customer-C's BSD. This Team Leader was also referred me to Provider-1's Project Leader (the person responsible for systems implementation at the customer site). The contact with Provider-1's Operational Account Manager was arranged by the Account Manager; the Operational Account Manager was in charge of all activities related to the functional and technical aspects of the telecommunication products and services that Provider-1 supplied to Customer-C.

Figure 8.1 shows these interviewees and the snowball path that the contacts followed between one organisation and the other.

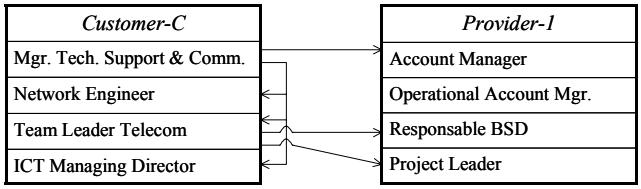

Figure 8.1: Case C Interviews

The relationship between Provider-1 and Customer-C was outlined in several documents, although I did not have access to consult them. These were mainly legal documents that contained much the same information that one would obtain directly from company personnel.

8.2.1. Customer-C's Purchasing Perspective

Customer-C is one of the largest travel operators in the Netherlands. It is organised in different business lines depending on the type of travel or traveller. Each business line has two key activities: the preparation of comprehensive travel packages, and sales of these and other travelling arrangements. Sales are conducted through various offices and travel agents throughout the country.

Customer-C is connected to a travel reservation national network (TRN) that links agents with providers of transportation, lodging, and other services. The TRN does not

work exclusively for Customer-C, and it has its own organisational structure. It uses the infrastructure provided by Provider-1.

Apart from participation in this network, Customer-C owns a CC which receives all travel agent questions and requests. In theory it was meant to handle bookings and sales for Customer-C. In practise, besides bookings, it is used for solving agents' problems. Bookings could be made electronically via the TRN, but in some instances, travel agents are not willing to use this method (between 60 and 70% of the bookings are done electronically).

Decisions about telecommunications (buying, installation and maintenance) are in the hands of the ICT Department, which is divided into two groups: Voice Communication and Data Communication. The last group is also responsible for decisions on information systems and computer equipment.

The corporate office of Customer-C is responsible for strategy, planning, and decision-making of all "business" matters, including decisions on telecommunications and information systems. The corporate office has the last word on these decisions.

Customer-C belonged to the ABOC, and through that affiliation, obtained information about prices, products, and the relative merit of the various providers.

Telecommunications: Products and Applications

Customer-C makes intensive use of telecommunications. It uses practically every kind of telecommunication product on the market: from mobile to fixed transmission, from conventional telephony to video-conferencing, from voice to data communication. In addition to the CC and data networks mentioned above, it also uses leased lines, ISDN lines, GSM corporate services, and video-conferencing. Provider-1 supplies all these products and services. These products fall into four large groups[37]:

- Voice communication (including PABXs for the CC and offices) accounts for the 64% of all investments on telecommunications.
- ISDN and data traffic accounts for 21% of the investments.
- Leased lines investments are the 8.5% of the total.
- Mobile telephony's costs are the remainder 6.5%.

The voice communication products and services are used to deliver travel packages to the travel agents, although it was supposed to be a problem-solving resource for the travel agents. The CC is a vital resource for the company: it is the link to the agents and from the agents to the final users. Some of the ISDN lines are used for voice, but the share described here relates just to data communication. The leased lines are used for data communication, connecting several of Customer-C's outlets, and the organisation to the TRN.

[37] Video-conferencing involves such a small percentage that is not taken into account.

One would expect a calculative buying behaviour, if you consider the way in which these products and services are used, and if you examine Customer-C's buying decisions from a purchasing perspective. In the next paragraphs I elaborate on this idea.

Expected Buying Behaviour

As discussed in *Section 2.2.1* (*Table 2.1*), the first step in understanding a buying process is to classify the situation faced by the parties. In this case, Customer-C had to understand the problem that it needed to solve through the purchase of equipment and services. At times that is a brave assumption, but let us assume that Customer-C understands what it needs. Depending on the kind of product (voice or data communication transmission and equipment), Customer-C might find itself in different buying situations since the importance of each product differs in terms of its impact on business activities and expenses.

It is reasonable to believe that Customer-C would issue a call for bids in order to obtain information on the various options for voice communication. A call for bids implies that the customer is able to define its product, service, and quality requirements. With that information the providers can attempt to lay out a competitive solution. Assuming that these requirements are met, the chosen provider would be the one with the cheapest prices.

Instead of issuing a call for bids, the customer might opt for "tender": the customer evaluates the alternatives and selects the provider that meets its requirements. The problem with "tenders" is that telecommunication products and services bring in other organisational issues: as the ICT Managing Director put it, "buying telecommunications is not like buying a chair".

Through a call for bids or by tendering, the customer can build a set of alternative offers. Even so, Customer-C did not consider a set of possible providers. Lacking a set of alternatives, there cannot be a buying process as described in the classical Purchasing literature.

This behaviour was justified by the ICT Department manager: "[we] try to keep a small base of providers […] Sometimes you pay a little too much, but the loyalty towards you is much higher". This philosophy implies that the relationship between provider and customer is an essential factor for making decisions. Why Customer-C took this line, or why it selected Provider-1 cannot be answered from the perspective of Purchasing Theory. Thus, we must examine this commercial exchange from a relational perspective. First, however, it will help to understand the marketing perspective of Provider-1.

8.2.2. Provider-1 Marketing Perspective

As stated, all telecommunication products and services used by Customer-C are supplied by Provider-1. The key characteristics of this provider have been explained in former cases.

Product Portfolio and General Marketing Strategy

Provider-1's marketing strategy is based on the idea of high quality telecommunications products and services that are relatively more expensive. Provider-1 has decided to compete in terms of quality (which tends to be expensive) so it must devote significant resources to new product research and the development of features that enhance quality. Therefore, Provider-1's commercial department and its R&D department must collaborate in order to bring new technology to the customer.

Provider-1 also offers Customer-C services as an intermediary between the telecommunication OEM and the user. As with most industrial customers, this is in addition to voice and data transmission services, leased infrastructure, mobile communication, and video conferencing capabilities. In this way Provider-1 seeks to enhance the quality of service, since the customer has but a single contact point for all complaints.

Expected Marketing Model (Commercialisation)

According to the Industrial Marketing literature, the provider will manage its customers according to requirements that those customers communicate. In principle I have assumed that Customer-C knows what it wants from the telecommunication provider. If that is the case, then Provider-1 should expect to face competition. The competitive situation in the telecommunication sector when dealing with telecom transmission or equipment was discussed in *Chapter 6*. Considering this and the characteristics of Provider-1, I would expect Provider-1 to attempt to supply cheap transmission products and services, but high quality equipment.

In fact, Provider-1 is not characterised by low prices, but by its focus on quality issues. This can be explained by the lack of actual competition. Since Customer-C did not consider an alternative provider, Provider-1 did not have to formulate a marketing management plan. It could focus on maintaining the relationship with this customer. Customer-C's case is unique in certain respects. Instead of having an account manager occasionally supported by technical staff, there is a permanent account team constituted by a "commercial account manager" and an "operational account manager". There is also a customer-care service specially created for Customer-C: the Business Support Desk (BSD). This support desk was designed and established to serve as an interface between Customer-C's telecommunications users (i.e., travel agents) and the provider organisation. Whenever there is a problem, telecommunications users can directly contact the BSD. The BSD will evaluate the problem and forward it to the appropriate department. The reason why Provider-1 treats Customer-C in this way lies in the characteristics of their working relationship.

As it was in the customer's behaviour case, it is not possible to analyse the marketing management of Provider-1 without adopting a relational approach. In the following paragraphs I will use a relational approach to interpret the actions and interactions of both parties.

8.2.3. Relational Perspective

The use of a relational approach is inevitable here, since the relationship between Customer-C and Provider-1 explains their behaviours. The key facts are that (a) Customer-C had a policy of working with only one provider, and (b) Provider-1 sought very close contact because of the importance of this customer. Given those facts, the purchase of new products or the renovations of already installed equipment immediately became a discussion point between the two organisations. In principle, their discussions helped to define the characteristics of the product eventually purchased. When discussing how their organisations faced this new commercial exchange, the interviewees outlined two generic buying situations: the purchase of completely new equipment (product or service), and an updating of existing equipment. In both cases there were three ways to initiate a buying process:

(1) The starting point of the buying process is the user or travel agent's formulation of a problem. For example, the complaints of the travel agents about the performance of the fax service led to the renewal of that equipment. However, the involvement of users as the starters of a buying process is limited to the updating of terminal equipment (telephones, fax machines, software updates, etc.).

(2) Usually when a completely new product is required, the ICT department initiates that process. The ICT staff is responsible for monitoring the usage of all telecommunication equipment. If they observe that there is an under- or over-usage of certain resources, they might require the modification or even replacement of that product or service. Information from telecommunication providers is essential to an understanding of the market alternatives. The ABOC is also consulted from time to time for information on market prices. Even so, Customer-C does not follow any of the guidelines offered by the ABOC. According to Customer-C's Technical Support Leader, there is very little time to search for information, so Customer-C relies to a large extent on information obtained from Provider-1.

(3) The third starting point for a commercial exchange is the provider itself. The frequent contacts between Customer-C and its telecom provider give Customer-C immediate access to new offerings, and Provider-1 gets a favourable placement of its products on the client site.

As shown here, the communication between customer and provider was very important in the first steps of a decision process. This communication was no less important in the subsequent steps. Therefore, even when an organisational customer starts the decision-making process, it will make early contact with the provider organisation to better define the needed product, discuss prices, and plan the installation.

Although these three situations indicate a clear approach to buying/selling decisions within the relationship, the tacit partnership between provider and customer constitutes a problem when trying to detach one buying decision from other. Buying a particular telecommunication product or service is not a discrete process that happens at one point in time. It is a situation that continuously evolves, as it engages different people from different departments. The communication between the parties is central and indeed very fluid: "Every month there is an account meeting between Provider-1's account team, the Team Leader Telecom and the Manager for Technical Support Systems; every four to eight weeks there is a meeting between the ICT Managing Director and Provider-1's Account Manager" (source: Manager Technical Support System).

However, there is no documentation of the meetings or discussions. As I will discuss later, the lack of documentation is the source of certain problems in the commercial exchange process.

In order to get a clearer picture of the situation, I focused on the buying of a new PABX for Customer-C's CC. The buying of a PABX is usually a simple purchase since the equipment on the market is known to customers, and they can compare the features of the different products. In order to understand the purchase, I asked how the decision process started, who was involved, the installation procedure, and the problems and opportunities that appeared all through this process.

Observed Commercial Exchange

In 1999 Customer-C decided to change the PABX system at one of its locations. This switch was part of the CC (it was the "gate" to the CC). The equipment was 10 years old, and although there had been continuous updates, technological innovations made it possible to obtain more advanced features as part of a totally new PABXs. For instance, the new equipment included speech recognition, it could be connected to a database, and it could re-route incoming phone calls. Already in 1997 Customer-C and Provider-1 started to investigate the market to find a replacement with improved features. An alternative to upgrading the PABX equipment would have been data communication, some kind of Internet or private network. Although travel agents first had access to TRN in 1988, 40% of all travel reservations were still being made by telephone (source: Mgr. Technical Support & Communication). Given the travel agents' preference for voice communication, Customer-C together with Provider-1 considered a modernisation of the PABX equipment and the CC. On that point, the Team Leader Telecom declared: "We look for techniques that have to do with what the business wants, not techniques that are good on their own. […] Mostly we do not implement all these new techniques, but we test them". In brief, the users (travel agents) expressed their product preference (voice communication), and Customer-C looked for ways to improve that type of communication.

The main objective for upgrading the equipment was to reduce the travel agents' waiting time when they called for a reservation (source: Team Leader Telecom). To that end, they tested several technologies. They tried and rejected voice recognition, for it took too much time to process a request. Skill-Based Routing (SBR) looked more feasible and, at the same time, determined the choice of a particular PABX brand. SBR technology allows incoming telephone calls to be directed to the most appropriate person through the use of menus. This system can also be combined with other CCs in order to create a Virtual CC (two locations with a separate CC, but a single point of access[38]).

The travel agents' preferences for a particular technology were very important. But Provider-1 played a key role by determining the requirements for the new equipment: brand, features, and operating characteristics. The Operational Account Manager worked closely with the personnel at Customer-C in order to define the operational requirements of the product. This relationship takes on greater importance because the telecom operator was the link between Customer-C and the OEM, that is to say, the

[38] This is equivalent to the combination of CC situation that I discussed in the Customer-B's case.

PABX provider. Provider-1 was also in charge of the installation of the needed equipment.

The contract for the new PABX led to a new project. Provider-1 had shown its reliability, so it was given a contract to install all telecommunication cabling for a new building and to maintain the entire installation. Even so, Customer-C issued a call for bids on this work, inviting five established providers. Provider-1 obtained the contract because it made the lowest bid. The position of an intermediary between the OEM and customer is not a new role for Provider-1. This operator has special agreements with certain OEMs for the commercialisation of their products (in some cases these are exclusive agreements). On the other hand, Provider-1's work as an equipment installer and cabling contractor would normally be done by subcontractors. According to Provider-1, it was able to offer the lowest price because of its special relationship with Customer-C.

The use of data communication as an alternative to voice communication was considered during the search for improvements to the PABX. The connection to the TRN was essential for the booking of travel services. But Customer-C, and above all Provider-1, saw a new opportunity in the e-business sector that would give Customer-C a competitive advantage if it established itself in e-commerce ahead of its competitors. E-commerce would allow individuals to obtain the information needed to make their own reservations via Internet and a private data network supplied by Provider-1. Customer-C saw the potential of data communication, and they proceeded into a joint venture with Provider-1 in 2000. This new organisation (JV) offers Customer-C's travel reservations via Internet.

All of this underscores the importance of the type of relationship between customer and provider in setting up, cultivating, and sustaining commercial exchanges. These relationships are realised at different levels, involving different people and departments in both companies. It may be difficult to grasp the specific issues that the customer and provider must deal with in making decisions. Those issues will become clearer if we examine the relationship between Provider-1 and Customer-C as it relates to the PABX equipment purchase.

Dyad Behaviour

As mentioned above, the relationship between Customer-C and Provider-1 was central to the development of a telecom product and service contract. The behaviour of the two-party dyad will illustrate this relationship. According to the personnel interviewed in both companies, the relation is "good", a quality that is evident in the frequent contacts between the provider account team and different persons at the customer site. I previously noted (*Section 8.2.2*) the importance of Customer-C prompted the provider to design a whole new selling strategy. Instead of just an account manager, an account *team* would co-ordinate all efforts of provider organisation to maximise the satisfaction of the customer. These efforts seem to have been rewarded since Customer-C did not question the continuity of their commercial relationship. This relationship was linked to the quality of the products, for as the ICT Managing Director declared: "One of the advantages [of working with Provider-1] is that we get good quality and that's because we have a good relationship". In this case product quality was defined more as service

quality: the ability of the provider to adapt to new situations, the co-operative working environment, and the rapid response to Customer-C's demands.

Despite the general satisfaction of the customer organisation, the relation was not exempt from problems. An example can be seen in the installation of the PABX. Customer-C's Team Leader Telecom felt that the source of the problem was the Project Leader at the provider organisation. In the view of the Team Leader Telecom, the Project Leader was all but intransigent when the customer requested additional features during the installation of the PABX. From the customer's perspective the informal and co-operative relation with its provider warranted a degree of flexibility as well as confidence that there would be satisfactory response from the provider's side.

The provider's Project Leader saw the problem as the incessant "change of mind" of the customer, which would only have caused delays in the installation. For this reason he decided to continue with the project schedule as planned. He thought that the solution could be found in the written records of commitments made during customer and provider meetings. Since such documents did not exist, the customer could modify the requirements as it saw fit without breaking any formal agreement. The customer's version was that the provider's engineer was simply unable to understand the customer. In the end the customer and provider failed to adhere to the planned schedule.

The disagreement also resulted in higher costs. The costs were charged to the customer, but after discussions with members of the accounting team, both parties agreed to split the added costs. Besides, the provider's project leader was not supposed to be part of any other installation project involving this customer.

The relationship between Customer-C and Provider-1 also produced satisfaction. One of the persons who most influenced the satisfaction of the customer organisation was the BSD manager. He did not have any technical background or commercial responsibility, and he was not part of the account team that dealt with the installation of the new products at the customer organisation. He was the link between the travel agents (the direct users) and the telecommunication provider. Unlike the project leader mentioned above, the Responsible BSD was defined as a person capable of understanding the problems and requirements of the customer organisation. He could contribute to the relationship with his work experience in the tourist business. Although he was not supposed to have an important role in the continuity of the relationship, his handling of the BSD job helped to maintain the satisfaction of the client.

These examples illustrate how Customer-C used its contacts with the provider: they were a measure of the quality of the received products. That is why these two examples are so important: they show the relevance of personal characteristics and relationships in the characterisation of the total relationship. The relationship between the two project leaders was not good, and this had an effect on the customer/provider relationship that would influence future decisions.

Through the relationship between Customer-C and Provider-1, the customer organisation obtained useful information for making decisions[39]. The relationship itself proved to be a source of new opportunities, as we saw in the PABX installation. A new

[39] Customer-C's participation in the ABOC was also a source of information on prices and the reliability of the different providers (source: Mgr. Technical Support and Communication).

building for housing another CC was being constructed and would need a PABX, telecommunication connections, and an internal cabling network between the different offices. Provider-1 normally did not do this kind of work, but in this case decided to bid for the whole installation, and to act as an intermediary between Customer-C and the fitter company that would do the site work.

Another issue that illustrates the type of relationship between Provider-1 and Customer-C was the contract for data communication products and services. It was essential to have some kind of data communication connection to the TRN, and that involved a contract for a data communication line. This data communication line was managed by the TRN itself, in which Customer-C was a shareholder. Customer-C believed that the network was too slow for their needs (source: ICT Managing Director); this opinion was based upon the capabilities that Provider-1 could offer.

Along with the TRN connection, Customer-C was involved with Provider-1 in a joint venture for selling travel packages through a high speed Internet connection. The travel business is by nature a sector that can reap huge benefits from the use of e-commerce tools. Customer-C believed that it was prepared for e-commerce, given (1) information obtained from Provider-1, (2) their close working relationship, and (3) the chance to test the newest technologies offered by what they saw as the most innovative and progressive provider in the market. The testing of data communication technologies allowed Customer-C to prepare for the day when e-commerce would be fully accepted by the market. These e-commerce ideas did not originate in the customer organisation. According to Customer-C's Network Engineers, "Provider-1 started with e-commerce a bit before we started to think about using e-commerce". The contacts between customer and provider stimulated an interchange of information and ideas, and both saw an opportunity for new strategies that in turn led to new commercial exchanges.

A last issue in the relationship between Customer-C and its provider arose in my interview with the ICT Managing Director. Speaking about the information offered by other telecommunication providers, he said: "[Customer-C] don't get any information. There is no [other] company coming to us and saying: 'we can offer you this'". Even though Customer-C was made intensive use of telecommunication products and services, there was no alternative offer or information to counter what was presented by Provider-1[40]. According to Customer-C's ICT Managing Director, the close relation between the companies might discourage possible competitors. He believed that additional information would be quite useful, but would not necessarily threaten the continuity of the business relationship[41].

To summarise, the co-operative relationship between provider and customer was directly related to the organisational customer's concept of quality. The character (positive or negative) of this relationship was directly affected by interactions between the personnel of both organisations. Customer-C used the contacts with its provider as a

[40] This assertion needs clarification. According to the Man. Technical Support and Communication, there were contacts with different providers, but no formal presentations of offers.

[41] In 2001 the Manager Technical Support & Communication planned a call for bids where six to seven telecom operators would be invited to submit bids for supplying ISDN and leased lines. Even so, he reiterated the ICT Managing Director's assertion about the good on-going relationship with Provider-1, and the wish to continue in that relationship.

source of information, and as a source of opportunities for the acquisition of innovative products and services. Provider-1 also used information obtained from Customer-C to adapt its products to the customer's requirements, to extend their commercial relationship, and to utilise Customer-C as a test bed for new technologies. For Customer-C, there was a danger that the close relationship would keep it insulated from other providers, and from the benefits of price and product competition. For Provider-1 there was the risk of dedicating too many resources to a particular customer, overlooking other opportunities or getting too involved in the customer's business (acting as a travel agent rather than a telecommunication operator).

In *Table 8.1* I present schematically the observations of this case study.

	Customer-C / Provider-1
Consideration of Alternatives	No
Usage of telecommunications	Distribution
Initial explanation	??
Dyad behaviour	Partners

Table 8.1: Case C Observations

In the next section I will examine this behaviour in terms of the decision-making logic applied by customer and provider. I will also examine these issues from the standpoint of decisional problems (uncertainty and ambiguity).

8.2.4. Interpretations

Interpretations of Behaviour in Terms of Decision-Making Logic

Based on all the available information it is reasonable to conclude that the commercial exchanges between Customer-C and Provider-1 did not fit entirely into the classical buying and marketing models.

Neither the provider nor customer used a logic that agrees with the calculative model, so we might consider whether they followed an appropriateness model. In Customer-C's case a general rule describes its behaviour: "buy only from your partner". But once they have chosen their provider, they have to make decisions about the kind of product that they want. This decision on product does not seem to be subject to any fixed rule, but is the result of interactions between the provider and customer. In this case, different alternatives as well as the final choice emerged from these interactions. Communication, exchange of information, new opportunities, and co-operation are terms continuously used by the interviewees when they described how they had arrived at a certain decision. Their decision-making process come closer to a garbage-can logic in which the activities of both parties are intertwined, new commercial exchanges emerge from existing ones, and new objectives evolve as customer and provider work together.

Behaviours' Interpretations in Terms of Uncertainty and Ambiguity

As previously discussed, the *uncertainty* faced by an organisation is caused by events that are not directly related to the decision itself, and may change the outcomes of a decision in an unexpected way. In this case, Customer-C and Provider-1 did not consider other alternatives than working together, so uncertainty did not exist. The parties were fairly certain about the reactions of their counterpart, based on actual experience. Moreover, Customer-C had ways to control the fulfilment of the agreements. According to the ICT Managing Director and the Team Leader Telecom, an escalation of complaints would be a remedy in extreme situations. Escalation would mean presenting the problem to a person higher up in the provider organisation, well above the level of the person who was responsible for the problem. Customer-C felt that it could take a problem to the highest level with confidence that the complaint would receive attention. Perhaps this was due to the fact that one of the provider organisation's executives was on the board of directors of Customer-C.

According to the interviewees, the market looked more complex from outside the dyad (more changes), although this complexity (and the potential for uncertainty) was explained differently depending on where these persons were situated in each organisation. The operational personnel of both companies (Customer-C's Network Engineer and Technical Support Leader, and Provider-1's Operational Account Manager and Project Leader) believed that telecommunication technologies were continuously changing and that this was the most problematic aspect of making decisions. For the provider's Account Manager and the customer's ICT Managing Director, the major problem was the emergence of new competitors and increasing competition based on price and service: "for choosing the product you can more or less manage; for choosing the provider it's difficult. And every month it will be different because prices are changing and because their portfolio of products is different" (source: Customer-C's ICT Managing Director).

As for *ambiguity***,** I interpret Customer-C's change of opinion about the features of the PABX system as an incoherent behaviour. Customer-C was continuously changing its product preferences, causing delays and increased cost. On the other hand, Provider-1's behaviour can be interpreted as inconsistent because the joint venture for supplying travel packages did not fully agree with Provider-1's mission of supplying telecommunication products and services. In this case, its role as a network provider was subtly changing, to that of a travel operator.

Table 8.2 schematically shows the interpretations of the decision-making logic, the uncertainty and ambiguity that each party faced.

	Customer-C	*Provider-1*
D-M Logic	Garbage-Can	Garbage-Can
Uncertainty	No	No
Ambiguity	Incoherence	Inconsistent

Table 8.2: Case C Interpretations

8.2.5. Case C Wrap-up

In this section I have discussed the commercial exchange between Customer-C and Provider-1, their behaviour, and the emerging character of their decision-making logic. I then presented the customer and provider issues of uncertainty and ambiguity, showing that while both parties were subject to uncertainty prompted by changes in the market, they did not consider their commercial exchanges to be problematic. As for ambiguity, I believe that both parties displayed signs of incoherent (in the customer's case) and inconsistent (in the provider's case) behaviour.

These observations and interpretations on the participants' decision-making logics and problems can now be viewed alongside the partial conclusions reached through comparisons of Case Study A and Case Study B.

8.3 Case C and Case A-B Comparison

In this section I will begin with a summary of the Case C observations and ideas about relational form that brought Customer-C and Provider-1 together. I will then discuss possible explanations for this behaviour. Finally, I will present the partial conclusions derived from this three-way comparison of cases.

8.3.1. Interpreted Observation

In the previous section I presented the commercial exchanges between Customer-C and its only provider, Provider-1. My observations of customer and provider commercial exchanges revealed an intertwined logic for making decisions. New commercial exchanges emerged from existing ones with no clear beginning or end within the decision-making process.

I also discussed the uncertainty and ambiguity problems that provider and customer displayed in these commercial exchanges. The existence of more providers in the Dutch telecommunication market did not seem to have many consequences for Customer-C since it worked with only one supplier. As for Provider-1, the existence of competition damaged its market share and created an uncertain situation. However, I cannot say that either of them faced uncertainty problems.

Regarding the ambiguity issue, Customer-C displayed an incoherent behaviour (its choices were not constant over time), which led to practical problems, such as frequent renewing of installation project dates and terms. On the other hand Provider-1's behaviour (related to its relationship with Customer-C) was inconsistent with its core business activities: from a role as telecommunication provider, Provider-1 was sliding into the role of a travel agent. Although they displayed an ambiguous behaviour, I cannot say that this behaviour brought intractable problems to the relationship: they solved the problems and continued to work together.

8.3.2. Type of Relationship

The two parties were linked in a long-running commercial exchange which had been extended over the years with new contracts and products. It was certainly not an arm's length relationship, and it went beyond the contractual relationship that brought Customer-A and Customer-B and their providers together. I would label the relationship between Customer-C and Provider-1 as a *"Partnership"*, given the closeness of contacts and an ample exchange of information on products and price.

Both partners approached their decisions within this relationship. Their emergent decisions and adaptive behaviours transformed their partnership into the actual decision-making unit, an entity with its own objectives and procedures.

In this case it is not possible to discuss the logic used by only one of the parties: it is Customer-C and Provider-1's dyad logic that shaped their decisions, a logic that developed over the course of their relationship.

8.3.3. Behaviour Explanations

At this point in the analysis, I try to explain the commercial exchange behaviour (partnership) of these two organisations. In Case A and Case B, I concluded that uncertainty and ambiguity explained why the dyads behaviours took different forms –a contractual, limited, or strengthened relationship form. However in Case C, it would be difficult to identify the causal relationship: it is difficult to determine whether the partnership allows the existence of ambiguity and uncertainty, or whether it is the other way around.

Let us review what we know: the sources of uncertainty and ambiguity (changes in the market, and the potential for new applications of products and services) affected both Customer-C and Provider-1. Their relationship was strengthened after the opening of the telecommunication market, so it is reasonable to believe that at least uncertainty is an explanatory variable for their behaviour.

I previously noted that Customer-C would have encountered high uncertainty in its telecommunications purchases, because of changing market conditions and the critical role that telecommunications played in its business. The same issues applied to Provider-1. Nevertheless, the partner relationship between the two organisations allowed them to "limit" the environment (the relevant market) since it was restricted to only one provider. With the number of alternatives for the parties reduced to one, the uncertainty of unexpected happenings was reduced and controlled. Customer-C had a very good knowledge about Provider-1, the only relevant provider. This knowledge included an understanding of the consequences of Provider-1's actions: the customer knew how the provider reacted to situations, and so the consequences were controlled to some extent. For the provider, a partnership form was also justified by increasing competition in the marketplace.

Considering the changing preferences of the customer, the same closeness between customer and provider that helped to reduce uncertainty, also helped to conceal ambiguity: Provider-1 was supposed to know the customer so well that it could flexibly adapt to Customer-C's changing requirements. Customer-C's incoherent behaviour was accepted because of the strong link between both parties. If Customer-C decided to change the terms of a contracted product, it expected Provider-1 to adapt because of the

nature of the relationship. At the same time, Provider-1 could also use ambiguity to sell its products to Customer-C. It is hardly clear that Customer-C would interpret those selling efforts as an opportunistic use of ambiguity. Quite to the contrary: the customer would see it as support from the provider, intended to help them define their needs and possible solutions. As for the inconsistent behaviour of Provider-1, the close relationship with Customer-C made its movement into new activities possible, avoiding many risks because both parties would share the failure of the new business.

Therefore, the uncertainties and ambiguities of both customer and provider are better solved (or avoided) in the framework of an ongoing and stable commercial relationship. However, while this partnership offers clear advantages given the ambiguous behaviour of both parties, it can also bring disadvantages. For Customer-C the closeness of the relationship prevented it from considering Provider-1's competitors. As for Provider-1, the blurring of its mission (from telecom operator to travel agent) may have alienated some parts of its organisation, such as the production division.

In my view, the relationship between provider and customer creates a kind of private space where uncertainty does not exist, and ambiguity problems can be concealed. This concealment does not imply that these issues do not exist. It is just that they do not rise to the level of problems for the customer or the provider organisation.

8.3.4. Summary and Cases A-B-C Conclusions

Regarding the type of decision-making logic:

- Looking at Customer-C and Provider-1 separately, it is evident that they follow an appropriateness logic, i.e., to "keep on working with your current partner". Even after this rule is fulfilled, each commercial exchange was the result of a mixed logic (both calculative and appropriateness): essentially a garbage-can logic.

Regarding the type of inter-organisational relationship:

- Customer-C and Provider-1 were linked in a partnership relationship. The development of this relationship did not seem to indicate a change.

Regarding the level of uncertainty:

- All parties (Customer-C and Provider-1) were subject to an uncertain environment, although a relationship where only one partner was taken into consideration utterly minimised any uncertainty problems.

Regarding the existence of ambiguity:

- Customer-C showed incoherence when the time came to install the new telecommunication products. Provider-1 showed inconsistent behaviour when entering into businesses that were not directly related to Provider-1's core activity (i.e., selling telecommunication products and services). None of these situations led to a long lasting problem or a change in the character of the relationship.

Partial Conclusions:

- *High uncertainty explains a tendency towards an appropriateness logic.*

Case C does not contradict this assertion. In fact, the behaviour shown by Customer-C and Provider-1 indicates a decision based on the exclusivity rule that helped to build their partnership.

- *Uncertainty explains the non-use of an arm's length relationship.*

After observing Case C, this assertion is not challenged by the new data.

- *One party's ambiguity can be misleading for its counterpart.*

After comparing Case A and Case B, I concluded that one party's ambiguity might mislead the counterpart. In Case C, due to the nature of the relation between customer and provider, it is difficult to find an "unnoticed" change in one party's preferences. When the customer changed the specifications of the product to be installed (incoherence), the provider's Project Leader misunderstood the change and provoked a critical situation that required negotiation and new commitments. However, when the provider modified its business objective (inconsistency), this did not cause a major problem for the customer because both parties were aware of the change.

Thus, ambiguity does not always imply a misunderstanding for the counterpart. The fact that it occurs without the counterpart's knowledge is the cause of the problem.

- *The type of relationship explains why ambiguity is not always problematic.*

In the previous comparison, I concluded that ambiguity problems explained a change in the customer/provider relationship, since they caused a misunderstanding between the parties. In Case A, the provider's ambiguity led to a limited relationship, while in Case B the customer's ambiguity led to the strengthening of the contractual relationship. In Case C I observed that both customer and provider experienced ambiguity problems, but their relationship did not change. The problems derived from ambiguity can be more or less controlled by the closeness of the relation between provider and customer. Therefore Case C supports the previous argument by showing how both parties' ambiguity could explain the strengthening of their relationship to the point where it was essentially a partnership.

The comparison of Case A and Case B led to certain conclusions, but left a number of open questions. Can they be resolved?

1. In Case C I observed that ambiguity is not always problematic. An *unperceived* change in one party's preferences is the reason for the participants' misunderstanding. Thus the understanding of the other is essential in cases of ambiguous behaviour because this is the way to avoid problems.

2. When both parties pursue a partnership-like relation where mutual understanding is achieved, ambiguity problems can be avoided.

From this point on, my analysis will focus on the validation of my conclusions. In the next section I will present Case Study D, and by making comparisons with the three previous cases, I will develop the conclusions for my research.

8.4 Case Study D

For Case Study D I conducted 10 interviews with personnel from Customer-D organisation and its telecommunication providers (Provider-1, Provider-6 and Provider-7) during 2000. Customer-D belonged to a holding organisation whose plans for centralising ICT decisions were being implemented at the moment of this case study. The plan would shift all of the subsidiaries' buying and contracting decisions on telecommunications and Information Systems (IS) over to the mother company.

The first contacts with Customer-D's organisation were made through one of its engineers. He provided general information about Customer-D's history and about its mother company, as well as a list of the persons involved in the decisions on telecommunications in both Customer-D and the holding organisation. The first interview was with the holding's ICT Manager. Since the ICT decisions were to be centralised and managed within his department, he could offer a general view of the decision-making processes and problems. But when I asked about concrete situations and experiences, there were too many exceptions that applied to each subsidiary organisation. The explanation was that the plans for centralising ICT decisions were still at a very early stage of implementation. The subsidiaries were not yet ready to delegate all their responsibilities, so they retained telecommunications. For that reason, I decided to focus my attention on the commercial exchanges between Customer-D and its providers. Customer-D was also geographically distant from other Customer-D Group subsidiaries. Since some telecommunications providers are limited by the geographical range of their products and services, it was reasonable for the holding company to entrust the decisions on telecommunications purchases to each subsidiary. That is why, after the first contacts with Customer-D Group I decided to focus on Customer-D.

The first interview at Customer-D was with its Technical Automation Manager. He was primarily responsible for the co-ordination of automation projects. Because of the relationship between automation activities and telecommunication, this manager was also responsible for decisions on the purchase of these products and services. He was not directly involved in gathering information or in the selection of telecommunication providers. That was the task of the ICT Co-ordinator (in charge of telephony and telecommunication infrastructure).

The Technical Automation Manager referred me to Provider-7's Account Manager for information about the data communications used by Customer-D. This Account Manager mentioned Customer-D's Technical Automation Engineer as the person with whom he discussed data communication products and negotiated purchases. The Technical Automation Engineer was quite interested in Internet and data communication, so he was responsible for those products and services. The ICT Co-ordinator provided contacts with Provider-6's Account Manager for Customer-D, and Provider-6's Project Manager for the installation of its products and services. Customer-D's ICT Co-ordinator also put me in contact with Provider-1's account manager. Even so, in order to get information about the relationship between the companies, I had to resort to Provider-1's Account Manager and Project Manager for Customer-D Group. Provider-1's person responsible for Customer-D thought it was more appropriate to interview the personnel in charge of the relation with the whole Customer-D Group.

The ICT Co-ordinator and the Technical Automation Engineer were interviewed twice: once as responsable for the buying of the telecommunication products and services, and the second time as project managers for the installation of the purchased products.

Figure 8.2 shows these interviews and the relations between the organisations.

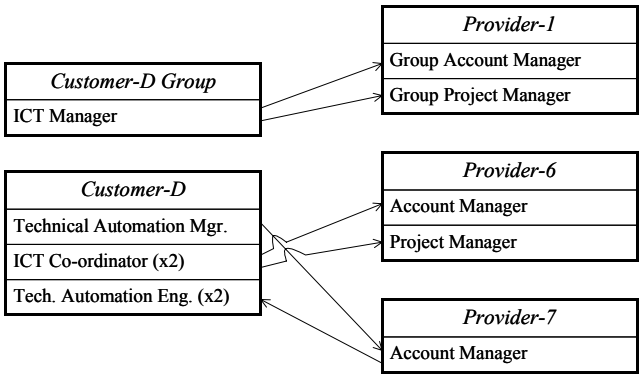

Figure 8.2: Case D Interviews

The data for this case study included technical specifications for the installation of Provider-6 products and services. In the other cases this documentation was either non-existent, or it was actually not used for the project.

8.4.1. Customer-D Purchasing Perspective

This case study was complicated by the lack of an organised department that was actually in charge of telecommunication products and services within Customer-D. Customer-D is a subsidiary of a large building and civil engineering holding company (Customer-D Group). The main activity of the holding is the realisation (design and implementation) of building and engineering projects for organisational customers (both private and public organisations) in the Netherlands and other countries. Its organisational structure reflects the segmentation of the market. The group is divided into several business units that correspond to the specific industrial sectors.

One of these business units is Customer-D. This company is dedicated to the development of automation projects for organisational customers, from the project design to the implementation and maintenance of installed equipment. Automation requires a great deal of technical knowledge about telecommunications since part of an automation project may be related to communication and information systems.

Customer-D was formed late in 1999, drawing heavily on the automation department of a larger engineering organisation that was sold off. The knowledge base of the new unit, in the hands of its personnel, was transferred to the Customer-D Group which created a new subsidiary. A new building was rented in the same geographical location as the former company.

Because of the acquisition and re-organisation of Customer-D, by the time this empirical research was carried out, Customer-D Group was facing a radical restructuring of its internal organisation. One of the most important consequences of the re-organisation affected the buying of telecommunication products and services. This will be further discussed in the next section, but it is important to note that Customer-D was quite independent in making decisions about telecommunications. That is why I have focused on this part of the holding, overlooking (as far as possible) the central role that the headquarters played in the subsidiary's telecommunication decisions.

Telecommunications: Products and Applications

With Customer-D now in a new building, the new company needed a complete array of telecommunication products and services, from the cabling within the building to the telephony connection.

Customer-D had a PABX in its former location that was still usable. In October 1999 Customer-D signed a contract for the transportation of the PABX with the ISDN-2 and ISDN-30 lines (for voice and data transmission) to the new building. This equipment and the telecommunication lines were provided by Provider-1. They also decided to lease the WAN[42] to Provider-6, although that provider had to subcontract part of the network to other network operators. This WAN connected the buildings of Customer-D (central office and two warehouses), and those offices to the holding corporation headquarters.

By November 1999, these products and services were installed and partially functioning. The interviews were conducted in 2000, just before and after the installation of a WLAN[43] (provided by Provider-7), and the migration of the ISDN-30 lines from one provider to another. In addition, Customer-D also used mobile telephony supplied by Vendor-1, a distributor of mobile telecommunication connections.

The contracts with Provider-6 account for about 60% of all costs on telecommunications. The contract with Provider-7 is about 30%. The rest of the costs are in the contract with Provider-1. The expenses on mobile telecommunications were so small that they were not considered here.

Expected Buying Behaviour

Given to the needs of this organisation (telephony equipment and telecommunication lines for voice and data communication), and applying the purchasing model presented in *Section 2.2.1*, Customer-D would have looked for possible suppliers of local and national telephony. In this region there were only two operators (Provider-1 and Provider-6) capable of supplying these products and services, although there were multiple carriers that could supply national and international telephony. Once the customer had the necessary information from the providers, it would seek to fulfil its

[42] Wide Area Network: it connects several LANs in different locations. "A wide area network is a geographically dispersed telecommunications network" (http://www.whatis.com).

[43] Wireless Local Area Network: "A wireless LAN is one in which a mobile user can connect to a local area network (LAN) through a wireless (radio) connection" (http://www.whatis.com).

specifications for price and quality. The same procedure would have applied in the case of buying telecommunication equipment (PABXs, telephone and fax sets).

Customer-D did not choose its providers in such way. There was some investigation of the providers in the market, but no inquiry was directed to Provider-1 about its offer. There were existing relationships between Customer-D and these providers, because the earlier organisation that evolved into Customer-D had contacts and contracts with Provider-1 and Provider-6. For that reason any analysis of Customer-D's buying situation must consider its relationships with its suppliers.

8.4.2. Providers' Marketing Perspectives

As previously described, Provider-1 is a network operator with activities in all telecommunication sectors throughout The Netherlands. Provider-6 is also a network operator, with a wholly owned telecommunication infrastructure wherever its products and services are supplied. It provides telecommunications on a regional basis, but can provide national coverage through agreements with other operators for the use of their networks.

Provider-7 is an Internet provider, offering Internet access, e-mail, data servers, and all kinds of security products for the secure data transmission. Provider-7 is not directly related to telecommunications, but functions as a network operator by providing the telecommunication connection between the customer organisation and data server.

Vendor-1 is a re-seller of mobile products and services. Mobile network operators sell their standard products and services packages to these vendors and they are the contact points for consumers and for small and medium size customers. In some situations they also provide customer-care services such as improved billing arrangements or special equipment offers. In Customer-D's case, the importance of Vendor-1's products is low since there are only two or three users of mobile telephony within the company.

Product Portfolio and General Marketing Strategy

As previously established, Provider-1's primary strategic focus is on quality, almost disregarding price considerations. On the other hand, Provider-6's strategy focuses on direct relationships with customers, adaptation to customer needs and requirements, and a kind of balance between quality and price. Quality is important for Provider-6, but their level of quality depends on many parties since they rely upon other network operators to obtain national coverage. Price then plays an important role. The main competitive advantage for Provider-6 was its small size and a regional focus that allowed it to offer a more personalised service. Provider-6, as well as Provider-1, appointed account managers for commercialisation and relationships with their organisational customers.

Provider-7 placed a strong emphasis on high quality products, mostly products for Internet security, safety, and Intranet access connections. Their products and services are purchased by customers who want to engage in e-commerce but need a secure means of data communication. They should expect to pay a high price for top quality. For the marketing of its products and services, a commercial team handles all prospective customer inquiries. Although they do not regard themselves as account

managers, the commercial team is the bridge between the customer and provider organisations.

Expected Marketing Model (Commercialisation)

Taking into consideration the strategic emphasis of each provider, and then applying Industrial Marketing theory, I would expect the providers to seek information about the customer in order to meet its requirements. Customer-D is a new organisation, so the providers would have directed their account managers to obtain information about Customer-D's telecommunication needs. They would have prepared offers according to those needs, and they would have planned some way to convince the customer that their offer was the best.

Customer-D was not contacted by any of these providers. On the contrary, Customer-D visited the providers to obtain product information. This situation is contemplated by the Industrial Marketing approach. Curiously enough, I observed that Customer-D did not visit the providers to gather information about its options. It seemed that the choice was made before any options were considered.

The classical theory of commercial exchanges cannot explain this behaviour, so I have adopted a relational perspective to find answers. Studying the buying/selling exchange from the standpoint of both parties may provide a more satisfactory explanation of customer and provider behaviour.

8.4.3. Relational Perspective

Customer-D Group's ICT Department is concerned with all communication and information systems activities and needs. This department investigates the current utilisation of company communication and telecommunication channels, seeks ways to improve the use of those resources, designs and implements information applications, and it co-ordinates the ICT affairs of all the business units. In some cases these tasks are supported by an external consulting company that conducts surveys about the current use of telecommunication products, and potential providers.

Customer-D Group's ICT department was created in 1999. Until then it was not possible to talk about a telecommunications buying strategy (or an attempt to design one) There was no systematic way of making decisions concerning telecommunication channels, products or providers. There was no need for such planning since there was only one telecommunication provider. Setting those issues aside, the creation of the ICT Department was driven by two factors:

- Customer-D Group had to sell its projects at the lowest possible price to attract customers, resulting in a low profit margin on its main activity. Customer-D Group had to reduce costs, and opportunities for cost reduction were found in telecommunication products and services.
- The geographical dispersion of Customer-D Group projects made it necessary to have effective communications links for customer service.

I first analysed the information provided by the Group ICT Manager concerning the telecommunication products and services that a company such as Customer-D would need. When I discussed this information with the personnel in the subsidiaries, I obtained a surprising response: they had very little information about the activities of this corporate department. There may be several reasons for this reaction:

- Customer-D was then a relatively new part of the holding organisation;
- the ICT department was still working on the collection of data and preparation of a report, and no action had been taken;
- Customer-D urgently needed to obtain the telecommunication products and services required to conduct its business, since they were in a new location without even the minimum telephony connections.

The Technical Automation Manager stated that Customer-D was far away from the headquarters, and that this distance explained many of the differences between the companies. A second explanation was that this business location tended to limit the range of choices to telecommunication providers who served this particular region. The appropriateness of these providers was something that only the subsidiary organisation could assess. The exact reasoning is not a critical point in this research. What is highly relevant is the finding that the real decision-making unit of Customer-D was not situated in the corporate offices of the holding company, but in the subsidiary itself.

Customer-D did not have a separate department devoted to contracting for telecommunication products and services. The Manager of the Technical Automation Department was the formal decision-maker, the person responsible for presenting buying proposals to the corporate director of the company, who was in charge of capital expenditures.

Decisions on telecommunications were entrusted to the Technical Automation Department because it possessed expertise (automation) relevant to the telecommunication sector. As mentioned above, telecommunication products and services were an integral part of automation projects when communication between two (information or computing) systems required a telecom network. Moreover, Customer-D used telecommunications for connecting its own information system to those of its customers. This allowed the company to remotely access its equipment and systems at the client's locations, thereby eliminating unnecessary travelling costs for service personnel.

Despite the familiarity of this department with telecommunication products and services, none of its members was formally devoted to making decisions about these products. The absence of a specialised department could be explained by the size of the organisation; i.e., the number of employees and the investment in infrastructure were not sufficiently large to justify an ICT or Facilities Department. Customer-D occupied one office building and two warehouses that used telecommunication products.

This situation led to a blurred distribution of tasks among the employees. For instance, the corporate secretary was responsible for buying services other than telecommunications (cleaning, catering, security, postal, etc.) Telecommunications was going that way, until an employee of the Technical Automation Department "heard" about it and asked his manager for permission to take on the task of selecting

telecommunication products and providers. He co-ordinated the entire process from the signing of the contract to installation, and for all practical intent was the decision-maker.

This review of observations does not take into account the providers' situation. It was necessary to first explain why it was not possible to explain customer's buying behaviour by examining the customer's actions. In this case, customer "choices" explained solely from the customer point of view do not seem to have any explanation.

Observed Commercial Exchanges

The next paragraphs summarise actual events. I could not find any *a priori* requirements set by Customer-D; although there were several customer requirements, they looked more like '*ex post facto*' explanations given to rationalise the choices that were made.

As mentioned, Customer-D was preparing to relocate to a new building in October 1999. This required the installation of all kinds of telecommunication equipment and services. In their former building there was a usable PABX switching unit, so the company decided to transport this equipment (supplied by Provider-1 as an intermediary between the OEM and Customer-D) to the new location. Preparations for the move would take about a month. They also needed the communication lines. The PABX was originally connected to several ISDN-2 and ISDN-30 lines that also belonged to Provider-1, as did the telephone numbers that Customer-D was using with the PABX. Provider-1 was in charge of the transportation of the equipment, and with the migration of the contract from one company to the other. Customer-D urgently needed a communication line, and that was why it chose Provider-1. This supplier was the only one who could transport and set up its own equipment in the shortest time. Issues like price or quality did not seem to play a major role in this choice.

Besides, Customer-D also needed a WAN connection between the LANs of its office building and warehouse, and with the holding company headquarters. The WAN would be used mainly for data communication between the locations. The person within Customer-D responsible for contracting the telecom services for the new location (an engineer from the Technical Automation Department) had experience working with another provider in the region, Provider-6. The previous Customer-D organisation did business with Provider-6, although those contacts did not involve this particular product, a WAN connection. Customer-D decided to obtain a leased WAN line from Provider-6 because they were offered lower prices and the advantages of an optical fibre network. Although Provider-6 furnished the leased line, this vendor had to subcontract part of the network to two other providers because its geographical coverage was limited. All the same, Provider-6 was ultimately responsible for the WAN performance and maintenance.

The information about Provider-6 also showed that their prices for the ISDN connection were lower than those of Provider-1 (source: Customer-D's ICT Co-ordinator). Provider-6 presented its tariffs, and Customer-D compared them with the price they were paying before the reorganisation. A few months later Customer-D began the changeover from Provider-1 to Provider-6, in such a way that the telephone numbers and extensions could remain the same. Price was the main reason for choosing Provider-6, although quality was a consideration. According to the ICT Co-ordinator in charge of

the project, the main competitive difference was that Provider-6 utilised optical fibre in all its products, while Provider-1 was still using copper cables.

Optical fibre provides more flexibility (simultaneous use of communications devices) and bandwidth (ability to send/receive a larger amount of data). Actually Provider-6's network is mainly optical fibre, but not the local loop. That part is left to the incumbent operator because the prices are lower (source: Provider-6 Account Manager). So in fact the advantage of optical fibre is to some extent lost in the last part of the connection. Even so, in the Customer-D installation, the optical network indeed reached the local loop. This was possible because Provider-6 was coincidentally installing an optical infrastructure in the whole industrial area where Customer-D's new building was located.

Although this quality difference is important, price was constantly mentioned as the main reason for choosing Provider-6. Customer-D knew that Provider-1 was capable of offering a technologically advanced solution equal to that of Provider-6, but Customer-D's ICT Co-ordinator *believed* that Provider-1 could not match Provider-6's price, basing that belief on past experience with Provider-1. The products exchanged in the past with Provider-1 were ISDN through copper lines; Customer-D did not have price information about the new offers that Provider-1 could make. Other than price, Customer-D preferred Provider-6 because of the kind of response they received from this provider. The customer organisation felt that they were better treated by a small telecom provider that could customise its offers and products to the needs of its customers.

Turning back to the exchanged product, the agreement only affected the ISDN-30 (the larger part of the ISDN connection), and it had two parts: the installation of the optical infrastructure up to Customer-D's building, and the migration of the telephone numbers from Provider-1 to Provider-6. Provider-6 was in charge of arranging both things. In principle, this was a simple task, but there were complications when the migration of telephone numbers was about to be completed. These problems were caused by Customer-D's former engagement, and by a certain amount of misinformation and miscommunication between the two providers. This miscommunication was resolved almost accidentally. Nobody knew exactly the reason why there was a delay in the number migration, until the project leader from Provider-6 decided to contact personally an acquaintance who worked at Provider-1. Together they located the source of the problem and were able to solve it.

The telecommunication connections were to be complemented with e-mail and Internet services. According to the Technical Automation Manager, "Internet is necessary to present the company in the market", although it is not an integral part of the business of Customer-D (source: Technical Automation Manager). One of Customer-D's Technical Automation Engineers was considered an expert on Internet hosting and e-mail communications, so he determined to choose the best provider for these services. To that end, Provider-6 advised Customer-D to contact an Internet hosting provider (Provider-7), located in the same area where Customer-D had its new building. The Technical Automation Engineer had already heard about Provider-7. He collected some information and references from the Internet, and decided to "have a look" at what they could offer since they were so close. The information obtained via Internet indicated that Provider-7 was known for high security and high prices, but it could provide good

references from other users. Customer-D's Internet expert, based on these references and opinions, supported the choice of this provider as the Internet and e-mail host.

Through the conversations about the contract for Internet hosting, Customer-D (i.e., the Technical Automation Engineer) became interested in a LAN connection that could provide direct access from the customer company to the host provider company. A unique aspect of this connection was that it would be wireless. The option was to contract for a connection through Provider-1 or Provider-6. Nevertheless the price of Provider-7's WLAN was quite attractive, the delivery time was very short, and the speed of the connection was very high. And as all the interviewees emphasised, this was a product that could confer the image of an innovative and entrepreneurial company upon Customer-D. For a relatively new organisation within a large holding group, one that is engaged in high-tech projects, the use of such technology would differentiate Customer-D from the other holding subsidiaries.

Based on the foregoing, my conclusion is that the relationships of Customer-D with its providers were very important when this customer decided to start a new commercial exchange or to continue with former ones. The relationships between the organisation that preceded Customer-D, and Provider-6 and Provider-1 were very important in terms of expanding or limiting future commercial exchanges. Moreover, the relationship with Provider-6 was a key factor in the initiation of a contract with Provider-7. The links between the various parties are explained below.

Dyad Behaviour

As stated, the relationships that Customer-D had with its telecommunication providers played an essential role in the kind of choices that it made. None of the interviewed persons knew exactly how or when the contacts with Provider-1 started. Perhaps it was when the new telecom operators appeared in the market, the customer became interested in their offers, expecting more competitive prices. Maybe this was how the company initiated its contacts with Provider-6 (although without an actual commercial exchange).

These are only conjectures that are not clearly supported by the interviews that I conducted. In the case of Customer-D, it is interesting to see how the relations with its providers emerged (or evolved) from contacts made when Customer-D's personnel belonged to another company. These people brought their knowledge of providers and the market (along with their personal contacts) to the new organisation and this certainly influenced their later decisions and actions.

From the interviews I can derive that the relationship between Customer-D and Provider-1 was unsatisfactory for the customer organisation. The customer believed that the prices were too high, and even more important was Provider-1's attitude: "Provider-1 says: 'you can buy that, that or that', you can choose, but that's all" (source: Customer-D's ICT Co-ordinator). The customer organisation's personnel attached great importance to inter-personal relationships. Provider-1 had an account manager dedicated to serving the needs of the holding corporation, but "Provider-1's account manager is a very high person for me" (source: Customer-D's ICT Co-ordinator). If the contact person is inaccessible (or perceived as such by the decision-maker), then the relation between both companies will be weak. Customer-D searched for personalised

treatment, and they felt that they received it from Provider-6: "Provider-6 is like a family" (source: Customer-D's ICT Co-ordinator).

The relationship with Provider-7 was developed rather informally, as with Provider-6. The fact that provider and customer organisations were located in close proximity, so that their personnel could just "walk" to the other building, was a positive factor in the development of the relationship. This closeness cannot be the only reason, since Provider-1 also had its offices nearby, but that relationship did not share such characteristics. Customer-D's uneasiness to contact Provider-1 was caused by a lack of familiarity and comfort in dealing with the contact person at the provider organisation.

That said, Customer-D decided to stay with Provider-1 for part of its telecommunication requirements. This decision was explained by the Automation Engineer as a backup for telecommunications: "I first need to know if everything is working properly, and then I will talk about other lines". Even so, distrust of the new provider does not seem to be the driver for this choice. It was just a preventive measure to avoid possible technical failures.

These observations are schematically presented in *Table 8.3*. In sum, Customer-D used its relationships with providers as sources of information about possible opportunities. Moreover, these relationships were an issue that the decision-makers took into consideration: a good relationship was considered a "preference" or a requirement for selecting a provider.

	Customer-D / Provider-1	*Customer-D / Provider-6*	*Customer-D / Provider-7*
Consideration of Alternatives	Yes	No	No
Usage of telecommunications	Communication	Communication	Communication
Initial explanation	??	??	??
Dyad behaviour	Distant	Good	Good (beginning)

Table 8.3: Case D Observations

8.4.4. Interpretations

Interpretation of Behaviours in Terms of Decision-Making Logic

After analysing the choices that Customer-D made regarding its telecommunication providers, it is difficult to define the general decision-making logic followed by the company. No particular rule seems to govern this customer's behaviour, unless the dictum "do not work with Provider-1" was in fact a rule. On the other hand, I cannot accept that they were truly calculative in their decisions. The interviewees declared that they evaluated prices and quality but, in the end, those requirements do not provide a conclusive explanation of their choices.

It is also important to note that Customer-D did not evaluate other providers or possibilities outside a group of already known providers. They only had contacts with

Provider-1 and with Provider-6, and only considered those organisations When they saw Provider-6 laying its optical network, they recognised an opportunity to obtain a better network and seized upon it, *assuming* that Provider-1 could not match Provider-6's offers. When they decided for the WLAN, they believed that the only company offering this product was Provider-7, but they did not search the market to validate that belief.

Chance played an important role in the way Customer-D made its decisions. It so happened that Provider-6 was laying an optical fibre network in the area where the company was located, and this hastened the choice for this provider. The discovery of a highly advanced technology solution like WLAN was also coincidental. One could say that the choice of these providers (Provider-6 and Provider-7) was caused by a change in Customer-D's preferences (going from a telecommunication solution acquired to reduce costs, to the purchase of a high-tech product in order to present an innovative image). Given the statements of the interviewed persons, it also seems that the customer's objectives were being modified as it went through the buying process.

The providers applied a different kind of logic. Provider-1 continued with a rule-following decision-making logic, notably the concept of high quality at a high price. I believe that Provider-6 followed a calculative logic after considering the needs and requirements of Customer-D. And finally, I can see that Provider-7 employed a calculative logic when it formulated its marketing strategy, offering a customised service according to the customer's requirements. The shift in its business objectives (from just an Internet provider to a telecommunication connection provider) can be interpreted as a decision resulting from Provider-7's contacts with telecommunication providers (like Provider-6), or with other customers that (like Customer-D) were keen on using the newest technologies. In this respect, it is possible to consider a garbage-can-like logic, but the change of objectives did not occur within the framework of this provider's relationship with Customer-D: Provider-7 was already marketing a WLAN before its relationship with Customer-D was formed.

Following on all that has been said about decision-making logic in this case, I cannot assert that Customer-D had a systematic a priori plan for the purchase of telecommunication products and services. It would have been very "reasonable" to map out a telecommunication buyer strategy in a more "calculated" way, but Customer-D did not have the time to organise these matters. Instead, a decision-maker "emerged" who would speed up the solution of this problem, and accordingly a decision (in terms of a commercial exchange behaviour) also emerged. Therefore, this decision-making logic agrees with a garbage-can decisional logic. As for the provider, Provider-1 followed an appropriateness logic, while Provider-6 and Provider-7 followed calculative logics, although the calculative approach assumes an adaptation to the customer's requirements.

Behaviours' Interpretations in Terms of Uncertainty and Ambiguity

At Customer-D each interviewee's view on the market was somehow different. They were facing the same market conditions, but did not share the same perceptions about the market, and moreover, their opinions changed over time.

As for *uncertainty*, I can accept that when choosing its telecommunication connections, Customer-D experienced uncertainty to some extent because they considered only a small number of alternatives (i.e., Provider-1 and Provider-6). In this case, the customer reached its decisions by taking into account past and present arrangements. In general terms, the customer's picture of the market was incomplete, but sufficient for making decisions. In view of their alternatives, the interviewees were able to collect the information needed to reach a final decision. The ICT Co-ordinator was very confident that he had sufficient knowledge of the competitors, and above all, knowledge of the technology in use. His self-confidence and lack of time to analyse a large amount of information gave him a seemingly stable view of the situation. Unexpected happenings at the beginning of the relationship with Provider-6 did not seem to play an important role, but the customer did have some difficulties when installing Provider-6's products. These difficulties were caused by overconfidence in its knowledge of the market, aggravated by a sense of uncertainty that needed to be dealt with in later commercial exchanges.

Uncertainty would have been greater when choosing the Internet hosting provider, since the customer was unfamiliar with the various alternatives on the market. In the end, Provider-7 was selected with the help of Provider-6.

On their part, the providers did not seem to encounter uncertainty, since the customer was neither looking at nor considering other competitors. Provider-1 might have experienced uncertainty because it was confronted with the offers of Provider-6 for fixed communication products. Apparently, this was not an issue for Provider-1. Although they were losing one client, they were satisfied with their other relationships within the Customer-D Group.

Regarding the changes in those preferences that determined Customer-D choices, the ICT Co-ordinator said: "There is not so much speed in the development of telecommunications; only market developments (the price) but the techniques are there for years". The Technical Automation Engineer, who was also involved in the decision-making process, declared, "I don't think there is a lot of competition regarding technologies […] The difference in the quality of services between companies isn't that big". Therefore, in purchases of telecommunication connections, price was considered the best criterion for evaluating providers and/or products. At a later point, the ICT Co-ordinator admitted that his knowledge of telecommunication technology had not been sufficient to anticipate the problems that arose during and after installation of Provider-6's products. He simply lacked the time to analyse all the pertinent information. One consequence was that the original choice for one of the infrastructure components had to be changed in the middle of the installation process.

Looking at this in terms of *ambiguity*, Customer-D's primary preference (price) changed over time, when the relationships with different telecommunication providers had evolved, and after the installation of the purchased products and services.

In the first interviews price was the most relevant requirement for the purchase of telecommunication products and services, followed closely by the provider relationship. Technological issues began to play a more important role as time passed. For example, the ICT Co-ordinator declared that Customer-D did not need a complicated technology "like ADSL", and so Provider-6 was an appropriate vendor. But ADSL offers the same

capabilities as the WLAN that Customer-D purchased from Provider-7, and in some cases it can be cheaper. Customer-D's preferences changed: from price-driven decisions they went to a technology-based rationale for emergent decisions (the decision about the WLAN came when the company was busy with other decisions, namely the contract for Internet services). Therefore I believe that Customer-D was subject to incoherence in their decisions since their preferences changed over time allowing the consideration of new products and services. Its preferences regarding Provider-6's products and services changed from price considerations to qualitative factors. Its relationship with Provider-7 seemed to undergo a slight change in objectives, from the initial plan to acquire Internet hosting, to an extended contract that included a WLAN connection.

The providers did not seem to experience ambiguity, or at least this was clear in the Provider-1 and Provider-6 cases. Provider-7's changing core activity (the addition of telecommunication transmission to their initial Internet hosting activity) might be interpreted as an ambiguous behaviour, but there was no inconsistency between the two objectives, for one complements the other.

Table 8.4 summarises my previous interpretations of the decision-making logic that each participant followed, as well as the decision-making problems they faced.

	Customer-D	*Provider-1*	*Provider-6*	*Provider-7*
D-M Logic	Garbage-can	Appropriateness	Calculative	Calculative
Uncertainty	Yes	Yes	Yes	No
Ambiguity	Incoherence	No	No	No

Table 8.4: Case D Interpretations

8.4.5. Case D Wrap-up

In order to explain the behaviours of Customer-D and its providers during their exchanges, I outlined the actions and reactions of all parties. I interpreted these observations according to the decision-making logics that each organisation might have followed, and the problems that were involved.

Following on Case D, I will compare this final case with the conclusions obtained through a comparison of Case D with Cases A-B-C. In the coming section I will present a summary of observations derived from Case D. I will then identify the type of relationship and offer an explanation of the behaviours shown in a comparison with Cases A, B, and C. To conclude I will present the conclusions achieved through my empirical research.

8.5 Case D and Case A-B-C Comparisons

After comparing Case C with Cases A-B, I concluded the following:

I. High uncertainty explains a tendency towards an appropriateness logic.

II. High uncertainty explains the non-use of an arm's length relationship.

III. One party's ambiguity is misleading for its counterpart and has an effect on their relationship.

IV. The type or relationship explains why ambiguity is not necessarily a problematic situation.

With the help of Case D I will attempt to reach more definitive conclusions.

8.5.1. Interpreted Observations

To begin, let us look at the decision-making logics of the participants. Customer-D displayed a garbage-can logic in which emergent decisions and past relationships were mingled together, leading toward a final decision. Provider-1 displayed a rule-following logic that did not comply with the customer's wishes. Provider-6 and Provider-7, on their part, followed a calculative logic, although their customer relationships would be good sources of future marketing opportunities due to the flexibility of their calculative logic.

As for decision-making problems, I believe that Customer-D faced uncertainty when choosing the telecommunication connection provider because they considered two possible alternatives, Provider-1 and Provider-6. The initial objective of cost reduction evolved into something quite different, i.e., to be the first to use innovative technology. It is quite plausible to think that Customer-D's decisions were subject to ambiguity, given the incoherence of past and present preferences. Provider-6 and Provider-7 did not experience uncertainty because they did not encounter strong competition. Provider-1 and Provider-6 also did not display ambiguity signs. On its part, Provider-7's shift of business objectives can be interpreted as an inconsistent behaviour.

8.5.2. Type of Relationship

The way in which customers and providers relate to each other is different depending on the dyad they form. Customer-D and Provider-1 had a rather distant relationship, although I would not dismiss this as an arm's length relationship. Their contacts were not reduced to a mere product/price exchange because Provider-1's supplied products required maintenance and updating, and that demanded a continuous relationship. This was a contractual relationship, with certain similarities to the relationship between Customer-A and Provider-1 (see *Section 7.2)*. I will further develop this association when explaining the behaviours that characterised the relationship.

As for the relationships between Customer-D and Providers-6 and 7, these are closer, more "friendly" and characterised by informality. Even in the relationship with Provider-7, Customer-D has the confidence to approach its provider about a joint effort to solve the problems that they were having with the WLAN and Internet hosting products. Interpreting these behaviours, I believe that they are consistent with a contractual relationship as defined in previous cases. But it is important to note that Customer-D's personnel were quite willing to strengthen the relationship (above all with Provider-7), because they understood that a large amount of useful information could be acquired in a close relationship.

8.5.3. Explanation of Behaviours

The contractual relationships between Customer-D and its providers can be explained initially by the uncertainty and ambiguity they faced. The market in which these commercial exchanges took place was characterised by the high speed of changes. In order to avoid this uncertainty, Customer-D considered two already known providers (Provider-6 and Provider-7). The relationship with both providers was not limited to a mere purchase contract, even if Customer-D's ICT Co-ordinator thought that Provider-6 would simply be another supplier after the installation. Problems during the installation process and a growing awareness of the intricacies of these product and service contracts confirm that the relationship with Provider-6 was more than a simple arm's length engagement.

The relationship between Provider-1 and Customer-D was slightly different. Instead of becoming closer partners, Customer-D used an unsatisfactory relationship with Provider-1 as a backup. At the same time there was an uncertainty problem: the lack of direct knowledge about Provider-6's likely reactions, since Provider-6 had been known only through third parties and references. This remained a limited relationship as long as the relationship with Provider-6 was satisfactory for both parties.

Why then did Customer-D pursue a closer and more durable relationship with its providers? The kind of relationship that Customer-D pursued was aimed at exchanges of telecommunication products, services, but also experiences, references and knowledge. This type of close relationship may well have concealed Customer-D's ambiguity problems. On the other hand, the knowledge gained in such a close relationship might reduce the uncertainty attendant to Customer-D's future purchases of telecommunication products and services.

8.5.4. Summary and Empirical Case Conclusions

Regarding the type of decision-making logic:

- Customer-D followed a garbage-can decision-making logic when new decisions followed from previous decisions, by going beyond price and quality to consider relationship with known providers, and references obtained from third parties. Provider-1 followed the rule of offering high quality products, even if customer requirements were disregarded. Provider-6 and Provider-7 were calculative in their decisions, although Provider-7 showed an opportunistic logic when entering a new business activity (the WLAN connections).

Regarding the type of inter-organisational relationship:

- Customer-D and Provider-6 and Provider-7 where brought together by a contractual relationship that all parties (especially Customer-D) were willing to continue over time. On the other hand, the contractual relationship between Customer-D and Provider-1 was not expected to continue beyond the agreed term.

Regarding the level of uncertainty:

- All parties were subject to uncertainty, except Provider-7, which did not face competition since Customer-D treated them as the only alternative it would consider.

Regarding the existence of ambiguity:

– Customer-D's providers did not display ambiguity. Customer-D displayed an incoherent behaviour when it changed its preferences from price to technology during the decision-making process.

Conclusions:

- *High uncertainty explains a tendency toward the use of an appropriateness logic.*

In all four case studies uncertainty played an essential role in the way organisational customers approached their decisions on what and how to buy telecommunication products and services. It was also very important for the providers, who developed their marketing strategy around the changing competitive situation of the telecommunication market.

In cases where ambiguity was not a problem, but uncertainty was the only problem affecting customer and provider (Case Study A and Case Study C), I observed that rule-following characterised the making of decisions, either in the form of a set of principles or as a partnership rule.

- *Uncertainty explains the non-use of an arm's length relationship.*

Under uncertainty, customers and providers did not view an arm's length relationship as the best way to effect their commercial exchanges. Only when the product did not play a vital role in the customer's business (Customer-B and Provider-2), a relationship closer to "arm's length" was the form taken by the commercial exchange.

In the continuum between an arm's length relationship and a partnership (assuming the participants' commitment to the same objective), there are many different relational forms. For the purposes of this research, there is no need to identify all of them. It is important to realise that each pair of organisations will form a different relationship that will be classified in different ways. Understanding that my research objective is to explain commercial exchange behaviour, rather than present a classification of relationships, it should be sufficient to identify the more general types of relationships. Accordingly, I have presented the following types of relationships:

– *Arm's length relationship* (Customer-B/Provider-2).

– *Limited contract* (Customer-A/Provider-1, Customer-A/Provider-2, and Customer-D/Provider-1).

– *Contractual relationship* (Customer-A/ Provider-3).

– *Strengthened relationship* (Customer-B/ Provider-1, Customer-D/Provider-6, Customer-D/Provider-7).

– *Partnership* (Customer-C/Provider-1).

- *One party's unnoticed ambiguity will mislead its counterpart and may cause changes in the relationship.*

Based on the cases, I concluded that unnoticed changes in one party's preferences will mislead its counterpart and may cause changes in the relationship. I discussed how Customer-D's contacts with its providers would probably not disclose its feelings of ambiguity. It is reasonable, therefore, to conclude that change toward a stronger relationship (pursued by Customer-D) results from an intention to conceal or avoid the problems created by changing preferences.

- *The type of relationship explains why ambiguity is not a problem.*

In all cases, a closer relationship with the counterpart would allow the concealment of ambiguity problems and the gathering of information to reduce uncertainty. In Case A, the provider's ambiguity would explain the limited relationship that Customer-A pursued. In Case B and Case D, customer's ambiguity would explain why both customers wanted a stronger relationship with their providers. Case C illustrates the ability to avoid, solve, or conceal ambiguity problems within a close relationship

The fact that the party who experienced ambiguity was the one pursuing a closer relationship may corroborate the former explanation. A closer relationship can be a way of solving or concealing ambiguity problems, and in this respect the one experiencing ambiguity would "feel" less of a problem if there was a trustworthy "partner" involved on the other side.

In *Chapter 9* I will return to these conclusions. Generalising upon this empirical evidence, I will build a theory that will complement existing ideas on buying and marketing decisions by taking an inter-relational perspective.

8.6 Empirical Research Summary

For the preparation of the case studies, the units of analysis were selected with an understanding that the decisions on telecommunication products and services are fairly recent. Data was collected mainly through semi-structured interviews with managers in the customer and the provider organisations.

Five case studies were carried out, but only four were taken into account since they provided full information on the decision and on the customer and provider relationship from the moment of acquisition on to installation and actual use of the products.

The interviews and written documents provided stories about the way organisational customers and providers viewed their past and present telecommunication products and services buying decisions. Their perceptions were taken into consideration and interpreted according to the concepts of uncertainty and ambiguity presented in earlier chapters. Their decision-making logic was implied by their stories and then placed in two large groups: calculative and appropriateness logic. However, one of the cases does not seem to fit this classification, and it is treated as an example of garbage-can logic.

Whether these cases fulfilled the assumptions required by traditional Purchasing and Marketing Theories (*Table 2.1*) is charted in *Table 8.5*.

Model's Assumptions	*Case Study-A*	*Case Study-B*	*Case Study-C*	*Case Study-D*
Intentionality	✓	✓	✓	∅
Data Parameters	✓	✓	✓	∅
Alternatives	✓	✓	∅	∅
Sorting Parameters	✓	∅	∅	∅

Table 8.5: Observed Buying Model Assumptions

Case Study-A. This case presents the situation of a large multinational dedicated to the branding and marketing of all types of consumer products through outlets all over the world. In 1997 they started to plan for the connection of all their outlets, and for the standardisation of their information systems. The goals were to improve communications, achieve greater cost efficiency, and to support the de-verticalisation of their operations. Customer-A experienced some degree of uncertainty and tried to control it with short-term contracts. Besides the uncertainties caused by the unpredictable reactions of providers, Customer-A also had its own uncertainty problem. It did not seem to have ambiguity problems. Customer-A followed a set of rules in its approach to telecommunications buying decisions, and it used its relationships as source of information for evaluating the telecom market.

Case Study-B. An insurance company in the middle of a re-organisation process had to buy a new Call Centre solution to accommodate the merger of two different companies with outlets in two locations. Customer-B was also subject to uncertainty problems. This customer tried to relieve this uncertainty by obtaining reliable information for an evaluation of the different offers. Reliability was achieved through the use of trustworthy sources (mainly the provider organisations); those providers had gained that reputation through satisfactory relationships. Customer-B also experienced ambiguity in its objectives. At first sight, the logic driving Customer-B's choices was highly calculative (they issued a call for bids). But as the provider relationship evolved there were indications of a logic change: from calculative to a more opportunistic logic (by exploiting the opportunities that arise from a robust exchange of information within the customer-provider relationship).

Case Study-C. An international travel agency had a partnership with a telecommunication operator who delivered all the desired telecommunication products and services. Electronic commerce seemed to be the future direction of this alliance. This kind of decision-making seems to follow an appropriateness logic where the rule is to "contract with a long-lasting partner". The relationship between customer and provider helped to conceal the uncertainties and ambiguities that Customer-C experienced.

Case Study-D. An automation company, recently acquired by a large construction company, was engaged in the purchase of telecommunication equipment and connections for voice and data communication in their new building. Both uncertainty and ambiguity problems were evident in the interviews. The decision logic used here does not seem to agree with a calculative or appropriateness logic. Opportunism and chance were key ingredients in Customer-D's logic. This shows

how relationships offer windows for discovering opportunities, while they are sources of information, trust, satisfaction, etc. Therefore, the larger Customer-D's relational network, the greater the opportunities for new customer contacts.

The information obtained from these cases can be placed in the prototypical model shown in *Table 4.4*. This schema is also presented in *Table 8.6* where the different cases are related to the customer and provider's problems.

			Provider			
	Unc.		Aye		Nay	
		Amb.	Yes	No	Yes	No
Customer	Aye	Yes	--	Cust-B/Prov-1 Cust-C/Prov-1 Cust-D/Prov-1	--	--
		No	Cust-A/Prov-2	Cust-A/Prov-3	--	--
	Nay	Yes	--	Cust-D/Prov-6 Cust-D/Prov-7	Cust-C/Prov-1	--
		No	--	--	--	Cust-B/Prov-2

Table 8.6: Case Studies in Term of Decision-Making Problems

Chapter 9. A New Model of Commercial Exchanges in B2B Dyads

> "We are intelligence, in other words: order. To understand is to mould, to stuff the shapeless paste of facts into the empty statue of reason. We are will, that is to say, direction and intent."
>
> R. Barrett (1906)

9.1 Introduction

I will now move from empirical observations and analysis to the design of a Model of Commercial Exchanges in Business-to-Business Dyads. An important input was the team decision-making model proposed by March (1988, 1994) and presented in *Table 4.1*. He divided the existing theoretical models into calculative and appropriateness models by considering the underlying decision-making logic, and he explained decision-making in terms of the problems faced by the decision-maker.

Although a classification of decision-making logics can be very useful for an analysis of decision-making problems and processes, it is still a theoretical construct. In empirical settings, decision-makers may as well adopt a mixture of calculative and rule-following logic, in effect a kind of "garbage can" decisional logic. Moreover, uncertainty and ambiguity may affect the decision-maker regardless of the decision-making logic that he follows. For these reasons I decided to analyse decision-making in terms uncertainty and ambiguity.

In *Table 4.4* I presented the possible combinations of uncertainty and ambiguity problems. According to each combination, customer and provider may display a different type of relational behaviour. My information on these relational behaviours was obtained by empirical investigation. In *Table 8.6* I positioned my case studies according to the combinations of customer and provider problems in each dyad.

In this chapter I will compile and organise the information obtained by empirical means in order to develop a model of commercial exchanges in fast changing markets. To begin, I will present the key elements of the model: *Section 9.2* focuses on the relationship that the customer and provider may develop, based upon the decision-making problems that they encounter

In *Section 9.3* I will present and explain my Model of Commercial Exchanges in Business-to-Business Dyads, in which the decision-maker's problem, logic, and the type of relationship between the actors are linked together to give the model its explanatory properties. These explanations can be applied to commercial exchanges in the

telecommunication sector because the model is based on empirical evidence from that market.

9.2 Dyad Behaviour in Commercial Exchanges

The investigation of decisions according to the problems faced by decision-makers provides insight for the study of decision-making models. My case studies revealed different combinations of provider/customer decision-making problems, as well as different types of relationships in each dyad. These combinations of relational forms and decision-making problems are reflected in *Table 9.1*.

			Provider			
	Uncert.		*High*		*Low*	
		Amb	*Yes*	*No*	*Yes*	*No*
Customer	*High*	*Yes*	Strengthened relationship (Partnership)	Changing relationship	Changing relationship	Changing relationship
		No	Changing relationship	**Appropriateness (social and/or economic rules)**	Changing relationship	**Calculation / appropriateness (contractual relationship)**
	Low	*Yes*	Changing relationship	Changing relationship	Partnership	Changing relationship
		No	Changing relationship	**Appropriateness / calculation (contractual relationship)**	Changing relationship	**Calculation (arm's length relationship)**

Table 9.1: Commercial Relationships in terms of Decision-Making Problems[44]

My analysis of these results begins with a discussion of the problems that affect decisions-makers, from the least to the most complex situations.

The first situation is one in which there is low *uncertainty* (either the decision-maker is not considering alternatives, or the considered alternatives do not change over time) and there is no ambiguity. As proposed by Purchasing and Industrial Marketing Theory,

[44] The bold letter cells indicate those situations contemplated by traditional theories of decision-making (either Industrial Marketing, Purchasing or Organisational/Policy-Making Theories).

both parties in this situation will apply a calculative logic, and the most likely relational form will be an arm's length relationship.

If uncertainty increases for one of the parties (and there is still no ambiguity), then the uncertain party might apply an appropriateness logic to make decisions, since that logic decreases the complexity of the decision-making process. The other party might adopt a calculative logic, accepting more risk or seeking additional information to increase the accuracy of calculations. Nevertheless, the different perceptions of uncertainly between the parties do not prompt an arm's length relationship, but a relationship in which the uncertain party is protected from rapidly changing alternatives. That is what we regard as a *contractual relationship*.

If both customer and provider are subject to high uncertainty, instead of using calculation, they might decide to pursue their commercial exchanges within a relationship in which social and economic rules are enforced. If these rules remain unchanged, the *relationship would continue* and evolve into a *partnership*.

These ideas were supported by Podolny (1993, 1994), Garud (1994), and Paswan (1998) who indicated that under high uncertainty, organisations tend to apply rules of behaviour (either social or economic) and to work with counterparts with whom they have past experience. Partnership evolves as decision-makers develop closer and sustained relationships.

Apart from uncertainty, *ambiguity* adds complexity to decision-making. However, while uncertainty may have a more direct influence on the way that an organisational customer and provider make decisions (and subsequently on the way they relate to each other), the existence of ambiguity seems to have a direct effect on the relationship between the two parties.

Independent of the decision-making logic that they adopt, ambiguity brings about a search for a closer relationship that can conceal or avoid the consequences of changing objectives or preferences. If both customer and provider face ambiguity, they will both agree on a *partnership* which may, or may not have to be formalised.

In the event that only one party experiences ambiguity, he will try to *strengthen the relationship*, since the determination of others (rather than ambiguity) will offset one's own doubts (changes in preferences). Even so, the unambiguous party might not agree, because he is unwilling to undertake any commitments beyond the alternatives which he has evaluated or those covered by his decision-making rule. If the unambiguous counterpart does not understand the benefits of a closer relationship, *the commercial exchange will eventually come to an end*.

9.3 Modelling Commercial Exchange Situations

Empirical investigation made it possible to establish whether a dyad's behaviour was closer to a partnership, to the continuation of a contractual relationship, or to the limitation of the relationship. The relational form was influenced by the existence of uncertainty and ambiguity when customer and provider made their decisions.

An analysis of uncertainty and ambiguity can lead to a discussion of how decision-makers actually make their decisions, and the effect on the relationships between the parties to a commercial exchange. The relationship between the types of relational forms and decision-making problems are shown in *Figure 9.1*.

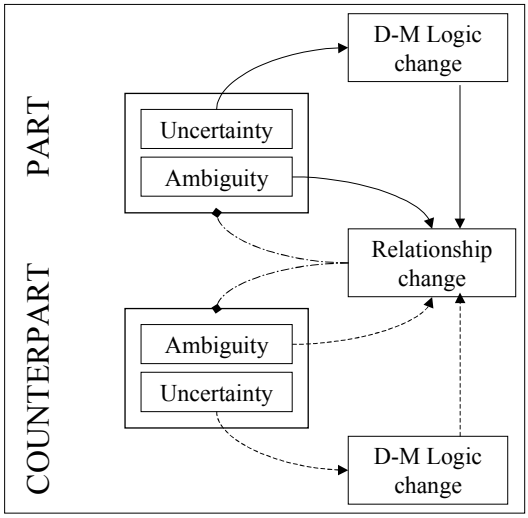

Figure 9.1: B2B Dyad Model

Consider the two parties to a commercial exchange: in order to analyse their behaviour, we need to understand the type of problems they face. Uncertainty will have an effect on the way that each party makes decisions, and accordingly on the relationship between customer and provider, while ambiguity will affect the relationship directly. A change in the relationship that leads to closer contacts might imply a solution or concealment of the ambiguity and uncertainty problems.

Whether these two parties continue with their relationship or decide to terminate it, depends to a large extend on the "vagueness of the relationship" itself. If both organisations are certain about the kind of relationship that bring them together, they would not need to strengthen their relationship to improve it, and they would not need to terminate it because of misleading behaviour. On the other hand, if non-contractual issues (trust, personal ties, past experience, etc.) enter into their considerations, the continuity of the relationship (and subsequent strengthening) would be a reasonable next step. Such strengthening can be translated into a partnership if both parties agree.

If we set aside the idea of a contractual relationship, and consider only a partnership, even within that relationship ambiguous behaviour and changes in decision-making logics can be concealed. Changes in the relationship may also have an effect on the counterpart's ambiguity. It is plausible to think that a change in the relationship between customer and provider may lead to ambiguous behaviours (e.g., involvement in the counterpart's business activity as the relationship becomes stronger) in the party that did not display such behaviour before. In this scenario, ambiguity might imply a change in the counterpart's decision-making logic, with a possible change in the relationship.

This B2B Dyad Model is a cyclic model that can explain the commercial exchange behaviours of customer and providers, according to three design specifications:

- It recognises that decisions do not necessarily occur in an intentional way.
- It is relational since it considers the actions and reactions of both participants.
- It is dynamic because it takes into account continuous change.

The next chapter will present the applications of this model at the theoretical and practical level. Other questions must be dealt with: The model is based upon empirical observations of commercial exchanges involving telecommunications, but can it be generalised and applied to other commercial exchanges and decision-making situations?

Chapter 10. Research Contributions

"Whatever your advice would be, be brief."

Horace (65-8 B.C.)

10.1 Introduction

The goal of this investigation is an explanation of commercial exchanges in markets subject to continuous change. Although theoretical work in this field is extensive, it has its limitations. I decided to approach this subject from a relational perspective, taking into account non-linearity and non-intentionality, and basing my findings on empirical observation. The result is a dynamic model that explains inter-organisational behaviour in commercial exchanges in terms of decision-making problems.

Decision-making problems were traditionally treated as a lack of information. The empirical situations studied in this research have shown a "data overflow", but decision-making problems still exist. If the problem is not a lack of information, then what is it? The key is that the problem does not stem from difficulties in getting information, but from a failure to ask the right questions. In other words: organisational decision-makers cannot get answers unless they know what to ask.

Based on the case studies, it is evident that decision-making problems can be interpreted both as uncertainty caused by market dynamism (changing and emerging alternatives), and as ambiguity, due to a poor understanding of preferences and objectives. Since uncertainty and ambiguity cannot be dispelled by merely gathering more information, decision-makers may have to use other techniques to approach acquisitions.

Along with decision-making problems, the cases were interpreted according to the decision-making logic that each participant seemed to follow, either a calculative or appropriateness logic. Moreover, there are cases where decisions seemed to be the result of intertwined processes where motives and consequences, as well as evaluation and rules were mixed together.

Disregarding the type of decision-making logic, it is undeniable that the relationship between a telecommunication provider and organisational customer influences the way in which organisational decision-makers handle uncertainty and ambiguity and approach their decision-making processes.

In the previous chapter I consolidated these ideas in a B2B Dyad Model that explains commercial exchanges in fast changing environments. This model is based on observations of telecommunications commercial exchanges, so the next question is whether this model can express a general principle, applicable to other dynamic

markets. Before proceeding to that question in *Section 10.3*, I will first summarise the applications of this research in the theoretical and practical spheres (*Section 10.2*).

10.2 Research Contributions

The analytical model for this research and its methodology appears in *Figure 5.1*. This model is based on a review of Purchasing, Marketing and Organisational Theory, and on empirical observations of commercial exchanges in the telecommunication sector. Based on that analysis, I have constructed a model that explains commercial exchanges in the telecommunication sector. In *Figure 10.1* I present a schematic view of the research model and the conclusions reached. In the sections below I will discuss these contributions.

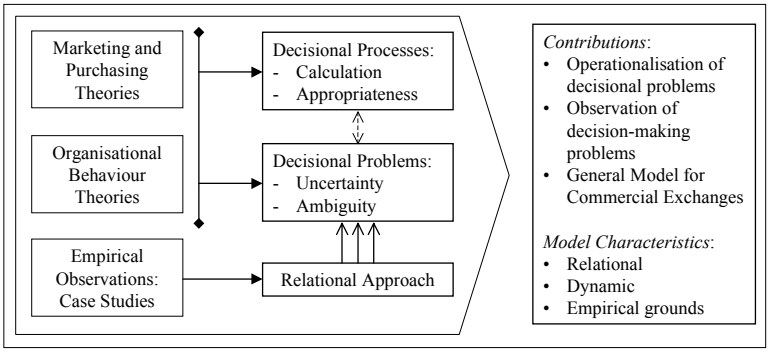

Figure 10.1: Research Contributions

10.2.1. Theoretical Contributions

The existing literature presents different definitions of uncertainty and ambiguity. In the context of this research I have identified uncertainty as the problem of anticipating future states of present alternatives. Uncertainty exists whenever a decision-maker considers different alternatives, and it can be caused by:

– A changing market that unexpectedly changes the consequences of one's actions.

– Unpredicted change within the decision-maker's organisation that is not directly related to the decision.

Ambiguity on the other hand is defined in the literature as the inconsistency of preferences. I determined that the sources of ambiguity were:

– Miscorrelation between the buying/selling objective, and the general objectives of the decision-maker's organisation (inconsistency).

– Miscorrelation between the buying and selling objectives over time (incoherence).

Apart from these conceptual contributions, this research provides an empirical view of research fields which had been mainly approached from a theoretical perspective. Empirical observation has shown that ambiguity, which has been tested via experiments with individuals, is an existing problem in organisations. It has been shown that this can lead to problems when the calculative and rule-following decision-making methods are used.

In addition to an empirical view of ambiguity, I have proposed a notion of how a "garbage-can" decision-making model work, based on actual case studies. There are signs that garbage-can models were present when dealing with organisational decisions:

- either because the individual or group in charge of making the decision cannot approach the decision in question without considering other decisions they are currently trying to make, or
- because the situation is so complex, that the decision in question depends on other factors for its justification.

A third group of theoretical contributions is related to the characteristics of the proposed B2B Dyad Commercial Exchange Model (*Figure* 9.1). This model reflects a relational perspective, since it takes into consideration the views of both customer and provider. It is derived from empirical observation, which should make it a more realistic decisional model. And it offers a dynamic explanation of commercial exchanges because it considers changes in preferences, decision-making processes, and relationships between the parties.

The "advantage" of this model, when compared to buying or selling models, is the focus on the decision-maker, disregarding the role, position or identity that customer or provider is "supposed" to occupy within an industrial sector. The globalisation of business activities and the subsequent growth of organisational interactions, led to the dispersal of activities that were traditionally attributed to a particular organisation. Current market dynamics, besides undermining the boundaries between organisations, also blur the roles that organisations are supposedly playing. That is why it is necessary to re-define existing models of business activities, disregarding preconceptions about the motives or objectives (i.e. the roles) of an organisation. Such a re-definition does not mean the denial of existing theories. Quite the contrary, they provide useful concepts and theoretical frameworks for new research.

The characteristics of the B2B Dyad Model indicate possible contributions to existing theory. Through the use of empirical evidence, I believe that I have produced more realistic assumptions for the application of Marketing and Purchasing Theory. My contributions to Organisational Theory involved the application of behavioural ideas to commercial exchanges.

Finally, I contributed to the Network Approach with a decision-making model that explains decisions within dyads in terms of the problems faced by decision-makers. Although this work is based on interactions within dyads, and further testing is necessary to establish applications to networks, it would be fair to say that networks are simply aggregations of dyads.

I have also considered that the "actors" central to the network approach can be better understood in terms of roles, and therefore the ideas of Role Theory[45] can be rather useful. To use the "role" as a unit of analysis instead of the "actor" would avoid the problem of defining an organisational actor.

10.2.2. Contributions for Decision-Makers

It is clear that decision-makers have a limited rationality for approaching their decisions. This limitation meant that decision-making models were focused on providing tools that to improve the selection of a specific alternative. Even so, the existing models assume that the decision-maker makes decisions with independence, and has a clear idea of the needs and goals that a given decision will fulfil. Experience shows that independence and intentionality are ideals: while independence is hindered by existing and potential relationships, intentionality is jeopardised by unexpected changes in the available alternatives (uncertainty), and by changing preferences (ambiguity).

The proposed model starts with the consideration of problems faced by decision-makers. Thus, the focus is not so much on tools to help answer questions, but on better ways to formulate the critical questions. Once the decision-maker knows what to ask, it should be easier to understand how to achieve a given result. Decision-making problems not only shape the way that organisational decision-makers approach decisions, but also the way that companies relate to each other.

Moreover, inter-organisational relationships play an active role in decision-making. Relationships between provider and customer influence the gravity of uncertainty and ambiguity problems that affect the decision-maker. Those problems may be resolved, concealed, or even intensified, depending on the relationship with a provider.

10.3 Directions for Further Research

Even with this newly formulated model, certain questions must still be addressed by researchers in this field.

The proposed B2B Dyad Model of Commercial Exchanges is applicable to the telecommunication sector. The question is whether this model *is applicable to other market situations*. The *testing* of this model in other empirical fields is still necessary to show the B2B Dyad Model's broader applications.

My choice of the telecommunications field was based on the critical character and speed of changes within this market. I did not find other sectors where both industrial policy-making amendments and technological innovation simultaneously occurred. This simultaneity implied a fundamental change: instead of an evolution of the market, it is possible to talk about a revolution in the market. These changes (above all technological

[45] Harland and Knight (2001) used the concept of roles to investigate network management in supply chains. We consider that their use of this concept is rather limited since one of the coordinates of the role concept is the network where it is being played.

innovation) are also continuous, which implies business activities of some complexity. Any other market is likely to present less complexity than telecommunications, and therefore this model, designed for the most complex market, should be applicable in other situations.

As stated, this model is rooted in an empirical analysis of situations in the telecommunication market, and it deals with buying and selling decisions. Therefore, a second question is whether the model would be *applicable to all types of business decision-making (not only to commercial exchange decisions)*.

I mentioned that one advantage of this model is that it sets aside the presumed roles of the decision-maker. The model is equally valid for customer or provider, so it should be applicable to any actor involved in a business activity that is the result of a relationship.

A third issue relates to the inter-relational approach of this research. I have emphasised the importance of a network approach in studies of decision-making, although I have actually used a dyadic approach to design my model of commercial exchanges. If we consider that a network is an aggregation of dyads, then the B2B dyad model is the basic unit for building a B2B network model. The research issue would be whether the assumption that a network is an aggregation of dyads agrees with reality.

These questions open the gate to further research in the field of decision-making in networks. Two important assumptions for such an undertaking would be the neutralisation of the presumed roles of the decision-maker, and the use of a relational approach to analyse the network decision-making process.

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SUMMARY

Purchasing and Marketing Theories hold that industrial buying and selling are sequential processes that depend on an evaluation of alternatives and selection of the most appropriate one, all the while gathering information to avoid uncertainty problems. These theories supply proven and useful ideas, although their explanation of what happens in real and dynamic situations are at times incomplete.

A first key point is that observations of commercial exchanges, specifically in the fast changing telecommunication market, indicate that these processes are not so linear: buying and selling may be the result of disordered and dynamic processes in which improvisation and opportunistic behaviour are important variables. Second, buying and selling are far from being unilateral processes: they are embedded in networks of relationships. And third, the decision-maker encounters both uncertainty and ambiguity. The theories of the IMP Group recognises the inter-relational character of commercial exchanges, but they do not provide a model that can explain how commercial exchanges actually work in practice.

In view of these shortcomings, the objective of this research is to design a model that can explain commercial exchanges in fast changing markets. Such a model should take into consideration (1) the non-linearity of buying/selling activities, (2) the relational perspective of commercial exchanges, and (3) the different types of problems faced by industrial customers and providers.

The model that I have constructed is intended to explain practical situations through empirical observations. Thus, the gaps in Purchasing and Marketing Theory might be filled by these empirical observations of provider/customer interactions. With that in mind, the methodology used in Grounded Theory Research becomes very useful, because it offers more adequate tools (coding techniques) for the analysis of empirical observations, and for the construction of theoretical models.

I obtained the empirical information through four case studies, each focused on the relationships between an organisational customer and its different telecommunication providers. My choice of a dyadic perspective (instead of a network approach) is supported by the complexity of the network approach when designing a commercial exchange model.

Based upon my observations, I have concluded that organisational customers and providers do not necessarily follow a linear process when buying or selling, and they face problems of uncertainty (considered in Marketing and Purchasing Theory) and ambiguity. Organisational Theory considers this type of decision-making process and its inherent problems, in particular March's work on decision-making. With the application of organisational theory, industrial customers and providers become decision-makers.

March (1988, 1994) proposed a general classification of decision-making logics (calculation and appropriateness) to facilitate the understanding of uncertainty and ambiguity problems, although his model is rather schematic. In the cases I considered, the behaviours of each dyad were interpreted according to the logics proposed by March. These behaviours were then translated into different types of relational forms.

Thus, the elements of my model are: the decision-maker's problems and decision-making logic, and the type of relational form that binds the buyer and seller. The relationships between these parties were defined through a comparative analysis of the four case studies.

The proposed model assumes that under conditions of uncertainty, decision-makers will tend to apply rules of behaviour (either economic or social) to make their choices. A continuous enforcement of behavioural rules would lead to a closer relationship between the counterparts. When the decision-maker must contend with ambiguity, he will depend more on the relationship with the counterpart. Within the framework of a closer long-lasting relationship, customer and provider can resolve, avoid, or even conceal uncertainty and ambiguity problems.

SAMENVATTING (Summary in Dutch)

COMMERCIËLE UITWISSELING IN B2B DYADEN: Een Nieuw Model voor Besluitvorming in Snelveranderende Markten

In het algemeen worden industriële inkoop en verkoop beschreven als sequentiële processen in Inkoop- en Marketingtheorieën. Deze processen bestaan uit de evaluatie van alternatieven, en de keuze voor het meest geschikte, waarbij onzekerheidproblemen door het verzamelen van informatie worden vermeden. Genoemde theorieën bieden bruikbare concepten en ideeën, hoewel de verklaring van wat er in een empirische omgeving gebeurt, enigszins eenzijdig is.

Observatie van commerciële uitwisseling, vooral in snelveranderende markten (zoals de telecommunicatiemarkt), toont aan dat deze processen niet zo lineair zijn: Inkoop en verkoop kunnen het resultaat zijn van ongecoördineerde en dynamische processen, waar improvisatie en opportunistisch gedrag een belangrijke rol zouden kunnen spelen. Ten tweede, inkoop en verkoop zijn allerminst unilaterale processen: zij vinden plaats binnen een (bestaand) netwerk van relaties. En ten derde wordt de beslisser niet alleen geconfronteerd met problemen ten gevolge van onzekerheid, maar ook van ambiguïteit. De IMP Groep heeft het interrelationele karakter onderkend, hoewel nog wel een model ontbreekt, dat kan verklaren hoe commerciële uitwisseling zich voordoet.

Gezien deze onvolkomenheden, is de doelstelling van dit onderzoek het ontwerpen van een model dat commerciële uitwisseling in snelveranderende markten verklaart. Een dergelijk model zou rekening moeten houden met: (1) de niet-lineariteit van inkoop- en verkoopactiviteiten, (2) het relationele karakter van commerciële uitwisseling, en (3) de verschillende typen problemen die industriële klanten en toeleveranciers aantreffen.

Het doel van het te ontwikkelen model is een verklaring voor empirische situaties te geven, derhalve is het voor-de-hand-liggend de Inkoop- en Marketingtheorieën aan te vullen met observaties uit empirische situaties. Daartoe zijn de technieken voorgesteld door de *Grounded Theory* (gefundeerde theoriebenadering) nuttig: zij leveren geschikte methoden (*"coding techniques"*) om empirische observaties te analyseren zodat daarmee een theoretisch model ontworpen kan worden. Empirische informatie werd door middel van vier case-studies verzameld. Iedere casus richtte zich op de relatie tussen een industriële klant en zijn telecommunicatietoeleveranciers. Zo'n *"dyadische"* aanpak (in plaats van een netwerkaanpak) wordt gerechtvaardigd door de complexiteit van een netwerkaanpak bij het ontwerpen van een model voor commerciële uitwisseling.

Uit initiële observaties bleek dat industriële klanten en toeleveranciers niet noodzakelijkerwijs een lineair proces volgen bij in- of verkoop. Bovendien krijgen zij niet alleen met problemen op het gebied van onzekerheid (zoals in de Inkoop- en Marketingtheorieën wordt beschouwd), maar ook op het gebied van ambiguïteit te maken. Organisatietheorieën, in het bijzonder de Theorie van Besluitvorming, hebben dit soort besluitvormingsprocessen en -problemen bestudeerd. Door deze

organisatorische ideeën toe te voegen, worden industriële klanten en leveranciers besluitvormers.

March (1988, 1994) stelde een algemene indeling van besluitvormingslogica (berekening en geschiktheid) voor, waarmee het analyseren van de onzekerheid- en ambiguïteitproblemen eenvoudiger wordt. In de vier case-studies werd het gedrag van de verschillende dyaden geïnterpreteerd in termen van de wijze van besluitvorming (*"logic"*) en problemen voorgesteld door March. Deze gedragingen werden vertaald naar verschillende typen van relaties.

De elementen van dit model worden derhalve: het probleem (of problemen) van de besluitvormer, zijn werkwijze bij het nemen van een besluit, en het soort relatie dat hij heeft met zijn tegenspeler. De relaties tussen deze elementen worden afgeleid uit de analyse en vergelijking van de vier case-studies.

Conclusies uit het ontworpen model zijn dat onder bepaalde omstandigheden, besluitvormers gedragsregels toepassen (ofwel economisch, ofwel sociale regels) bij het nemen van hun besluit, en dat daardoor hun besluitvormingslogica waarschijnlijk verandert. Het continu handhaven van gedragsregels zou leiden tot een hechtere band tussen de twee partijen. Wanneer de besluitvormer behept is met ambiguïteit, wordt de relatie met de andere partij zijn belangrijkste aandachtspunt, en de relatie zal als gevolg daarvan waarschijnlijk veranderen. Binnen het kader van een hechtere langdurende relatie kunnen klant en leverancier onzekerheid- en ambiguïteitproblemen oplossen, uit de weg gaan, of verbergen.

RESUMEN (Summary in Spanish)

INTERCAMBIOS COMERCIALES EN DÍADAS B2B: Un Nuevo Modelo de Toma de Decisiones en Mercados Altamente Cambiantes

Las Teorías de Compra y Marketing proponen que los intercambios comerciales en mercados industriales son procesos secuenciales que consisten en la valoración de alternativas y la elección de la más apropiada. Estos procesos están basados en la recogida de información para así evitar problemas de incertidumbre. Estas teorías aportan conceptos muy útiles, pero sus explicaciones a cerca de lo que ocurre en situaciones reales y dinámicas son en ocasiones incompletas.

En primer lugar, las observaciones de intercambios comerciales en concreto en el mercado de las telecomunicaciones, que está sujeto a cambios muy rápidos, indican que estos procesos no son tan lineales: compra y venta podrían llegar a ser el resultado de procesos desordenados y dinámicos en los que la improvisación y los comportamientos oportunistas son variables muy relevantes. En segundo lugar, compra y venta están lejos de ser procesos unilaterales, sino que están inmersos en redes de relaciones. Y por último, el sujeto que toma las decisiones en estos procesos se enfrenta no sólo a problemas de incertidumbre sino también de ambigüedad. Las teorías del IMP Group (Grupo de Marketing y Compras Industriales) reconocen el carácter inter-relacional de los intercambios comerciales, pero no aportan un modelo que pueda explicar cómo los intercambios comerciales ocurren realmente.

En vista de estas deficiencias, el objetivo de esta investigación es el diseño de un modelo que pueda explicar los intercambios comerciales en mercados rápidamente cambiantes. Este modelo debería tener en cuenta (1) la no linealidad de las actividades de compra/venta, (2) la perspectiva relacional para estudiar los intercambios comerciales, y (3) los distintos tipos de problemas con que los consumidores y proveedores industriales se encuentran.

El modelo construido está diseñado con ayuda de observaciones empíricas, y para explicar situaciones prácticas. De esta forma las carencias de los modelos propuestos por las teorías de compras y marketing industrial pueden suplirse mediante observaciones efectivas de las interacciones entre proveedores y consumidores. Teniendo esto en cuenta, la metodología usada en investigaciones destinadas al diseño de teorías basadas en observaciones empíricas (*Grounded Theory*) resulta muy útil, ya que ofrece herramientas apropiadas (técnicas de codificación) para el análisis de estas observaciones prácticas, y para la construcción de modelos teóricos.

La información utilizada en esta investigación proviene de cuatro casos prácticos (*case studies*), cada uno elaborado alrededor de la relación entre un consumidor industrial y sus distintos proveedores de telecomunicaciones. La elección de una perspectiva *"diádica"* (en lugar de una perspectiva de redes) está basada en la complejidad de una perspectiva de redes a la hora de diseñar un modelo de intercambios comerciales.

Después de considerar estas observaciones, las conclusiones obtenidas son que consumidores y proveedores no tienen por qué seguir un proceso lineal cuando realizan sus compras o ventas, y que están sujetos a problemas de incertidumbre (también consideradas por las Teorías de Marketing y Compras) y ambigüedad. Las Teorías Organizacionales, en particular el trabajo de March sobre toma de decisiones, consideran este tipo de procesos y los problemas a los que están sometidos.

March (1988, 1994) propuso una clasificación general de las lógicas que llevan a la toma de decisiones (lógica de tanteo o *"calculation"* y lógica de conveniencia o *"appropriateness"*). Esta clasificación facilita la comprensión de los problemas antes mencionados, aunque el modelo de March es mayormente esquemático. En los casos considerados en esta investigación, los comportamientos de cada díada de organizaciones fueron interpretados de acuerdo con las lógicas propuestas por March. Posteriormente estos comportamientos fueron traducidos en distintos tipos de relaciones.

Así pues, los elementos del modelo diseñado son: los problemas del sujeto que toma las decisiones y su lógica de decisión, y el tipo de relación que une al comprador y al proveedor. Los tipos de relaciones entre estas partes fueron definida mediante el análisis comparativo de los cuatro casos prácticos.

El modelo propuesto considera que en condiciones de incertidumbre, el decisor tenderá a aplicar reglas de comportamiento (tanto económicas como sociales) para realizar sus elecciones. Un seguimiento continuado de estas normas conduciría a un acercamiento en la relación que le une con su socio comercial. Cuando el decisor está sujeto a ambigüedad, dependerá más de la relación con su homólogo. En el marco de una relación más cercana y duradera, consumidor y proveedor pueden llegar a resolver, evitar o incluso disimular sus problemas de incertidumbre y ambigüedad.

APPENDIX A: Interviews Guidelines

In this appendix I present the scripts used during the interviews with managers from customer and providers organisations. Guidelines like these ones were used to manage the interviews, although in many occasions, the interviews seemed more like a conversation than a questioning. Moreover, from one interview to the other, I could introduce new question in view of former answers.

Appendix A.1 shows the guidelines for the ICT Managers interviews. These were the first group of contacts and therefore, the questions are rather general. *Appendix A.2* presents Account Managers' guidelines. The contacts with the provider organisations were supplied by the customers and as a consequence, besides containing general questions about the organisation, this kind of guidelines also had specific questions about the relationship with the customer. Last, *Appendix A.3* shows the guideline for the interviews with the project leaders of these organisations; the interview focused on a particular exchanged product and its installation and usage.

It is important to note that there was no question about ambiguity. This kind of problems were observed and deduced from the answers: there were certain described situations that did not fit within the uncertainty problem frame.

A.1 Customer-X's Interview

General Questions on Customer-X

1. What is the main activity of Customer-X?
2. What is the organisational structure of Customer-X?
3. How many employees does Customer-X have?
4. How many of them are working in your department?
5. What is your task within Customer-X?

Telecommunication Needs and Channels

6. What are the telecommunication needs of Customer-X?
7. What kind of telecommunication channels do you use?
8. What is the use of those communication channels? Do you use those communication channels only for providing services to your customers (for call centre, for example) or also for the internal organisation of Customer-X?
9. In what way telecom products and services help to increase the strategic advantage of your company? Are they (or would they be) essential for the internal organisation of Customer-X?

10. Are you customer of the new telecom providers? For what kind of services? For what kind of telecommunication channels? Why did you decide to contract this provider?

11. In which case are you still a customer of the incumbent operator? Why did you decide to stay with this company?

Decision-Making Processes

12. Why did you decide to use each of those telecommunication channels? Why did you decide to choose for each provider in each case (kind of telecommunication channel)?

13. The decisions on telecommunications products and services used for the organisation of Customer-X, are they related to those decisions about communication channels used in the services to your customers?

14. Do you see a need for a policy of telecommunication products and services within your company? Do you already have such policy?

15. Who is in charge of the decisions about the proper telecommunication channel and the proper provider? Is there a department with only this task?

16. In what way your decisions about the proper provider and/or product have changed with respect to those same decisions five years ago (before the liberalisation of the market)?

17. What do you think it is the cause of such change? Are the technological changes more important than the political changes or it does not matter?

18. Who is the starter of the decision-making process? Who is coming with the problem to solve via the contract of telecommunication products and services?

19. Does Customer-X pay attention to the actions of other organisations regarding the telecom channels and providers they chose? Do they influence your decisions?

Uncertainty

20. Do you (personally) have a clear picture of what is going on in the market in terms of technology and regulation?

21. Do you consider that the information about the different telecommunications products that exist in the market is sufficient? According to your criterion is the available information clear enough as to allow a proper evaluation of the offered products?

22. How often has your company changed provider in the last five years? In which case (for what kind of telecommunication channel) have those changes been more critical?

23. Can you foresee the solutions (the products) that each provider will offer you for solving your problems?

24. Can you easily predict the reactions of your provider regarding the maintenance and fulfilment of your contract?

25. Do you have problems with the introduction and adaptation of new technologies? How does affect the contract of new telecommunication products and services?

26. Are the telecom products and services that you use subjected to very much technological change? Are you able to predict these technological changes?

27. Are you certain about the price you are going to demand? How do you measure the price of a telecommunication product?

28. Is there a lot of variation in the billing procedures between providers? And between different telecommunication channels? Are you always certain about the fairness and clarity of the billing?

29. What are the quality requirements that you demand to your provider? Are those requirements the same for all providers working with the same telecommunication channels?

30. Are you always certain about the quality level that you should demand in your telecommunication products and services? Are you always certain about the quality level that you are achieving?

A.2 Provider-Y's Interview

General Questions on Provider-Y

Internal organisation:

1. What is your task within Provider-Y?

2. What is the organisational structure of Provider-Y?

3. What is your position within the organisational structure of Provider-Y?

4. What kind of personnel works in your department? Do they have a technology-based background, a managerial background, engineering, etc.?

5. Which organisation or organisations are your main suppliers? Which organisations develop and manufacture the services and products that you commercialise? Which criteria do you use to define them as 'main suppliers' (is it size, number of contacts, length of the relationship, etc.)?

Market and product characteristics:

6. What are your main products (mobile services, data transmission-Internet services, multimedia, etc.)?

7. What is the relative importance of each of them?

8. How did the liberalisation of the telecom market affect your organisation?

9. How does Provider-Y organise its relations with customers? Is there a separate department within Provider-Y in charge of the contacts with organisational customers?

10. Is there a single person or a group of people in charge of only one big customer?
11. How is the request for a certain product organised?
12. What is more important for you: the quality of your services or the price level?
13. What are the quality parameters for Provider-Y?

Uncertainty:

14. Do you consider the market of telecommunication products and services stable?
15. Do you consider that the information you receive about the products you are serving is enough and accurate?
16. Have you seen a lot of variation in the customer portfolio of Provider-Y in the last five years? Was this variation in terms of amount of customers or more in terms of the content of the relations (kind of product or service)?
17. What is the role of technological change in your job? Is technology playing an important task?
18. What is the role of the industrial policy makers in your job? Do they influence the way you are approaching your job?
19. Can you easily foresee the needs of your organisational customers?

Provider-Y and Customer-X

History:

20. How did the relation with Customer-X start? How did you contact this customer? Or was somebody from Customer-X who came to you?
21. When did the relation with Customer-X start?
22. Why did you decide to work with Customer-X?
23. What products and services do you provide to Customer-X?
24. What are the main events in your relation with Customer-X? Have there been significant changes in the products you provide to them?
25. Have there been significant changes in the kind of relation you have with Customer-X?
26. What role does past experiences with this customer play in your current decisions to work with Customer-X, and renounce or ask for certain contract conditions?

Relationship formation:

27. Is there a formal offer when a product is presented to Customer-X?
28. Which steps lead to the redaction of such document-offer?
29. How would you define the process that led to the redaction of the document-offer? Is it a unilateral task from your part?

30. Regarding the installation of a concrete telecom service, who is in charge of it? What is your role in the installation? What is the role of the customer?

31. Is there any training for users? What is the task of each organisation in the training?

32. Do the equipment manufacturers participate (directly or indirectly) in the installation of the infrastructure for the services?

33. What kind of customer-care services does Provider-Y offer (financing support, technical support, maintenance, etc.)?

Inter-firm interaction:

34. In general terms, how would you evaluate the relation between Provider-Y and Customer-X till the implementation of the service?

35. In general terms, how would you evaluate the relation between Provider-Y and Customer-X after the implementation of the service?

36. What kind of disagreements are you facing in your relation with Customer-X? What is according to you their main complaint?

37. How are disagreements resolved? Is there a standard procedure for problem solving?

38. In what ways is power gained in relationships?

39. When are you most vulnerable in a relationship?

40. What kind of information does Provider-Y share with Customer-X?

Third Parties

41. What other parties are playing an important task in your relation with Customer-X?

42. What is the role that this third party plays in the relation with your customer?

43. Does this third party participate in other relations between your organisation and other customers?

A.3 Project Related Interviews

General Questions

1. What is your task as project leader within Customer-X?

2. For which projects have you been working as project leader? With which telecommunication providers?

3. Do you consider that the information you received about the products you were installing was enough and accurate? What kind of information was that? Who provided you with such information?

4. In general terms, is there a lot of variation between what the provider promised you and what you got?

5. Is technology playing an important task in the installation of the products?

6. What is the role of the industrial policy makers in your job? Do they influence the way you are approaching your job?

7. Can you easily foresee the reactions of your providers?

8. How does Customer-X organise the installation of new telecom products and services? Is there a separate department within Customer-X in charge of it?

9. Is there a single person or a group of people in charge of only one big installation project?

10. How is the process for the installation of a certain product?

11. Do you have some control tools during the installation process? How do you measure the quality of the installation?

Customer-X vs. Provider-Y

History:

12. What are the products that Provider-Y is serving you (mobile services, data transmission-Internet services, multimedia, etc.)?

13. What is the relative importance of each of them? How do you measure that importance?

14. What kind of relation do you have with Provider-Y? Is it limited to the installation of a certain product?

15. How did the relation with Provider-Y start? How did you contact this customer? Or was somebody from Provider-Y who came to you?

16. When did the relation with Provider-Y start for the installation of the current product?

17. When did you have the first information about Provider-Y? From where did you get such information?

18. Why did you decide to work with Provider-Y?

19. What are the main events in your relation with Provider-Y during the installation of their different products?

20. In what way your opinion about Provider-Y has changed after the installation of their products?

21. What role does past experiences with this provider play in your current decisions to work with them, and renounce or ask for certain contract conditions?

22. Do you participate in the negotiation with Provider-Y for the buying of their products?

23. Regarding the installation of a concrete telecom service, who is in charge of it? What is your role in the installation? What is the role of the providers?

24. Is there any training for users? What is the task of each organisation in the training?

25. Do the equipment manufacturers participate (directly or indirectly) in the installation of the infrastructure for the services?

26. What kind of customer-care services do the providers offer you (financing support, technical support, maintenance, etc.)?

Inter-firm interaction:

27. In general terms, how would you evaluate the relation with your provider till the implementation of the service?

28. In general terms, how would you evaluate the relation with your provider after the implementation of the service?

29. What kind of disagreements are you facing during the realisation of the projects Provider-Y? What is according to you their main complaint?

30. How are disagreements resolved? Is there a standard procedure for problem solving?

31. In what ways is power gained in relationships?

32. When are you most vulnerable in a relationship?

33. What kind of information do you share with your providers?

Third Parties

34. What other parties are playing an important task in your relation with Provider-Y?

35. What is the role that this third party plays in the relation with your customer?

36. Does this third party participate in other relations between your organisation and other providers?

APPENDIX B: Acronyms List

ADSL: Asynchronous Digital Subscriber Line.

B2B: Business-to-Business.

CAQDAS: Computer Assisted Qualitative Data Analysis Software.

CC: Call Centre.

CEPT: Conferénce Européene des Postes et des Télécommunications (European Conference of Post and Telecommunications).

CRM: Customer Relationship Management.

D-AMPS: Digital-Advanced Mobile Phone Service.

ETSI: European Telecommunications Standards Institute.

GPRS: General Packet Radio Services.

HDTP: Hoofddirectie Telecommunicatie en Post (Telecommunications and Posts Department).

ICT: Information and Communications Technologies.

IMP Group: Industrial Marketing and Purchasing Group.

ISDN: Integrated Services Digital Network.

ITT: Information and Telecommunications Technologies.

ITU: Information and Telecommunications Union.

LAN: Local Area Network.

MIS or IS: Management Information Systems.

NMT: Nordic Mobile Telephone.

GSM/DCS: Global System for Mobile Communication/Digital Cellular System

OECD: Organisation for Economic Co-operation and Development.

OEM: Original Equipment Manufacturer.

OPTA: Onafhankelijke Post en Telecommunicatie Autoriteit (Independent Post and Telecommunications Authority)

PABX: Private Automatic Branch Exchange.

PSTN: Public Switched Telecommunication Network.

PTO: Public Telecommunication Operator.

PTT: Postal, Telegraph and Telephone.

R&D: Research and Development.

SBR: Skill-Based Recognition.

SMS: Short Message Service.

UMTS: Universal Mobile Telecommunication Standard.

VPN: Virtual Private Network.

WAN: Wireless Area Network.

WAP: Wireless Application Protocol.

x-DSL: x-Digital Subscriber Line.

About the Author

Elisa Moreno Bragado was born in Vitoria (Spain) on November 12, 1972. In 1997 she graduated at the Faculty of Economics and Business Administration of the University of Valladolid (Spain) with the specialisation on Commercial Management. Between 1995 and 1996 she attended several courses at the Faculty of Technology and Management of the University of Twente with a scholarship of the Erasmus/Socrates program.

In this university she has worked as student assistant at the Department of Financial Management, investigating management control systems in Dutch engineering firms. Elisa Moreno also researched the topic of information technologies and marketing for the Information Systems Department before starting her Ph.D. research in 1998 at the Marketing, Strategy and Entrepreneurship Department.