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An Interaction and Network Perspective of Horizontal Relationships in the Portuguese Pharmaceutical Industry

José Manuel Novais de Magalhães Santos

Orientadora: Professora Doutora Maria Cristina de Assis Sales Pinto Baptista

Tese especialmente elaborada para obtenção do grau de
Doutor em Gestão

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José Novais Santos

Abstract

Horizontal relationships, such as strategic alliances, are of increasing importance and prevalence. The purpose of this research is to understand horizontal relationships' development within an interaction and network perspective. Significant research has been carried out on strategic alliances, focusing on motivations, antecedents, formation, and outcomes. However researchers have paid far less attention to the developmental processes of these business relationships. To tackle the research objective two complementary conceptual frameworks are considered, one, addressing the interaction and, another, the relationship development.

This research, mainly supported by the industrial marketing and purchasing approach, focuses on: the interaction between competitors, the intercompetitor relationship development and the network effect of such business relationships. It is considered a multiple case study strategy within the Portuguese pharmaceutical industry. Eleven Portuguese pharmaceutical companies with production facilities in-country were identified and all participated in the present research. Nine case studies were purposefully selected, considering the access to both sides of the intercompetitor relationship and the intensive and rich information within. Data was collected mainly through in-depth interviews and complemented by observation and secondary data. The qualitative data was examined adopting the analytical process of compiling, disassembling, reassembling, interpreting and concluding.

Intercompetitor interaction can be characterized along four linked dimensions: context, nature, interaction processes and outcomes. The role of the relationship shared context, cooperation degree (at the company and department levels), information exchange, coordination processes and bond development is strongly related with the interaction and the development of the horizontal relationship. The intercompetitor relationship development may comprise five main phases: co-existence, formation, development, dormant and dissolution. The presence of a catalyst (e.g. government body) triggering the intercompetitor relationship development is denoted. The development of relationships between competitors affects the companies' negotiation power, the internationalization processes and the public-private relationships development.

Keywords: Interaction and network approach; Intercompetitor and public-private relationships; Case Studies; Multiplayer partnerships; Strategic alliances

Resumo

Os relacionamentos horizontais, como sejam as alianças estratégicas, são cada vez mais importantes e prevalentes. O propósito desta investigação é a compreensão do desenvolvimento de relacionamentos horizontais, utilizando a perspectiva de interação e redes. Foi desenvolvida investigação de relevo em alianças estratégicas salientando as motivações, antecedentes, formação e resultados. Todavia, os investigadores têm vindo a descurar os processos de desenvolvimento destes relacionamentos. Para o objetivo da investigação são considerados dois quadros conceptuais complementares, focando tanto a interação, como o desenvolvimento dos relacionamentos.

É considerada uma estratégia de caso de estudo múltiplo na indústria farmacêutica portuguesa. Foram identificadas onze empresas portuguesas com unidades de produção em Portugal e todas participaram na presente investigação. Nove casos de estudo foram selecionados, considerando o acesso a ambos os lados do relacionamento e a riqueza dos dados recolhidos. Os dados foram obtidos sobretudo em entrevistas aprofundadas e foram complementados com observação e com dados secundários. Os dados qualitativos foram tratados através de um processo analítico que envolve compilação, desagregação, remontagem, interpretação e conclusão.

A interação entre concorrentes pode ser caracterizada através de quatro dimensões: contexto, natureza, processos de interação e resultados. O papel do contexto partilhado, do grau de cooperação (ao nível da empresa e do departamento), da troca de informação, dos processos de coordenação e dos laços criados está fortemente relacionado com a interação e o desenvolvimento do relacionamento horizontal. O desenvolvimento do relacionamento entre concorrentes pode conter cinco fases: co-existência, formação, desenvolvimento, dormência e dissolução. É identificada a presença de um catalisador (e.g. agência governamental) que induz o desenvolvimento do relacionamento entre concorrentes. O desenvolvimento de relacionamentos entre concorrentes afeta o poder de negociação, os processos de internacionalização e o desenvolvimento de relacionamentos público-privados.

Palavras-Chave: Abordagem de Interação e Redes; Relacionamentos entre concorrentes e público-privados; Casos de estudo; Parcerias multi-organizacionais; Alianças estratégicas

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List of Symbols and Abbreviations

AICEP – Trade & Investment Agency

API – Active Principal Ingredients

APIFARMA – Portuguese Pharmaceutical Industry Association

ARA – Activities, Resources, Actors

COM – European Commission Communication

CPhI – Convention on Pharmaceutical Ingredients

CR – Critical Realism

EEC – European Economic Community

EGA – European Generic and Biosimilar medicines Association

EFPIA – European Federation of Pharmaceutical Industries and Associations

EMA – European Medicines Agency

EU – European Union

EUROSTAT – European Statistics

FDA – Food and Drug Administration

GMP – Good Manufacturing Practices

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IFPMA – International Federation of Pharmaceutical Manufacturers and Associations

IMP – Industrial Marketing and Purchasing

IMS – IMS Health

INE – Statistics Portugal

INFARMED – National Authority of Medicines and Health Products, IP

KAM – Key Account Manager

MC – Moderated Constructivism

NME – New Molecular Entity

OTC – Over-the-counter

PhRMA – Pharmaceutical Research and Manufacturers of America

R&D – Research and Development

SNS – National Health System

SPC – Supplementary Protection Certificate

UK – United Kingdom

US – United States (of America)

Chapter 1 – Thesis Scope and Research Problem

This thesis research aims at improving the knowledge of horizontal relationships, particularly the intercompetitor relationship development and the interaction held between competitors. The industrial marketing and purchasing (IMP) approach deeply researches business relationships, focusing, specially, on buyer-seller relationships. It is widely argued that the industrial network approach is the one that best tackles the complexity of this phenomenon. This introductory chapter briefly presents the theory sustaining this thesis development, the specific relationships addressed, the research setting, the research problem and associated questions, methodology overview and, finally, the whole structure of the thesis.

1.1 Research Motivation

Relationships are frequently characterized as being either vertical (upstream or downstream of the value chain) or horizontal (same level of the value chain) (Schmoltzi & Wallenburg, 2012; Sluyts, Matthyssens, Martens, & Streukens, 2011; Swaminathan & Moorman, 2009; Wallenburg & Schäffler, 2014). Relationship-based approaches have been describing the business environment for the past decades (e.g. Dwyer, Schurr, & Oh, 1987; Håkansson & Snehota, 1995a; Möller & Wilson, 1995; Stump & Sriram, 1997; Webster, 1992). A business relationship has been defined by Holmlund and Törnroos (1997, p. 304) as an “interdependent process of continuous interaction and exchange between at least two actors”. Horizontal relationships include business relationships with firms operating in the same market level, as competitors or complementors, i.e. producing substitutable or complementary products (or services)

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(Riccobono, Bruccoleri, Harrigan, & Perrone, 2014). Belderbos, Carree, Diederer, Lokshin, and Veugelers (2004) consider the heterogeneity in R&D cooperation and adopt three different types of cooperation: horizontal (with competitors), vertical (with suppliers or customers) and institutional (with universities or research institutes).

Strategic alliances between competitors are of increasing importance and prevalence (Hitt, Dacin, Levitas, Arregle, & Borza, 2000; Leischnig, Geigenmueller, & Lohmann, 2014; N. Li, Boulding, & Staelin, 2010; Luo, Rindfleisch, & Tse, 2007; Shah & Swaminathan, 2008; Sluyts et al., 2011; Wallenburg & Schäffler, 2014; Wu, 2014). Cooperative relationships between competitors can be joint ventures, licensing, coproduction agreements, joint research programs and exploration consortia, among others (Contractor & Lorange, 1988). Strategic alliances are inter-company and cooperative long-term agreements carried out with the aim of capturing a mutual economic benefit (Gulati, Nohria, & Zaheer, 2000; Inkpen, 2001). Strategic alliances are usually formed to explore mutually compatible interests and goals (Möller & Halinen, 1999; Webster, 1992) and to enhance individual competitiveness (Webster, 1992). Strategic alliances can involve partnerships with real or potential competitors, as well as with customers or resellers (Webster, 1992). “They can occur as a result of a wide range of motives and goals, take a variety of forms, and occur across vertical and horizontal boundaries” (Gulati, 1998, p. 293).

Previous research on strategic alliances frequently addresses partners selection (e.g. Geringer, 1991; Hitt et al., 2000; D. Li, Eden, Hitt, & Ireland, 2008; Meuleman, Lockett, Manigart, & Wright, 2010; Newmeyer, Venkatesh, & Chatterjee, 2014; Shah & Swaminathan, 2008), governance (e.g. Folta, 1998; N. Li et al., 2010; Schmoltzi & Wallenburg, 2012; Wallenburg & Schäffler, 2014) and performance (e.g. Jiang, Tao, & Santoro, 2010; Lavie, Stettner, & Tushman, 2010; Luo et al., 2007; Rocha-Gonçalves & Gonçalves, 2011; Sluyts et al., 2011), among other issues. Das and Teng (2002) argue that significant research has been carried out on strategic alliances, focusing motivations, antecedents, formation, and outcomes; however researchers have paid far less attention to the developmental processes of strategic alliances. Research on strategic alliances as being evolutionary processes is scarce and much questions on the dynamic aspects of such relationships remain to be explored and understood (Ariño & De La Torre, 1998; Doz, 1996; Jap & Anderson, 2007; Leischnig et al., 2014).

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Further, the research on strategic alliances typically focuses on the organization and not on the horizontal relationship, nor on the interaction that takes place between partners. By having the firm as an unit of analysis, researchers do not take into account the actions of other firms or the relationships in which firms are embedded. Thus, research on strategic alliances can represent an under-socialized account of the firm behaviour (Gulati, 1998). Most marketing and strategy management models assume that actors are independent units with well-defined boundaries, have high level of control over their actions and goals, act within a faceless and purely competitive environment, perform isolated transaction episodes with other actors and have no influence over each other. However, contemporary empirical observations show that organizations are not independent, actor's control is limited, organization boundaries are blurred (e.g. due to alliances), actors can influence each other in relationships and have incomplete and partial knowledge (Axelsson, 1992; Easton, 1992; Ford & Håkansson, 2006; Håkansson, Harrison, & Waluszewski, 2004; Håkansson & Snehota, 2006).

The present research addresses the existing gap in the literature regarding the development of intercompetitor relationships. It focuses on the interaction held between competitors and considers the intercompetitor relationship within its context. Although strategic alliances have gained much attention in previous research, the IMP approach (Håkansson, Snehota, Ford, Cunningham, & Hallen, 1982; Håkansson & Snehota, 2006) shed important light on the dynamics of horizontal relationships by focusing on the interaction between competitors. Furthermore, it is argued that the network and interaction approach could and should be used to tackle this phenomenon (Santos & Baptista, 2015).

1.2 Theoretical Background

This section comprises a short description of the main theoretical perspective that supports this work. The introduction to the interaction and network approach is followed by a brief reference to horizontal relationships as strategic alliances.

1.2.1 Interaction and Network Approach

The Industrial Network Approach has its genesis on empirical studies of dyadic relationships in industrial markets, internationalization and distribution channels and it has cross references with other network approaches, such as social exchange theory or social networks. At the beginning, it was classified as interaction approach and, dealt with the development and institutionalization of economic exchange relationships between industrial companies. The scope of the industrial networks approach has further been enlarged to encompass all forms of interactions and relationships in organization markets (Araujo & Easton, 1996).

Dubois and Araujo (2004) argue that, in contrast with the traditional industrial marketing, the first IMP project: (1) focused on the business relationship between buyers and sellers, instead of studying single discrete purchases, (2) examined interaction between buyers and sellers and not the marketing mix variables, (3) highlighted the stability of industrial markets, as an alternative to atomistic structure with many buyers and sellers, and (4) analyzed both buyers and sellers, instead of the separation of marketing and purchasing.

Interaction is regarded to be the essence of intercompany relationships (Håkansson et al., 1982). It entails reciprocal behaviour between at least two actors involved in the relationship. Exchange is always present, in the form of transfer of a product, service, communication, comprising both intangible (e.g., social, psychological) and tangible entities (Bagozzi, 1975). In other words and focusing on the interaction processes, “a business relationship consists of a serially interdependent pattern of episodes institutionalized in patterns and processes of mutually specialized adaptations” (Dubois & Araujo, 2004, p. 214).

“Business relationships are connected to each other” (Håkansson & Ford, 2002, p. 134). Through interaction and relationship, market actors are organized in a network-like structure (Håkansson et al., 2004). “A complex business market can be seen as a network” (Håkansson & Ford, 2002, p. 133). In the network, manufacturing and service companies are connected to each other through relationships (Håkansson & Ford, 2002). “What I have in mind is the dense network of co-operation and affiliation by which firm are inter-related” (Richardson, 1972, p. 883).

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In each relationship, Anderson, Håkansson, and Johanson (1994) distinguish two different functions, the main one and the secondary one, being this later precisely the network function. The main function, created by the interaction between two companies, can generate positive effects (e.g. learning, cooperation, adaptation), as well as negative ones (e.g. incompatibility), in both companies directly involved in that relationship. The secondary function is created by the existence of connections among all the existent relationships and involves more than just the two companies. The organization's participation in a given relationship has an impact on other relationships of the same organization (Anderson et al., 1994). That is, "when any resources or activities are shared between relationships there will be either a positive or a negative connection between them" (Håkansson & Ford, 2002, p. 134).

In the same line of thought, Easton (1992) identifies two reasons that drive firms to enter and develop relationships. First, complementarities can be exploited in order to enhance effectiveness through adaptations, knowledge and stability. Second, firms may exploit network access, as network grants firms a participation in third parties resources, like information, or as it also mobilizes against opponent third parties.

Firm's embeddedness in a competitive environment forced traditional markets to change towards networks (Möller & Halinen, 1999; Möller, Rajala, & Svahn, 2005). The development of a network-like market exchange facilitates production costs reduction and increases innovation or technical development (Håkansson & Ford, 2002; Håkansson et al., 2004). When compared to traditional markets and hierarchical organizations, networks can provide firms with superior knowledge access (Håkansson & Ford, 2002; Möller et al., 2005). Networks also provide limitations, e.g. dependence on approval to change (Håkansson & Ford, 2002).

1.2.2 Horizontal Relationships as Strategic Alliances

Interaction and network approach has been focused on long-term cooperative relationships between buyers and sellers in a vertical market (Bengtsson, Hinttu, & Kock, 2003), with few studies addressing horizontal relationships (cf. Bengtsson & Kock, 1999; Easton & Araujo, 1992). "In the early 90's some initial research was also

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conducted on relationships between competitors in horizontal settings” (Bengtsson et al., 2003, p. 2).

Cooperative intercompetitor relationships within networks are less evident, i.e. more informal and invisible (Bengtsson & Kock, 1999; Easton & Araujo, 1992; Easton, 1992). Economic transactions confer visibility to a relationship, the reason why economic exchange relationships are easier to recognize than relationships not of that type. Horizontal relationships are built mainly on information and social exchanges and do not involve economic exchanges (Bengtsson & Kock, 1999; Easton & Araujo, 1992).

Intercompetitor relationships often involve strategic alliances (Contractor & Lorange, 1988), as a formal or informal agreement, built on trust, mutual interests and social norms (Bengtsson et al., 2003; Bengtsson & Kock, 1999). Cooperative relationships between competitors “are built on a mutual interest to act in cooperation as the interaction in both cases gives access to external resources and knowledge needed by the competitors involved in the relationship” (Bengtsson et al., 2003, p. 4).

An alliance is established when two or more entities mutually appraise collaboration as being beneficial. Both the organizational objectives and the external opportunities determine the formation of the alliance (Mitsubishi & Greve, 2009). Dacin, Oliver, and Roy (2007) identify several authors who point out the benefits attributed to the strategic alliances, namely, being a tool for entry in new markets, increased market power, acquisition and exchange of skills, achievement of strategic renewal, management of risk and investment, attainment of economies of scale and of scope, realization of reductions in liabilities of foreignness and accomplishment of institutional legitimacy. Complementary technologies may as well be behind the formation of alliances (Forsgren & Johanson, 1992a). Besser and Miller (2011) emphasize also that formal alliances involving independent companies, formed to promote the success of their members, are generally accepted as an important strategic support for the small businesses development in a regional economy.

Das and Teng (2000) argue that firms essentially use alliances to gain access to other firms’ valuable resources. Companies integrating an alliance want to perform a common task and reach a goal that would not be possible to accomplish if acting alone. The synergies of alliances are achieved through the combination of all partners’ capabilities

or resources. Many companies already own resources that sustain a competitive advantage, but to compete in some specific markets they may require additional resources (Inkpen, 2001).

Cooperation activity is performed within a dyadic business relationship and is part of the interaction between two actors. Cooperation and cooperative relationships “have been at the core of the discussion in research on strategic alliances” (Håkansson & Prentice, 2004, p. 85). The development and maintenance of a strategic relationship can have a positive or negative impact on current and future relationships, usually produces long-term effects (Möller & Halinen, 1999; Möller et al., 2005) and may require considerable resources, leading to low or even negative direct revenue (Möller & Halinen, 1999).

Despite several benefits to companies derived from developing partnering relationships with customers, suppliers and other possible allies, limitations and disadvantages can also arise from relationships. Håkansson and Snehota (1995b) identified five negative effects: unruliness (the loss of control), undeterminedness (the uncertain bet), energy (resource demanding), exclusiveness (the preclusion of others) and stickiness (requests are unexpected regarding both their origin and timing). The decision to form an alliance is, in itself, critical (Hitt et al., 2000). Biong, Wathne, and Parvatiyar (1997) concluded that when companies do not want to engage in partnering relationships it is due to fear of dependency, lack of perceived value in the relationship, lack of credible partners, lack of relational orientation in the buying company and rapid technological changes.

1.3 Research Setting

The selection of the empirical context considers the need for visibility of the intercompetitor relationship (cf. Easton & Araujo, 1992). This visibility was conferred by the own existence of these partnerships. Further, intercompetitor business relationships can be regarded as a sensitive topic (Tidström & Hagberg-Andersson, 2009). The selection also takes into consideration the researcher pre-understanding of the empirical realm.

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This research addresses horizontal relationships in the Portuguese pharmaceutical industry. Within the Portuguese pharmaceutical industry there are two major alliances that gather medicine producers: PharmaPortugal and ISO Project. Companies involve themselves in these multiplayer alliances with their competitors to improve internationalization, to pool know-how, to increase medicine exports, to boost effectiveness and to strengthen negotiation power, among others.

Horizontal partnerships usually involve several companies (cf. Wallenburg & Schäffler, 2014), holding numerous intercompetitor relationships. This study centres its attention on the relationships between Portuguese pharmaceutical companies with production facilities in Portugal that are members of the above-mentioned alliances. At the beginning of this research, eleven companies were identified to form the population of Portuguese pharmaceutical companies with production facilities in Portugal. All were invited to participate in the present study and all those companies have accepted the invitation and have participated.

1.4 Research Problem and Questions

As referred, the body of knowledge on business relationship development still requires a comprehensive description and explanation of horizontal relationships, particularly intercompetitor relationships. This research contributes to both the existent area of research on industrial marketing and purchasing, as well as on strategic alliances. The IMP approach has remarkably contributed to the understanding of the buyer-seller relationship development (Håkansson et al., 1982; Håkansson & Snehota, 2006). Consistently, models have been put forward and extensive empirical testing has been conducted by many scholars in this field (e.g. Baptista, 2013; Campbell, 1985; Håkansson et al., 1982; Möller & Wilson, 1995). Still, “economic exchange relationships have dominated the theoretical and empirical work on industrial networks and direct relationships not of that kind have largely been ignored, in particular, intercompetitor relationships have not been adequately dealt with” (Easton & Araujo, 1992, p. 63). This research contributes to the current IMP research by adding a deeper understanding of the intercompetitor relationship.

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The present research also takes the network perspective into consideration by viewing intercompetitor relationships in a broader network of business relationships. The industrial networks approach encompasses all forms of interactions and relationships (Araujo & Easton, 1996). Within the network, each actor develops relationships with customers, suppliers, distributors, competitors, complementary suppliers, universities, trade and professional associations, government bodies and consultants (Easton & Araujo, 1992). Gebrekidan and Awuah (2002) argue that there is a lack of empirical studies addressing the link between network actors and the achievement of goals pursued by strategic alliance partners. This research regards network effects of intercompetitor relationship development (e.g. public-private relationships development) and multiplayer alliances, that are also seen as a whole.

Deepening the knowledge on the intercompetitor relationship development also contributes to pursuing the research on strategic alliances, specifically, on the alliance management and performance. Strategic alliances are frequently described as being unstable and leaning towards failure. Studies show that 50 percent of strategic alliances have high levels of instability and one or both partners consider it a failure (Inkpen, 2001). Strategic alliance termination is frequently studied to evaluate alliance's performance. However, alliance termination studies "fail to distinguish between natural and untimely deaths" and "not all ongoing alliances are necessarily successful" (Gulati, 1998, p. 307). Enhanced understanding of intercompetitor interaction offers insightful managerial implications, such as, improving access to strategic alliance's benefits.

The research problem of this thesis has been defined as "to understand the development of horizontal relationships within the interaction and network perspective in the Portuguese pharmaceutical industry". In other words, the aim is to study intercompetitor relationships in the Portuguese pharmaceutical industry by answering the following research questions:

1. How can horizontal relationships be characterized within the interaction and relationship framework?
2. How do industrial horizontal relationships develop in a multiplayer alliance context?
3. What are the main implications of the intercompetitor relationship development?

The research problem presented is based on the assumption that strategic alliances understanding can be enhanced when one takes into consideration both the interaction between partners and the industrial network in which firms are embedded. Several approaches are employed, individually or combined, to examine horizontal relationships: dynamic capabilities view (e.g. Rocha-Gonçalves & Gonçalves, 2011), management control theory (e.g. Shah & Swaminathan, 2008), organizational learning (e.g. Doz, 1996; Lavie et al., 2010), social networks (e.g. Gulati, 1998), real option theory and transaction cost theory (e.g. Folta, 1998), relational network theory and agency theory (e.g. Meuleman et al., 2010), resource-based view (e.g. Das & Teng, 2000), resource-based view and dynamic capabilities-based view (e.g. Jiang et al., 2010), resource-based view and organizational learning (e.g. Hitt et al., 2000), transaction cost economics, knowledge-based view and real options theory (e.g. N. Li et al., 2010). Yet, they do not frequently use the industrial networks perspective (Bengtsson & Kock, 1999).

1.5 Methodology Overview

As stated, the focus of this research is on the understanding of horizontal relationship development in the context of the pharmaceutical industry, not on the frequency of the phenomenon (cf. Easton, 1995). Thus, this research aims at constructing context-related theory by starting a theory supported analysis and reaching an empirically grounded model. It develops a multiple case study, supported on the foundations of moderate constructionism (cf. Järvensivu & Törnroos, 2010; Van Den Belt, 2003) and abduction (cf. Dubois & Gadde, 2002; Järvensivu & Törnroos, 2010; Sæther, 1998; Van de Ven, 2007).

This research methodology follows Dubois and Araujo (2004) recommendation. “Rather than assuming predetermined entities and privileging relationships between variables describing attributes of these entities, a relational mode of thinking suggests the use of flexible methodologies and a process of data gathering and analysis that

parallels the connectedness and dynamic processes that are at the heart of industrial networks” (Dubois & Araujo, 2004, p. 210).

The research was carried out as follows. First, the researcher proposed two theoretical models, one addressing the horizontal relationship development (Santos & Baptista, 2014) and the other the intercompetitor interaction (Santos & Baptista, 2015). Both tentative models were created via conceptual analysis, using the existing literature and a preliminary knowledge of the context. The prior development of theoretical models in case study research benefits data collection and analysis (Aaboen, Dubois, & Lind, 2012; Yin, 2009). Further, “a priori specification of constructs can also help to shape the initial design of theory-building research... If these constructs prove important as the study progresses, then researchers have a firmer empirical grounding for the emergent theory” (Eisenhardt, 1989, p. 536).

Second, the understanding of the Portuguese pharmaceutical industry context continued to evolve, sustained on secondary data. Third, a multiple case study was conducted. Both the context and the conceptual models determined the companies’ selection. Data collection with in-depth interviews begun and data continued to be analyzed. Cases were then selected considering the aim of the research and the data gathered. Cases selection was followed by within and cross case analysis. Fourth, the analyses taking into consideration the conceptual framework led to empirically grounded models. Figure 1 portrays the described research overview.

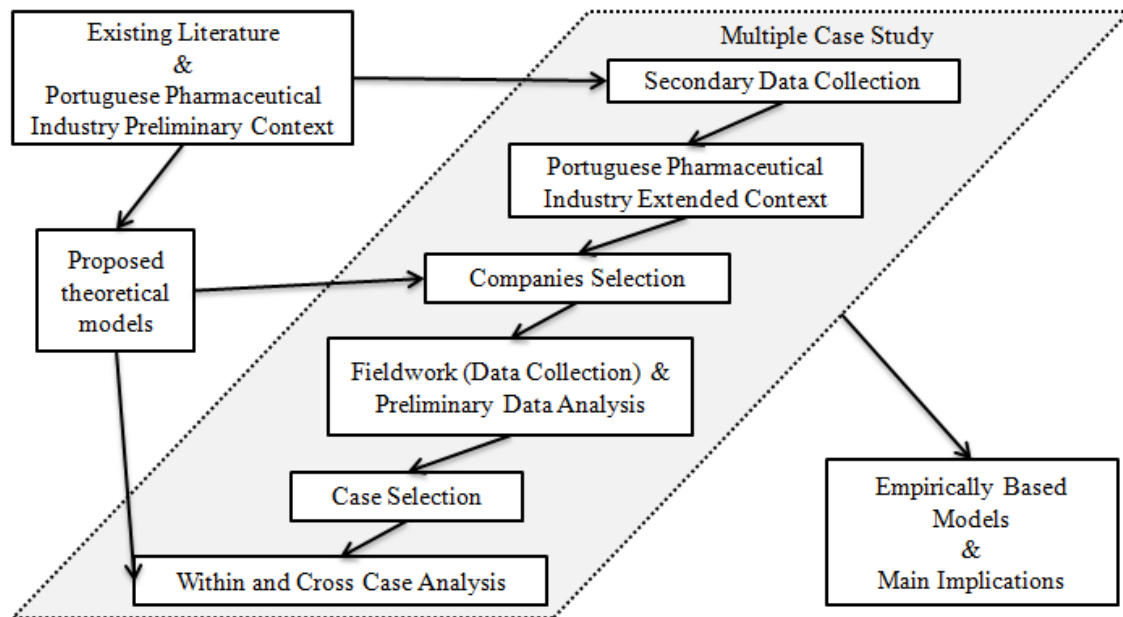


Figure 1: Research overview

This research holds mainly an explanatory purpose. Case studies of this research are expected to provide rich descriptions to portray accurately the phenomenon within its context. Descriptive studies can be an extension or a precursor of an exploratory or explanatory research (Saunders, Lewis, & Thornhill, 2009). The descriptive research is seen as a path to an end, rather than an end in itself, i.e. the description performed is a precursor to the explanation. The explanatory research intends to establish a causal connection between variables (Saunders et al., 2009), to suggest justifications for events and to make recommendations for change (Hart, 1998). According to Saunders et al. (2009) taxonomy, the present research is classified as a descripto-explanatory study.

In summary, the present research seeks to describe and explain a contemporaneous social phenomenon within its context. By employing a qualitative research it was possible to cope with a complex context, to contact with participants in their setting, to gather data on their perception and to seek for causal associations (cf. Guba & Lincoln, 1994; Gummesson, 2006; Miles, Huberman, & Saldaña, 2014).

1.6 Structure of the Thesis

Chapter one, in which this section is inserted, presents the importance of the research theme, i.e. the development of the intercompetitor relationship. It defines the problem and the questions that will be addressed throughout the whole of the remaining thesis. The current chapter also introduces the theoretical background, the empirical context and the research methodology.

The second chapter centres its attention on the interaction and network approach. The presented literature review provided both the frame and the theoretical bases that sustain the investigation theme, while supporting also the formulation and the delimitation of the research. The literature review on the IMP approach helped to generate and define research ideas, granted awareness, both of the current knowledge and of the limitations on the subject under study. The primary focus is the intercompetitor interaction and relationship development. Yet, this chapter also includes network considerations. At the end of chapter two is presented the developed conceptual framework that focus mainly on the relationship development and on the interaction between actors.

Chapter three addresses the methodological aspects of the research, from the very beginning to the final write-up of the thesis. It holds ontological, epistemological research strategy considerations. Further, it comprises descriptions of time horizons, sampling and data collection, as well as it depicts data analysis and research quality criteria.

In chapter four, a description of the empirical study is offered. Hence, the empirical setting, i.e. the pharmaceutical industry context (in particular the Portuguese context) is presented, followed by a description of the nine case studies, each one addressing one intercompetitor relationship. Each case is portrayed considering the four building blocks of the conceptual model that addresses the intercompetitor interaction.

The fifth chapter holds the data analysis. It starts focusing on the level of embedded units of analysis, i.e. the referred four building blocks of conceptual model that addresses the intercompetitor interaction, followed by the examination of the intercompetitor relationship development. To end, networks effects of those intercompetitor relationships are addressed.

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In chapter six, empirically based (yet theory-laden) models are analyzed and discussed further. Both the theoretical and the managerial implications are presented, together with the identification of avenues for future research.

Chapter 2 – Literature Review

This chapter presents a literature review focusing mainly on the industrial network and interaction approach. Two major conceptual frameworks, the interaction model and the ARA model, support the industrial network and interaction approach (Cova, Pardo, Salle, & Spencer, 2014). Addressing essentially the interaction between parties and the relationship development, this chapter starts by encompassing theoretical considerations on the network. Herein are presented four main blocks that address respectively the network, the relationship, the interaction and finally this study conceptual framework.

2.1 Industrial Network Approach

Business relationships imply the existence of a structure that Håkansson and Snehota classified as being a network (Araujo & Easton, 1996). Via direct relationships, network actors establish indirect relationships (Easton & Araujo, 1992). The network structure is represented by an actor's interaction episodes and is the compound result of all his relationships. This network structure is constantly updated according to the interactions undertaken by players who form the network (Araujo & Easton, 1996). The network emerges and develops as a consequence of interaction between companies (Håkansson & Johansson, 1988) and affects and is affected by the interaction between actors (Lundgren, 1992).

Briefly, networks can be defined as sets of connected business relationships (Johanson & Mattsson, 1992; Johanson & Vahlne, 2011). Vertical and horizontal relationships form intricate networks of organizations, created not only by relationships with

An Interaction and Network Perspective of Horizontal Relationships

commercial actors, such as, customers, suppliers and competitors, but also by relationships with noncommercial actors, such as government agencies or universities (Möller & Halinen, 1999). Thus, “each firm in the network has relationships with customers, distributors, suppliers, etc. (and sometimes also directly with competitors), plus indirect relations, via those firms, with the suppliers’ suppliers, the customers’ customers, competitors, and others” (Johanson & Mattsson, 1987, p. 35).

2.1.1 Network Structure

Actors are interrelated in the network structure by their performed activities, controlled resources and social circumstances (Lundgren, 1992). “Resources, activities and actors constitute the basic building blocks in the network approach” (Lundgren, 1992, p. 149). Through relationships, each element (actors, activities and resources) forms structures that can be described as networks (Håkansson & Johanson, 1992).

Håkansson and Johanson (1992) outlined a model of industrial networks where actors, activities and resources are basic elements of its structure. The model is represented in Figure 2.

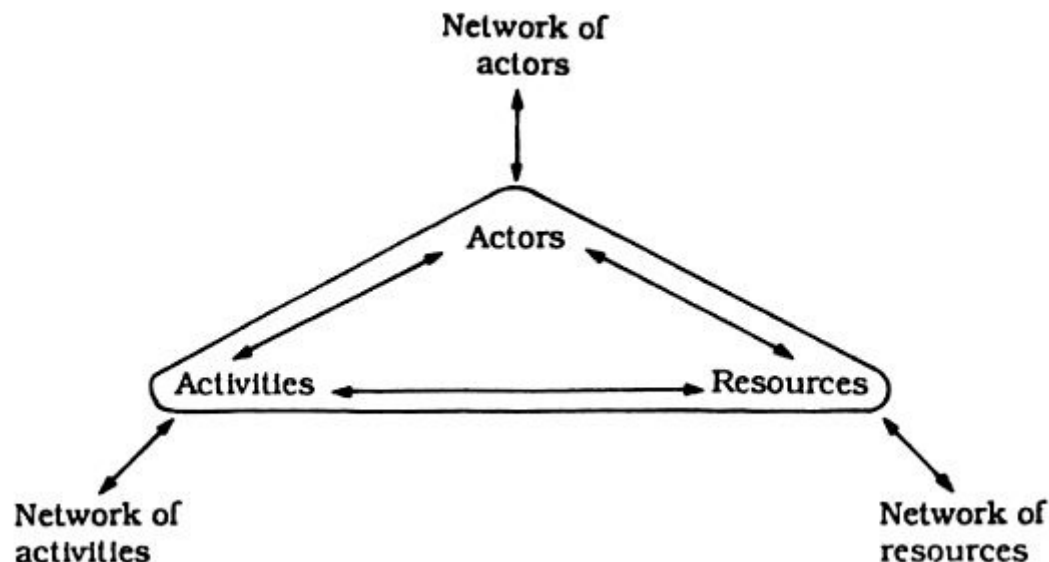


Figure 2: Basic structure of the model

Source: Håkansson and Johanson (1992, p. 29)

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Actors can be individuals, groups of individuals, parts of firms, entire firms or groups of firms that perform activities and/or control resources. Resources are controlled by one or several actors and each actor has different perceptions about the control over a certain resource. Activities are based on resources. “An activity occurs when one or several actors combine, develop, exchange, or create resources by utilizing other resources” (Håkansson & Johanson, 1992, p. 30).

“All firms are simultaneously involved in the ongoing management of the network, and the resulting structure and performance is coproduced by their actions” (Ritter, Wilkinson, & Johnston, 2004, p. 177). The actor’s capability to understand the network, i.e. to recognize structure, processes and evolution of the network, to be aware of its position and credibility, is of utmost importance to influence the other network actor’s beliefs, goals and behaviours (Möller & Halinen, 1999; Möller et al., 2005). Network relationships affect the nature and outcome of the organizations’ effectiveness (Gadde, Huemer, & Håkansson, 2003).

Goals and efforts of the actor to improve his position in the network lead to a dynamic structure that is dependent on the past and existing structure and that never reaches a final stage of equilibrium (Ford & Håkansson, 2012). The position in the dyadic relationship is determined by the role, importance and strength of the relationship. The position in the network is affected both by direct and indirect relationships. A position change is not easy to implement, but when accomplished it will impact, to a greater or lesser extent, the position of the other network firms (Easton, 1992). Network positions of all actors are continuously questioned, requiring each one to have the strength and the capacity correspondent to one’s position (Håkansson & Johansson, 1988).

Strategy in networks consists of attempting to influence others whenever possible and to benefit from their resources, their initiatives and their creativity (Ford & Håkansson, 2012). Firms integrated in networks assume a position in relation to the other ones. The firm’s position and behaviour are intimately related to each other. The role of the firm is expected to comply with the norms associated with its position, which, in turn, influences and is influenced by the opportunities and constrains of access to the network resources, by its behaviour and by its history. The past determines the current position, while the future offers opportunities for change (Easton, 1992).

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Demonstrate to others that a firm is cooperating with central network actors can provide centrality and power. Visibility can be more important than the stated purpose of the cooperation and formality may play a significant role. Through formalization, parties demonstrate the presence of the counterpart, signalling other actors. Such messages can be addressed to distributors, suppliers, customers, competitors, consultants and public authorities (Håkansson & Johansson, 1988).

“Companies do things, they perform various activities, develop products, produce and process information, purchase and sell” (Håkansson & Snehota, 1995a, p. 50). Activities are cumulative processes that take time and entail investments (Axelsson, 1992), that are never definitive or unchangeable and that can be integrated (several into one), or divided (one into several) (Håkansson, 1992).

Individual organizations’ activities and the ones of a number of counterparts are interdependent forming chains of activities (Gadde et al., 2003). Thus, “activities are often dependent on the successful execution of a prior activity” (Thunman, 1992, p. 72). The opportunity to link activities with the ones of other organizations provides gains in productivity and in efficiency. “Strategizing in the activity dimension is also about trying to influence the activities of others. Coordinating activities spanning the boundaries of firms is to a large extent a matter of mutual influence” (Gadde et al., 2003, p. 361). Activities are pursued by the actors taking into account the specific objectives of each one of the actors involved (Håkansson & Snehota, 2006).

Companies are closely interrelated through activity links and resource ties (Håkansson & Snehota, 1995a; Möller et al., 2005). “Actors have differential knowledge about activities, resources and other actors in the network” (Håkansson & Johanson, 1992, p. 30). Over time, actors’ knowledge on how to combine resources to perform activities evolves (Lundgren, 1992). A change (or potential change) considered by an actor will affect one or more activities and/or resources. Other actors in the network will consider the impact of that change on their relative position vis-à-vis other network actors (Gadde & Håkansson, 1992).

“A resource is mainly evaluated in regard to its use and not to any intrinsic attributes it may have” (Håkansson, 1992, p. 134). A resource’s use is dependent on how another resource is also used. Their dependence is positive if resources are complementary and

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negative when they are substitutes. Yet, resources' properties may change over time, e.g. through the actor's experience they can be used, combined and transformed in different ways. Resources are used to establish, maintain and develop relationships over time (Johanson & Mattsson, 1992).

“Through relationship either party can gain access to the other's resources” (Håkansson & Snehota, 2006, p. 260). Actors can therefore access resources controlled by other actors in the network (Ford & Håkansson, 2006; Johanson & Mattsson, 1992). Considering that “a significant part of a company's total resource base is located beyond its ownership boundary and is controlled bilaterally with other firms” (Gadde et al., 2003, p. 359). Relationships with other actors represent an important resource in itself (Gadde et al., 2003).

Developing deep relationships enhances the resources they provide, but requires substantial investments and is costly to handle, which limits the enlargement of other potential deep relationships. This locked-in relation with another actor does not mean stagnation, the relationship evolves and changes do happen, based on what is suggested or implemented by both partners (Gadde et al., 2003). Relationships development increases firm's dependence and leads to a reduction in its own resources. Dependency evolves over time and firms can benefit from an efficiency increase (both in resources and knowledge), an improvement of operation predictability and a reduction of both research costs and decisions frequency (Ford & Håkansson, 2006).

“The main concern for a company is to make the best use of the resource constellation in the network. In these efforts, it is important that resources are not perceived as givens” (Gadde et al., 2003, p. 360). They can be explored and developed in interaction with others (Gadde et al., 2003). “No company has sufficient resources itself to satisfy the requirements of any customer. It is dependent on the skills, resources, actions and intentions of suppliers, distributors, other customers and sometimes competitors, to satisfy those requirements. Similarly, no company can develop or exploit its own resources except in conjunction with those of others” (Håkansson & Ford, 2002, p. 137). Interdependence between actors, activities and resources is highlighted in the next section.

2.1.2 Interdependence within the Network

The structure of organizational relationships creates a complex set of interdependence (Håkansson & Snehota, 2006). Network interdependencies exist in the dyadic relationship, as well as in other relationships connected to the dyad (Hertz, 1992). “Business in one relationship is often conditioned by relationships with third parties, such as the customer’s customers, the supplier’s suppliers, consultants, competitors, supplementary suppliers, middlemen, as well as public or semi-public agencies” (Forsgren & Johanson, 1992a, p. 5).

The interdependencies existing between actors are an intrinsic characteristic of business networks (Ford & Mouzas, 2008). In other words, interdependencies between relationships in business markets form an interdependent network-like structure (Snehota, 2004). Companies are connected through direct and indirect relationships and their activities must be coordinated, due to their mutual dependence (Johanson & Mattsson, 1987). “Activities within one party are connected with activities carried out in the other” (Håkansson & Snehota, 2006, p. 260). The close relation between resources and activities implies that activity change leads to resource change and vice versa (Håkansson, 1992). The evolution of interdependencies between activities modifies actors’ specialization level. Thus, specialization is one effect of interaction over time in the structure of activities (Ford & Håkansson, 2012).

Specialization, on its turn, increases interdependencies, leading two business units to combine their two sets of resources with the goal of increasing effectiveness and revenues, i.e. two business units collaborate due to specific resource dependencies. Through cooperation one business unit can get access to resources of the other, improving over time the resource utilization (Håkansson & Prenkert, 2004). Relationships are assets with their own resources, requiring investment in the present, but only providing return in the future. They lead to interdependence between firms (Ford & Håkansson, 2006).

Hence, interaction implies interdependency between companies, as neither of them can, on its own, determine its immediate interaction, the development of their relationship or the characteristics of the surrounding network. Interaction is not a dyadic phenomenon; each interaction is affected by all other interactions and by all companies’ interactions

An Interaction and Network Perspective of Horizontal Relationships of the surrounding network (Ritter & Ford, 2004). Actors' interaction will be further discussed later in this chapter.

Strong interdependencies, as well as positive or negative influences can determine the inclusion and the exclusion of relationships in networks (Johanson & Mattsson, 1992). "A network is both a way to influence and to be influenced" (Håkansson & Ford, 2002, p. 136). Individuals and organizations are both exposed to a large number of influences from other parties or other observable phenomena and all those influences are interconnected. Subjects of influence are also influencers themselves, as these processes are constantly evolving over time. Social science research must "deal with the effects on an actor of changes in those influences and the effects on the influencers themselves of the process of influencing" (Ritter & Ford, 2004, p. 100). In industrial markets with a limited number of suppliers, competitors and customers, the existence of ongoing relationships of one organization with others gives all players a considerable capacity of mutually influence each other's organizations (Håkansson & Snehota, 2006).

"Interdependence between companies means that the strategy process is interactive, evolutionary and responsive, rather than independently developed and implemented" (Håkansson & Ford, 2002, p. 137). Not being entirely free to act according to their own objectives, companies frequently seek alternative paths to combine their goals with the other companies' intentions. Since a company will no longer operate on its own, decisions, actions and adjustments will occur within the context of the network structure, which is dependent on how all the relationships are related to each other. Hence, the structure of the network will constrain the companies' ability to act and the effects of the companies' actions (Håkansson & Ford, 2002).

A single actor cannot design an industrial network created out of a strategic plan or decision (Håkansson & Johansson, 1988). Firms need to take into consideration their position, their resources and the other actors' resources (Håkansson & Ford, 2002). Each actor in the network has its own motivations, resources and understandings; so, when trying to understand the network, one has to take into consideration the perspective of the other actors. "All companies seek to manage their relationships to their own ends" (Håkansson & Ford, 2002, p. 138). Further, misalignments in the two parties' interpretations of problems and solutions are common in business relationships

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and full alignment is rare. It is frequently assumed that a relationship’s effectiveness is largely determined by the organizations’ behaviour in the attempts to maximize their self-interest in the context of incongruent goals (Corsaro & Snehota, 2011).

Within the network, small subsets of relationships among actors may share concerns for a particular issue through mutual or conflicting interests (Brito, 1999). These “issue-based nets” may aggregate mutual interests of various types of actors and adopt (or not) formalized structures. Farmer cooperatives, trade unions, consortia of firms for joint sourcing or promotion, regulatory commissions among others are examples of formalized issue-base nets (Brito, 1999). Möller et al. (2005) distinguish strategic or business “nets” from more general “networks of firms”. Strategic nets are intentionally formed networks that contain a finite set of parties. Combining goals and nets’ structures, Möller et al. (2005) develop a strategic net classification. The framework is presented in Figure 3.

	Vertical Value Nets		Horizontal Value Nets	Multidimensional Value Nets
	Suppliers	Channels & Customers		
Stable Value System	Multi-tier Supplier Nets	Channel & Customer Service Nets	Competition Alliances	“Hollow Organizations”
Incremental Change	R&D Cooperation Nets	Pilot Customer / Lead User Nets	Resource & Access Alliances with Competitors / Institutions	Complex Business Nets
Radical Change	Integrated-Value-System Nets		R&D / Technological Alliances	New Value System Nets

Figure 3: Types of strategic nets

Source: Möller et al. (2005, p. 1277)

Möller et al. (2005) support that multidimensional value net purpose is the creation of new business concepts, while vertical networks major goal is the increase of operational efficiency of partners’ value system. Horizontal networks, involving competitors and institutional actors, have as objective sharing, accessing or developing resources. Möller

et al. (2005) argue that competing firms also combine efforts to achieve a stronger position in the global competition.

Möller et al. (2005) state that traditional markets are being replaced by emerging complex strategic nets that are constantly evolving. Technological complexity and global competition, among others are driving this change (Möller et al., 2005). The environment in which the individual organization is embedded limits its behavior and turns it into a unit that is neither free nor independent; the company grows into an interdependent entity (Håkansson & Ford, 2002; Håkansson & Snehota, 2006; Lundgren, 1992). “We must question the idea that a company can develop its own independent, entrepreneurial strategy... we cannot accept the idea of an independent customer, operating in a supply market, making discrete purchases, buying identifiable products or managing its own supply chain” (Ford & Håkansson, 2006, p. 252).

Interdependence implies losing control. Yet, the “out of control” factor in the network is precisely its source of wisdom and innovation (Håkansson & Ford, 2002). Möller et al. (2005) agree that, in a network, one firm cannot fully control other actor’s resources and activities. However, firms can develop and apply network management capabilities. Companies’ capabilities to evaluate, construct, and maintain their relationships affect their access to network resources, their potential evolution or their position within the network. Through trusting relationships development, companies aim to mobilize and coordinate resources or activities of other network actors (Möller et al., 2005).

2.1.3 Dynamic Aspects of Networks

“The network in its specific existing structure is just one of a great number of possible structures” (Håkansson & Johansson, 1988, p. 376). For a company to establish a new network, it has to develop new relationships, which leads often to necessarily break up with some of the existent relationships (Johanson & Mattsson, 1987). Networks consist mainly of lasting exchange relationships but their structure continually changes. New relationships are established, existing relationships are developed through interaction and some may become dormant, or even broken, by the fact that they have not been used (Forsgren & Johanson, 1992a).

2.1.3.1 Time

The temporal dimension is essential for the IMP approach and for the process research. “Process research deals with how events come into being and unfold over time in a context” (Halinen, Medlin, & Törnroos, 2012, p. 215). For both subjects, time is a central element (process research will be further explored later in this chapter).

The network evolves over a long period (Lundgren, 1992). The network is the result of a cumulative process where the company’s relationships are in permanent creation, maintenance, development and termination, in order to ensure the company’s long-term survival and development (Johanson & Mattsson, 1987). Networks’ structure is not imposed to the companies (actors). “The relationships are not determined a priori but result from enactment, therefore they change and evolve over time. This form of organization is peculiar because it does not have a centre, nor does it have clear boundaries” (Håkansson & Snehota, 1995a, p. 19).

“The industrial network is a product of its history” (Håkansson & Johansson, 1988, p. 371). The network development is dependent on the evolution of “strong ties” (well-established relationships) and of “weak ties” (undeveloped relationships) (Håkansson & Ford, 2002). The organization’s embeddedness in the network concedes advantages such as information access and memories of past behaviour (Granovetter, 1985).

Actors have memories of their interactions taking place over time and generating a stream of acts. Acts are discrete events and consequently follow or precede any other. The stream of acts that are close in time and that are related to each other form an episode, such as, a negotiation, a delivery, a complaint, a technical problem and so on. Events can be regular in intervals or turbulent (Håkansson & Johansson, 1988). “The development of relationships between companies in industrial markets cannot thus escape a pattern created by their own development. There is a path dependence in the development of business relationships and networks” (Håkansson & Snehota, 1995a, p. 42).

2.1.3.2 Stability and Change

Even though being stable, networks are nevertheless constantly changing. Stability is important because transactions take place mostly within the already existent stable relationships (Johanson & Mattsson, 1987). “Some kind of stability is a necessary prerequisite for change, as some kind of change is necessary to preserve stability in another dimension” (Gadde & Håkansson, 1992, p. 168).

Among the factors that provide stability to industrial markets are the search and evaluation problems of a new partner, the internal routines and the staff experience, the technological adaptation, the workers technical contacts and the small number of buyers and sellers. Firms can reduce costs and increase benefits by developing stable relationships, as stated by the structure’s stability value that emphasizes the importance of events in existing relationships (Håkansson et al., 1982).

“Because change in a network is initially dependent on the existing structure and resources, it is more difficult for a company to achieve change by seeking new counterparts” (Håkansson & Ford, 2002, p. 135). Even though a company is able to find a suitable counterpart, previous knowledge and mutual understanding do not exist. For this reason, development costs associated with new relationships are high before reaching a potential benefit. Common knowledge and understanding between companies are developed in network relationships facilitating or blocking change (Håkansson & Ford, 2002).

Interaction causes both stability and change. Through coordination of activities, firms in the network keep the system going (Håkansson & Johansson, 1988). Interaction conducts actors to know each other well and to be aware of any movements in the market, conferring stability to that structure (Håkansson et al., 1982). It allows companies to perceive mutual existence and to try to understand and influence each other. The existence of norms, standards and conventions does not erase individual freedom of choice, but does confer stability (Blois, 2004). At the same time, interaction also leads to change. Confrontations between different interaction interpretations source new opportunities (Håkansson & Johansson, 1988).

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Although interaction is not unilateral, it can be initiated by one actor who promotes structural change (Håkansson & Johansson, 1988). Easton and Lundgren (1992) argue that organizations, when faced with change, can adapt, reflect, absorb, transmit or transform. Changes can emerge within existing relationships or involve the formulation of new relationships.

Those changes require adjustments that may be more or less peripheral to the actor's core activity. An actor's core activities are transformation activities that are valuable and central to the nature of what is being done. Since "relationships between actors will usually be a combination of the competitive and the cooperative", Easton and Lundgren (1992, p. 101) state that when activities are highly substitutable the relationship tends to be competitive and when activities are complementary the relationship tends to be more cooperative. The cooperative and competitive nature of relationships will be discussed later in the next section. Based on the competitive context and the core activity, Easton and Lundgren (1992) develop the classification presented in Figure 4.

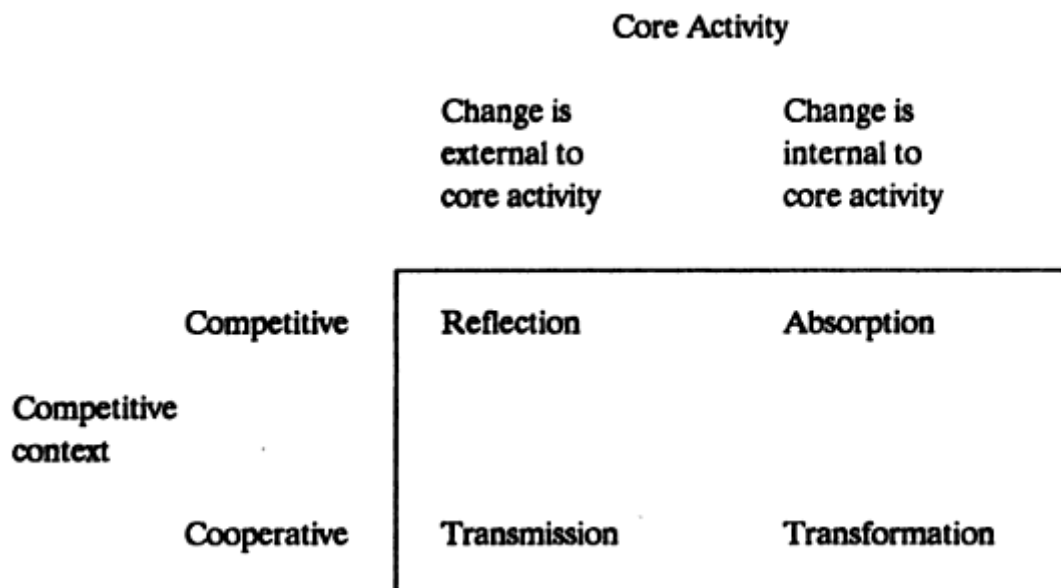


Figure 4: Relationships between contexts and change sequences

Source: Easton and Lundgren (1992, p. 101)

Reflection implies either the rejection or the nullification by an actor of the requested or initiated change by another actor. The impact of the change can also be absorbed within

the boundaries of the organization. Adaptation lies in the centre of the matrix and involves change management by the two actors in the dyad. It is usually reached through negotiation or compromise and does not affect substantially the rest of the network (Easton & Lundgren, 1992). While in the last three reactions described, i.e. reflection, absorption and adaptation, change can stay inside the dyadic relationship, in the two possible reactions that follow change affects the network. Transmission occurs when an actor simply transmits the effects of the change or proposes changes to other actors in the network, i.e. changes are handled by the network and not by the nodal actor. Transformation implies adjustments by the nodal actor, who requests himself qualitative or quantitative change from other network actors (Easton & Lundgren, 1992).

2.2 Business Relationships

Araujo and Easton (1996, p. 93) argue that relationships can be defined as the “set of local rules and norms characterized by variables such as conflict/co-operation and power/dependence that affected and were affected by each transaction”. Relationships offer opportunities, but also impose restrictions to all counterparts. Companies can develop and combine their relationships and resources with other generating opportunities (Håkansson & Ford, 2002). Due to its limited resources, one firm is only able to adapt and invest in a few relationships (Ford & Håkansson, 2006). A higher investment enhances relationship’s content, increasing the important of the relationship. However, a stronger relationship also leads to a superior restriction of companies’ freedom to change. In order to change, the company has to seek approval from others (Håkansson & Ford, 2002). Dependence “in some senses may be regarded as the price a firm may have to pay for the benefits that a relationship bestows. Dependence is partly a matter of choice and partly a matter of circumstances” (Easton, 1992, p. 10).

The interaction and network approach has been focused on cooperative relationships between buyers and sellers (Håkansson & Snehota, 2006). However, industrial networks approach scope has further been enlarged to encompass all forms of interactions and relationships in organization markets (Araujo & Easton, 1996). “The

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essence of the network approach is to view the network as a whole” (Easton & Araujo, 1992, p. 62).

Each actor develops direct relationships with customers, suppliers, distributors, competitors, complementary suppliers, universities, trade and professional associations, government bodies, consultants, among others, assuming a variety of roles, such as, customer, supplier or competitor (Easton & Araujo, 1992). Government actions, direct competitors and non-profit-making organizations can generate important effects in the focal company’s ability to create value (Blois, 2004).

Forsgren and Johanson (1992b) consider that suppliers, customers and competitors are seen as actors who take part directly in the current economic transactions. Government or local authorities, trade unions, industrial federations and private-interest associations are examples of non business actors influencing economic transactions. All these interactions are as important as economic business relationships. “One category of counterpart which might have been thought especially interesting of technical development comprises universities or other general/independent/non-commercial knowledge-based institutions” (Håkansson & Henders, 1992, p. 38).

Easton (1992) considers that horizontal indirect relationships, i.e. firm to competitor through mutual customer, may provide the context and strongly influence the direct relationships. Some initial research was also conducted in horizontal settings, such as, on relationships between competitors. Between vertical and horizontal relationships resemblances and differences can be found (Bengtsson & Kock, 1999).

Easton and Araujo (1992) argue that non-economic relationships are also likely to have repercussions in other network relationships. Complementary suppliers do not have economic exchanges but may require coordination. Relationships with third parties, i.e. consultants, independent research institutes, universities, government bodies and trade and professional associations “have a continuing impact on the operation of the network as a whole” (Easton & Araujo, 1992, p. 68).

Non-economic relationships exist between buyers, suppliers, complementary suppliers, buying with selling actors before economic exchange is consumed and suppliers with

end consumers or third parties (see Figure 5). The most important of those are intercompetitor relationships, i.e. between suppliers (Easton & Araujo, 1992).

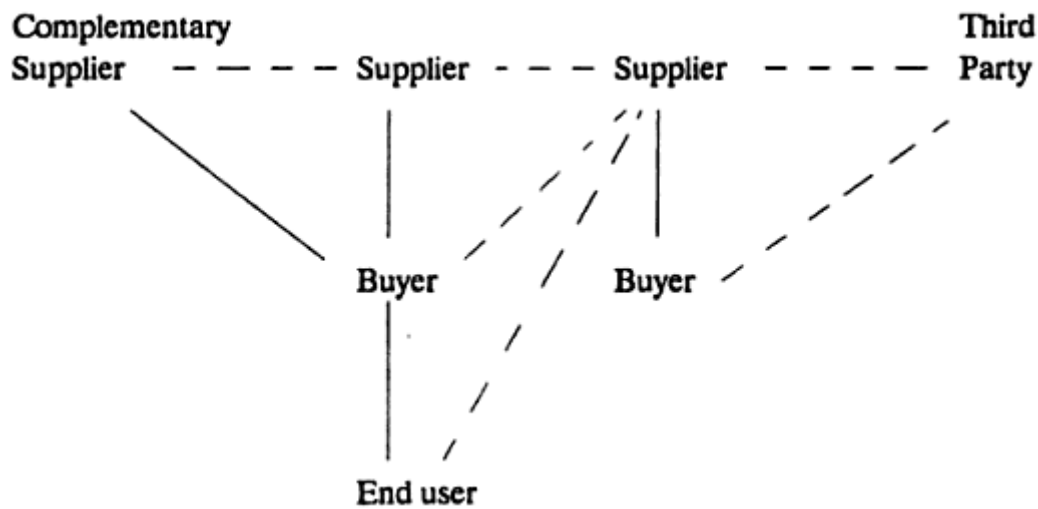


Figure 5: Network diagram illustrating non-economic relationships

Source: Easton and Araujo (1992, p. 67)

Relationship development will “depend on how each of the parties acts and reacts in the relationship. Once established, a relationship has a life of its own, it gets its own substance as a dyad” (Håkansson & Snehota, 1995a, p. 42). Next in this section will be discussed the relationship nature and the relationship development.

2.2.1 The Relationship Nature

It is possible to argue that “connections are to a large extent a matter of subjective visions and strategies of the actors. Thus one may view two relationships as complementary while another regards them as competitive” (Forsgren & Johanson, 1992a, p. 8). Traditionally, relationships among competitors are based on competition (Bengtsson & Kock, 1999).

Competition, cooperation, co-existence, conflict and collusion may be present in relationships between competitors, they differ in the way the objectives of the actors relate (Easton & Araujo, 1992). Bengtsson and Kock (1999) argue that competitor’s

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relationships nature consists only in competition, cooperation, co-existence or co-competition. The nature of the relationship can also change over time (Bengtsson & Kock, 1999). When R&D results becomes exploitable, cooperation can melt into competition (Easton & Araujo, 1992). Lundgren (1992) presents a case study where two competitor companies with initially hostile relationships merged past a decade. These companies had complementary resources and over time their competition and hostility decreased, leading to cooperation processes between them, before they merged.

Relationship nature is strongly related to parties' interaction. Cooperation, complementarity and coordination are part of the interaction between companies. Interaction between companies also involves conflict, as well as integration and separation (Ritter & Ford, 2004). Thus, through interaction companies cooperate, disagree, develop, adapt, order and deliver, often simultaneously (Ritter & Ford, 2004). Campbell (1985) assumes that party's interaction strategy can be competitive, cooperative or command, being the relationship independent, interdependent or dependent, respectively.

2.2.1.1 Cooperation

Cooperation is a central characteristic of business landscape (Ford & Håkansson, 2012). "Co-operative relationships could be superficially defined as those relationships where the counterparts have realized, and begun to exploit the benefits of working together – the relationship is characterized by co-operative rather than contentious interaction" (Håkansson & Henders, 1992, p. 35).

"But how is such co-operation to be defined? And how in particular are we to distinguish between co-operation on the one hand and market transactions on the other? The essence of co-operative arrangements such as those we have reviewed would seem to be the fact that the parties to them accept some degree of obligation – and therefore give some degree of assurance – with respect to their future conduct" (Richardson, 1972, p. 886).

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Cooperative relationships are developed over time (Håkansson & Henders, 1992). Cooperation includes processes of coordination and adaptation (Ford & Håkansson, 2012) and involves at least a minimum degree of learning and social exchange (Håkansson & Henders, 1992). Learning allows actors to develop a close relationship, helps avoid conflict and creates opportunities for cooperation. Mutual adaptations or adjustments are a direct result of the learning process. Social exchange implies trust and counterparts become partners (Håkansson & Henders, 1992). Hertz (1992) argues that trust is the basis of cooperation.

Mehta, Polsa, Mazur, Xiucheng, and Dubinsky (2006) argue that learning orientation, closeness, performance and satisfaction are positively related with cooperation. Commitment to quality by both supplier and customer organizations develops cooperative interdependence and leads to effective partnerships (Wong, Tjosvold, & Zhang, 2005). The knowledge about other actor's activities and resources and the ability to work together are essential to cooperation. This ability is enhanced by speediness of attention and readiness to solve problems (Håkansson & Prenekert, 2004).

Firms can be engaged in cooperative relationships when having the same goal (Easton, 1992; Sandström, 1992). In other words, cooperation occurs when actors share interest to work together towards a mutual goal (Bengtsson et al., 2003) or when two or more parties have objectives which are mutually dependent (Easton & Araujo, 1992). Yet, cooperation between firms might also be instrumental, i.e. firms involved in the same relationship may have different objectives (Easton, 1992).

According to Wong et al. (2005) cooperative and competitive goals affect the relationship development, i.e. cooperative or interdependent goals rather than competitive or independent goals directly affect long-term relationship (Wong et al., 2005). Nevertheless, relationship longevity may be unrelated to partner cooperation. "The length of the relationship could be the result of non-cooperative factors, such as no feasible alternate partners, hesitancy to consider alternate partners, desire to remain with the lesser of the known evils (partner), and inertia" (Mehta et al., 2006, p. 1102).

Several benefits are associated with cooperation. Johanson and Vahlne (2011) argue that firms may easily enter into new markets (geographic or product) by cooperating with partners who are already insiders. It is important to be an insider in interesting

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networks. Focal network actors have knowledge and position advantages compared to outsiders (Johanson & Vahlne, 2011). Through cooperation it is possible to achieve a total benefit superior than the sum of the parts. Technical cooperation also can be used as a simple means to establish a relationship with a third party (Håkansson, 1992).

Technological development affects the company's relation with suppliers, customers and competitors. Cooperative relationships have been found to be a major mechanism employed to cope with difficulties associated to technological development, such as, rising costs, complexity growth and activity coordination (Håkansson & Henders, 1992).

The less evident cooperation in network relationships takes place between competitors (Easton, 1992). Formal agreements are present when competitors assemble a strategic alliance or other partnership, which does not mean that competitors cannot also develop informal agreements built on trust and social norms (Bengtsson & Kock, 1999; Contractor & Lorange, 1988). "These norms, and sometimes formal agreements, adjust the distribution of power and dependence among the competitors, which means that conflicts are rare. Furthermore, competitors have common goals, and proximity between them is based on functional and psychological factors" (Bengtsson & Kock, 1999, p. 181). Intercompetitor cooperation can be roughly distinguished as formal and informal, the next figure (Figure 6) exhibits forms of competitor cooperation.

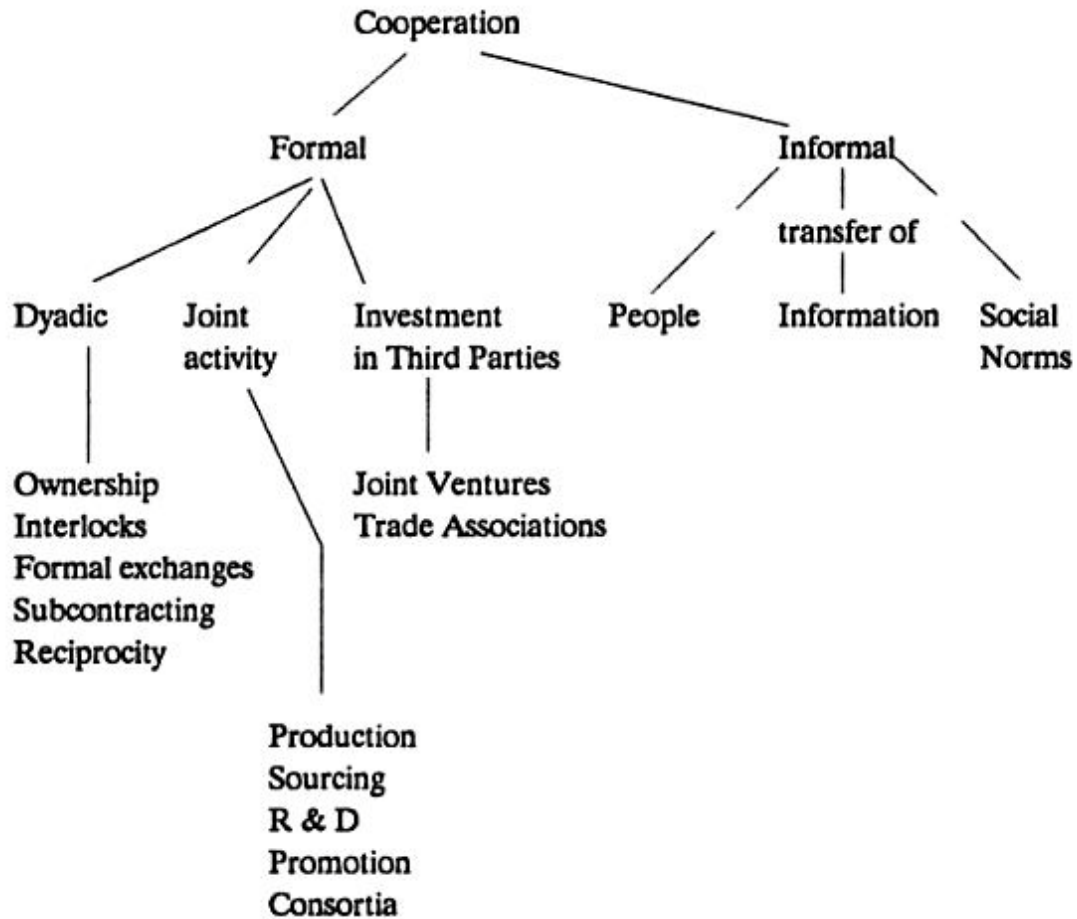


Figure 6: Taxonomy of forms of intercompetitor cooperation

Source: Easton and Araujo (1992, p. 77)

“Formal cooperation is distinguished by being overt, planned and managed or at least capable of being so. Informal cooperation activities are much more likely to be individual, random and unplanned” (Easton & Araujo, 1992, p. 76). Formal dyadic cooperation relationships can be based on stock ownership, interlock directorates, marketing or licensing agreements and capacity agreements. Competitors can also collaborate without creating a third party through joint activity. Different areas of the firm’s operations (e.g. production, promotion) can be engaged in joint activity which may also involve funding and arbitrating of government bodies. Complementary and competitor firms may also achieve joint activity through consortia. Involving the creation of a third party, competitors may cooperate constituting a joint venture or being a member of a trade association. Transfers of people, information and social norms usually provide informal cooperation between competitors (Easton & Araujo, 1992).

“It should also be pointed out that there are a number of types of relationship in a network where direct economic exchange is absent though other forms of relationship (primarily informational) may exist, e.g. between competitors” (Easton, 1992, p. 12). Cooperative relationships between competitors involve frequently business, information and social exchange that can be the source of social, knowledge, legal and economic bonds (Bengtsson & Kock, 1999).

2.2.1.2 Competition

Marketing frequently treated competition as a driving force of the atomistic market, borrowing concepts from other disciplines, such as microeconomics (Easton & Araujo, 1992). In the context of industrial networks Easton and Araujo (1992, p. 72) argue that “competition occurs when two actors have objectives which are in conflict but the locus of their objective is under the control of third party”. Hence, competition is parallel striving by a third actor, i.e. a customer.

Ford and Håkansson (2012, p. 19) support that “competition is actor specific and each actor defines for itself which actors are competitors by identifying them as alternatives”. In other words, closeness of competition is more likely to be perceptual (Easton & Araujo, 1992). “Competition is an interactive process where individual, and thereby organizational, perceptions and experience affect interactions between competitors” (Bengtsson & Kock, 1999, p. 179).

Every single relationship can be as well positive and negative (Axelsson, 1992). Actors’ connections have positive effects that are promoted by mobilization processes and negative effects that occur in an automatic way due to competitors and other opponents (Håkansson, 1992). The interaction between a customer and two suppliers offering the same resource can lead to a competitive connection that tends to be negative, i.e. the exchange in one relationship is contingent on non-exchange in the other. In contrast, when suppliers are offering complementary resources to the customer, suppliers’ relationship tends to be positive, i.e. they both need to exchange. Yet, often both positive and negative connections operate contemporaneously or sequentially within the same (connected) relationships (Smith & Laage-Hellman, 1992). Competing suppliers

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can have mixed (both positive and negative) connections. “Whether the effect should be perceived as positive or negative from the actor’s point of view is not always obvious” (Smith & Laage-Hellman, 1992, p. 50).

“We stress complementarity in the network. There are also, of course, important competitive relations. Other firms want to get access to specific exchange possibilities, either as sellers or as buyers, and cooperating firms also have partly conflicting objectives” (Johanson & Mattsson, 1987, p. 35). The bases of power for competitors “might include size or access to resources, customer dominance, perceived quality of offering and so on. For complementary suppliers it might centre on the relative availability of alternatives and customer perception of the relative importance of each component” (Easton & Araujo, 1992, p. 69).

Competition between sellers for buyer’s exchange represents the most obvious relation in horizontal relationships (Easton, 2004). Resource limitation for relationship development and similarities between potential counterparts often leads to the selection of relationships. “Business relationships always involve selection and selection involves the potential for competition amongst actors” (Ford & Håkansson, 2012, p. 17).

A competitive seller usually has the required relationships with buyers and other sellers in the network to influence the dyadic exchange (Easton, 2004). “Competitors can, and usually will, affect an exchange relationship but can exist independently of that relationship” (Easton, 2002, p. 106). Yet, Bengtsson and Kock (1999) state that competition triggers action-reaction patterns among competitors, i.e. competitors follow each other, leading to a final zero-sum game.

Ford and Håkansson (2012) argue that cooperation dimension provides a more complete explanation of the development of networks than the one provided by competition. Still, competition is likely to take the form of a variable, what sets the scene for interaction, particularly in the initial stages of relationship development. Networking is the consequence of interactions nurtured by all the network companies and each interaction’s outcome is the result of all those interactions. “Networking involves combined cooperation and competition and simultaneous combinations of working with, through, in spite of and against others” (Ritter & Ford, 2004, p. 110).

2.2.1.3 Coopetition

“The long term nature of business relationships, and the investments and adaptations with which they are associated does not mean that competition is absent within them. But it does mean that cooperation, consent and mutuality are important bases of business interaction and the business landscape is likely to be characterized by stability, heterogeneity, mutual adaptation and interdependence” (Ford & Håkansson, 2012, p. 9).

Coopetition encloses characteristics of two simultaneously opposite logics of interaction between two or more actors in either horizontal or vertical relationships. Despite the unclear definition of coopetition, Bengtsson and Kock (2014) argue that firms either competing or cooperating does not fall under coopetition. Hence, coopetition can be cooperation between two direct competing firms. “Simultaneous cooperation and competition between firms, has increased rapidly as coopetition has become an integral part of many companies’ daily agenda. This increase is contingent upon today’s dynamic and complex business contexts” (Bengtsson & Kock, 2014, p. 180).

Coopetition represents a process based upon simultaneous cooperative and competitive interactions, e.g. one organization cooperates with one or several other organizations in one activity (technology development or resource acquisition) but competes with the same organizations in other activities (commercialization) (Bengtsson, Eriksson, and Wincent, 2010). Firms can compete in one activity and cooperate in another activity (Bengtsson et al., 2003). When competitors interact under competition and cooperation they develop coopetitive relationships. Coopetition assumes that competitors through cooperation are interested in accessing external resources, such as knowledge, but will also try to generate a competitive advantage relatively to the their counterpart (Bengtsson et al., 2003). Coopetitive relationship may be found in economic and non economic exchanges (Bengtsson & Kock, 1999).

Early channel researchers suggested that competition between channel members is likely to occur simultaneously with cooperation. Competition can assume several forms, such as, horizontal competition, i.e. between similar types of actors, intertype competition, i.e. between different types, or vertical competition, i.e. between customers

An Interaction and Network Perspective of Horizontal Relationships and suppliers. “Earlier research concluded that these different forms of simultaneous competition and cooperation are important aspects of the characteristic heterogeneity of the business landscape” (Ford & Håkansson, 2012, p. 5). Competition and conflict in networks approach “are portrayed as necessary concomitants of cooperation, a paradoxical counterbalance within a single relationship” (Easton & Araujo, 1992, p. 64). For example, technological cooperative relationships enhance competitiveness, while competition adds pressure on technological development (Håkansson & Henders, 1992).

Coopetition can be described as ranging from strong competition to strong cooperation in one continuum. In between the extreme ends there are several possible relationships. On the other hand, cooperation and competition can be regarded as two different interaction processes within a coopetitive relationship. This two continua approach suggests that both strong and weak cooperation can coexist with both strong and weak competition (Bengtsson et al., 2010). Figure 7 illustrates one continuum and two continua coopetition.

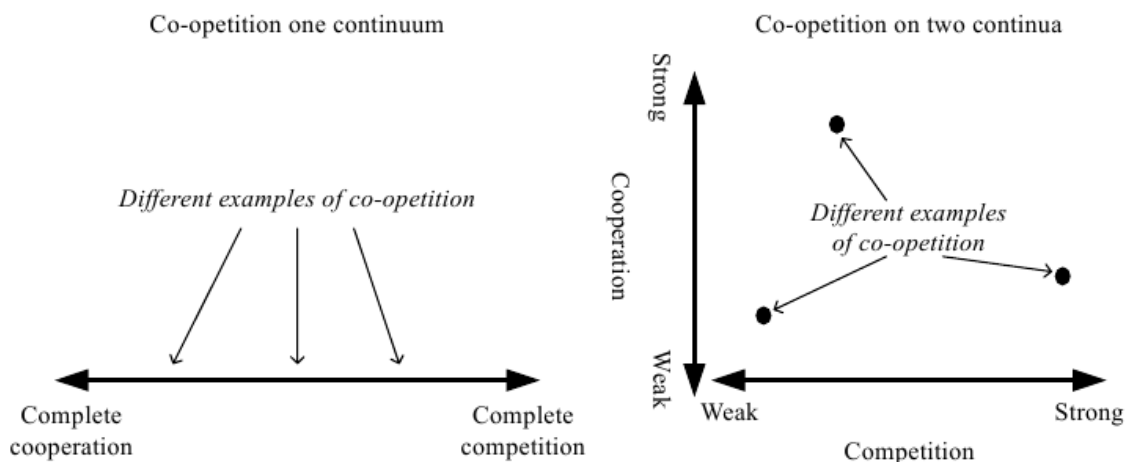


Figure 7: Co-opetition occurring in one continuum versus co-opetition occurring in two separate continua

Source: Bengtsson et al. (2010, p. 199)

“We suggest that the paradoxical simultaneity of competition and cooperation implies that coopetition needs to be described along two continua: one of cooperation and the other of competition” (Bengtsson & Kock, 2014, p. 181).

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Weak competition can be regarded when actors are not affected, or do not perceive themselves as affected. High intensity in competition occurs when actors perceive themselves as competitors and is related with the level of hostility between competitors (Bengtsson et al., 2010). The strength of cooperation can be explained in terms of the degree of resource complementarity, trust and tie strength. Trust in a cooperative relationship is particularly important to improve information and knowledge exchange. Tie strength facilitates exchanges and is often measured considering variables such as closeness/intimacy, duration, frequency of contact reciprocity of support and aid. Low cooperation suggests lack of interaction and of learning (Bengtsson et al., 2010).

Bengtsson et al. (2010) suggest that a combination of moderate cooperation and competition is the most suited for coopetition. Strong cooperation may result in overembeddedness and lack in novel information, while strong competition can force firms to overexploit and underexplore. Extremes of cooperation or competition can decrease or even have negative implications to relationship dynamics. Coopetition is neither static nor easy to sustain. One of the two interactions may overtake the entire relationship when large imbalance between the strength of cooperation and competition. Coopetition dynamics takes place when “there is enough tension in competition to drive firms to develop further, and enough tension in cooperation to avoid a situation of overembeddedness” (Bengtsson et al., 2010, p. 209).

Wilkinson and Young (1994) argue that competition and cooperation are neither mutually exclusive nor inversely related. Sustained on the competitive and cooperative nature of the relationship Wilkinson and Young (1994) describe four types of relationships. First, low cooperation and low competition type is characterized by limited or no interdependency between parties. Lack of cooperation and competition can usually be observed in infant relationships or in those near their end. Second, low cooperation and high competition type can be seen as a classical poor and/or eroding relationship. Parties witness coordination difficulties, many negotiations, recurrent conflicts, information withholding, individual goal pursuit, among others. Parties frequently perceive relationship ending in the foreseeable future. Yet, the relationship may improve with cooperation increase or competition decrease (Wilkinson & Young, 1994).

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The third type – high cooperation and high competition – is perceived by both parties to be effective, i.e. most of them are described as good working relationships. Competitiveness can be perceived to be a part of the normal practices of doing business. Parties are highly interdependent and committed, through time the relationship has improved mutual trust and respect. However, parties often experience conflicts and disagreements that require considerable negotiation. Finally, the low competition and high cooperation relationship type is regarded as ideal and highly effective. Parties are especially committed and very satisfied with the relationship (Wilkinson & Young, 1994).

Coopetitive relationships generate tensions. Role tensions can be found at the company or individual levels. “For example, an organization that cooperates with a competitor may perceive a tension between the goals of the organization and the goal of the cooperation. On an individual level, people may perceive role tensions when it comes to interacting within the company and in a relationship with a competitor with whom the company cooperates” (Tidström, 2014, p. 262). Knowledge may be the source of tension. Shared knowledge may be used to pursue common interests or employed to obtain private gains in an attempt to outperform partners. Power and dependence, opportunistic situations, and domain related can also generate tensions in coopetitive relationships (Tidström, 2014). Relation-specific and contextual factors (Bengtsson & Kock, 2014), as well as, competitors’ interacting experience with each other (Dahl, 2014) are also critical to coopetitive relationships.

2.2.1.4 Co-existence

“When a selling company is negotiating with a customer this is always done in a situation with more or less obvious and conscious alternatives. Furthermore, both sides are usually aware of the contacts and relationships of the counterpart and the possibilities this creates to reach and influence others in an indirect way. Thus, the exchange or interaction between two companies must be seen as an integrated part of a larger network of relationships” (Håkansson, 1992, p. 129).

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One can classify competitors as having a co-existing status when they do not interact with each other, do not have bonds and usually only are aware of the other's existence. Yet, Bengtsson and Kock (1999) consider that two coexisting competitors can have information and social exchanges. Even trust is regarded as high and informal, as one actor is dependent on the other actor not interfering with him. Norms are also informal and goals are determined independently.

Actors co-exist when they have independent goals and objectives. Co-existence main driver is distance whether it is geographical, technological, psychological or market based (Easton & Araujo, 1992). Relationships can also be undeveloped due to legal constraints on "collusion" or, most frequently, when actors conclude that the costs to them of relationship development are greater than any potential benefit (Ford & Håkansson, 2012).

Competitors often have relationships of co-existence. Yet, these relationships are not permanent as the competitor's positions potentially are in conflict with each other. Co-existing competitors can start to compete when one of them feels threatened by the other or sees an opportunity to expand their business into the competitor's domain (Bengtsson et al., 2003).

2.2.1.5 Conflict and Collusion

Conflict subsists when both actors want to destroy the other and each one adopts opponent centred strategies (Easton & Araujo, 1992). Actors set the objective of forcing competitors to exit specific relationships or networks. It can be achieved by direct or indirect means. Direct action may include constraining opponent's technological options (e.g. pre-emptive patenting), hiring key personnel or releasing information to intimidate competitors. Actors can use indirect actions operating via existing relationships with mutual customers or suppliers. They may be buying all key resources from common suppliers or intimidate competitors via investors, trade associations, consultants or government bodies. "Conflict, in the indirect mode, differs from competition by virtue of intent" (Easton & Araujo, 1992, p. 74).

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Conflicts often occur when actors gradually replace old relationships with new relationships (Lundgren, 1992). “Conflict may also arise from the absence of mutuality because of changes in the objectives of either party or because the processes of exchange are not being managed to the satisfaction of one or both parties” (Easton, 1992, p. 14). Within a specific relationship, the degree of conflict associated with cooperation, i.e. the degree of common interest may vary. In most cases of buyer-seller business relationships, it is observed that common interests will predominate (Axelsson, 1992). Conflicts also can initiate at the organizational level when different units are involved in cooperative and competitive activities respectively. That is, at the personal level conflicts can arise if the individuals are involved in both competition and cooperation with another firm in different activities (Bengtsson et al., 2003).

“Several conflict resolution mechanisms are available to parties involved in a dispute within an organization, including (1) avoidance of the conflict, (2) smoothing over conflicts by focusing on common interests, (3) openly confronting the issue and resolving the dispute through negotiation and compromise, and (4) resorting to higher authority to decide the issue unilaterally” (Ruekert & Walker Jr, 1987, p. 6). Different conflict resolution mechanisms are associated with different outcomes (Ruekert & Walker Jr, 1987).

Collusion is defined as cooperation among actors with damage intent on a third party. The usual collusion victims are customers although it is not unusual to injure other competitors (Easton & Araujo, 1992). Competitors can collude in activities such as price, output, capacity, product features, technology, advertising budget, among others. They have to carefully take into consideration the existence of legal restrictions (Easton & Araujo, 1992), since this type of cooperation is considered a malpractice and governments have put in place legislation to prevent the wrong doing. Bengtsson and Kock (1999) argue that collusive relationship is a triad that can be included in the competitive relationship.

2.2.2 Relationship Development

Relationships are formed by the embeddedness existent in each transaction taking place between companies (Araujo & Easton, 1996). Relationship development between two companies depends on what has happened in the past in the relationship, on what each entity has previously learned in its other relationships, on what currently happens in the precise relationship and in other ones in which it is involved, on the expectations of both actors and on what happens in the wider network of relationships in which it is not directly involved (Håkansson & Ford, 2002).

One company can concentrate its attention on optimizing activities and this can be carried out internally or through partnerships. In developing and sustaining relationships, in order to ensure their long-term profitability, it is assumed that firms have the capacity of predicting the relationship outcome, accessing the future relationship value, and investing in the development and maintenance of that particular relationship (Möller & Halinen, 1999; Möller et al., 2005).

The relationship development requires investments in the relationship itself and in each of the companies. “The history of a business network is the process through which time and money have been devoted to build, adapt, develop, understand, relate and combine different human and physical resources together” (Håkansson & Ford, 2002, p. 135).

2.2.2.1 Relationship Process

Business relationships are established and developed by investing time and resources in interaction with each other. Investments are often mutual and allow actors to establish and develop positions over time (Forsgren & Johanson, 1992a). Resource investments can be in the form of technical, commercial, social or financial adaptations. Establishing a new relationship or extending of an existent one is often caused by a change in a supplier or a customer and involves considerable resource losses in the form of time, money and effort (Sandström, 1992).

Time is an important variable in studies of relationship development and change (Backhaus & Büschken, 1997). Interorganizational relationships over time emerge,

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evolve, grow and dissolve (Ring & Van de Ven, 1994). A process theory consists of statements that clarify how and why a process unfolds over time. Process in strategic management literature can have three meanings: “(1) a logic that explains a causal relationship between independent and dependent variables, (2) a category of concepts or variables that refers to actions of individuals or organizations, and (3) a sequence of events that describes how things change over time” (Van de Ven, 1992, p. 169). Process as explanation for variance theory is frequently used to explain causation between dependent and independent variable, yet it is highly restrictive and unrealistic. Process as category of concepts is operationalized as constructs and measured as fixed entities (variables). Hence, one can only measure a causal implication or effects pattern and not how a change occurred in a variable measured at different points in time. Process as a developmental event sequence describes activities or events that an organization undergoes as it changes over time (Pettigrew, 1997; Van de Ven, 1992).

Adopting the process as a developmental event sequence, Van de Ven (1992) suggests that change processes can be divided in four ideal types: life cycle, teleology, dialectics, and evolution. Empirically, elements of these types are combined to explain observed investigation developments. “In conclusion, we might think of these alternative families of process theories as having three components: a set of starting conditions, a functional end-point, and an emergent process of change” (Van de Ven, 1992, p. 180). Based on Van de Ven (1992) work, Backhaus and Büschken (1997) argue that relationship development can be viewed as a life cycle or as an evolutionary development without definite stages. The life cycle approach assumes that business relationship develops in consecutive stages determined to a large degree by age. On the contrary, evolutionary approach regards relationship progress not following a specific path over time.

Batonda and Perry (2003) identify three major schools of thought on interfirm network development: joinings theory, stages theory and states theory. The joinings theory focuses on network position of the actor. Positioning, repositioning and exit of the actor in existing networks are largely influenced by network entry processes. The stages theory embodies change progress through sequential stages. On the contrary, the states theory supports that relationship development is unstructured and unpredictable at any point in time.

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The stages theory encompasses two model sets of interfirm relationships: life cycle models and growth stages models. Life cycle models emphasize a number of predetermined stages, such as, birth, growth, maturity and decline. Growth stages models focus on the sequential development of the relationship between firms, consisting of five stages: searching, starting, development, maintenance and termination. Batonda and Perry (2003) highlight two major criticisms made to stages theory. First, the complexity and uncertainty involved in a relationship development that restrains inflexible stages progress models. Second, stage models usually take for granted the successful progress through all stages. On the other hand, the states theory assumes that change process is an evolution of unpredictable states, i.e. “relationship development process is not necessarily orderly nor progressive over time” (Batonda & Perry, 2003, p. 1466).

2.2.2.2 Relationship Development Models

Throughout time, several efforts were made by different authors to improve relationship development understanding. An extensive chronological review of relationship development models is put forward. Guillet de Monthoux (1975) proposed a relationship development model similar to a love affair. The relationship evolves through three stages: romance, affair / marriage and divorce followed by a new romance. Divorce may lead to romance restoration with the same organization, i.e. a temporary stage, or it may involve new romance with a new partner.

Focusing on the process of establishment and development of the relationship over time, Ford (1980) considers five stages in its evolution: the pre-relationship stage, the early stage, the development stage, the long-term stage and the final stage. A summary of those stages characteristics is presented in Table 1.

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Table 1: The development of buyer-seller relationships in industrial markets – summary

1 Pre-relationship stage	2 Early stage	3 Development stage	4 Long-term stage	5 Final stage
Evaluation of new potential supplier	Negotiation of sample delivery	Contract signed or delivery build-up	After several major purchases or large scale deliveries	In long-established stable markets
Evaluation initiated by:	Experience Low	Increased	High	
Particular episode in existing relationship				
General evaluation of existing supplier performance	Uncertainty High	Reduced	Minimum Development of institutionalization	Extensive institutionalization – Business based on Industry Codes of Practice
Efforts of non-supplier				
Other information sources	Distance High	Reduced	Minimum	
Overall policy decision				
Evaluation conditioned by:				
Experience with previous supplier	Commitment Actual: low Perceived: low	Actual: increased Perceived: demonstrated by informal adaptations	Actual: maximum Perceived: reduced	
Uncertainty about potential relationship				
“Distance” from potential supplier	Adaptation High investment of management time. Few cost-savings	Increasing formal and informal adaptations Cost-savings increase	Extensive adaptations, Cost-savings reduced by institutionalization	
Commitment				
Zero				

Source: Ford (1980, p. 341)

Before the pre-relationship stage, actors’ inertia may exist (Ford, 1980). Among other factors, historical reasons may lead actors to more or less dormant relationships with other partners (Johanson & Mattsson, 1992). An endless number of relations are not exploited and generally actors have a great number of undeveloped relations (Håkansson & Johansson, 1988).

The pre-relationship stage is characterized by the evaluation of potential counterparts, starting when a company seeks a new seller or buyer. This phase can be triggered by the result of a particular episode in an existing relationship or the effort of a new actor, among other possibilities. The evaluation of the counterpart is conditioned by the experience of previous and ongoing relationships, by the uncertainty about potential costs and benefits of the new relationship and by the social, cultural, technological, temporal and geographical distance of the new party (Ford, 1980). Relationship development is always a matter of joint action that requires mobilization from the actors involved. For this reason, the scope of action must be identified within the existing or potential relationship and not only from the individual point of view (Gadde et al., 2003).

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Each actor establishes his own relationships and they are never unilateral, i.e. all actors involved must be motivated to engage in interaction (Håkansson & Johansson, 1988). The early stage involves negotiations between counterparts. Parties have limited experience about each other, low commitment, high uncertainty and considerable distance. Over time, parties develop the relationship, building experience, increasing commitment, and reducing both uncertainty and distance. The development stage includes processes, such as, formal and informal adaptations that allow parties to fortify their relationship (Ford, 1980).

Mutual importance to each other is central in the long-term stage, with the final stage being characterized by an extension of the institutionalization process (Ford, 1980). Hertz (1992) concludes that the increase of relationship intensity enhances the rules, policies, procedures and formalization. This would help maintain stability, but would also serve to amplify the problems of rigidity and complexity (Hertz, 1992). Nevertheless, at any stage, relationships can fail to develop or even regress depending on the actions of involved parties or of competing buyers or sellers. Relationships can be discontinued by either relationship party or by actions of outsiders (Ford, 1980).

“The loss of a relationship also means a loss of important connections, network positions and connected networks” (Sandström, 1992, p. 51). Learning creates routines and informal rules (Håkansson & Johanson, 1992). Institutionalized rules can minimize the possibility of relationship discontinuity. Rules assume the form of unspoken, spoken, unwritten or written agreements and result from previous interaction, but they create the frame for future activities. Rules, in addition, influence activity interdependence (Sandström, 1992).

Ford and Rosson (1982) present a model (Figure 8) that includes three main parts, namely, relationship dimensions, participant dimensions and relationship development states.

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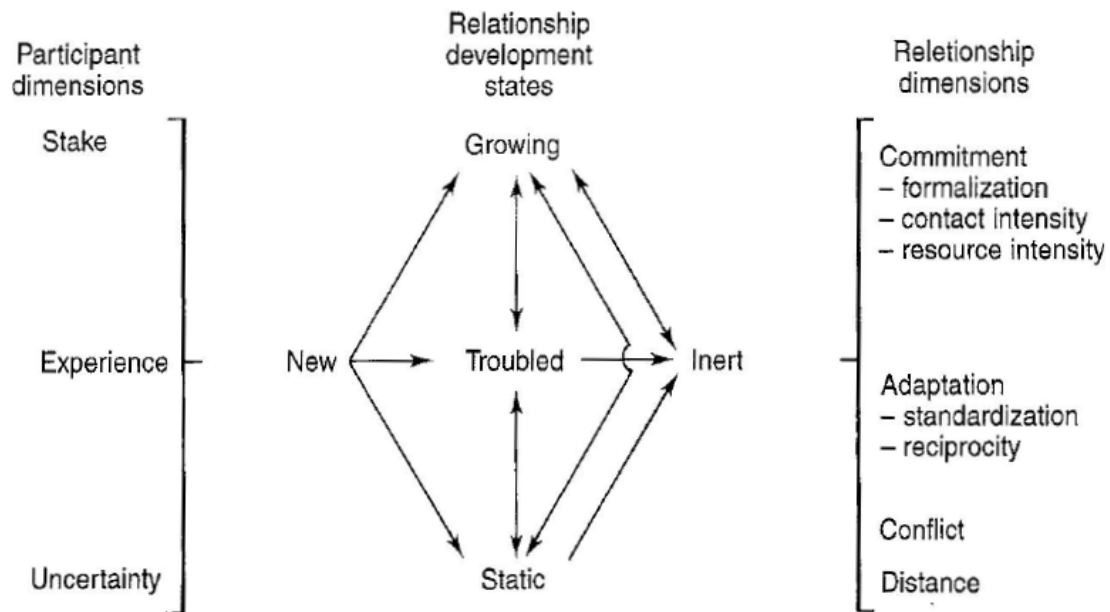


Figure 8: A model of manufacturer-overseas distributor relationships

Source: Ford and Rosson (1982, p. 63)

Focusing on relationship development states, Ford and Rosson (1982) consider relationships as being in one of five possible states of development. Dyads progress from “new” toward “inert” and between those relationships can assume three states: growing, trouble and static. The model assumes that relationship development is not necessarily orderly or progressive over time. The inert state represents relationships that had a past useful purpose. Relationship termination may also be considered by parties (Ford & Rosson, 1982).

Dwyer et al. (1987) develop a model to address the development of buyer-seller relationships (see Figure 9). Wilson and Möller (1988) consider that this model is akin to the IMP Group model already described earlier in this section.

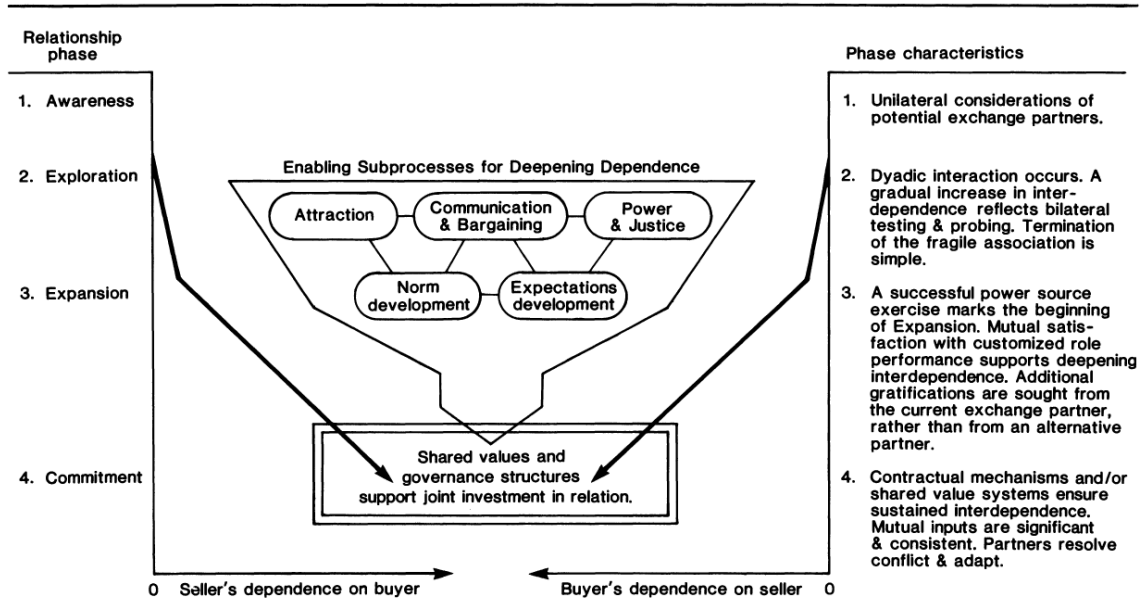


Figure 9: The relationship development process

Source: Dwyer et al. (1987, p. 21)

Dwyer et al. (1987) consider that relationship development has five phases, say, awareness, exploration, expansion, commitment and dissolution. Awareness is a unilateral and a pre-exchange process. In this phase one party recognizes another to be a feasible exchange partner. Therefore interaction does not occur in this phase, it initiates in the exploration phase.

In the exploration phase, parties are involved in five processes: attraction, communication and bargaining, development and exercise of power, norm development and, last, expectation development. These processes also operate in the expansion phase. Over time, through interaction, buyers and sellers develop power-dependence relations, norms, collective goals and expectations. In this phase parties also develop rudiments of trust and joint satisfaction that lead to risk taking increase within the dyad. The possibility of dissolution is present since the beginning of the relationship. In the commitment phase, parties achieve a high level of interdependence and satisfaction. Participants are aware of alternatives but cease to quest other possible partners. “Commitment refers to an implicit or explicit pledge of relational continuity between exchange partners” (Dwyer et al., 1987, p. 19).

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Many benefits, such as certainty, efficiency and effectiveness, guide parties to adjust a relationship. In contrast, parties can withdraw or disengage after concluding that relationship's maintenance costs outweigh its benefits, when personnel or organizational requirements change, or obstacles to interact with an alternative partner cease to exist. The dissolution stage can occur at any stage and it can have a noticeable consequence if parties have reached high interdependency. Dissolution is commonly initiated unilaterally, but through interaction buyers and sellers can initiate and negotiate their unbonding (Dwyer et al., 1987). Social bonds tend to weaken and dissolve unless actively maintained (Dwyer et al., 1987).

Havila and Wilkinson (2002, p. 192) "argue that the social bonds created over time through a relationship cannot be destroyed (except through neglect) but are transferred and transformed in various ways, manifesting themselves in different relationship contexts". Trade ceasing is a common criterion used to typify relationship termination. Further, actor bonds, including economic, technical, legal and administrative bonds cease to exist when trading stops. However, trading can stop completely and continue social and business interaction. Social bonds, personal relationships and knowledge remain and can be taken up later (Havila & Wilkinson, 2002).

Frazier (1983) assumes that relationship development and maintenance involve three stages: initiation, implementation and outcome stages (see Figure 10). "When two firms decide to initiate an exchange relationship, each will agree to perform certain tasks and hold certain responsibilities to facilitate exchanges of products, services, and information between them and ultimate consumers" (Frazier, 1983, p. 159). The implementation stage begins with the actual exchange. The outcome, both actual and perceived, will be determined mainly by the role performance of each firm, i.e. how well parties actually carried out their role (Frazier, 1983).

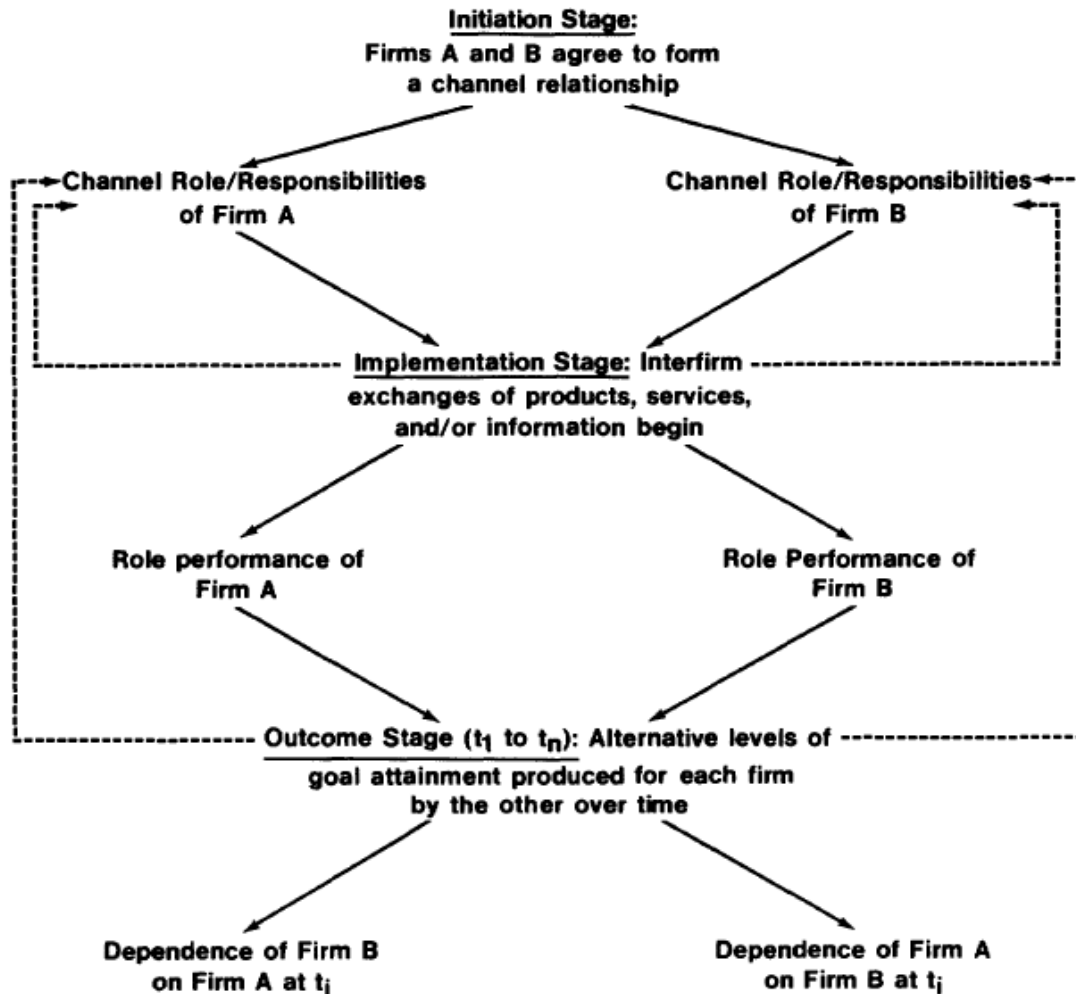


Figure 10: The development and maintenance of dependence in a dyadic channel relationship

Source: Frazier (1983, p. 159)

D'Aunno and Zuckerman (1987) develop a four phase model of the organizational federations' life cycle. "Federations consist of three or more organizations that intentionally pool resources (e.g., information, funds, personnel) to achieve stated objectives" (D'Aunno & Zuckerman, 1987, p. 535). They are not necessarily permanent and can be distinguished from other interorganizational arrangements in several ways. Federations have criteria for membership and involve more than two organizations. Yet, federations differ from other forms of multi-organizational collaboration such as coalitions because federation's activities are guided by a management group (D'Aunno & Zuckerman, 1987).

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The first stage of a life cycle model federation is the “emergence of a coalition”. Parties identify and agree on the purposes and attempt to work together without a dedicated management group. D’Aunno and Zuckerman (1987) point out that it is easier to reach cooperative arrangements when organizations do not compete in the same geographical area. The evolution to the next stage is difficult. The “transition to a federation” stage is characterized by the decision to hire a management group. Members realize that they do not have the time necessary to manage federation activities and are willing to commit resources. In the “maturity of a federation” stage parties continue or increase their investment of resources. D’Aunno and Zuckerman (1987) highlights that in order to maintain or increase resource investment, the federation must achieve objectives and members must place common interest ahead their own concerns. In the last stage “critical crossroads”, both member commitment and centralized decision making increases. “On the one hand, members may be motivated to withdraw from the federation” (D’Aunno & Zuckerman, 1987, p. 543).

Wackman, Salmon, and Salmon (1987) suggest that relationship development involves a life cycle with four stages. First, the pre-relationship stage is characterized by party’s selection. It occurs before the establishment of a formal contact or agreement and both parties tend to learn about each other. Second, the development stage is a high-energy time in which parties perform initial exchanges. It represents the honeymoon phase of the relationship. The maintenance stage, third stage, is a high productive phase where parties complete numerous exchanges and may last several years. Finally, the termination stage, either voluntary or involuntary, matches the divorce in marriage and frequently entails a considerable upheaval for both parties. Termination of a buyer-seller relationship is an ever present possibility. Wackman et al. (1987) argue that if terminations could be anticipated and planned, they would not be so costly and sometimes even not devastating.

Kanter (1994, p. 98) argues that “relationships between companies begin, grow and develop – or fail – in ways similar to relationships between people”. Successful alliances generally unfold in five overlapping phases: courtship, engagement, housekeeping, marriage and old-marriage. In courtship partners meet, are attracted and discover compatibility. Alliance formation supports itself in hopes and dreams. In the engagement phase, partners draw up plans and close the deal. Each company has to seek

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formal or informal approval from its stakeholders. Different ideas emerge in housekeeping (phase three) and partners need to build mechanisms for bridging those differences to maintain the marriage (phase four). In the fifth phase, each party changes internally to accommodate the alliance. It is characterized by strategic, tactical, operational, interpersonal and cultural integration and by multiple ties that ensure communication, coordination and control (Kanter, 1994).

Wilkinson and Young (1994), mainly supported on Ford (1980) and Dwyer et al. (1987) models, suggest that relationships progress over time throughout four phases. Figure 11 depicts the relation between the development and the nature of the relationship.

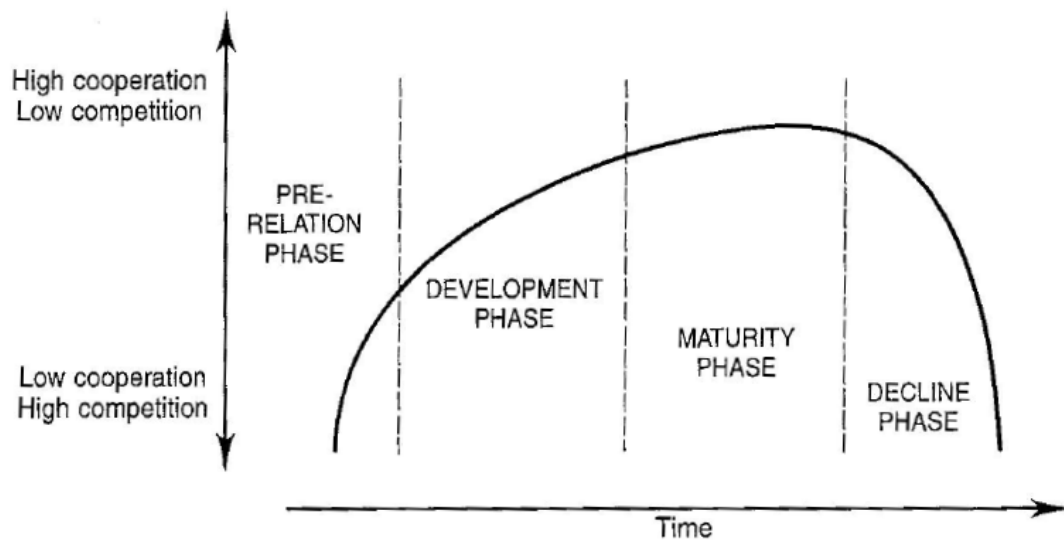


Figure 11: A relationship life cycle model

Source: Wilkinson and Young (1994, p. 68)

Wilkinson and Young (1994) found that very few relationships developed according to their conceptual model presented above. High and low levels of both competition and cooperation can also exist in the relationship. To better describe business relationship development Wilkinson and Young (1994) exploit a dancing metaphor. Eight types of relationship were identified based on low, moderated or high level of both competitive and cooperative nature of the relationship. There is not an ideal type of relationship and each one may evolve in different directions. Those types are presented in Table 2.

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Table 2: Contrasting the marriage and dance metaphors

RELATION TYPE	CONNECTION TYPE	TYPE OF DANCE	CHARACTER OF DANCE	QUALITY OF RELATIONSHIP
1A Extreme Low Cooperation - Low Competition	Just met or getting divorced	Walking on or off the dance floor	Warm up or cool down exercise - Not really dancing with your partner	Commencing or finishing
1B Moderate Low Cooperation - Low Competition	Placid and occasional Affair	Line Dancing	Coordinated and in unison but not partnering	Arms length - fairly indifferent, neither good nor bad
2A Extreme Low Cooperation - High Competition	Stormy affair - quarrels and throwing things or marriage by proxy (great distance between parties)	Salsa-lots of screaming and fire	Repeatedly (and perhaps deliberately steps on foot, partners may deliberately send false signals when they lead	Likely to be poor and declining
2B Moderate Low Cooperation - High Competition	Affair or Unhappy Marriage maybe no possibility of divorce, may be in "counselling" to try to improve	Inept "New Vogue"	Going through the set motions (not very well)	Poor relation in process of change, could be for the better or the worse
3A Extreme High Competition - High Cooperation	Tempestuous but devoted Marriage	Latin Medley, (including the tango)	Lots of unexpected Tempo changes, maybe a crowded dance floor, requires an expert couple	Good relationship despite dynamic environment and probable self-interest
3B Moderate High Competition - High Cooperation	Dual Career Marriage - joint and conflicting interests	Ballet as well as ballroom	At least as concerned about one's solo parts as the duo's	Good relationship which normalises some opportunism
4A Extreme Low Competition - High Cooperation	Marriage made in heaven	Waltz or Rumba	Smooth and semi-spontaneous glide, cheek-to-cheek with someone you love	Highly committed and good quality relationship,
4B Moderate High Cooperation - Low Competition	Newly weds or Semi-committed relationship ¹	Cha-cha-cha or New Vogue	Beginners with talent or parties (re)establishing partnership, they undertake simple steps or those predetermined by rules	Relationship in process of developing higher levels of commitment

¹ A number of different types of marriages (or affairs) could be considered as semi-committed, e.g. the "old married couple" who undertake separate but complementary tasks and interact indifferently and/or infrequently, the "arranged marriage" where partnerships have been formulated outside the dyad by third party (perhaps government or other network members), or "shotgun weddings" where parties have unwillingly contracted a relationship to ensure survival (ref*).

Source: Wilkinson and Young (1994, p. 75)

Millman and Wilson (1995) proposes a model to portray the development of buyer-seller key account relationships. Drawing on relationship development models Millman and Wilson (1995) put forward a model that encompasses six stages focusing key account management (KAM) relationships. In pre-KAM stage, buyers gather information in order to identify those customers with the potential to develop a KAM relationship. The early-KAM stage is characterized by improving collaboration, exploring opportunities, identifying motives, culture and concerns. Parties in Mid-KAM stage develop trust and problem solving. Partnership-KAM represents a mature stage of key account development. Parties share sensitive commercial information and solve problems jointly. In Synergistic-KAM stage, the relationship goes beyond partnership and focuses on creating joint value. Finally, the uncoupling-KAM stage represents key account relationship termination.

Ali, Smith, and Saker (1997) describe supplier-customer relationship development in four phases: “supplier selection procedure”, “procedures for managing the relationship”, “development and maintenance of the relationship and “future of the relationship”. In the first phase the customer searches a supplier using criteria of industry reputation, quality, delivery, technological and R&D capabilities, manufacturing capacity, financial status, previous experience, among others. In the second phase, parties negotiate contracts and relationship terms, overcome first problems and start to adapt to each other. In the third phase, information exchange increases and informal interpersonal bonds develop, as the initial interactions had more formalities. Parties encourage the development of personal bonds. Finally, both parties expect to consolidate and develop a long-term relationship (Ali et al., 1997).

“From a developmental process perspective, cooperative interorganizational relationships are socially contrived mechanisms for collective action, which are continually shaped and restructured by actions and symbolic interpretations of the parties involved” (Ring & Van de Ven, 1994, p. 96). Aiming to provide a temporal explanation Ring and Van de Ven (1994) suggest a repetitive process framework that includes negotiations, commitments and executions. These are moderated by continuous assessments. The next figure (Figure 12) illustrates the relationship process.

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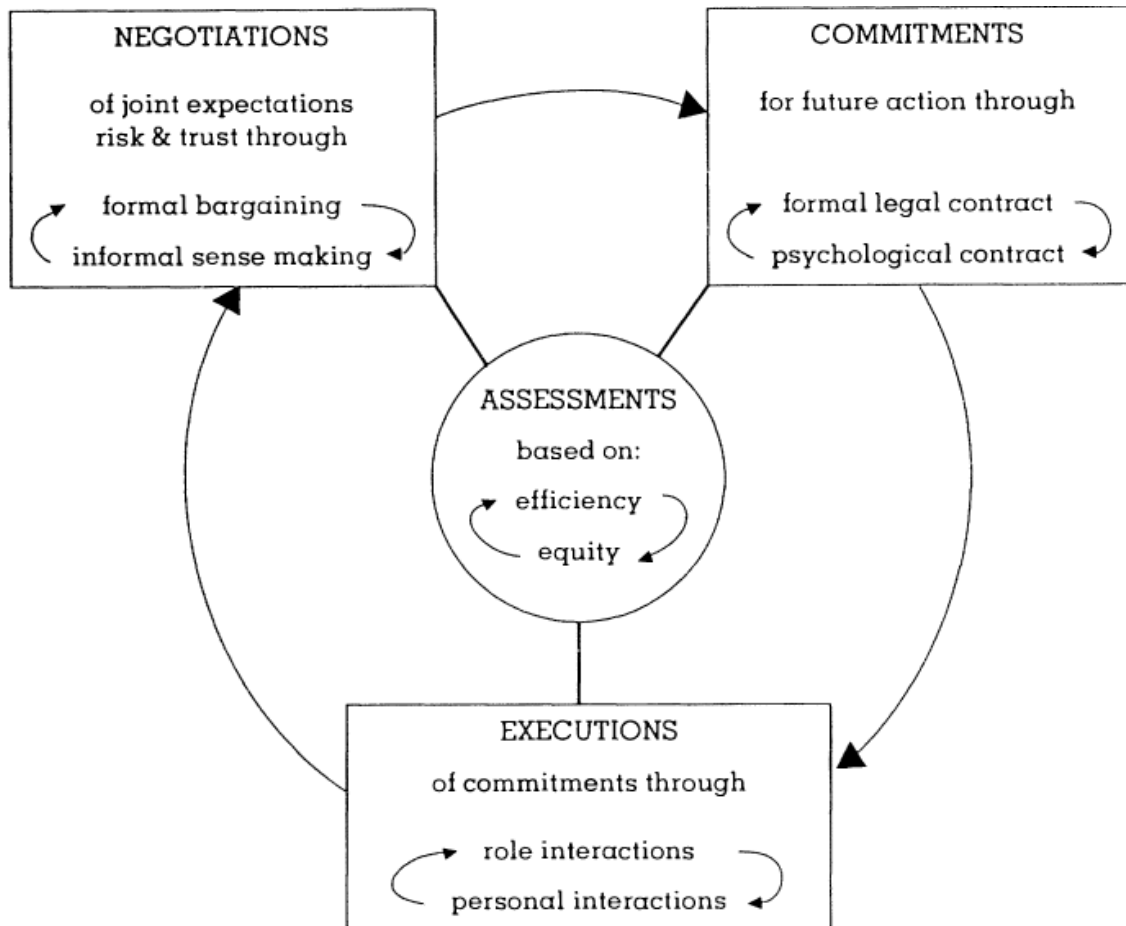


Figure 12: Process framework of the development of cooperative IORs

Source: Ring and Van de Ven (1994, p. 97)

Doz (1996) argues that alliances develop through learning cycles. Strategic alliances evolution depends largely on cooperation. Learning processes within the alliance plays an important role in alliance evolution. Initial conditions allow partners to learn about the environment, task process, skills and goals. Learning leads to periodic re-evaluation of the alliance followed by readjustments that generate revised conditions. Additional learning cycles are expected to take place over time (Doz, 1996).

Ariño and De La Torre (1998) propose a process model of alliance and partnership development mainly based in Ring and Van de Ven (1994) and Doz (1996) research to explain the emergence, evolution and dissolution of alliances. The model assumes that initial conditions are the outcome of the preliminary negotiation and commitment stages. Commitment executions unfold learning processes that lead to initial conditions'

re-evaluation. External changes in environment conditions or in strategic context may also initiate a re-evaluation process. Ariño and De La Torre (1998) found that feedback loops are critical for the evolutionary process of an alliance. Re-evaluation can lead to readjustments that in turn may direct to resized conditions and new executions of commitments when parties reach an agreement. Parties may react unilaterally when renegotiation is unsuccessful and proceed to re-evaluation process again. Finally, the alliance will dissolve if renegotiation is not possible.

Andersen (2001) adopts a model of customer-supplier relationship development with four cumulative phases. The model encompasses: pre-relationship, negotiation, development and termination phases. Andersen (2001) integrates communication aspects with the relationship development. Communication embraces information exchange, conversation and customized dialogue, among others. In the pre-relationship phase communication is planned and unidirectional in which information flows from the supplier to the buyer. Communication can include traditional forms such as advertising and branding, and management of reputation and referrals. “Bidirectional communication surrounding relationship formation does not necessarily imply direct dialogue between the potential buyer and supplier. In order to obtain information about the nature of the selling firm, the buying firm in question may very well engage in conversation with informants from other customers of the potential supplier and with the supplier's distributors, suppliers and even competitors” (Andersen, 2001, p. 173). The bilateral interaction introduces the beginning of the negotiation phase. Parties discuss and bargain their interests, goals, norms, expectations, activities, resources. Incompatibilities may lead to the breakdown of the negotiations. Yet, if an agreement is reached, parties develop the relationship. In the third phase, parties are expected to increase their experience, benefits and interdependence. Continued communication leads to the gradual development communications norms, such as, rules for guiding conversation in the relationship, shared technical language and understanding, as well as response to information. The study did not include the termination phase (Andersen, 2001).

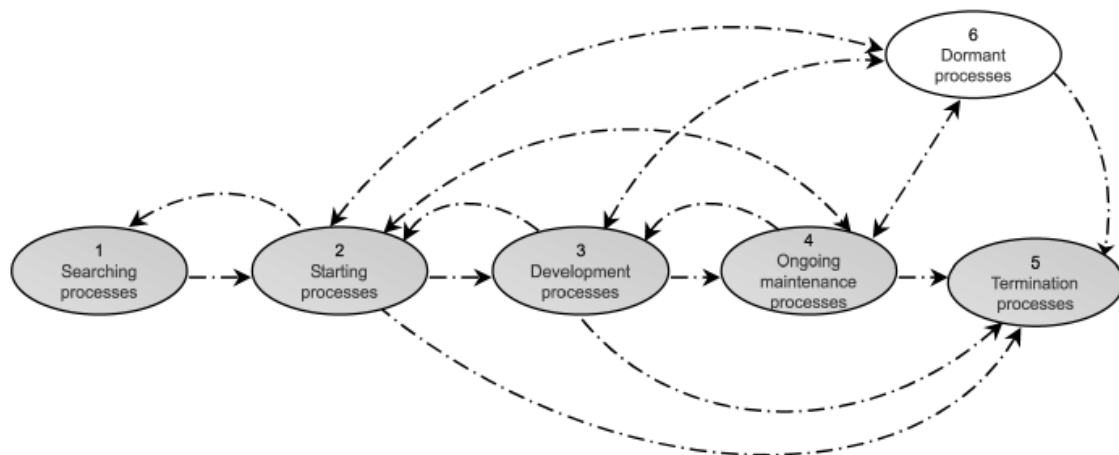
Das and Teng (2002) suggest that alliance's evolution process consists of the three stages: formation, operation and outcome. In the formation stage, partners approach each other and negotiate alliance terms. In the operation stage, firms collaborate and

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implement all agreements of the alliance. The alliance will likely grow rapidly in size. Yet, the alliance can also be reformatted or terminated. The outcome is tied with performance evaluation and expectations. The alliance outcome may be: stabilization, reformation, declination or termination. Outcomes combination, such as, reformation followed by termination is also possible (Das & Teng, 2002).

Zineldin (2002) suggests that strategic business relationships evolve over time throughout four phases: discovery, development, commitment and loyalty, all in all analogous to romance, engagement, marriage and old-marriage in a love affair between people. While in the discovery and development phases, the seller may have offensive strategies, during the last two phases sellers focus on retaining the loyal customer. Zineldin (2002, p. 548) argues that “a business relationship is vulnerable to termination in every phase, and especially in the early phases of the relationship development”. Experience in previous relationships is expected to influence the development of subsequent strategic relationships.

Batonda and Perry (2003) research findings emphasize that relationship development evolves through six unpredictable states: searching, starting, development, maintenance, termination and dormant processes. Figure 13 summarizes the revised states model.



Note: ←-.-.-> evolution of unpredictable states

Figure 13: Revised states model of network relationship development processes showing the difference between the framework according to Western developed model (shaded) and the state explored in this research (not shaded)

Source: Batonda and Perry (2003, p. 1480)

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Searching processes include recognition of a relationship purpose and searching potential partners. Starting processes involve establishing initial contact and testing personal and goal compatibility. Development processes emphasize trust growth, activities preparation, priorities identification and minor commitment between partners. Ongoing maintenance processes are mainly characterized by increased resource's commitment. In terminations processes actors weigh costs and benefits of preserving a relationship and eventually handle the relationship dissolution. Finally, the dormant processes include the relationship's inactive state and potential re-activation (Batonda & Perry, 2003).

Andersen and Kumar (2006) state that relationship evolution is a developmental cycle that entails: initiation, development, termination and re-establishment of relationships. Initiation phase includes finding the right partner for collaboration and initial negotiations about the potential relationship, as well as some adaptation if the collaboration goes forward. In the development phase, trust between parties grows and uncertainty reduces. Notwithstanding the possibility of withdrawal or disengagement from the relationship is present at any stage. The termination stage encompasses both voluntary and forced terminations. At a later state, relationships may be re-established. Informal interpersonal bonds play a major role in the re-activation of relationships (Andersen & Kumar, 2006).

Palmer (2007, p. 448) points out that "relationships are as they are, they do not necessarily develop or adapt over time". Trust and commitment may also not develop with the length of the relationship between supplier and buyer. Palmer (2007) suggests that buyer-seller relationships may evolve over time from a transaction state to a sustained transaction state when relationship quality does not exist. Relationship quality embraces mutual trust and commitment. Over time, the relationship can attain the relational state when parties increase the quality of relationship.

Chang and Lin (2008) assume that buyer-seller relationships development can be divided into four phases: formation, operation, maintenance and dissolution. Chang and Lin (2008) found that information exchange is high and has a uniform frequency across the formation, operation and maintenance phases of the relationship. In the formation

phase information exchange, promises and recommendations have a positive impact on satisfaction.

Ng (2009) suggests a five stage buyer-seller relationships evolution process: pre-relationship stage, early stage, development stage, long-term stage and final stage. Ng (2009, p. 295) found that “in the early stages of the relationship, organizations emphasized the importance of product and service quality, whereas trust, commitments, co-operation, social and structural bonds were regarded as critical in the later stages of the relationship process”.

Schreiner, Kale, and Corsten (2009) argue that alliances have a life cycle that consists of three different phases or stages: the formation phase, the design phase and the post-formation management phase. In the formation phase, the company evaluates the decision to form an alliance and selects the appropriate partners; in the design phase, companies choose the management structure and define the terms of the contract; and, finally, in the post-formation management phase, companies have to operate the alliance, coordinating the execution of tasks, sharing not only knowledge but also relevant information and, most difficult, solving conflicts, to name only some of the issues (Schreiner et al., 2009).

Claycomb and Frankwick (2010) argue that information exchange and conflict resolution mechanisms play a major role in buyer-seller relationship development, in particular during the four phases of: awareness, exploration, expansion, and commitment. In the awareness stage, actors seek information on the possible partner. In the exploration stage partners negotiate partnership terms and test their goal compatibility. Expansion stage involves several interactions that embrace economic, informational and social exchanges. Interdependence and mutual trust emerge. In the commitment stage, mutual dependence and trust are expected to take place. Actors institutionalize values, rules and procedures (Claycomb & Frankwick, 2010).

According to Claycomb and Frankwick (2010) sellers with weaker reputations need a greater effort in communication during the exploration phase, in order to convince buyers to make the required relationship specific investments in areas such as technology, logistics, administration, financing, and knowledge. Further, Claycomb and Frankwick (2010) found that in the exploration stage communication quality is

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positively associated with relationship-specific investments and negatively with buyer uncertainty.

For organizations it is essential their capability to deal with different relationships stages, i.e. creating, managing and terminating strategic relationships (Möller et al., 2005). The next table (Table 3) summarizes relationship development models presented above.

Table 3: Relationship development models – summary

Author	Stages, States or Phases	Model Brief Description
Guillet de Monthoux (1975)	Romance Affair Marriage Divorce	Divorce may lead to romance restoration with the same organization, i.e. a temporary stage, or it may involve new romance with a new partner
Ford (1980)	Pre-relationship stage Early stage Development stage Long-term stage Final stage	The final stage is characterized by institutionalization processes. At any stage, relationships can fail to develop, regress or be discontinued
Ford and Rosson (1982)	New Growing Trouble Static Inert	Relationships progress from new toward inert. Dyads are not necessarily orderly or progressive over time. The inert state represents relationships that had a past useful purpose. Relationship termination may also be considered by parties
Frazier (1983)	Initiation Implementation Outcome	Implementation begins with the actual exchange. The outcome will be determined mainly by how well parties carried out their role
Dwyer et al. (1987)	Awareness Exploration Expansion Commitment Dissolution	The possibility of dissolution is present since the beginning of the relationship. Dissolution is commonly initiated unilaterally. Through interaction parties can negotiate their unbonding
D'Aunno and Zuckerman (1987)	Emergence of a coalition Transition to a federation Maturity of a federation Critical crossroads	Federations consist of three or more organizations that intentionally pool resources and their activities are guided by a management group
Wackman et al. (1987)	Pre-relationship stage Development stage Maintenance stage Termination stage	Life cycle model with termination (voluntary or involuntary) as an ever present possibility

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Kanter (1994)	Courtship Engagement Housekeeping Marriage Old-marriage	Relationships between companies begin, grow and develop or fail – similar to relationships between people
Wilkinson and Young (1994)	Walking Line Dancing Salsa Inept “New Vougue” Latin Medley (tango) Ballet Waltz or Rumba Cha-Cha-Cha	Authors employ a dancing metaphor and compare those states with the marriage metaphor: just met or getting divorce, placid and occasional affair, stormy affair, unhappy marriage, tempestuous devoted marriage, dual career marriage, marriage made in heaven, newlyweds or semi-committed relationship
Ring and Van de Ven (1994)	Negotiations Commitments Executions	Stages moderated by continuous assessments of efficiency and equity
Millman and Wilson (1995)	Pre-KAM stage Early-KAM stage Mid-KAM stage Partnership-KAM stage Synergistic-KAM stage Uncoupling-KAM stage	The model explores the development of key account relationships within already existent customer relationships
Doz (1996)	Initial conditions Learning Reevaluation Readjustment	Alliances develop through learning cycles. Readjustments lead to revised conditions followed by another learning cycle
Ali et al. (1997)	Supplier selection procedure Procedures for managing Development and maintenance Future of the relationship	Based in a case study this model encompasses four phases. The last phase comprises parties’ expectations to consolidate and develop a long-term relationship
Ariño and De La Torre (1998)	Negotiation and commitment Executions Reevaluation Dissolution	Negotiation and commitment lead to initial conditions. Learning processes originate from executions and lead to reevaluation. Readjustments that may lead to revised conditions. Dissolution may follow reevaluation. Feedback loops are critical for the evolutionary process of an alliance
Andersen (2001)	Pre-relationship Negotiation Development Termination	Communication leads to the gradual development of the relationship
Das and Teng (2002)	Formation Operation Outcome	Alliance outcome may be: stabilization, reformation, declination or termination. Outcomes combination, e.g. reformation

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		followed by termination is also possible
Zineldin (2002)	Discovery Development Commitment Loyalty	Relationship evolves over time throughout four phases. Relationship is vulnerable to termination in every phase
Batonda and Perry (2003)	Searching Starting Development Maintenance Dormant Termination	Relationships evolve unpredictably over time through six states. Dormant processes include the relationship's inactive state and potential re-activation
Andersen and Kumar (2006)	Initiation Development Termination Re-establishment	The possibility of withdrawal or disengagement from the relationship is present at any stage. Termination encompasses both voluntary and forced termination. At later state relationships may be re-established.
Palmer (2007)	Transaction Sustained transaction Relational	Relationship do not necessarily develop or adapt over time
Chang and Lin (2008)	Formation Operation Maintenance Dissolution	Information exchange is high and has an equal frequency across the formation, operation and maintenance
Ng (2009)	Pre-relationship stage Early stage Development stage Long-term stage Final stage	In the early stage organizations emphasized the importance of product and service quality. Trust, co-operation, commitments, social and structural bonds were regarded as critical in the later stages of the relationship process
Schreiner et al. (2009)	Formation phase Design phase Management	Strategic alliances evolve through a life cycle that consists of three different phases or stages
Claycomb and Frankwick (2010)	Awareness Exploration Expansion Commitment	During the exploration phase sellers with weaker reputations must perform more communication efforts

Source: Santos and Baptista (2014, p. 5)

Essentially, models reviewed in this section focus on relationship between buyers and sellers and are deeply influenced by the IMP Group research. Yet, some models represent strategic alliances development, e.g. Das and Teng (2002), Doz (1996), Kanter (1994), and Schreiner et al. (2009). Moreover, relationship development models mainly assume that business relationship progress follows a specific path over time and that relationship age has a major influence on relationship evolution. However, some authors

argue that relationship progress is unstructured and unpredictable, e.g. Batonda and Perry (2003), and Ford and Rosson (1982).

2.3 Interaction

The process supporting relationships is interaction. The actor's initiatives are always perceived by others and so, as a consequence, a reaction is expected, triggering further re-reactions. The interaction itself is the result of numerous influences. "Interaction infers that outcomes in business are the result of actions or proposals and responses between counterparts" (Ford & Håkansson, 2006, p. 252).

Relationships are intensive long-term interactions between actors (Ford & Håkansson, 2012). "The relationships (linkages) are generally continuous over time, rather than being composed of discrete transactions. They are often complex, consisting of a web of interactive relations between individuals in both organizations" (Håkansson & Snehota, 2006, p. 260). The organization's interactions between identifiable actors lead to relationships development that link resources and activities of one firm with those of another. These activities are carried out while each actor pursues his own goals (Håkansson & Snehota, 2006).

Making use of interaction, all firms take a more active part in the transaction (Håkansson et al., 1982). "The idea that interaction is central to economic life will not be a surprise to any economic researcher" (Ford, Gadde, Håkansson, Snehota, & Waluszewski, 2008, p. 2). Yet, research into business markets takes often the perspective of a single company as a sole actor, neglecting or oversimplifying interactions (Ritter & Ford, 2004).

The relationship represents the day-to-day exchanges and has a long-term, social and informational nature. Interaction has an immediate nature, and comprises exchange and adaptation processes, i.e. through interactions firms adjust products, productions and routines (Easton, 1992).

Figure 14 represents the central aspects of relationships and interactions. Relationship, being a mutual orientation of two firms towards each other, implies that firms are

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prepared to interact with each other and expect others to do the same. Interaction processes (exchange and adaptations) constitute the dynamic aspects of relationships.

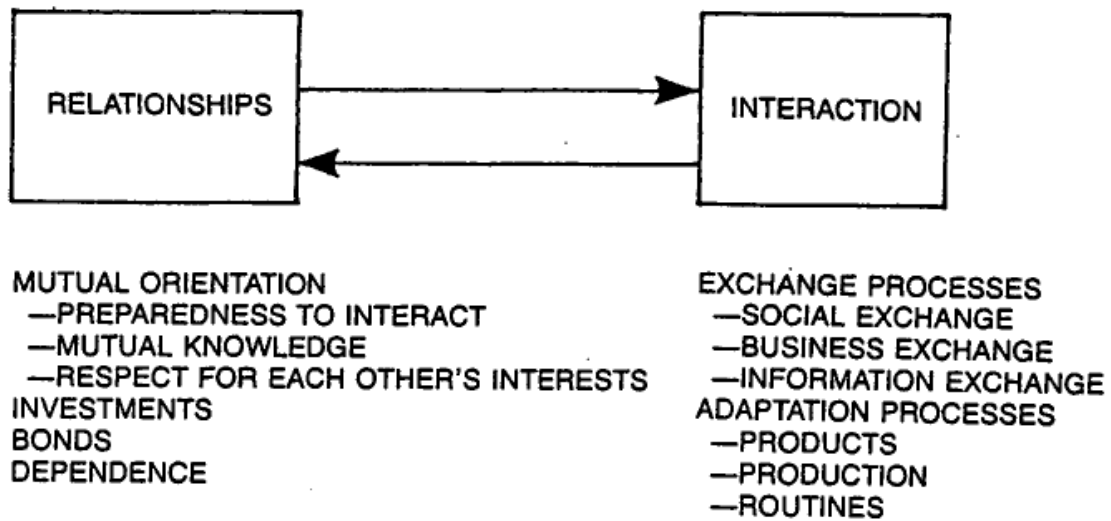


Figure 14: Relationships and interaction in industrial networks

Source: Johanson and Mattsson (1987, p. 38)

The interaction itself has an immediate character. Through interaction, parties gradually build up a mutual trust in each other, strengthen the bonds and become increasingly dependent on each other (Johanson & Mattsson, 1987). The interaction between companies through interdependency leads to the development of strategies considering other actors. The interaction between actors, such as suppliers, customers and others, creates a relative market where the different pieces only have a role in relation to all the others (Ford & Håkansson, 2006).

“The need to interact arises from a desire to increase the efficiency of business transactions and communications and to facilitate production scheduling and distribution” (Cunningham, 1982, p. 358). Still, interaction may not lead to cooperation it may also lead to conflict due to the existence of barriers to interaction. These barriers may also severely limit or terminate the interaction. Close inter-organizational personal contacts may help resolve the crisis in the interaction, such as, surmount barriers (Cunningham, 1982).

Interaction barriers can be environmental barriers, such as the cultural features of specific countries, or can arise from interactant companies, such as a perceived mismatch of their respective sizes, technological capabilities, and organizational

An Interaction and Network Perspective of Horizontal Relationships structures. Individual members may also create interaction barriers through their personal attitudes or their past experience in coping with particular companies. The use of inappropriate selling and distribution channels or an unfavourable reputation may also restrict the interaction (Cunningham, 1982).

2.3.1 Interaction Models

Wren and Simpson (1996, p. 63) argued that “this research has not been evolutionary. That is, ensuing models of the buyer-seller relationship have not built on previous models”. Still, the chronological literature review in this section suggests that several research efforts have been made for a better understanding of interactions and relationships. In particular, “the interactions approach provides a rich model of relationships between firms buying from selling to one another” (Easton, 1992, p. 8).

Håkansson et al. (1982) centre their attention on the relationships between buyers and sellers in industrial markets. They developed the Interaction Approach, based on Inter-organizational Theory and New Institutional Economic Theory. The interaction model represented in the following figure (Figure 15) has four basic elements: (1) the parties, seen both as organizations and as individuals, (2) the interaction process, (3) the atmosphere and (4) the environment.

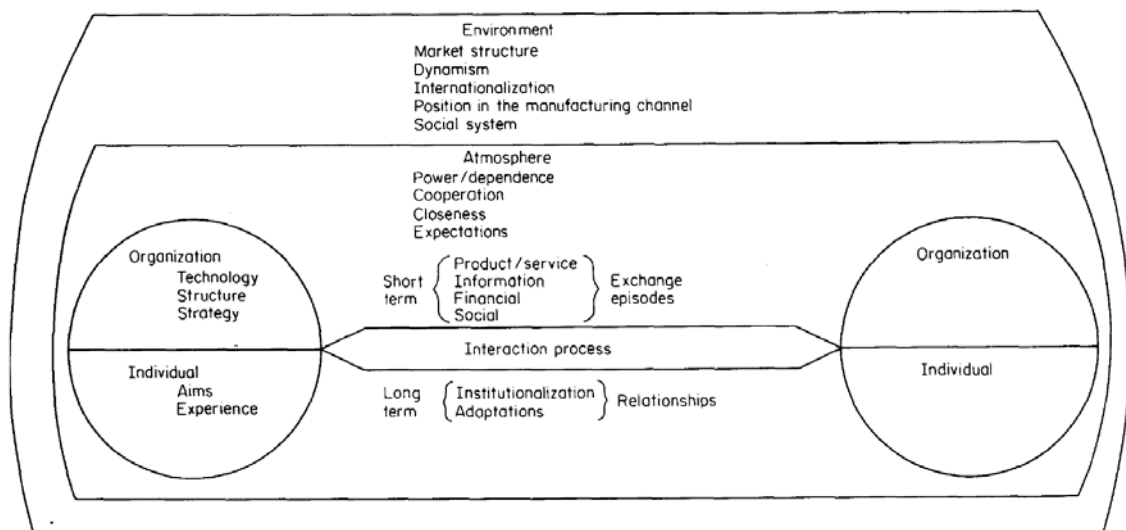


Figure 15: An illustration of the interaction model

Source: Håkansson et al. (1982, p. 24)

A similar interaction model was followed by Turnbull and Valla (1986) to analyze international strategic marketing (Figure 16). Turnbull and Valla (1986) consider that a better understanding of supplier-customer relationships can improve knowledge of export market competitiveness (e.g. gain entry to an export market) and, more globally, it can improve market awareness.

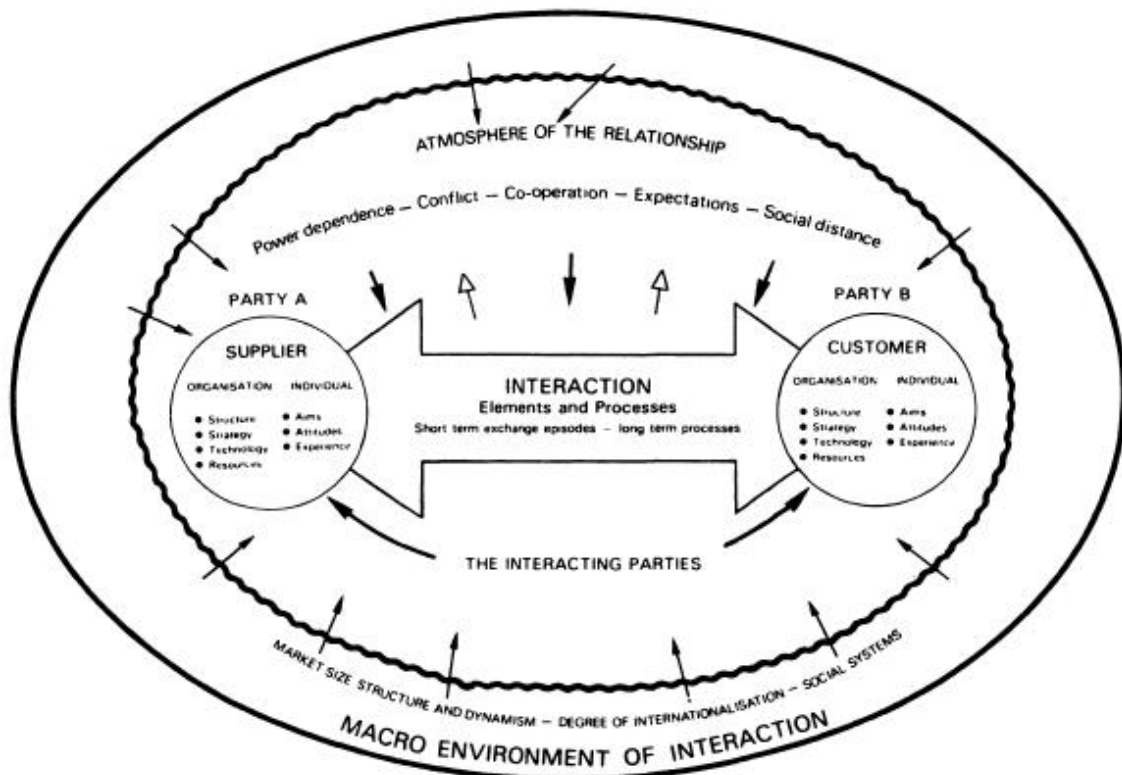


Figure 16: The nature and scope of supplier-customer interaction

Source: Turnbull and Valla (1986, p. 5)

Interaction Parties embrace both the characteristics of the two organizations and the individuals who represent them (Håkansson et al., 1982; Turnbull & Valla, 1986). The organizational factors include technology, size, structure, strategy and experience of sellers and buyers. Usually, several individuals from both organizations, buyers and sellers, are involved in inter-company interactions. Individuals exchange information, develop personal relationships and influence decisions of both companies (Håkansson et al., 1982).

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“Interaction infers that outcomes in business are the result of actions or proposals and responses between counterparts” (Ford & Håkansson, 2006, p. 252). The interaction process has short-term aspects (episode) and long term aspects (relationship). Episodes involve any exchange between two parties and, when repeated, can lead to relationships. In each episode, organizations can involve four different interrelated elements, namely, product or service, information, financial and social exchanges (Håkansson et al., 1982; Turnbull & Valla, 1986). Through successive exchange episodes of the four elements, parties develop relationships (Håkansson et al., 1982).

Relationships are developed between parties through exchange processes (Håkansson & Johanson, 1992) and lead to the institutionalization of expectations and adaptations in both parties (Håkansson et al., 1982). A relationship cannot be established or developed without the joint effort of at least two actors (Axelsson, 1992). “The buyer-seller relationship develops over a period of time” (Wilson, 1976, p. 394). Over time, relationships conduct to stability, routinization and to the creation of expectations in both parties (Håkansson et al., 1982).

“The embeddedness of the transaction episodes in a history of prior transaction episodes created a relationship atmosphere” (Araujo & Easton, 1996, p. 93). The atmosphere is a product of the relationship that affects and is affected by the interaction. “This atmosphere can be described in terms of the power-dependence relationship which exists between the companies, the state of conflict or co-operation and overall closeness or distance of the relationship as well as by the companies' mutual expectations” (Håkansson et al., 1982, p. 21). In addition to cooperation and conflict, Easton and Araujo (1992) included also competition, co-existence, and collusion to better describe relationships.

Sandström (1992) argues that atmosphere is the emotional setting where the interaction takes place. It is influenced by culture but not determined by it. Feelings are interpretations made by a party based on what he knows or assumes about the activities performed by the other party in the relationship. The atmosphere is produced by the feelings of both parties and is always related to exchange on the personal level (Sandström, 1992). Sandström (1992) divides that atmosphere in six dimensions, say,

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counterpart trust, relationship commitment, cooperativeness, counterpart motive and situations understanding, power and, last, cultural distance.

The interaction environment is the wider context in which interaction takes place. Relationships are affected by market's concentration of both buyers and sellers, by the change rate of market constituent members or by the firm's motivation in developing international relationships (Håkansson et al., 1982). Turnbull and Valla (1986) consider that, besides market influences, the environment within which the interaction takes place also regards cultural and geographical distance.

The model developed by Campbell (1985) is heavily built on the IMP interaction model (Håkansson et al., 1982). Campbell (1985) develops a model considering the party interaction strategy (Figure 17). This element affects and is affected by the interaction context and by the interaction mechanism. The party interaction strategy can be competitive, cooperative or command. The interaction strategy arises when the relationship is independent, interdependent or dependent, respectively. Independent relationships arise when the market has many potential sellers or buyers. When both parties are willing to establish a long-term relationship parties form an interdependent strategy. The command strategy takes place when one party has a dominant position of strength over the other (Campbell, 1985).

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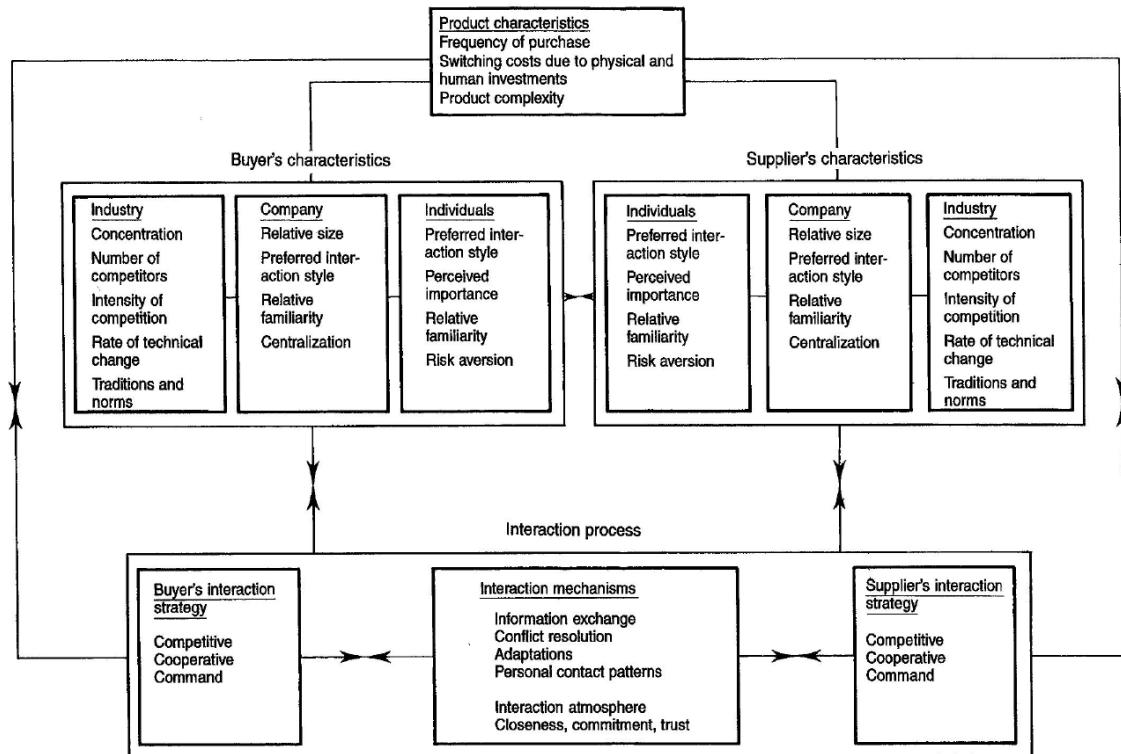


Figure 17: Buyer-seller interaction model

Source: Campbell (1985, p. 39)

Campbell (1985) model assumes that characteristics of product, buyer, and supplier affect the interaction process. It also considers that the impact of environmental factors takes place through changes in the characteristics of the buyer's and/or supplier's industry.

Metcalf, Frear, and Krishnan (1992), drawing also on the IMP Interaction Model (Håkansson et al., 1982; Turnbull & Valla, 1986), proposed a framework to operationalize some constructs identified in the IMP Interaction Model. Focusing on product, information and social exchange, cooperation and adaptation Metcalf et al. (1992) conceived and tested empirically the following theoretical model (Figure 18).

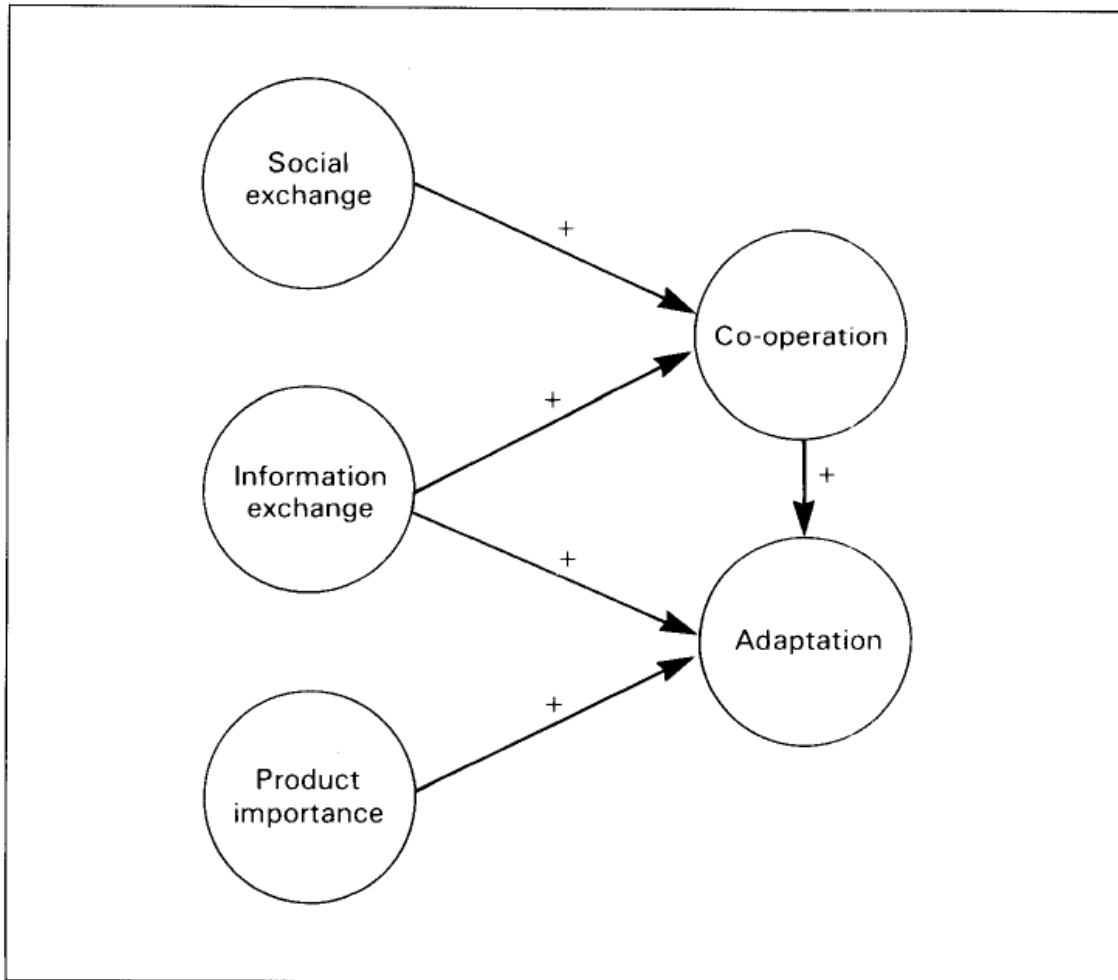


Figure 18: Proposed theoretical model

Source: Metcalf et al. (1992, p. 30)

Information and social exchanges lead to cooperation between buying and selling firms. Cooperation, in turn, affects buyers and sellers willingness to make adaptations in elements or processes of exchange. Metcalf et al. (1992) also argue that product characteristics have a significant effect on the interaction process and highlight the effect of perceived product importance on adaptation.

Supported on social systems and resource dependence theories, Ruekert and Walker Jr (1987) develop a model seeking to understand interaction between organizational units (Figure 19). This model centres its attention on the interaction between individuals of different functional areas.

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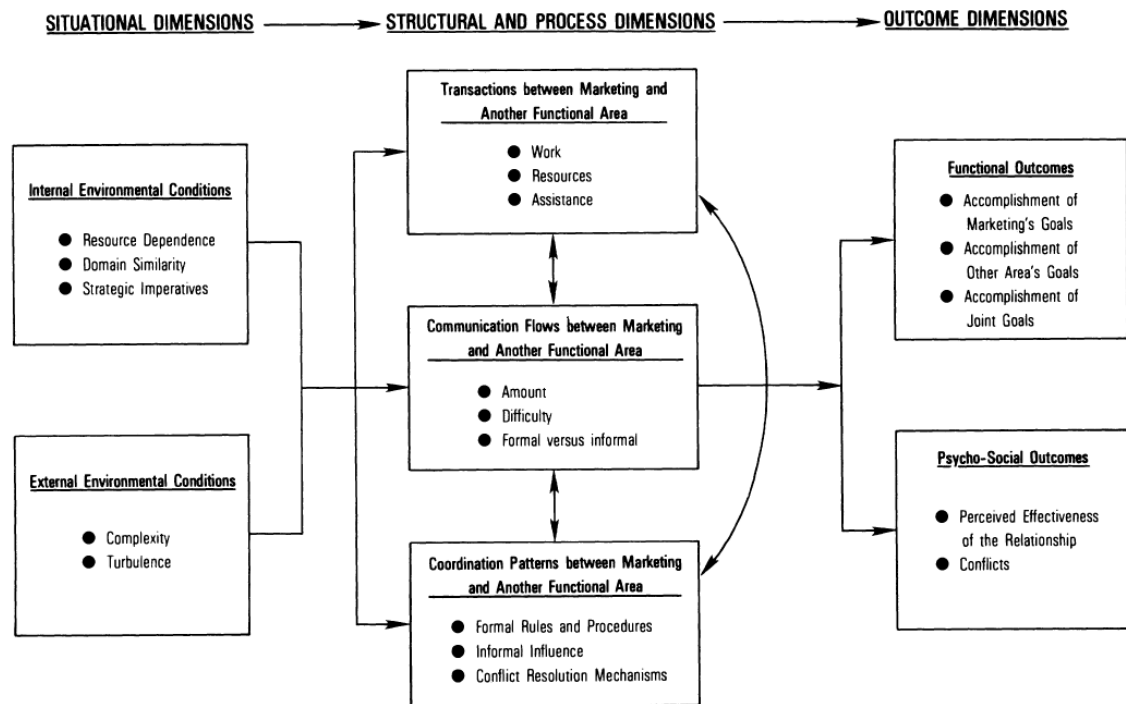


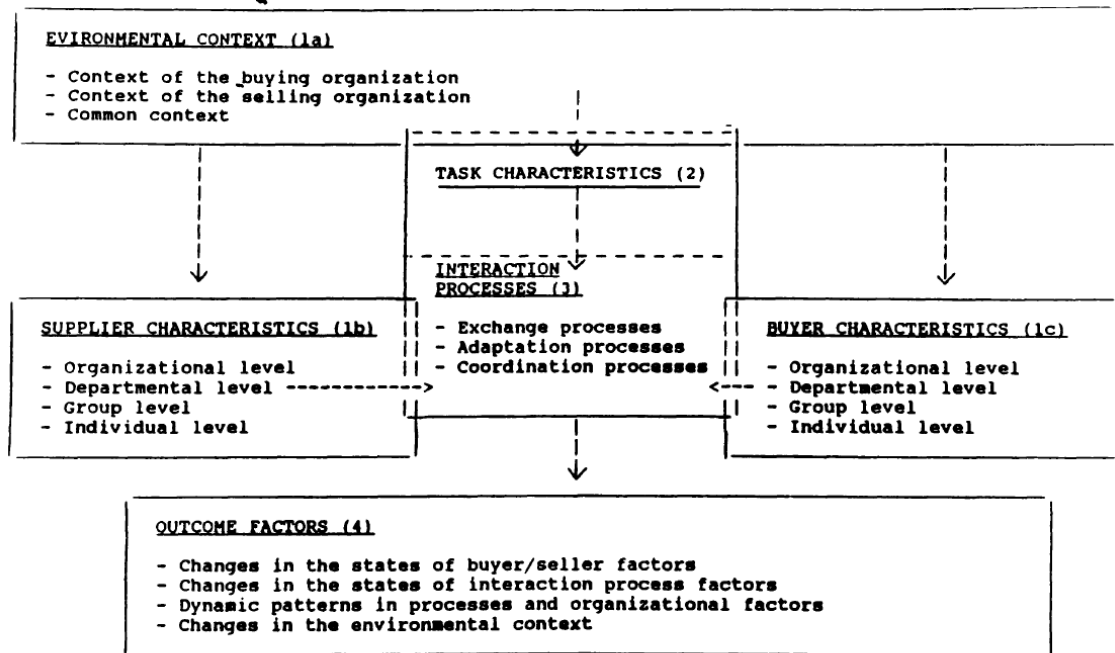
Figure 19: A framework for assessing marketing's interaction with another functional area

Source: Ruekert and Walker Jr (1987, p. 3)

Ruekert and Walker Jr (1987) model has three main components: situational dimensions, structural and process dimensions, and outcome dimensions. The first component, situational dimensions, describes the context within which interaction takes place. The situation influences interaction and is separated on internal and external environmental conditions. Ruekert and Walker Jr (1987) divided the second interaction component, structural and processes dimensions, in transactions, coordination and communication. The last component represents the interaction outcome and was further divided into functional and psycho-social outcomes.

Möller and Wilson (1988) propose a contingent model of buyer-seller interactions, built mainly on previous IMP work (Håkansson et al., 1982; Turnbull & Valla, 1986), along with the framework from others such as Ruekert and Walker Jr (1987). Möller and Wilson (1988) developed a taxonomic model in which interaction processes are nested in environment or market variables, task variables and organizational variables (Figure 20). The authors had the objective of identifying which variables favour or restrict long-term interaction relationships.

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Note: broken boundary lines indicate the superimposed character of some factor classes.

Figure 20: Taxonomy of factors in buyer-seller interaction

Source: Möller and Wilson (1988, p. 405)

Interaction processes are influenced by environmental context, consisting in factors external to the focal interaction, by interactant characteristics and by task characteristics, referring to the characteristics related to the objective of interaction (e.g. a product, service, turnkey plant, R&D project). Outcome factors include feedback to the interaction processes and changes on the factors that influence those processes (Möller & Wilson, 1988).

Möller and Wilson (1995) developed a more detailed model based in Möller and Wilson (1988). That model is presented below (Figure 21).

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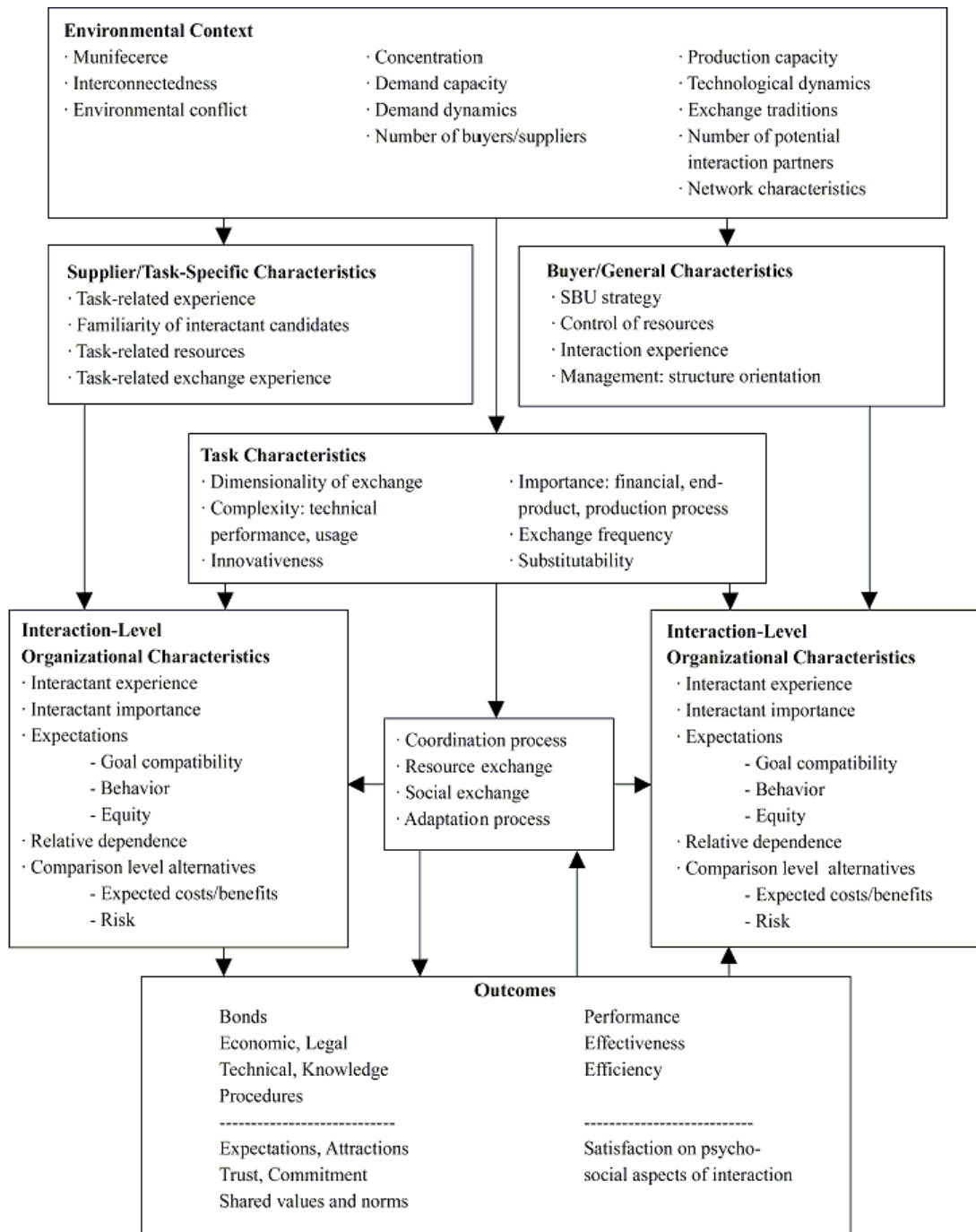


Figure 21: Dyadic interaction model

Source: Möller and Wilson (1995, p. 35)

In the model presented by Möller and Wilson (1995), interaction is still contingent of environmental context, task characteristics, and both supplier and seller characteristics. The outcomes of interaction can be regarded as organizational and are divided in two sets specifically, bonds and performance outcomes. Outcomes are influenced and

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influence both the relationship parties, as well as the interaction processes (Möller & Wilson, 1995).

Wren and Simpson (1996) present a model (Figure 22) that includes four major components: the salesperson characteristics, the customer characteristics, the interaction environment and the interaction outcomes.

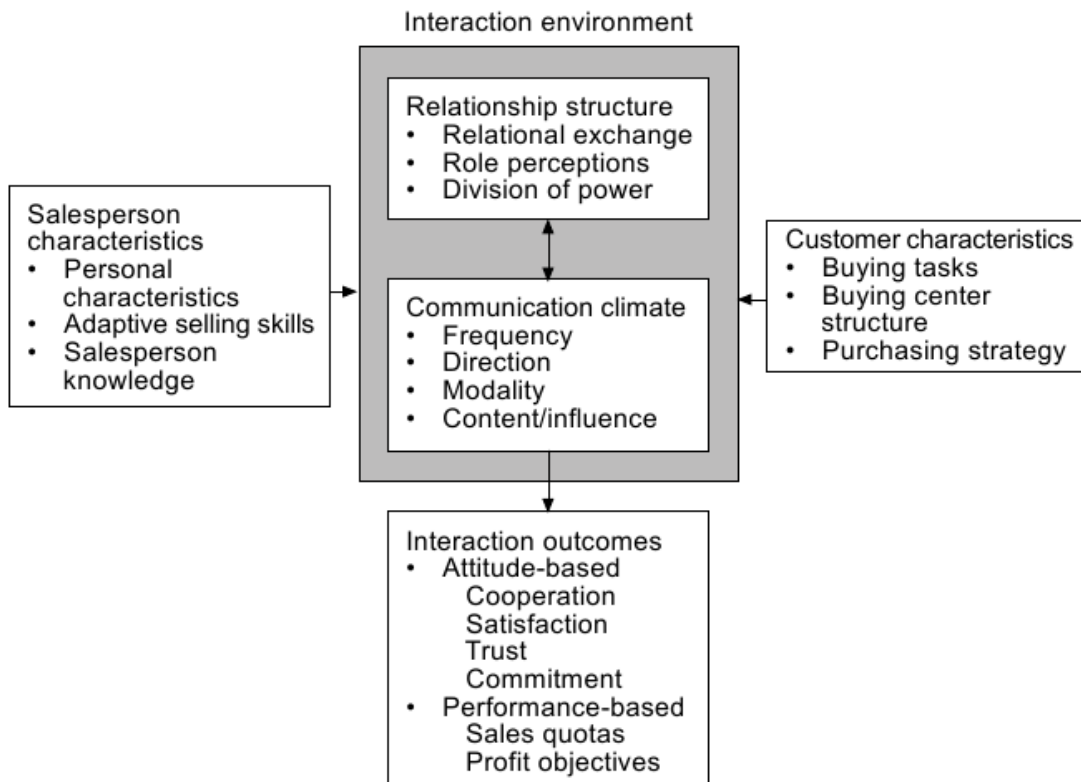


Figure 22: A synthesis model of buyer-seller relationships

Source: Wren and Simpson (1996, p. 67)

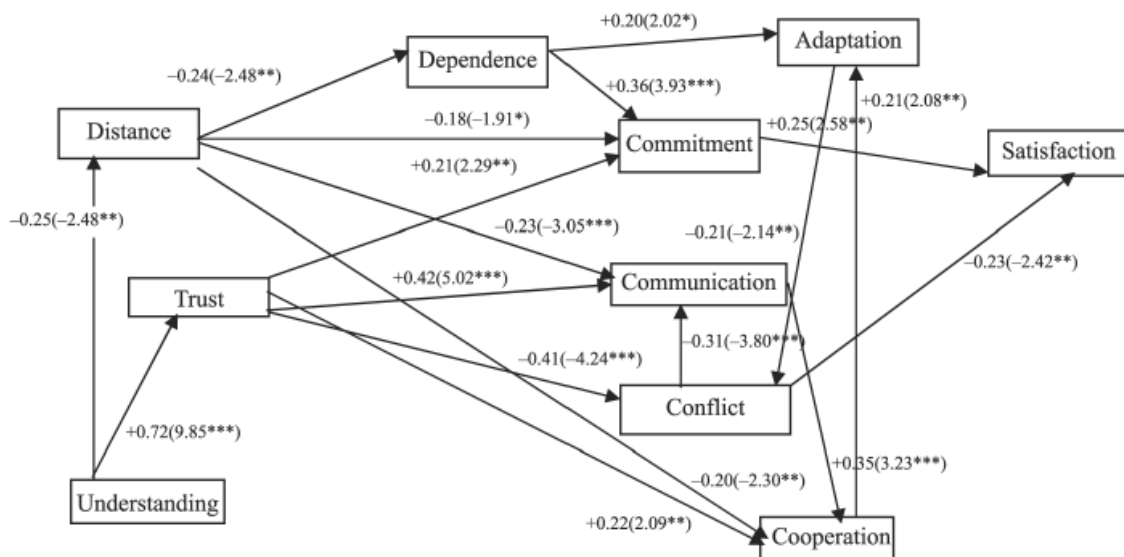
Wren and Simpson (1996) assume that, both the salesperson and the customer characteristics, will impact the effectiveness of the sales relationship. The interaction environment is composed of two sub-components: the structure of the relationship and the communication climate. Interaction outcomes include both attitude-based outcomes and performance-based outcomes (Wren & Simpson, 1996).

Backhaus and Büschken (1997, p. 31) concluded that “regardless of their theoretical framework studies employing a behavioural approach result in a stable set of constructs

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relevant to interactions between business partners”. Among other relevant concepts Backhaus and Büschken (1997) identified sympathy, know how, power, conflict, closeness, trust, satisfaction, adaptation and coordination. Emphasizing behavioural rather than economic aspects of the interaction, Leonidou, Palihawadana, and Theodosiou (2006) comprise several behavioural constructs.

Based on several industrial buyer-seller relationship constructs Leonidou et al. (2006) present a model and confirm the majority of the 24 theoretical hypotheses developed. The model was tested employing the technique of structural equation modelling, with the model summarized results presented below in Figure 23.



Notes: Fit statistics for structural model: $\chi^2_{27} = 27.11, p > 0.45, RMSEA = 0.01;$
 NNFI = 1.00; CFI = 1.00. *** $p < 0.01, **p < 0.05, *p < 0.10$

Figure 23: Standardized path coefficients and t-values for the structural model

Source: Leonidou et al. (2006, p. 162)

Among other results Leonidou et al. (2006) found that distance negatively affects dependence, commitment, communication and cooperation. Trust has a positive association with commitment and cooperation, and a negative association with conflict. Dependence has a positive effect on both adaptation and commitment. The model presented above also indicates that communication has a positive effect on cooperation

An Interaction and Network Perspective of Horizontal Relationships and a negative but reverse impact on conflict. Adaptation negatively affects conflict and cooperation affects positively adaptation (Leonidou et al., 2006).

Boehm and Hogan (2013) develop a model of “science to business marketing” based on business to business marketing existing models (Figure 24). In particular Boehm & Hogan (2013) take into consideration the wider environment and the interaction between parties.

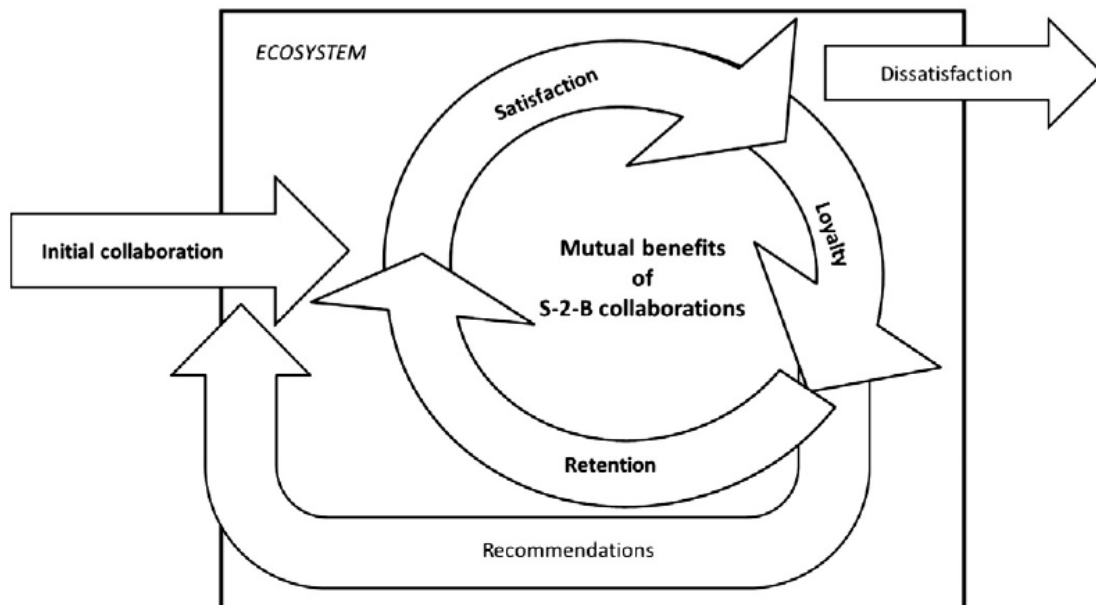


Figure 24: Science-to-business collaborations – A science-to-business marketing approach on scientific knowledge commercialization

Source: Boehm and Hogan (2013, p. 577)

Organizations’ experience is important to establish collaborative relationships and to their development. Through interaction, both organizations can develop mutual benefits that generate satisfaction, loyalty, retention and recommendations (Boehm & Hogan, 2013). Satisfaction is evaluated on the basis of economic and psychosocial aspects, such as, professionalism, communication, research output and quality. Trust, commitment and a favourable attitude deriving from past collaborations contribute to the creation of loyalty. This one evolves through long-term co-evolution between partners, is based on retention and leads to retention. Recommendations also generate loyalty. “Retention is the most important objective of relationship success. Relationship success and retention

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contribute to scientific knowledge commercialization due to repeat information, physical or financial transactions” (Boehm & Hogan, 2013, p. 576).

Aiming to understand and explain long-term relationships, Baptista (2013) develops and tests empirically in the mining sector the model presented below (Figure 25).

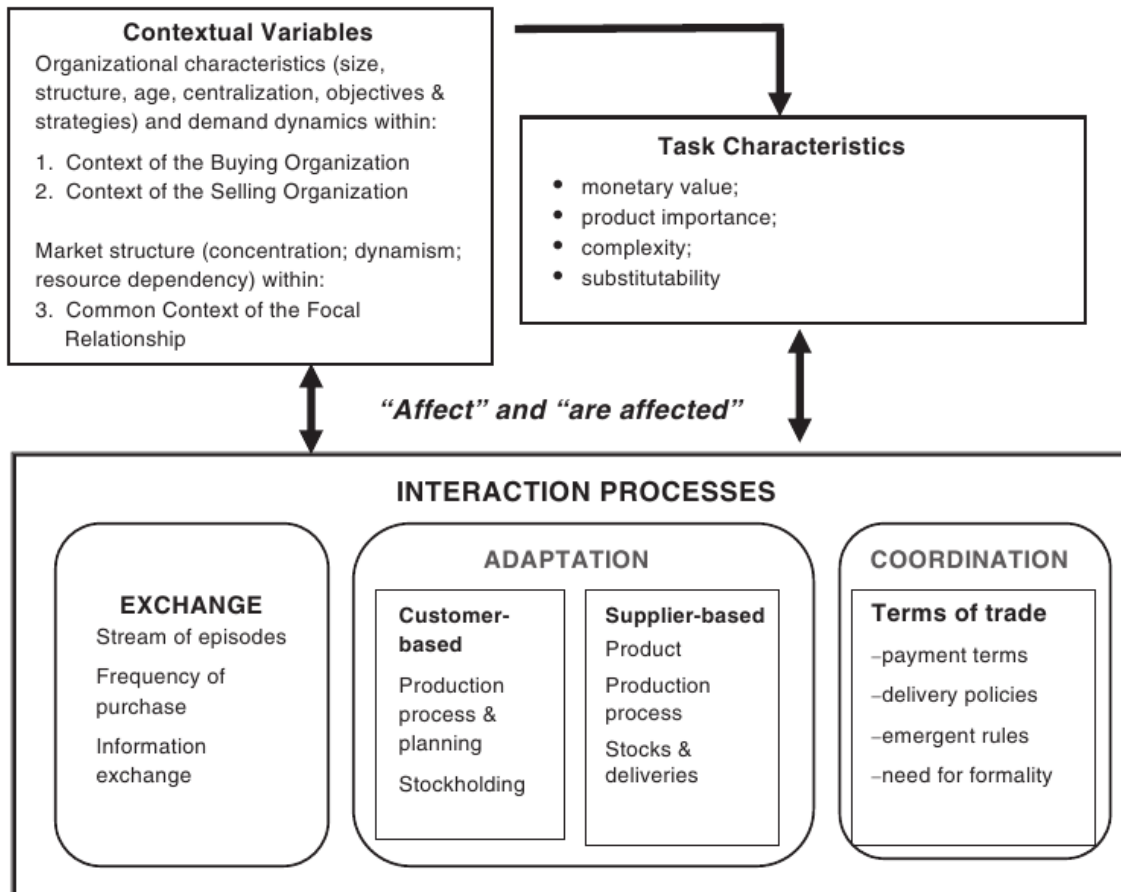


Figure 25: Framework of analysis

Source: Baptista (2013, p. 974)

Baptista (2013) model has three main components: the contextual variables, the task characteristics and the interaction processes. The context variables include the context and characteristics of both parties involved in the relationship, as well as the context of the focal relationship. The task variables are associated with inherent characteristics of the interaction, such as product importance, and are affected by context variables. Interaction processes affect and are affected by both context and task variables and embrace processes of exchange, adaptation and coordination.

2.3.2 The Interaction Processes

“Interaction has been the core of business since people started to trade with each other” (Ritter & Ford, 2004, p. 99) and is typically associated with adaptations and interdependencies (Ford & Håkansson, 2012). Interaction tends also to have a time dimension. “Past and expected future interactions tend to bind selectively specific actors and create specific interdependencies” (Snehota, 2004, p. 24).

As a result of interaction processes, structures are dynamic and interacted. This reality has two main consequences. First, present or future value of new actions is perceived by other actors and evaluated against existing items, structures and processes. Usually these actors want some adaptations to those new actions or offerings. Second, structure elements (actors or resources) result from interactions and evolve through interaction. The structure depends on the history, the existing situation and the future expectations of those involved (Ford & Håkansson, 2006).

“Interaction between any combination of business actors, activities and resources no matter how limited in number has wide, multiple and continuing effects, and in turn it is affected by multiple influences across the business network” (Ford & Håkansson, 2012, p. 7).

“Buyer-seller relationships are results of the interaction processes. Relationships are developed, maintained, and terminated through these processes” (Möller & Wilson, 1988, p. 401). Companies’ interactions change over time and there is no ideal stage in a relationship, due to the dynamic nature of interaction. Relationship’s early stages involve adaptation from both parties and reduction of social, cultural and technological distance between companies and long-term relationships are associated with institutionalized interactions (Ritter & Ford, 2004).

Johanson and Mattsson (1987), as well as Easton (1992), distinguish two types of interaction, specifically, exchange processes and adaptation processes, while Ruekert and Walker Jr (1987) consider exchange and coordination processes. Möller and Wilson

(1988, 1995) argue that buyer-seller interaction at the most elementary level can be better described through three basic processes: exchange, adaptation and coordination.

2.3.2.1 Exchange Processes

Wilson (1976, p. 395) based in Homans (1961) argues that, in a buyer-seller dyad, each party “develops a bundle of attributes that can be exchanged” and that can have utility to both buyers and sellers. “The successful dyad exchanges these bundles of attributes at a profit”, e.g. in the simplest situation the buyer receives product and gives payment.

Exchange relationships drive actors to move towards each other and interact. “Exchange relationships also link actors indirectly to other actors with whom they do not have any such relationship. Evidently, actors in the industrial system also use resources which are interdependent without the actors having exchange relationships with each other. This is typically the case with competing actors” (Johanson & Mattsson, 1992, p. 208). Interdependencies between actors are not exclusive of exchange relationships, e.g. the case of complementary suppliers. Actors not engaged in an exchange relationship start interacting when they consider important such interdependencies (Johanson & Mattsson, 1992).

The exchange between two actors affects directly and indirectly other actors, since it is never an isolated and independent event (Håkansson, 1992). Market is constituted by a “set of actors connected by exchange relationships to a network-like pattern of behaviours”, conferring opportunities and limitations (Snehota, 2004, p. 22). Easton (1992) argues that the central construct of social exchange theories is connection. “Two exchange relationships are connected to the extent that exchange in one relationship is contingent, positively or negatively, upon exchange in other relationship” (Easton, 1992, p. 5).

“Exchange does not take place in a vacuum but as part of a buyer-seller interaction process” (Wilson, 1976, p. 394). “Suppliers and customers meet, discuss and evaluate the conditions for exchange of goods and services, and exchanges take place” (Håkansson et al., 1982, p. 1). Organizations are involved in products or services,

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information, money and social exchanges. Products or services exchange is highly dependent on the product or service characteristics and on the capacity to identify and fulfil a buyer's need. Information exchange involves distinct width and depth of technical, economic, or organizational issues, which can be performed by impersonal or personal communication in different formality degrees (Håkansson et al., 1982).

Economic exchange is a highly visible evidence of a relationship. (Easton, 1992). Yet, exchange can engage different components rather than economic, i.e. technical, planning, knowledge, social or legal (Easton & Araujo, 1992). "Relationships may involve an economic exchange or they may not", usually intercompetitor relationships do not involve economic exchange (Easton & Araujo, 1992, p. 63). Exchange processes can be divided into resource exchange (e.g. product, service, technology, information, financial resources) and social exchange (e.g. beliefs, attitudes, values, norms, goals) (Möller & Wilson, 1988, 1995).

Resource Exchange

In interaction, actors exchange resources that are used and produced in activities. Through learning and handling resources over time, basic stability of activities is achieved. Firms modify and develop their activities achieving a balance in relation to other actors' activities, due to interaction (Håkansson & Johansson, 1988). In this section it is mainly highlighted the exchange of the resource "information".

"In most cases, contacts and information exchange precedes the exchange of money and products, and these contacts between individuals in two organizations are not independent of other variables in the interaction model" (Cunningham & Turnbull, 1982, p. 305). The evaluation, not only of the interactant characteristics, but also of the features and complexity of the supplier's product may predetermine the amount, type, and level of personal contacts. That is, profound amounts of information exchange may be required to exchange other resources, like products (Cunningham & Turnbull, 1982).

Key individual contacts establish and preserve business relationships. "These contacts enable information which is exchanged to reduce certain types of risk which are

An Interaction and Network Perspective of Horizontal Relationships perceived by one or other of the parties” (Cunningham & Turnbull, 1982, p. 305). Exchanging technical, commercial, and organizational information lessens both the uncertainty and the possible adverse consequences surrounding the decision of placing an order for a product or service. Informational exchange through personal contacts also provides both companies with the dynamic necessary to respond to new opportunities and threats. Information exchange provides both companies feed-back for action to change the relationship (Cunningham & Turnbull, 1982).

The exchange and transmission of informal and formal information is common to all interfirm relations. Information may be regarded as an investment that can be collected and stocked; it is knowledge (Easton, 1992). Higher communication levels between actors promote information exchange, leading to a better knowledge about the other actor’s activities. With this knowledge, actors can enhance their effectiveness, by identifying a combination of resources and activities (Hertz, 1992). Yet, “through the combination of economic and social relationships in the networks, the information becomes rich, redundant and cheap” (Hertz, 1992, p. 110). There is leakage or spillover risk of information, as well as the possibility of reducing contacts and opportunities’ development with other actors (Hertz, 1992).

Social Exchange

“Social exchange refers to the human communication through which meanings are communicated and values potentially interpreted and learned, although conceptually distinguishable resource and social exchange are practically interrelated. Most forms of resource exchange presume social exchange” (Möller & Wilson, 1995, p. 26).

Social exchanges develop over time and are the result of the relations between the involved individuals. They can transcend and even replace economic exchange (Easton, 1992). Interaction implies that actions of one party affect both parties and produce changes in the actions or behaviour of the other party. “Contracts, orders and agreements require offers, counter offers and bargaining to take place between representatives and specialists from various functional departments in customer and supplier companies. These representatives bring to the negotiations specialist

knowledge and interest in specific parts of the total transaction” (Cunningham & Turnbull, 1982, p. 304).

Business relationships that go further than the simple business-specific features also comprise behaviours and subjective values, such as, personal bonds and convictions. These later characteristics are always present and play an important role in relationship formation and development. Business relationship development is generally a social exchange process. Thus, the individuals that take part of the relationships become committed beyond strictly task content (Håkansson & Snehota, 1995a).

“At the individual level, personal contacts are made, bargaining and information exchange is carried out and individual relationships are established. This interaction occurs as long as one or both parties involved perceives benefit from it” (Cunningham & Turnbull, 1982, p. 304).

Social exchange increases over time with frequent resource exchange (Möller & Wilson, 1988). Social process takes time and is dependent on the other exchange elements. Social exchange allows two parties to gradually interlock with each other, reducing uncertainties between them and developing mutual trust (Håkansson et al., 1982). Social exchange affects the possibility of mobilizing the other party in favour of or against a specific development phenomenon. It is important even in formal arrangements since they “can never cover all aspects of the proposed relationship, and the parties thus need to have a certain level of trust in each other’s abilities and ambitions to carry out the required tasks” (Håkansson & Henders, 1992, p. 36).

Personal contacts’ “intensity varies over time according to the stage through which a relationship passes or due to regular, foreseeable circumstances, such as a change in the volume or design of an item. Unforeseen discontinuities and crises occur, which also affect the intensity of contacts between individual functions, or between the two organizations as a whole” (Cunningham & Turnbull, 1982, p. 314).

Personal contacts are at the heart of interactions and make possible other interaction elements, such as, the adaptations. “Adaptations to the product, manufacturing processes and delivery systems are discussed and agreements reached through personal discussions between interested specialist groups from each company” (Cunningham &

Turnbull, 1982, p. 308). The extent of adaptation affects significantly the exchange (Baptista, 2013). “The more intensive the exchange process among firms, the stronger will be the reasons to make adaptations” (Easton, 1992, p. 15).

2.3.2.2 Adaptation Processes

In industrial markets all actors (buyers or sellers) are involved in a search to find suitable partners. This process implies initiative and adaptations from both parties, such as requirements or offerings specifications (Håkansson et al., 1982). “If two partners were merely to transact business between each other under standard terms and conditions, at standard prices, buying and selling standard products using standard commercial procedures, then it would hardly be a partnership” (Brennan, Turnbull, & Wilson, 2003, p. 1638).

Interaction takes place within a pre-existing structure of relatedness and leads to continuum adaptation (Ford & Håkansson, 2012) by one, both or several actors in the network (Håkansson & Johansson, 1988). Repeated interactions or long lasting relationships lead to adaptations from those involved (Håkansson et al., 2004; Snehota, 2004). Adaptations can also occur during the process of a single exchange or over the time of a relationship involving individual transactions (Håkansson et al., 1982). “Adaptation process can be started independently or by the initiation of the other party, or by mutual consent. It can involve one or both parties” (Möller & Wilson, 1988, p. 401). Turnbull and Valla (1986) distinguish between adaptations that can suit the needs of many customers and unusual adaptations that only can suit a specific customer.

Although mutual adaptations are generally a prerequisite of the development and continue existence of a relationship (Håkansson & Snehota, 1995a), Brennan et al. (2003) argue that adaptations are not positively associated with relationship age. Moreover, the age of the relationship is not related with the adaptation degree (Baptista, 2013).

The company’s relationships with important customers and suppliers tend to be close, complex, long-term and with significant mutual adaptation by both parties. Supplier’s

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adaptations are likely to be associated with similar adaptations by customers (Ford & Håkansson, 2012). Supplier adaptations often lead to customer adaptations and vice versa, i.e. adaptations have a considerable degree of reciprocity (Brennan et al., 2003; Hallen, Johanson, & Seyed-Mohamed, 1991). Adaptations are a consequence of a matching process between the operations of two companies involved in a relationship (Hallen et al., 1991; Schmidt, Tyler, & Brennan, 2007). Thus, adaptation is a continuous process which results in changes in products or services, in manufacture processes or routines and in administrative procedures (Easton, 1992).

Brennan and Turnbull (1997) consider the scale of adaptation and the degree of formality to summarize different contributions to the understanding of the adaptation process. The developed classification is presented in Figure 26.

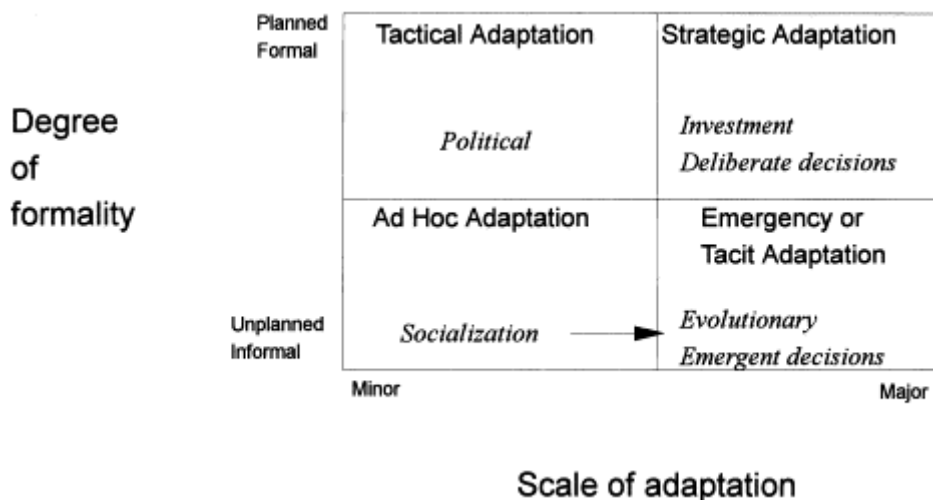


Figure 26: The adaptation process: scale and formality

Source: Brennan and Turnbull (1997, p. 78)

Brennan and Turnbull (1997) classify adaptation carried out by one partner for the other in four groups: tactical adaptation, strategic adaptation, ad hoc adaptation and emergency or tacit adaptation. “Tactical Adaptation” is a minor adaptation that is planned, i.e. comes as an outcome from negotiation processes, while “Ad Hoc Adaptation” represents minor and casual adaptations that result from socialization (learning process). Major adaptations can be “Strategic Adaptation” or “Emergent or Tacit Adaptation” depending on the degree of formality. The former is the result of carefully planned adaptations, generally involving investments in relationships, while

the later consists on substantial adaptations, likely to emerge from a long-term socialization process (Brennan & Turnbull, 1997).

Types of Adaptation

Among others, firms adjust products and processes to their partner's requirements (Easton, 1992). According to Brennan et al. (2003) or Schmidt et al. (2007) neither Turnbull and Valla (1986) nor Hallén, Johanson, and Seyed-Mohamed (1994; 1991) have identified any new type of adaptations over and above those reported by Håkansson et al. (1982). Table 4 summarizes classifications of adaptation used in previous studies.

Table 4: Adaptation type - Summary

Author	Adaptation Type
Ford (1980)	Product; Production processes; Stocks; Human Capital / Personnel
Håkansson et al. (1982)	Product specification; Product design; Manufacturing processes; Planning; Delivery procedures; Stockholding; Administrative procedures; Financial procedures
Turnbull and Valla (1986)	Product; Manufacturing process; Payment terms; Production planning; Delivery and stocks
Möller and Wilson (1988)	Functions; Procedures; Skills; Attitudes and Values; Goals
Hallen et al. (1991)	Product; Production process; Production planning; Stocks
Forsgren and Johanson (1992a)	Customized products; Just-in-time-delivery systems; Quality assurance programs
Möller and Wilson (1995)	Resources; Skills; Operations; Goals; Attitudes; Managerial Values
Brennan and Turnbull (1997)	Product; Production process; Production planning; Payment terms; Stockholding and delivery; Organization structure; Information provision;
Brennan et al. (2003)	Product; Production planning and scheduling; Stockholding and delivery; Information exchange; Production process; Financial or contractual terms and conditions; Organization structure; Other
Schmidt et al. (2007)	Product / service specification; Production

	process / technology; Production planning and scheduling; Information Exchange; Stockholding and delivery; Financial and contractual terms and conditions; Organizations structure; Personnel; Other
Baptista (2013)	Product; Production process and planning; Stockholding and delivery

Table Footnote: Several authors, such as, Möller and Wilson (1988, 1995) or Baptista (2013) consider that interaction comprises adaptation and coordination processes and not only adaptation processes.

Adaptations on production planning and scheduling, stockholding and delivery, or on the product feature itself are usually frequent. Brennan et al. (2003) conclude that information exchange and organization structure are also regular adaptations made by customers and suppliers. Schmidt et al. (2007) highlight that adaptations in personnel / human resources tend to be made only after a firm has already made other adaptations and appear to be dependent of those previous adaptations. Product or production process's adaptations are more likely to be motivated by operational requirements, while personnel adaptations are expected to be motivated by the desire to build trust and commitment (Schmidt et al., 2007).

Both Brennan et al. (2003) and Schmidt et al. (2007) state that authors such as Turnbull and Valla (1986) or Hallén et al. (1994; 1991) make the conceptual distinction between customer adaptations and supplier adaptations, but failed to find substantial empirical differences between them in terms of adaptation types. Schmidt et al. (2007) also did not find a clear difference between supplier and customer firms in terms of the motivation to adapt.

However, Brennan et al. (2003) argue that supplier adaptations are influenced by the buyer power, its own supplier managerial orientation and also by the customer managerial orientation. While customer adaptations are not influenced by supplier power, usually they take place in response to supplier's adaptations and supplier's managerial orientation (Brennan et al., 2003). Supplier adaptations were more frequent than customer adaptations (Baptista, 2013; Brennan et al., 2003; Schmidt et al., 2007).

Moreover, supplier-based adaptation often encompasses more adaptation types (Baptista, 2014). Suppliers also had a wider variety of reasons to adapt than customers, although both adapt to each other to meet demands of subsequent customers (Schmidt et al., 2007).

Motives, Costs and Benefits of Adapting

Johansson and Mattsson (1988) claim that companies adapt to strengthen bonds between them. “Exchange relationships in networks may become lasting, especially if the heterogeneous resources controlled by the actors become adapted to each other and become highly specialized” (Johanson & Mattsson, 1992, p. 208).

Often parties adapt motivated by the desire to build trust and commitment (Schmidt et al., 2007). Ford (1980) highlights that informal adaptations are often important commitment indicators. Hallen et al. (1991) argue that reciprocal adaptations can be means of trust-building within the relationship, while unilateral adaptation constitutes a response to asymmetric resource dependence or imbalanced power. Brennan et al. (2003) state that, in a relationship, asymmetrical power can lead to adaptations. Baptista (2014, p. 84) also asserts that “the corroboration of product importance, complexity and market concentration and resource dependency” are adaptation’ drivers.

Successive adaptations of actors, activities and resources in relation to each other generate a structure of relatedness and interdependent actors constituted by direct and indirect customers, suppliers and competitors, as well as other actors apparently not connected (Ford & Håkansson, 2012). Company’s adaptation decision may keep relationship parties distant or bring them together and/or heavily dependent on their counterpart (Håkansson et al., 1982). Although business landscape frequently encompasses alternative actors, due to adaptations and to the development of heterogeneous interdependencies, apparently the alternative counterparts cease to be a real alternative (Ford & Håkansson, 2012).

Continuous interaction is the source of permanent revision and adaptation within organizations. Through continuous interaction, actors may access resources of other

parties and find solutions to problems based on experience and capabilities of their counterparts (Snehota, 2004).

Adaptation implies resource commitment (Easton, 1992). Adaptation may even imply extensive investments by one or both relationship partners (Brennan et al., 2003). Adaptation costs are usually considered by organizations, yet they do not carry out an explicit analysis. Adaptation costs can be divided in opportunity costs, i.e. engaging closely with one partner may provide the chance to build a relationship with another in the future, and switching costs, i.e. costs that are sunk and cannot be recovered if the relationship ends (Schmidt et al., 2007). Costs that originate relationship specific assets can only be recouped over time and thus can place the firm at risk of opportunistic behaviour (Brennan et al., 2003).

Through interaction, parties gradually learn about each other's needs, capabilities and strategies and come to trust each other. Meanwhile they adapt to each other's way of performing operations and commit resources to the relationship (Forsgren & Johanson, 1992a). Due to relationship's specific investments and adaptations made by the participant actors, relationships are likely to be long-term (Ford & Håkansson, 2012). Specific adaptations provide tangible benefits, such as a revenue gain or a cost reduction. Beyond those, adaptations also grant new skills acquisition, bond strengthening and customer retention improvement, often lead to personal relationships and trust, and generally provide considerable efficiency gains (Schmidt et al., 2007). Cooperation through adaptation processes increases efficiency of both parties (Håkansson & Henders, 1992).

Adaptation may demonstrate the actor flexibility, commitment, trust and confidence in the other. These features have all been observed to be decisive for the achievement of a common goal and/or stability of strategic alliances (Gebrekidan & Awuah, 2002).

2.3.2.3 Coordination Processes

Early marketing and channel literature mentions coordination of economic and social forces. The process that takes place between actors to get commodities from the

producer to the consumer involves coordination across the boundaries of the firm (Ford & Håkansson, 2012).

Coordination is not achieved by a great strategic plan or by quasi hierarchy. Nor are firms independent enough from each other to prevent the market from dictating and controlling their actions (Easton, 1992). Continuous interaction is common and useful for the coordination of organizations (Snehota, 2004). Still, actors coordinate their activities in the network through interaction (Lundgren, 1992). “Coordination refers to the development and use of mechanisms that facilitate the control of exchange processes” (Möller & Wilson, 1995, p. 27) and often involves semiautomatic processes (Ford & Håkansson, 2012).

Coordination processes refer to the extent to which the work between parties reflects good and effective functioning. Coordination is constituted by control and follow-up procedures related to the exchange and adaptation processes, i.e., mechanisms developed to facilitate the control exchange and adaptation processes, and it can be also regarded as the degree of institutionalization (Baptista, 2013). Coordination processes embrace not only a combination of efficiency enhancing mechanisms, but also include decisions on the terms of trade between firms. Parties develop norms, rules and procedures concerning exchange processes execution, monitoring and evaluating results (e.g. revenue and losses sharing) and conflict resolution (Möller & Wilson, 1988, 1995).

Coordination processes include the use of rules and standard operating procedures to increase the efficiency of repetitive interactions. Increased interaction is associated with bigger incidence of formalized rules and standard operating procedures. “The degree to which rules or standard operating procedures are used to govern the interaction between two individuals in different functional areas can be referred to as formalization” (Ruekert & Walker Jr, 1987, p. 6). These coordination processes are important conflict resolution mechanisms (Ruekert & Walker Jr, 1987). Baptista (2013) identifies the lack of coordination for the emergence of many conflicts in the relationship.

“Successful management of relationships requires the co-ordination of all aspects of commercial and technical interactions within each relationship” (Håkansson et al., 1982, p. 301). The execution of coordination processes influences the perceived relationship atmosphere. Since each relationship involves both competitive and cooperative

elements, “the question is how conflicts are resolved and managed” (Möller & Wilson, 1995, p. 27).

Ruekert and Walker Jr (1987) argue that relationship management and effectiveness is enhanced when the individuals who are engaged in a dispute are allowed to work out their differences between themselves. Cooperation is often used to hold together alliances or to reconcile differences between them (Håkansson & Johansson, 1988). Rather than integrating and strengthening, coordination processes may have a dividing and weakening effect (Håkansson & Johansson, 1988).

Coordination emerges when gains can be expected to specific actors (Forsgren & Johanson, 1992a). Coordination allows actors to achieve a higher output, technological development and a more effective production and consumption. Actors obtain knowledge on how to combine activities over time, usually learning by doing, in a process of trial and error (Lundgren, 1992). Organizations also frequently overcome problems, such as, insufficient information and scarce resources through coordination of activities and resources with other actors (Hertz, 1992). Coordination processes in networks become routines and then norms and values intrinsic to the interacting actors. Coordination processes also lead to increased actor interdependence and network structuring (Lundgren, 1992).

2.3.3 The Outcome – The Development of Bonds

Håkansson and Snehota (1995a, p. 194) “argue that a special type of connections exists between companies which we refer to as bonds and that these are important for how they are perceived by others and thus for what they are”. Bonds refer to mutual interests between the actors. That is, over time, as a consequence of interaction, bonds of various kinds are formed by firms (Håkansson & Johansson, 1988). Bonds arise from the interaction between actors and reflect that interaction. The process of bonding in a relationship is often taken only as information flow. Yet, the interpretation of actions and counteractions and not only access to information enables improved handling of the bonding process (Håkansson & Snehota, 1995a). Möller and Wilson (1988) argue that

the character or state of a relationship can be assessed, among others, through examining the bonds between companies.

To move from exchange to the creation of bonds it is necessary to make adaptations and investments (Bengtsson et al., 2003). Unique bonds arise between parties. Bonds develop against the background of a shared meaning and are a source of meaning. Bonds development leads and is the result of common rules and norms in interaction. Bonds development within a business relationship is, to a great extent, related with the formation of trust and commitment as the relationship develops. “The development of bonds has to be mutual, which entails a special difficulty of not only giving priority but also of getting the priority from the counterpart” (Håkansson & Snehota, 1995a, p. 264).

Developing and maintaining bonds takes time and is costly, reason why strong bonds cannot be maintained with everyone (Håkansson & Snehota, 1995a). Within relationships firms are tied together through strong and weak bonds between them. Strong bonding is dependent on the satisfaction with the terms of the current exchange and the presence or the absence of alternatives. Weak bonds generate volatile networks, while strong bonds provide more stable and predictable network structures. Strong bonds are expected to have superior capacity to withstand a disruptive force (Easton, 1992). Increasing exchanges and especially adaptations lead to tight bonding between interaction parties (Möller & Wilson, 1988).

2.3.3.1 Characteristics of Bonds

“The actors are selectively bound together and every actor is defined by the surrounding actors. They are thus a product of their bonds and are never completely free” (Håkansson & Snehota, 1995a, p. 194). Hence, actors’ actions lead to the development of bonds, which in turn, shapes behaviours, intentions and interpretations of actors. Bonds are important for what they represent within the relationship, as well as for the way other perceived them (Håkansson & Snehota, 1995a).

Håkansson and Snehota (1995a, p. 202) summarizes that “the effect of actor bonds in business relationships revolves around three themes. First, bonds are a prerequisite of

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mutual learning and development of actors; a necessity in a context of change. Second, the bonds are necessary in order to acquire a meaning, being considered, in other actors' perceptions and behaviours. Third, the bonds are necessary since other actors need to be mobilized in any attempt to accomplish something”.

The relationships constant change is the result of the interaction nurtured between businesses over time, which generates diversified bonds (Johanson & Mattsson, 1987). Through interaction, actors develop various kinds of bonds with each actor. Over time bonds are formed by the parties as a consequence of interaction and tend to create lasting relationships between firms (Håkansson & Johansson, 1988).

“We distinguish technical, planning, knowledge, socioeconomic, and legal bonds. These bonds can be exemplified by, respectively, product and process adjustments, logistical coordination, knowledge about the counterpart, personal confidence and liking, special credit agreements, and long-term contracts” (Johanson & Mattsson, 1987, p. 35). Möller and Wilson (1988) argue that besides the type of bonds identified by Johanson and Mattsson (1987), companies also develop organizational, procedural, informational, financial, and social bonds, among others.

Easton and Araujo (1992) highlight that exchange relationships do not have to involve an economic component. Other dimensions, such as the development of several bond types, may take place along with exchange. Rather than economic, these bonds may be technical, planning, knowledge, social and legal. “As examples, competitors can exchange or share technical equipment; complementary suppliers may have to plan and coordinate their logistical activities; communication networks usually overlay industrial networks; social relationships within the network are not confined to buyer-seller relationships; and legal ties in the form of contracts or ownership can bind network actors who are not otherwise linked in terms strictly economic exchange.”(Easton & Araujo, 1992, p. 66).

2.3.3.2 Types of Bonds

Social bonds are expected when exchanges are mediated between individuals (Thunman, 1992). Social bonds may concern aspects such as personal contacts, friendship, family ties, cultural issues (Proença & Castro, 1998) and personal confidence (Håkansson & Johansson, 1988) among others. Personal bonds between individuals in organizations are instrumental in solving emerging and future problems (Thunman, 1992). “Social bonds that arise among individuals in the two companies are important for mutual trust and confidence in interaction between individuals” (Håkansson & Snehota, 1995a, p. 15). Social bonds are as well particularly important when organizations face cultural distance (Thunman, 1992) and are essential for the identification of needs and opportunities (Håkansson & Snehota, 1995a).

Technical bonds are related to the technologies employed by firms (Håkansson & Johansson, 1988) and often arise from the characteristics of the exchanged products or services (Easton, 1992). Proença and Castro (1998) highlight the importance of know-how links and digital links between companies and commercial banks. Firms can also engage in technical cooperation to overcome a technical dependency, i.e. develop a technical bond, aiming to maintain social or knowledge bonds or other (Håkansson & Johansson, 1988). In contrast, “social exchanges may be strengthening social bonds at the same time as product exchanges are weakening technical bonds” (Easton, 1992, p. 15).

“The long-term relationship between the organizations increases their respective knowledge of the other party, its technology and environment” (Thunman, 1992, p. 71). Knowledge bonds are related to the parties’ knowledge about their business (Håkansson & Johansson, 1988) and knowledge about each other structure and processes (Proença & Castro, 1998). Actors can gain experience by getting in touch with their counterpart needs and problems. Experience increases the perception of market closeness and knowledge of institutional factors. The exchange of information is relevant to knowledge acquisition. Signing a contract normally opens up a flow of information between organizations (Thunman, 1992). Proença and Castro (1998) identify the volume of information exchange and the importance of exchanged information as informational bonds.

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“A lot of what is going on in a relationship is administrative in nature” (Håkansson & Snehota, 1995a, p. 15). Administrative bonds are associated with administrative routines and procedures of firms (Håkansson & Johansson, 1988). Administrative activities facilitate behaviour coordination among different parties. Information processing and exchange is both extensive and expensive. The majority of the administrative activity is information processing or control (Håkansson & Snehota, 1995a).

Frequently non transferable investments in a specific relationship create durable economic bonds between actors (Brennan et al., 2003). Economic bonds not only include the degree of financial links and investment in each other’s business, but also encompass economic risks on behalf of the other organization, price and cost consideration (Proença & Castro, 1998). “More formal economic bonds may also exist as where firms invest in one another or in joint ventures or provide extended credit facilities. However the very existence of non economic exchange aspects of a relationship serves to down play the contribution of price in determining the behaviour of the two partners” (Easton, 1992, p. 12).

Legal Bonds, such as contracts or ownership, may be highly visible but may be less binding than they appear (Easton, 1992). In other words, juridical bonds often have the function of insurance, in case something goes wrong, and make the relationship more visible (Axelsson, 1992). Formal-legal power, including written long term agreements or ownership, allows one organization to influence the behaviour of another. One effect of formal-legal agreement is to include sanctions (Hertz, 1992).

When contracts are involved to formalize a relationship, they do not seem to be closely related to the protection of a company’s interests, but rather a mechanism of making the relationship more visible (Håkansson & Henders, 1992). Formal cooperation is more visible, not only within the cooperating firms, but also outside, to other actors. Formalization places visibility first and business afterwards and does not often lead to real cooperation. Formal cooperation usually involves higher management level (Håkansson & Johansson, 1988) and can represent the beginning of a relationship (Thunman, 1992).

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Firms can adopt informal and formal cooperative strategies (Håkansson & Johansson, 1988). Firms may implement formal cooperative agreements such as joint ventures, licensing, coproduction agreements and management contracts (Håkansson & Johansson, 1988). “Institutional relations like ownership and being a part of the same legal entity lie at one extreme of a scale of formal-legal integration and formal written long-term contracts represent a less extreme case” (Hertz, 1992, p. 109). However, formal contracts are often ineffective in taking care of the uncertainties and conflicts that emerge from the relationship over time (Håkansson & Snehota, 1995a). “Many aspects of the agreements between the buying and selling firms are not fully formalized nor based on legal criteria” (Håkansson et al., 1982, p. 17).

In contrast, informal cooperation is based on trust developed through social exchange (Håkansson & Johansson, 1988). Trust has a major influence on the degree of the formal-legal ties chosen (Hertz, 1992). Firms can engage in informal lasting mutually advantageous relationships, where the parties take each other interests into consideration (Håkansson & Johansson, 1988). Informal rules are mainly implicit and take the shape of expectations, “the rules governing the co-operative activity between the two actors could be both formal and informal in nature” (Håkansson & Preunkert, 2004, p. 86).

2.4 This Research Conceptual Framework

“A conceptual framework explains, either graphically or in narrative form, the main things to be studied – key factors, variables, or constructs – and the presumed interrelationships among them” (Miles et al., 2014, p. 20).

The research problem is centred on the study of horizontal relationships’ development. Thus, process and time related theoretical inputs are enclosed. Interaction models and the relationship development are complementary. That is, the relationship development can be assessed through the analysis of the interaction between companies, commonly tackled by inherent dimensions. This thesis conceptual framework is presented in two main subsections. First, it is addressed the relationship development conceptual framework followed by a conceptual model focusing the intercompetitor interaction.

2.4.1 Relationship Development Conceptual Framework

Drawing mainly on Easton and Araujo (1992), Ford (1980), and Ford and Rosson (1982), a conceptual framework for the analysis of relationships' evolution between competitors is presented. The next two subsections encompass, respectively, the phases and the model of horizontal relationship's development.

2.4.1.1 Phases of Horizontal Relationship Development

One can denote four main phases in relationship development models: searching, formation, development and dissolution. These four phases can be briefly characterized: first, organizations gather information on the possible partner and evaluate potential counterparts; second, parties establish initial contacts and negotiations, testing also personal and goal compatibility; third, through interaction processes, parties may develop the relationship (in different levels); finally, relationships can fail to develop, regress or even be discontinued by either relationship party or by outsiders' actions. Additionally, co-existence phase is considered since it is an important aspect to be included at the outset of the relationship development (e.g. Ford, 1980; Johanson & Mattsson, 1992).

Searching Phase

Although employing different designations Batonda and Perry (2003), Claycomb and Frankwick (2010), Dwyer et al. (1987), Ford (1980), Kanter (1994), Schreiner et al. (2009), among others, consider that searching phase is characterized by seeking a new potential partner. In addition, this phase includes the recognition of a relationship purpose, gathering information on the possible partner and evaluation of potential counterparts.

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The searching phase occurs before the establishment of a formal contact or agreement and is where both parties tend to learn about each other (Wackman et al., 1987). It is a unilateral process (Andersen, 2001; Dwyer et al., 1987) and there is no commitment by the parties (Ford, 1980). In this phase, communication is planned and unidirectional, i.e. it does not imply direct dialogue between the potential buyer and supplier, it can be obtained through other actors (e.g. customers of the potential supplier and with the supplier's distributors, suppliers and even competitors) (Andersen, 2001).

Formation Phase

The formation phase is mainly characterized by negotiations between counterparts (Ali et al., 1997; Andersen, 2001; Claycomb and Frankwick, 2010; Das and Teng, 2002; Ford, 1980; Schreiner et al., 2009). Parties establish initial contact and test personal and goal compatibility (Batonda & Perry, 2003). Through negotiation processes, parties can reconcile incompatible goals (Ford & Håkansson, 2012), settle contracts and relationship terms, overcome first problems, start to adapt to each other (Ali et al., 1997), discuss interests, goals, norms, expectations, activities, resources (Andersen, 2001).

Through interaction, buyers and sellers also develop power-dependence relations, norms, collective goals and expectations. In this phase, parties also develop rudiments of trust and joint satisfaction that lead to risk taking increase within the dyad (Dwyer et al., 1987). Incompatibilities may lead to the breakdown of the negotiations. If an agreement is reached, parties develop the relationship (Andersen, 2001).

Development Phase

In the development phase, through interaction, the uncertainty and distance are reduced, while parties increase their experience and commitment (Ford, 1980). Parties develop and increase interdependence, satisfaction (Dwyer et al., 1987), experience, benefits (Andersen, 2001) and trust (Andersen & Kumar, 2006). Participants are aware of alternatives but cease to quest other possible partners (Dwyer et al., 1987).

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Interaction processes are relevant in this phase of the relationship development. Exchange processes are also expected to increase. Adaptation processes allow parties to fortify their relationship (Ford, 1980). Coordination processes are required to operate the alliance, e.g. to coordinate tasks' execution or solving conflicts (Schreiner et al., 2009). Parties may further develop their relationship, executing major exchanges, reaching high experience and commitment and low uncertainty and distance. Parties can adopt extensive adaptations and institutionalization may take place, which further allows cost-savings (Ford, 1980). Actors institutionalize values, rules and procedures (Claycomb & Frankwick, 2010). Hertz (1992) argues that the increase of relationship intensity enhances rules, policies, procedures and formalization. Rules assume the form of unspoken, spoken, unwritten or written agreements. Institutionalized rules can minimize the possibility of relationship discontinuity (Sandström, 1992).

Dissolution Phase

At any phase, relationships can fail to develop, regress, or even be discontinued. Dissolution phase depends on the actions of the involved parties or of outsiders, such as, competing buyers or sellers (Ford, 1980). A business relationship is vulnerable to termination in every phase and it might be either voluntary or involuntary (Andersen & Kumar, 2006; Dwyer et al., 1987; Ford, 1980; Guillet de Monthoux, 1975; Wackman et al., 1987; Zineldin, 2002).

Actors dissolve the relationship when maintenance costs surpass benefits of preserving it (Batonda & Perry, 2003; Dwyer et al., 1987), when personnel or organizational requirements changes, or obstacles to interact with alternative partner cease to exist (Dwyer et al., 1987). The outcome is tied with performance evaluation and expectations. The alliance outcome may be: stabilization, reformation, declination or termination. Outcomes combinations, such as, reformation followed by termination are also possible (Das & Teng, 2002).

Halinen and Tähtinen (2002) argue that relationships dissolution can encompass itself several stages and depends on the type of relationship and its different endings, the factors that influence the process, and the actual ending process in terms of activities

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and events. The history and potential future of the relationship has a major importance in the dissolution process. Hence, parties can entail themselves in restoring actions or proceed to relationship disengagement (Halinen & Tähtinen, 2002). Guillet de Monthoux (1975) argues that dissolution may lead to relationship restoration with the same organization, i.e. dissolution may be a temporary state, but it may also involve a new romance with a new partner.

Through interaction actors dissolve the relationship, negotiating their unbonding (Dwyer et al., 1987). Havila and Wilkinson (2002) argue that trade ceasing is a common criterion used to typify relationship termination. Some actor bonds, including economic, technical, legal and administrative bonds cease to exist when trading stops. Even though, social and business interaction may continue. Social bonds, personal relationships and knowledge remain and can be taken up later (Havila & Wilkinson, 2002). Informal interpersonal bonds play a major role in the re-activation of relationships (Andersen & Kumar, 2006).

Co-existence Phase

Competitors often have relationships of co-existence, although those may not endure (Bengtsson et al., 2003). Co-existing competitors usually are only aware of the other's existence. Bengtsson and Kock (1999) consider that two co-existing competitors can have information and social exchanges. Trust is regarded as high and informal, as one actor is dependent on the other actor not interfering with him. Norms are also informal and goals are determined independently (Bengtsson & Kock, 1999).

Actors may co-exist when they have independent goals and objectives (Easton & Araujo, 1992), when actors conclude that relationship development costs are greater than any potential benefit, when legal constraints endure (Ford & Håkansson, 2012). Moreover, co-existence may persist for historical reasons (Johanson & Mattsson, 1992) or due to companies distance, whether it is geographical, technological, psychological or market based (Easton & Araujo, 1992).

2.4.1.2 Conceptual Framework of Intercompetitor Relationship Development

The conceptual framework for the analysis of the intercompetitor relationship development encompasses five phases: searching, formation, development, dissolution and co-existence. The conceptual framework considers the following specificities:

- (1) Several authors, such as, Batonda and Perry (2003), Dwyer et al. (1987) and Ford (1980) allow the identification and discrimination of four autonomous phases in the relationship development. Even though, different authors may use diverse designations, these four phases are adopted considering described common characteristics of the phases. Hence, this conceptual framework includes the searching phase, the formation phase, the development phase and the dissolution phase;
- (2) Mainly considering the work of Bengtsson and Kock (1999), Bengtsson et al. (2003), and Easton and Araujo (1992) co-existence is considered as a relevant relationship phase;
- (3) The conceptual model for strategic alliance development considers time to be a central element. It is assumed that relationships evolve over time through a set of consecutive stages, hence it is posited that a life-cycle approach is assumed. Time is an important variable in studies of relationship development and change (Backhaus & Büschken, 1997).

A clear distinction between each phase can be made, based only on a few characteristics. Parties co-exist when they are just aware of the other's existence without interacting (Bengtsson & Kock, 1999; Easton & Araujo, 1992). In the searching phase, before establishing a formal contact or agreement, parties seek a new potential partner through a unilateral process (Dwyer et al., 1987). In the formation phase, parties negotiate relationship terms and align goals. The development phase is characterized by interaction processes held between relationship parties (Ford, 1980). In the dissolution phase, parties initiate and negotiate their unbonding (Dwyer et al., 1987; Halinen & Tähtinen, 2002).

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It is argued that a strategic alliance between competitors starts, or restores, from the state of co-existence or inertia. The relationship progress takes place over time through a set of consecutive stages. Hence, the model does not presume that, in order to form an alliance, parties can skip the searching phase. As well, it is not expected that two parties can achieve the development phase skipping the formation phase. Moreover, without the necessary interaction, parties do not institutionalize routines, within development phase. However, it is assumed that relationships may not necessarily have to evolve i.e. they can have static phases, or even regress. Relationship termination is an ever present possibility.

Competitors may initiate dissolution processes at any stage of relationship development. From dissolution, parties may restore (or continue that relationship) or they may end the alliance. Following trading alliance termination, parties can continue social and business interaction. Social bonds, personal relationships and knowledge remain and can be taken up later. Further, after dissolving the relationship, parties announce their decision to the network and deal with the consequences of break-up.

2.4.2 Intercompetitor Interaction Conceptual Framework

The proposed theoretical model for the horizontal relationships analysis mostly supports itself in concepts and frameworks of vertical relationship interaction. It is mainly supported by the work developed by Håkansson et al. (1982), Campbell (1985), Easton and Araujo (1992), Möller and Wilson (1995), Bengtsson and Kock (1999) and Baptista (2013).

2.4.2.1 Characteristics of Model Components

The herein theoretical model is developed according to the following rationale: (1) based on the literature review, four dimensions are identified as a possible common trait in the characterization and understanding of horizontal relationships; (2) since the study of this phenomenon within this theoretical realm is at an early stage, we embrace an holistic view, thus including a wide number of variables, even at the risk of some

overload. The developed model for the analysis of horizontal relationships considers four main components that mutually affect and are affected in the interaction: context, nature, processes and outcomes.

The Interaction Context

Relationships and interaction are not context free (Gummesson, 2006). The interaction context embraces both market and party characteristics. The party's context includes features of both organization and individuals who represent them (Campbell, 1985; Håkansson et al., 1982; Turnbull & Valla, 1986).

The wider context in which interaction takes place is the interaction environment. Relationships are affected by the market concentration of both buyers and sellers, by the change rate of market constituent members or by the firm's motivation in developing international relationships (Håkansson et al., 1982). The market context includes industry characteristics, such as, concentration, number of competitors, intensity of competition, rate of technical change, traditions and norms (Campbell, 1985), as well as demand / production capacity, number of buyers / suppliers number of potential interaction partners, network characteristics and environmental conflict (Möller & Wilson, 1995). Baptista (2014) addresses the market structure highlighting the dimensions of concentration, dynamism and resource dependency.

Håkansson et al. (1982), and Turnbull and Valla (1986) both consider that organizational factors include technology, size, structure, strategy, as well as experience of sellers and buyers. The model developed by Campbell (1985) is heavily built on the Håkansson et al. (1982) interaction model and also considers the preferred interaction style, relative familiarity, centralization, risk aversion and perceived importance of interaction parties. Möller and Wilson (1995), in addition, specify other characteristics related to the organizations, such as goal compatibility, relative dependence, comparison levels' alternatives and resources control. Table 5 comprises context characteristics of the market and of the party.

Table 5: Context characteristics from previous studies

Context	Characteristic	Empirical evidence
Context of the Market	Concentration	Number of companies with production plants
	Export %	Ratio Exports / National sells
	Internal Dynamism	Stability / Change in the market
	External Dynamism	Stability / Change in the market
Context of the Party	Size	Number of employees; Sells volume
	Age	Foundation year
	Horizontal Relations	Number of existing horizontal relationships, duration of those relationships
	Production	Production volume
	Concentration	Production plants

Context variables influence and are influenced by interaction processes and relationship outcomes (Håkansson et al., 1982; Turnbull & Valla, 1986). Håkansson et al. (1982) state that usually several individuals, from both organizations of buyers and sellers, are involved in inter-company interactions. Individuals exchange information, develop personal relationships and influence decisions of both companies. Campbell (1985), Möller & Wilson (1995) and Baptista (2013) focus on the relation between the context and the interaction processes. Through continuous interaction, buyers and sellers can expand their knowledge and understanding of the context making it a way “to deal with the unpredictable and unforeseeable future” (Snehota, 2004, p. 24).

The Relationship Nature

It is posited that the nature of the horizontal relationship between competitors encompasses cooperation. That is, an intercompetitor relationship encloses features of both competition and cooperation, simultaneously (cf. Bengtsson & Kock, 1999, 2014; Easton & Araujo, 1992). Further, in due course the nature of the relationship changes (Bengtsson & Kock, 1999), e.g. companies can compete after cooperative R&D results becomes exploitable (Easton & Araujo, 1992).

Competition is an interactive process based on perceptions and experience of individuals within organizations (Bengtsson & Kock, 1999). In other words, each actor

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identifies others, as alternatives, classifying them as competitors (Ford & Håkansson, 2012). On the contrary, counterparts exploit the benefits of working together in cooperative relationships (Håkansson & Henders, 1992). Firms develop cooperative relationships when they share mutual or dependent goals (Bengtsson et al., 2003; Easton, 1992; Sandström, 1992), and accept some degree of obligation and assurance with respect to their future (Richardson, 1972).

Coopetition comprises characteristics of competition and cooperation within a relationship at the same time (Bengtsson & Kock, 2014). Firms may cooperate in one activity and compete in other activities (Bengtsson et al., 2010, 2003). Commonly, coopetition occurs when two direct competing firms cooperate (Bengtsson & Kock, 2014). Considering cooperation and competition as two different natures within a relationship, two distinct and opposite interactions take place. A “two continua” (one of cooperation and the other of competition) approach implies that both strong and weak of each nature may coexist (Bengtsson et al., 2010; Bengtsson & Kock, 2014).

The Interaction Processes

Möller and Wilson (1988, 1995) and Baptista (2013) argue that buyer-seller interaction comprises three basic processes: exchange, adaptation and coordination. Due to the nature of the intercompetitor relationship, the conceptual framework for the analysis of the horizontal relationship development includes those three processes.

Usually relationships between competitors do not involve economic exchange (Easton & Araujo, 1992). Still, exchange processes can encompass resource exchange (e.g. product, service, technology, information, financial resources) and social exchange (e.g. beliefs, attitudes, values, norms, goals) (Möller & Wilson, 1988, 1995). The exchange of informal and formal information is common to all interfirm relations (Easton, 1992) and frequently precedes the exchange of money and products (Cunningham & Turnbull, 1982). A lot of information may be required to exchange other resources (Cunningham & Turnbull, 1982). Resource exchange presumes social exchange. Over time, through human communication, norms and values are exchanged (Möller & Wilson, 1988, 1995).

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Adaptation is a continuous process that results in changes in product specification, product design, manufacturing processes, planning, delivery procedures, stockholding, administrative procedures and financial procedures. Interaction accommodates adaptations that can occur during the process of a single exchange or over the time of a relationship (Håkansson et al., 1982), involving one or several actors in the network (Håkansson & Johansson, 1988). Adaptations in one actor often lead to adaptations in others (Brennan et al., 2003; Ford & Håkansson, 2012; Hallen et al., 1991).

Coordination processes refer to the extent the work between parties reflects good and effective functioning. Coordination processes embrace mechanisms to control and follow-up exchange and adaptation processes, efficiency enhancing mechanisms, and semiautomatic responses to conflicts and environmental changes (Baptista, 2013; Ford & Håkansson, 2012; Wilson & Möller, 1988). Cooperation is also frequently used to hold together alliances (Håkansson & Johansson, 1988) and is achieved over time, usually resulting from a “learning by doing” process and not the result of a strategic plan (Easton, 1992). Table 6 holds the expected interactions processes to be found at intercompetitor relationships, as well as, concepts and measures related with those processes.

Table 6: Interaction processes characteristics from previous studies

Interaction process	Dimension	Characteristic	Empirical evidence
Exchange Processes	Information and Knowledge	Frequency	Frequency of contact
		Direction	Direction of the information
		Result	Adaptation or coordination (Examples)
		Importance	Exchange perceived value
		Cost	Exchange perceived costs
	Social	Complexity / content and influence	Contact involving technical personnel
		Frequency	Frequency of contact
		Direction	Direction of the information
		Importance	Exchange perceived value
		Adaptation Processes	Parties adaptation towards the other
Planning adaptations	Market entry strategy		
Processing info	Knowledge shared and treatment		

Coordination Processes	Coordination efforts between Parties	Rules	Procedures adopted
		Institutionalization	Routinization of procedures
		Formalization	Need to formalize

The Relationship Outcomes

Bonds take place and reflect the interaction between actors. The process of bonding in a relationship occurs as information flow. Information access, actions’ interpretation and counteractions affect the development of bonds (Håkansson & Snehota, 1995a). As a result of the constant interaction, numerous and diversified bonds emerge (Johanson & Mattsson, 1987; Möller & Wilson, 1988).

Bonds are related with mutual interests between the actors and can reflect the state or character of a relationship (Möller & Wilson, 1988). The following table (Table 7) summarizes several types of bonds and features that can be related with those bonds.

Table 7: Bonds characteristics from previous studies

Bond	Characteristic
Technical	product and process adjustments, technological cooperation
Planning	logistical coordination
Knowledge	knowledge about the counterpart or their business, experience
Informational	volume of information exchange and the importance of exchanged information
Economic	relationship specific investment or economic gains
Legal	special credit agreements, long-term contracts, ownership
Administrative	administrative routines and procedures of firms, information processing or control
Social	mutual trust and confidence, personal contacts, friendship, family ties, cultural issues

2.4.2.2 Theoretical Model of Analysis for Intercompetitor Interaction

Reviewed interaction models were mainly conceived to study buyer-seller relationships. The proposed model of analysis is adjusted to better accommodate specificities of horizontal relationships. The skeleton of the proposed model is based mainly on

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Håkansson et al. (1982), Campbell (1985) and Möller and Wilson (1995) seminal works. Those lead to the incorporation of three dimensions in the model: party and market context, interaction processes and relationship outcomes. In order to pursue the aim of this study, the proposed dimension “relationship nature” is incorporated. This last dimension agglutinates aspects of those seminal works and research on horizontal relationships (e.g. Bengtsson & Kock (1999), Easton & Araujo (1992)). Particularly, Easton and Araujo (1992) argue that the atmosphere concept of Håkansson et al. (1982) model (in this model referred as relationship nature) should encompass both economic exchange and other relationship forms. This way, their incorporation in the network theory might be integrative, rather than additive, preventing losses. Figure 27 presents the proposed theoretical model for horizontal relationship analysis.

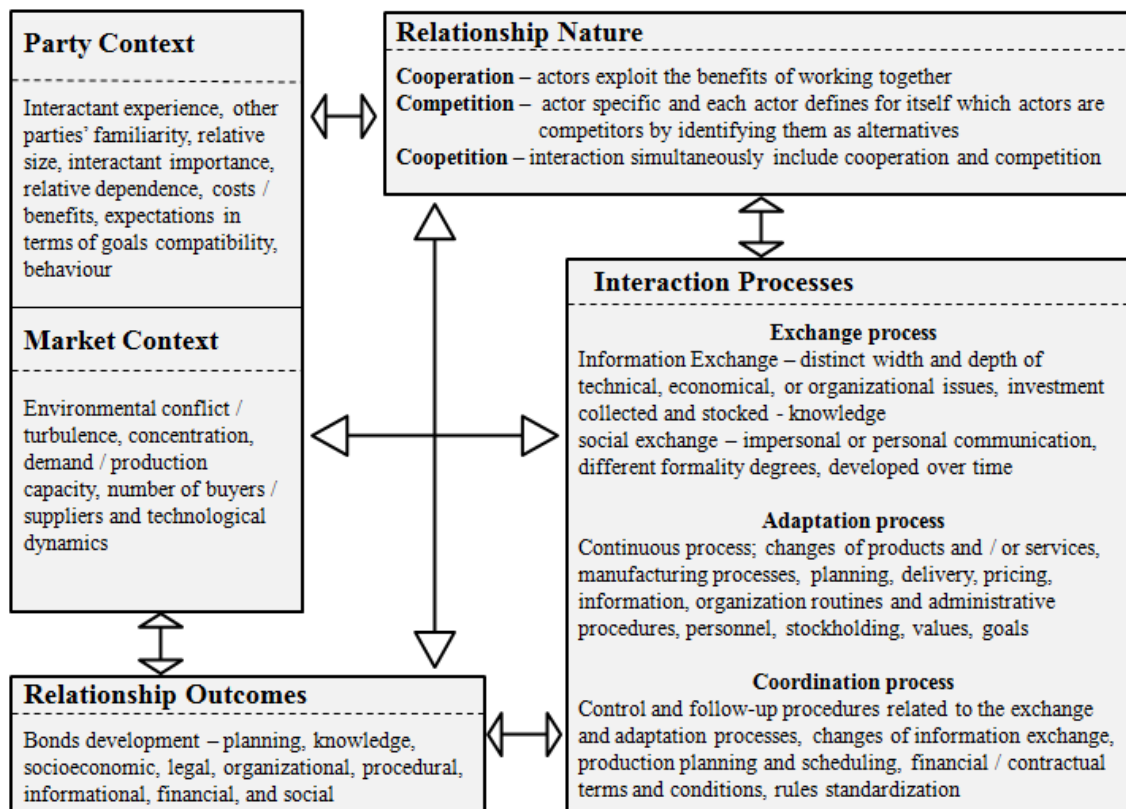


Figure 27: Theoretical model for horizontal relationship

In order to pursue this study goal, the presented model is specifically “adapted” to study intercompetitor strategic alliances. Competitor’s interaction can be better described through three basic processes: exchange, adaptation and coordination. This model does

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not encompass economic exchange processes. Further, the relationship nature accommodates only cooperation, competition and cooptation. In strategic alliances, players relate with each other and have explicit common goals, the reason why co-existence, collusion and conflict were excluded from the model.

We distinguish the party and the market context. The party's context includes features of both the organization and the individuals who represent them. Party context is deeply related to features of each actor, while market context is common to all parties involved in the study. Over time, as a consequence of interaction, bonds of various kinds are formed by firms. The proposed model includes, as relationship outcomes, the development of bonds. As mentioned before, the state or character of a relationship can be evaluated through the analysis of the bonds between companies.

Chapter 3 – Research Methodology

The aim of this chapter is twofold: first, to introduce the ontological and epistemological foundations of the study, and second, to present the research strategy and practical methodological considerations. Thus, the chapter includes six main sections comprising: theoretical paradigms, research approach, research strategy, empirical research features, data analysis and research quality criteria.

3.1 Theoretical Paradigms

Saunders et al. (2009, p. 118) assert that “a paradigm is a way of examining social phenomena from which particular understandings of these phenomena can be gained and explanations attempted”. Thus, the paradigm is “the basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways” (Guba & Lincoln, 1994, p. 105).

Guba and Lincoln (1994) address four competing paradigms: positivism, postpositivism, critical theory and constructivism. Lincoln, Lynham, and Guba (2011) identify the increasing interest of researchers on other ontologies, epistemologies and methodologies rather than on those undergirding conventional social science. In addition, Lincoln et al. (2011) acknowledge that prophecies on the blurring of genders among paradigms are rapidly being fulfilled. Järvensivu and Törnroos (2010), mainly supported in Guba and Lincoln (1994) and Easton (2002), summarize four theoretical paradigms within the ontological and epistemological continuum: naive realism, critical

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realism, moderated constructionism and naive relativism. The next table (Table 8) summarizes characteristics of those worldviews.

Table 8: Comparison of different views

	Naive realism	Critical realism	Moderate constructionism	Naive relativism
Ontology	Only one, true reality exists; universal truth claims apply	There is a reality; specific local, contingent truth claims apply	There may be a reality; specific local, contingent truth claims apply	There is no reality beyond subjects
Epistemology	It is possible to know exactly what this reality is through objective, empirical observations	It is possible to move closer to local truths through empirical observation, bounded by community-based critique/consensus	It is possible to understand local truths through community-based knowledge creation and empirical observations bounded by subjectivity	It is possible to form an understanding of the subjective reality through analysis of the subject's account of knowledge
Methodology	Direct empirical observation	Empirical observations bounded by subjectivity and community-based critique/consensus	Community-based knowledge creation through empirical observations bounded by subjectivity	Analysis of knowledge structures and processes by observing texts
Research process	Deductive; theory testing	Abductive; theory generating and testing	Abductive; theory generating and testing	Inductive; theory generating

Source: Järvensivu and Törnroos (2010, p. 101)

Considering the continuum between realism and relativism, one may say that the current thesis has adopted moderated constructionism as its scientific approach. There are three main reasons for selecting this theoretical paradigm: compatibility between moderated constructionism and the author's personal thoughts concerning science, the nature of the research questions considered and the characteristic of the research process and findings.

Realism combines an independence argument (the world exists regardless of our awareness of it), and a knowledge argument (we can know the true reality). Radical constructivism presents opposite ontological and epistemological characteristics (Van Den Belt, 2003). According to Van Den Belt (2003, p. 203), moderated constructivism does not question the independence of a social reality. Some researchers go further by defending an "agnostic stance with regard to objective reality". Hence, Van Den Belt (2003) argues that moderated constructivists mainly challenge the epistemological (knowledge) argument.

On the contrary, Järvensivu and Törnroos (2010) argue that, despite differences, critical realism and moderated constructionism are, epistemologically and methodologically, fairly close to each other (see Figure 28). Differences can be found mainly in terms of ontology. "Moderate constructionism rejects the positivist argument of a universal truth, but accepts the possibility of specific local, personal, and community forms of knowledge" (Järvensivu & Törnroos, 2010, p. 101). Critical realism supposes that there is only one universal truth (Järvensivu & Törnroos, 2010; Sayer, 2000), while

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moderated constructionism acknowledges the possibility of multiple community-formed realities (Järvensivu & Törnroos, 2010).

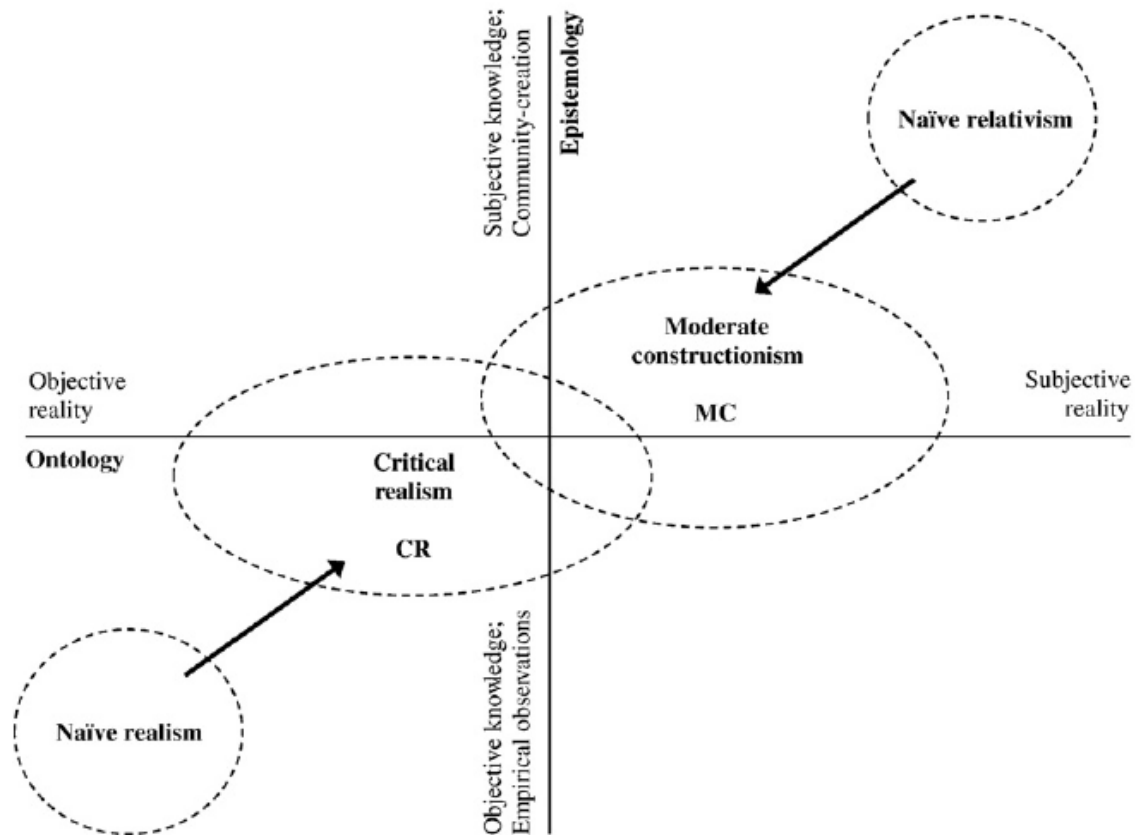


Figure 28: Ontological and epistemological dimensions of realism, CR, MC and relativism

Source: Järvensivu and Törnroos (2010, p. 102)

Järvensivu and Törnroos (2010) emphasize that the different origins of critical realism and of moderate constructionism influence the mindset of the researcher. Particularly, they influence the processes of data gathering via personal interviews. The figure highlights the ontological and epistemological dimensions of realism, critical realism moderated constructionism and relativism.

3.2 Research Approach

According to Peirce (1931), in science there are three fundamentally different categories of reasoning: deduction, induction and retroduction (or abduction). This current investigation combines the first two approaches - it is deductive and also inductive. As stated by Saunders et al. (2009, p. 127) “Not only is it perfectly possible to combine deduction and induction within the same piece of research, but also in our experience it is often advantageous to do so”.

Through deduction, the researcher “examines the state of things asserted in the premisses, forms a diagram of that state of things, perceives in the parts of that diagram relations not explicitly mentioned in the premisses, satisfies itself by mental experiments upon the diagram that these relations would always subsist, or at least would do so in a certain proportion of cases, and concludes their necessary, or probable, truth” (Peirce, 1931, para. 66). As such, the deductive process conclusions stem from the assumptions, which are based on an a priori knowledge of the truth (or the falsity) of the supporting theory (Hart, 1998). Through deduction, general theories that have already been developed are tested with a rigorous and structured methodology (Mintzberg, 2005; Saunders et al., 2009).

Differently, “induction is that mode of reasoning which adopts a conclusion as approximate, because it results from a method of inference which must generally lead to the truth in the long run” (Peirce, 1931, para. 67). In other words, induction leads to an assertion whose veracity (or falsity) is established a posteriori, based on the experience, i.e. based on the accumulation of successive evidence confirmations (Hart, 1998). Through qualitative inductive studies, the researcher creates (or at least seeks to develop) a theory or some models (Given, 2008; Mintzberg, 2005). The inductive approach adopts a flexible methodology that allows alternative explanations of what is going on and exposes a greater concern with the context that involves the phenomenon under study (Saunders et al., 2009).

Miles et al. (2014) relate induction and deduction with the shape of the qualitative research design, that is, of the research structure. Highly inductive studies involve loose structures from the beginning and collection of data is less selective. Thus, it usually

takes a long time for key concepts and regularities to emerge from the data. On the opposite, tighter designs employ pre-structured designs with well delineated constructs. These latter provide clarity and focus, allow comparability across cases and prevents overload. In the two extremes of a continuum, there are highly inductive at one end, and highly deductive studies at the other end. Yet, "much of qualitative research lies between these two extremes" (Miles et al., 2014, p. 19).

Deduction and induction are two processes that can feed each other and frequently the research goes back and forth between them (Mintzberg, 2005). The research can start at the deductive or the inductive part of the process, i.e. the research may move first from empirical to theory, followed by the inverse path or vice versa (Sæther, 1998). Often researchers start their researches deductively, getting gradually into an inductively reasoning (Miles et al., 2014). Sæther (1998) argues that abduction represents a dynamic research process that combines induction and deduction. Abduction or "retroduction is the provisional adoption of a hypothesis, because every possible consequence of it is capable of experimental verification, so that the persevering application of the same method may be expected to reveal its disagreement with facts, if it does so disagree" (Peirce, 1931, para. 68).

"Unlike induction, abduction accepts existing theory, which might improve the theoretical strength of case analysis. Abduction also allows for a less theory-driven research process than deduction, thereby enabling data-driven theory generation" (Järvensivu & Törnroos, 2010, p. 102).

Supported in abduction, Dubois and Gadde (2002) suggest an approach based on systematic combining. "The main characteristic of this approach is a continuous movement between an empirical world and a model world. During this process, the research issues and the analytical framework are successively reoriented when they are confronted with the empirical world" (Dubois & Gadde, 2002, p. 554). The process first step is to match theory and reality and is followed by directions and redirections, back and forth. The process consists in a nonlinear path, with the objective of matching theory and data. The research goes back and forth between empirical observations and theory, i.e. involving the framework, data sources, and analysis (Dubois & Gadde, 2002). Often, in a case study, a feedback loop between empirical results, research

design and theory is considered within case research process (Dubois & Araujo, 2004). Van de Ven (2007) highlights that abductive reasoning assumes that observations are theory-laden. Empirical observations may determine adjustments of the existing theoretical model (Dubois & Gadde, 2002).

Ragin (1994) argues that the social research process involves a dialogue between theory (or between ideas) and evidence, aiming at representing the social life. This process involves deduction, induction, and retroduction. Thus, the researcher applies general ideas to evidence, deducting and using evidence to formulate or reformulate ideas through induction. Ragin (1994) asserts that, through a mostly deductive process, the researcher builds an analytic frame starting from the theory. Then again, the researcher through (essentially) induction synthesizes images from evidence. Those analytic frames and images influence each other throughout retroduction, culminating in the representation and explanation of social life (Ragin, 1994).

Van de Ven (2007) asserts that theory building involves three activities: conceiving, constructing and evaluating the theory. Each activity entails a different mode of reasoning, respectively, abduction, deduction and induction. In this way, theory building activities and reasoning types represent an interactive cycle with a temporal sequence. “Theory building typically requires numerous repetitions of the cycle” (Van de Ven, 2007, p. 102)

Järvensivu and Törnroos (2010, p. 102) “suggest that throughout the research process, or in its different phases, we can identify differences in abduction. In some phases, the researcher’s logic may follow abduction in a pure sense; in other stages, the reasoning may lean more toward deduction or induction”. Similarly, in this current research, different phases of the research have involved predominantly characteristics of one reasoning. Figure 29 depicts five research phases: phase I – conceiving the research problem; phase II – building theoretical models; phase III – sampling and collecting data; phase IV – building cases and data analysis; and phase V – developing empirically based models.

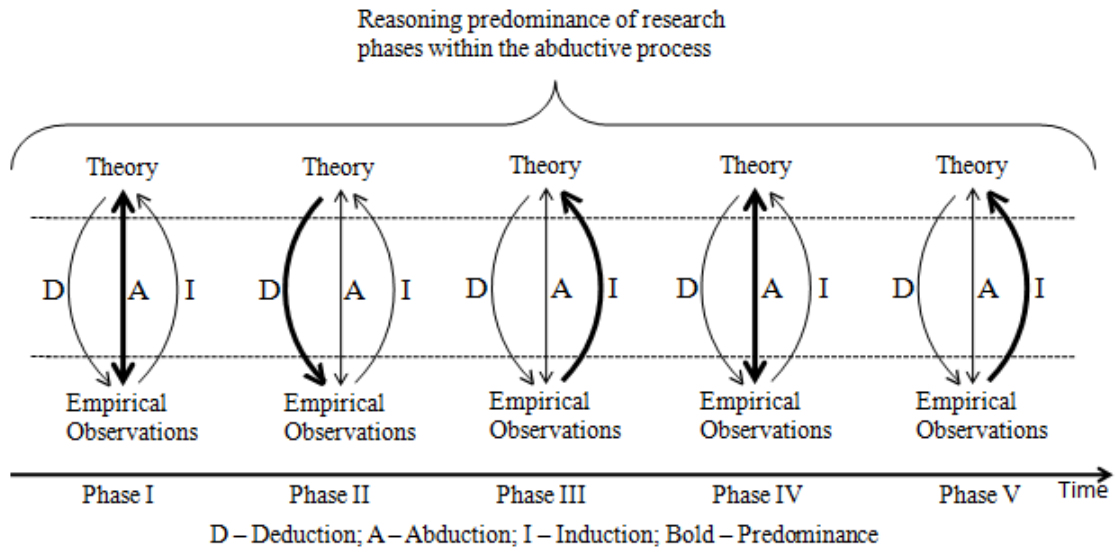


Figure 29: Reasoning predominance within research phases

3.3 Research Strategy

Sæther (1998) argues that abduction can be employed in three research strategies, with a trade-off between the number of cases and the number of features. Thus, the study may encompass few qualitative cases with many features, it can be a comparative study involving from five to fifty cases or it may use quantitative methods, with surveys, many units and few features. This research comprises a multiple qualitative case study, involving nine cases with a rich context description.

The choice of the research strategy is dependent on the research purpose, the problem and the questions, as well as on the philosophical underpinnings of the researcher (Saunders et al., 2009). To understand the complex phenomenon of the development of horizontal relationships within a particular rich context, the research strategy adopted is the case study methodology. Case study research is also the methodology of choice within the interaction and network approach (Beverland & Lindgreen, 2010; Dubois & Araujo, 2004; Dubois & Gadde, 2002; Easton, 1995; Halinen & Törnroos, 2005).

3.3.1 Case Study Research

The definition of case research is quite unclear and diffuse. Often, case study research conflates qualitative data and inductive reasoning (Dubois & Araujo, 2004; Eisenhardt, 1989). Even though it can be argued otherwise (cf. Dubois & Araujo, 2004), a case study is frequently defined as “an empirical enquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident” (Yin, 2009, p. 18). Halinen and Törnroos (2005) also refer that case strategy is an intensive study of one case or of a small number of cases that captures the dynamics of the studied phenomenon through the use of multiple sources of evidence.

The election of case study research is deeply related with the research problem and the questions. According to Eisenhardt (1989), case studies are appropriate, among others, to conduct theory building when little is known about a phenomenon or when the current perspectives seem inadequate. Case study research is classically appropriate for explanative purposes, yet it “can be used for all three purposes – exploratory, descriptive, and explanatory” (Yin, 2009, p. 7). Case studies suitably respond mainly to “how”, “why” and “what” type of questions (Yin, 2009).

Case studies are considered suitable for studying business networks and business-to-business relationships. They capture and trace the development of changes occurring in a phenomenon over time, provide a multidimensional view of a situation in a specific context and enable the researcher with the capability to capture the complex pattern of links between different actors in a network (Halinen & Törnroos, 2005; Järvensivu & Törnroos, 2010; Tidström, 2014). Håkansson et al. (1982) highlight that case analysis may lead to an improved model of interaction.

The current multiple case research deals primarily with aspects of contemporary phenomena, namely, the development of horizontal relationships and the interaction held between competitors. Yin (2009) argues that the main characteristic distinguishing case studies from history studies is the event of temporal distance, that is, case studies deal with contemporary events, while history studies deal with the past. Halinen and Törnroos (1995) also distinguish contemporary events from historical ones. Nevertheless, in the course of the research, difficulties may exist in separating

contemporaneous events from historical ones. Dubois and Araujo (2004, p. 209) argue that “there is no reason for establishing a tight distinction between contemporary and non-contemporary events if we take a processual approach to the phenomena of interest. History is always encoded in the structures that shape current choices”.

As well as Yin (2009), Dubois and Araujo (2004) and Stake (2005) also assert that case study research is particularly appropriate when the boundary between the phenomena and the context is unclear or fuzzy. Dubois and Araujo (2004, p. 210) argue that case study research process is more open-ended than implied by Yin (2009), i.e. they consider that potentially “neither the phenomenon nor its context are necessarily known prior to starting the research”. In addition Dubois and Gadde (2002, p. 555) argue that a standardized research process, following a rigid plan, does not reflect the potential use and advantages of case study research, given that “the main difficulty of case studies is handling the interrelatedness of the various elements in the research work”.

Case study research is suitable to handle the complexity of industrial networks links among actors and can trace the development of network changes over time, due to the rich picture it produces (Easton, 1995). “The case study researcher faces a strategic decision in deciding how much and how the complexities of the case should be studied” (Stake, 2005, p. 448). Seeking to better address the research problem, complexities were gradually incorporated in the research, as a result of the adoption of an abductive strategy.

3.3.2 Case Study Design

Yin (2009) argues that case research design can include single or multiple case studies and that each one of these can be embedded or holistic, in terms of units of analysis. The developed 2 x 2 matrix results in four design types. Following Yin’s typology, this research encompasses a multiple embedded case study. Each case study matches the unit of analysis, i.e. the development of the intercompetitor relationship. The embedded units are those enclosed in the conceptual framework regarding the interaction: the relationship context, nature, interaction processes and outcomes.

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The multiple case study approach is performed when one particular case is of secondary interest and a number of cases may be studied jointly, in order to investigate a phenomenon, a population or a general condition (Stake, 2005). Unlike single case design, multiple case study design commonly does not entail unique, critical, representative and revelatory cases, as does single case study research (Yin, 2009). Multiple case studies are more demanding than a single case study and allow the induction of more reliable models (Bourgeois & Eisenhardt, 1988). Dubois and Gadde (2002) agree with Easton (1995) when he argues that employing multiple cases may bring advantages and disadvantages, such as, larger breadth in the investigation, and less depth in the research, respectively.

Multiple cases can still be either holistic or embedded, that is, each individual case study integrating the multiple case study research may involve either one or more than one unit of analysis (Yin, 2009). In the holistic case study design, the logical subunits are not identified or, otherwise, only the global nature of a phenomenon is addressed. Usually, holistic design faces two problems: the lack of sufficient clear measures or data and the shift of the case study nature. Within the embedded case study, attention is given to the analysis of more than one unit or subunits. In this last design, researchers need to return to the larger unit of analysis and not focus only on the subunit level (Yin, 2009). “While an embedded design is complex, it provides greater richness and multiple perspectives in explaining behaviour” (Bourgeois & Eisenhardt, 1988, p. 818).

Frequently, multiple case study research is considered more robust and its evidence more compelling than single case study design (Yin, 2009). Multiple case study design allows replication logic, that is, after discovering significant findings in the first case, replication is possible for the other cases. Theoretical framework development is an important step towards replication (Yin, 2009). Each case study may lead to literal replication (similar results) or theoretical replication (contrasting results for anticipated reasons). Yin (2009) argues that the framework should expose the conditions under which a particular phenomenon is likely to be found, as well as the conditions for the opposite, when it is not likely to be found. Subsequent case studies can be carried out in the same or in different conditions.

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Multiple case studies allow the confirmation or disconfirmation of the inferences drawn from previous cases (Bourgeois & Eisenhardt, 1988). Yin (2009) asserts that if an important discovery occurs during the conduct of one individual case study, a feedback loop should be considered not to ignore the discovery. The researcher may have to reconsider research questions, select alternative cases, redesign case study protocol or simply adjust the original design. This research case selection was performed during data collection; this issue will be further discussed later in this chapter.

This research design encompasses a multiple case study within an approach based on systematic combining. In this process, the empirical world and the model world permanently influence each other. Previous to the beginning of primary data collection, a conceptual framework was developed addressing the development of horizontal relationships and the interaction between competitors. Hence, empirical data collection was theory-laden and the conceptual framework was continuously reviewed and refined throughout the whole research. Figure 30 presents the multiple case process, from the initial companies selection onwards.

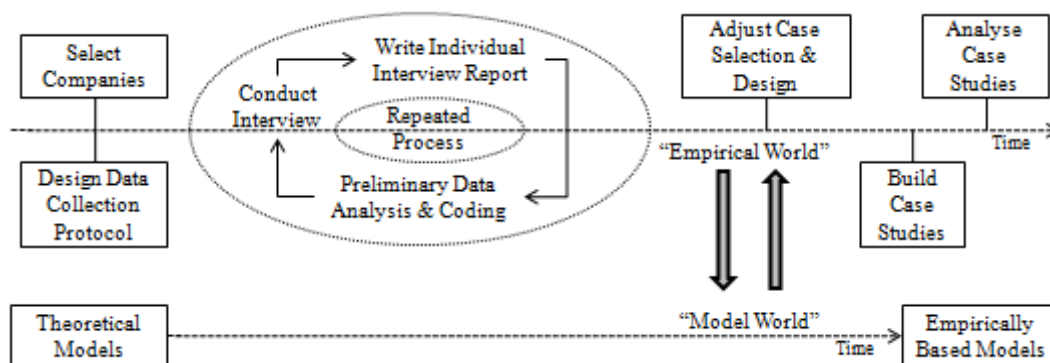


Figure 30: Evolution of both the empirical research and the theoretical model

The feedback to adjust case selection and methods for collecting data occurs soon after conducting the first case study. The process repeats itself several times involving all Portuguese pharmaceutical companies with production facilities in Portugal. In the next section the empirical world is addressed.

3.4 Empirical Research Features

The Portuguese pharmaceutical industry offers the context for studying horizontal relationships development and intercompetitor interaction. The study focuses on relationships between companies that operate primarily in Portugal, both in sales and in production. This section addresses the research time horizons, sampling and data collection.

3.4.1 Time Horizons

The current research problem, as well as its design, implies a longitudinal study. Longitudinal studies specify that the research was conducted through the observation of people or events over time. Even with time constraints, longitudinal research is possible through the collection and analysis of data that was published over time (Saunders et al., 2009).

Dubois and Gadde (2002) argue that conclusions regarding the characteristics of a development process are dependent on the time boundary. In addition, a rigid predetermined time frame likely influences research conclusions. This research started with a flexible time boundary, that is, the use of a narrower or wider time frame was dependent on the research problem and the data collected. Still, it was initially expected for the research to roughly encompass ten years, the preselected window of time was from 2004 till the day of data collection.

“Studies focused on processes have to come to an end, whereas the processes in the real world continue” (Dubois & Gadde, 2002, p. 557).

Within a moderately constructivist perspective Halinen et al. (2012) distinguish the clock-time from the event-time. In this way, the clock-time refers to “the absolute concept of time, as x-axis time, where time is the ultimate independent variable” (Halinen et al., 2012, p. 216). The event-time is socially constructed and is useful for the understanding of business networks, since events are connected to each other in meaning. Events also carry a relative nature with respect to past, present and future (Halinen et al., 2012; Medlin, 2004).

Halinen et al. (2012) classify process research, such as relationships development through mutual interactive processes, in three types: flow mapping, sequential mapping and point mapping (or snapshots). According to Halinen et al. (2012) characterization, this research is positioned within sequential mapping.

“Sequential mapping may be the most powerful process method for constructivist network research” (Halinen et al., 2012, p. 219). In sequential mapping events are studied through both periods and flow notions of time. The process is investigated in real time and in retrospect. Thus, events may be interpreted retrospectively within a selected window of time and in their context. The researcher’s “close involvement with the process helps in detecting cues and interpreting what happens in the context over time while analysis from the periods of absence needs to be done on the basis of informants’ stories and reconstruction of the past” (Halinen et al., 2012, p. 220).

Aaboen et al. (2012), aiming to capture processes, employ a longitudinal multiple case study that includes two time perspectives: the absolute and the relativistic time. Based on interviews, a combination of narratives and drawings was used to capture the past, present and future in the individual cases. With the objective of grasping processes in networks Halinen and Törnroos (2005) argue that reconstructing historical events can be employed, rather than “being on-line”, i.e. it is feasible to use follow-up studies, or apply critical incident technique. Nevertheless, reconstructing historical events “represents a kind of a post-rationalization of events by managers in interview situations, which can also be questioned” (Halinen & Törnroos, 2005, p. 1291). This research encompasses mainly historical reconstruction of events, which was facilitated by a close involvement of the researcher with the pharmaceutical industry context.

3.4.2 Sampling

Herein is presented the rationale behind the selection of organizations, interviewees and case studies. The selection process of the organizations to study involves logistics, potential reception, resources and potential opportunity to learn, this to name only some criteria. Even when cases are chosen in advance, there are always subsequent choices to be made about persons, places, and events to observe (Stake, 2005). Within the

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pharmaceutical industry, there were identified eleven Portuguese pharmaceutical companies with production facilities in Portugal. Given that industrial markets encompass a limited number of suppliers, competitors and customers (Håkansson et al., 1982; Håkansson & Snehota, 2006), these eleven companies were invited to participate in the research and efforts were made to ensure their involvement in the study. All companies accepted the invitation and participated in the present research.

Intercompetitor relationship visibility was a central feature for the initial selection of organizations. Easton and Araujo (1992, p. 65) state that “for practical purposes, economic exchange relationships are easier to deal with empirically than relationships not of that type. An economic exchange requires visible transactions among and between participants. It demands a minimum level of cooperation in order to take place”. Within the pharmaceutical industry, several Portuguese companies are involved in visible cooperative agreements.

For each company, the selection of interviewees evolved, considering the researcher’s pre-understanding of the empirical setting and the recommendations from companies and interviewees involved in the study. The selection process for the interviewees has begun by individually asking each partner company for its collaboration in the study. Supported by the industry pre-understanding of the researcher, key participants in the collaboration process were identified and so the requests for involvement were interviewee centred. Clues on who seemed to have played a key role on existent horizontal relationships were, as well, extracted from archival written material. Interviewees’ suggestions of additional participants were not completely unexpected. Unlike Doz (1996) has indicated, in this research, due to the small size of the market, it was usual to find names of persons already identified or already interviewed.

Early interviews with key participants were important to point out the interviewees who were good informants within their companies. After the first interview, suggested interviewees were taken into consideration for data collection, i.e. snowball sampling (cf. Patton, 2002). In other words, interviewees were asked on additional persons who should be interviewed to favour the goal of interviewing both counterparts of the intercompetitor relationship. In order to accomplish the goal of having both counterparts

addressing each other, after the first interviews that choice of the counterpart was sometimes suggested by the interviewer.

The number of interviews depends on several aspects, such as, researcher's resources, question's importance to the research and even how many respondents are enough to satisfy committee members for a dissertation (Baker & Edwards, 2012). Rather than a specific number of interviews, data saturation technique was followed, as it consensually ensures that the researcher has conducted sufficient interviews (Baker & Edwards, 2012; Guest, Bunce, & Johnson, 2006; Saunders et al., 2009). This process forces the researcher to combine sampling, data collection and data analysis (Baker & Edwards, 2012). Guest et al. (2006) assert that data saturation, jointly with concept operationalization, helps to identify the point in data collection and analysis when new information produces few or no new insights. Theoretical saturation is commonly employed, but it addresses mainly a theoretical development, i.e. it occurs when all of the main variations of the phenomenon have been identified and incorporated in the emerging theory (Guest et al., 2006). Within the present study, data saturation was reached, i.e. the point when the additional data collected provided few "new insights".

In the present study, each individual case is equivalent to the unit of analysis (cf. Miles et al., 2014). That is, each individual case addresses one dyadic intercompetitor relationship. Easton (1995) argues that sampling in industrial network studies has two implications. The first represents a compromise of representativeness and inference. Since the units in a network are connected, they are not independent and thus cannot, in theory, provide inference results. The second is related with the choice of the sampling unit. Since the network is not the simple summation of its elements, trade-offs become inevitable. Using the focal organization, dyads or small nets as sampling units may lead to lose network connectedness. As such, only studying one large network raises representativeness and methodological restraints (Easton, 1995).

Sampling is strongly related with the research purpose and the research questions (Patton, 2002; Yin, 2009). Stake (2005) argues that sampling is an important step in case study design. Multiple case studies demand clear choices on which types of cases to include. Sampling choices place limits on the conclusions drawn and on the results confidence (Miles et al., 2014).

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According to Eisenhardt (1989, p. 537) “the concept of a population is crucial, because the population defines the set of entities from which the research sample is to be drawn”. The selection of one specific market allows coping with the environmental variation (cf. Eisenhardt, 1989). The research population considered in this study is the set of the existent horizontal relationships between the Portuguese pharmaceutical companies with production facilities in Portugal. It is believed that, despite being possible to reach the entire population, it would be impracticable. Sampling saves not only time, but also money and can even provide a higher overall accuracy, when compared to a full census. Usually, a small number of cases grants more time to the researcher for the design and the piloting of the means adopted to collect data, rather than spending his time collecting data (Saunders et al., 2009).

“While the cases may be chosen randomly, random selection is neither necessary, nor even preferable” (Eisenhardt, 1989, p. 537). Qualitative samples tend to be strategic and purposive, in contrast with the random selection and are not wholly pre-specified, that is, usually they evolve after the fieldwork begins (Miles et al., 2014). Stake (2005) asserts that cases are opportunities to study a phenomenon and are expected to represent some population of cases. Usually the researcher recognizes a large population of hypothetical cases and a small subpopulation of accessible cases. In the present research nine cases were selected considering the access to both sides of the intercompetitor relationship.

In addition, when selecting cases and organizations, purposeful sampling (cf. Patton, 2002) was applied, with the aim of choosing information-rich cases. Patton (2002) identifies 15 different strategies for selecting cases. This research initial sampling strategy resembles intensity sampling, which involves the selection of information-rich cases that manifest the phenomenon of interest intensely, but are not highly unusual cases.

The sample size is dependent on the research questions and the objectives, like time and resources availability (Patton, 2002; Saunders et al., 2009). “A qualitative inquiry sample only seems small in comparison with the sample size needed for representativeness when the purpose is generalizing from a sample to the population of

An Interaction and Network Perspective of Horizontal Relationships which it is a part” (Patton, 2002, p. 244). Patton (2002) recommends that minimum qualitative samples should provide a reasonable coverage of the phenomenon.

Perry (1998) asserts that multiple case study can range between two to four cases, as a minimum, and ten to fifteen cases, as a maximum. Miles et al. (2014) suggest five cases, as a minimum, for a multiple case sampling adequacy and discourage more than ten rich and complex cases. Yin (2009) states that two or three cases may support a theory that does not demand an excessive degree of certainty, however five, six or more replications may confer a higher degree of certainty. Eisenhardt (1989) also argues that “while there is no ideal number of cases, a number between 4 and 10 cases usually works well”.

In summary, eleven companies were identified as the population of Portuguese pharmaceutical companies with production facilities in Portugal. All were invited to participate in the study, all have accepted the invitation and all have participated. Efforts were made for the participation of interviewees involved in the same relationship, aiming to have from the two companies the counterparts who address each other. Nine cases were purposefully selected considering the access to both sides of the intercompetitor relationship and the intensive and rich manifestation the phenomenon.

“Once the companies are chosen, the systematic collection of information can start” (Sæther, 1998, p. 248). Since companies were selected early in this study, data collection also had an early start in the present study. The next subsection addresses data collection in detail.

3.4.3 Data Collection

Cases are constructed triangulating multiple data sources. Data source multiplicities that can be used to construct cases allow the necessary depth to support theories (Easton, 1995). Easton (2010) considers the use of multiple sources of evidence to be the most important characteristic of case study research. Case studies typically combine different data sources such as archives, documents, artefacts, interviews, questionnaires, and

observations (Eisenhardt, 1989; Miles et al., 2014; Yin, 2009). Multiple sources of evidence provide data that can be converged through triangulation (Yin, 2009).

In this study, through triangulation, different data collections techniques and data sources corroborate research findings. Triangulation is a method of confirming findings (Saunders et al., 2009). “The strategy is pattern matching, using several data sources.” (Miles et al., 2014, p. 299). Triangulation confers credibility to the research (Stake, 2005). “Triangulation made possible by multiple data collection methods provides stronger substantiation of constructs” (Eisenhardt, 1989, p. 538). Authors, such as Ellingson (2011), Järvensivu and Törnroos (2010), Lincoln et al. (2011) or Tracy (2010) argue that a postmodernist-influenced approach to triangulation is crystallization. Considering that there is no single truth, interpretation depends upon the angle of repose. Thus, crystallization suggests multiple perspectives on topics. Yet, as stated by Tracy (2010), triangulation and crystallization overlap in craft.

Since no observations or interpretations are perfectly repeatable, triangulation is also the process of using multiple perceptions to clarify meaning, verifying the repeatability of an observation or an interpretation (Stake, 2005). With triangulation one can expect to corroborate inconsistent or even conflicting findings (Miles et al., 2014). Easton (1995) refers that when triangulation strategy leads to divergence, this may be as interesting and important as convergence: it allows further articulations and explanations. Dubois and Gadde (2002) argue that triangulation not only allows checking the accuracy of data, but it also may open the researcher to discover new dimensions of the research problem.

Data can be consensually categorized in primary or secondary. Primary data is specifically collected for one specific purpose. Secondary data has already been collected for some other purpose (Saunders et al., 2009). Qualitative research focuses mainly on data in the form of words that are collected by the researcher (Miles et al., 2014). Direct observation of the events being studied and interviews of the persons involved in the events are usually central evidence sources in a case study (Yin, 2009). This research is largely supported by primary data, although it combines primary and secondary data.

3.4.3.1 Primary Data

Primary data was mainly collected through interviews performed directly with individuals who take part in the focal horizontal relationship. In moderated constructionism studies, knowledge is jointly and collaboratively constructed by the interviewer and the informant (Järvensivu & Törnroos, 2010). For Saunders et al. (2009) interviews can be categorized in three groups, according to their level of formality and structure, namely, structured interviews, semi-structured and unstructured. This research encompasses semi-structured interviews. According to Saunders et al. (2009), semi-structured, non-standardized (qualitative) interviews are likely to be included in explanatory studies in order for the researcher to be able to infer causal relationships between variables. Non-standardized interviews allow the researcher to explore the participant's responses.

In the present research, the investigator had the aid of a script with a list of issues to be covered. Within each section of the interview guide, several themes' related questions were included. Open, probing and closed questions were incorporated to promote topic related communication. That is, questions were included in the script and were asked if necessary to instigate theme related discussion. Frequently, interviewees were also asked to elaborate and provide examples. Although it was not considered to be necessary, all interviews followed identical theme sequence. A simplified interview guide was elaborated for interviewee orientation. This simplified script only contains themes, i.e. without questions, was provided to the interviewee at the beginning of the interview (see Appendix A for more details).

The interview guide was pre-tested using in-depth interviews with the managers of the National Authority of Medicines and Health Products, i.e. the local regulatory agency, who hold close relationships with the pharmaceutical industry. In addition to testing the interview guide, those pilot interviews also provided some clarifications. Mainly, key participants involved in the horizontal relationship were identified or confirmed and context characteristics were addressed.

Data collected through interviews was mostly theory-laden. Yet, adopting an abductive approach, adjusting the interview protocol and grasping emerging new themes were seen as an option since the beginning of the interviewing process. Protocol adjustments

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were not performed, but first interviews were poor in detailing some topics. Two main features were taken into consideration to ensure cross-case analysis. First, highlighted issues were considered by addition, i.e. changes were included aiming not to disregard other themes off the script. Second, efforts were made to guarantee repeated access to the interviewees who participated prior to any adjustment in the interview guide. The first three participants were interviewed more than once to focus all relevant themes and intercompetitor relationships.

The present research involved 24 interviews to 18 participants. All the interviews conducted were one-to-one, semi-structured and non-standardized. According to Saunders et al. (2009) one-to-one interviews may be face-to-face, telephone or internet interviews. All interviews were face-to-face, with the exception of one, which was made by telephone. To ensure companies' participation and to schedule meetings, more than 100 contacts (telephone calls and emails) were made. Interviews were performed from December 2014 till May 2015 and lasted, on average, more than two hours (see Appendix B for more details).

Notes were taken during all interviews and immediately after. Saunders et al. (2009) suggest interview recording or note taking throughout the interview. It is often suggested that field notes are a running commentary for one-self. Eisenhardt (1989) suggests that the researcher should write down whatever impressions occur, when they occur. These can be cross-case comparisons, hunches or informal observations. In this study, after-interview notes allowed the researcher to add personal perceptions on several aspects of the interview and summarize the interview with an holistic insight (Miles et al., 2014; Patton, 2002; Saunders et al., 2009; Tracy, 2010). It was followed the 24-hour rule, that is, "required that detailed interview notes and impressions were completed within one day of the interview" (Bourgeois & Eisenhardt, 1988, p. 819). Within 24 hours, all notes regarding one interview were congregated into a single document.

The observation of a meeting of the ISO Project – Procurement Group (described in section 4.1.3.2) was performed along with carrying out interviews. "Observation is a rather general term that can include a variety of different activities" (Easton, 1995, p. 466). Regarding communication, observation is seen as a non communicative evidence

source, i.e., this method does not involve communication with respondents. In this research the observer was personally in the context, but with minimum level of participation. Observation provides a rich and controlled method of data collection, with focus on the respondent behaviour, rather than on outcomes. Regretfully, observation is usually difficult to perform. First, the presence of the observer in meetings can be problematic and thus it requires consentment of all parties. Second, meetings for potential observation are rare in organizational life. Finally, the observer presence can disrupt the process (Easton, 1995). All meeting contributors agreed with the presence of the observer and during the meeting were aware of his presence and motives, according to Saunders et al. (2009) the participant was only assuming the role of observer.

3.4.3.2 Secondary Data

As mentioned earlier, secondary data collection started at the beginning of this research and accompanied the research development. Saunders et al. (2009) defend that secondary data can frequently be a useful data source to answer, at least partially, the research questions. In this research, secondary data together with the researcher pre-understanding of the empirical setting, facilitated since the beginning the set up of the conceptual framework. Secondary data includes both raw data and compiled data. Raw data has suffered little if any processing, while the compiled data has been selected and summarized. Companies collect all sorts of data to support their operations, quality newspapers, trade organizations, governmental departments and institutions, all regularly aggregate and publish data (Saunders et al., 2009).

Secondary data demands less time and resources to be collected. It provides the possibility of undertaking longitudinal studies, despite time constrains of research projects. Further, secondary data allows the researcher to better elaborate on the research context and usually is available to be checked by other researchers. Yet, since secondary data was collected with another specific purpose, it may not fully meet the researcher's objective and the researcher has not always the control over data quality (Saunders et al., 2009).

Secondary data plays an important role in this research. Initially, secondary data allowed the development of the context of the empirical setting, i.e. the Portuguese pharmaceutical industry. Additionally, it helped to frame the research questions and the research objectives. Secondary data influenced the whole research by structuring the researcher pre-understanding of the empirical setting. A wide array of documentation ranging from governmental agencies (domestic and foreign) to company specific documentation was used.

“Overlapping data analysis with data collection not only gives the researcher a head start in analysis but, more importantly, allows researchers to take advantage of flexible data collection” (Eisenhardt, 1989, p. 539). Miles et al. (2014, p. 70) “strongly advise analysis concurrent with data collection”. It is argued that the back and forth between them improves both. Within this research, a great part of data analysis was performed while data collection was taking place. The analytical strategy is addressed in the next section.

3.5 Data Analysis

The interactive processes of data collection give the researcher the possibility of recognizing important themes, patterns and relationships (Saunders et al., 2009). In the present research, throughout data collection, themes, patterns and relationships emerge from the process of data collection and analysis. The adopted data collection process also allowed the researcher to adjust succeeding data collection. The analytical challenge is to find coherent descriptions and explanations that keep including gaps, inconsistencies and contradictions inherent to personal and social life (Miles et al., 2014).

Saunders et al. (2009) assert that there are no standard procedures for the analysis of qualitative data. Yet, authors claim that researchers can combine three main processes to support data interpretation: summarizing (condensing) of meaning, categorizing (grouping) of meaning and structuring (ordering) of meaning. Miles et al. (2014) argue that qualitative data analysis consists in three activities: data condensation, data display and conclusion drawing or verification. Data condensation refers to the process of

selecting, transforming, focusing or simplifying data. Data display is an organized, compressed assembly of information. Both, data display and condensation, allow conclusion drawing and action (Miles et al., 2014).

In this study, the adopted data analytical process evolves through five phases, as described by Yin (2011). Yin (2011) typology is considered to be both more comprehensive and systematic. According to Yin (2011), the analysis of qualitative data usually moves through the mentioned five phases: compiling, disassembling, reassembling, interpreting and concluding. Compiling involves methodically organizing and sorting data into a formal database. Disassembling may comprise formal coding procedures (assigning new labels or codes to fragments of data). These disassembled fragments are reorganized in the reassembling phase. Interpreting encompasses using the reassembled material to create a new narrative. Finally, the concluding phase draws conclusions from the entire study (Yin, 2011).

3.5.1 Compiling and Disassembling

The first phase encompasses the creation of a database systematically organized (Yin, 2011). According to Miles et al. (2014) data condensation occurs since the beginning of a qualitative research. Constantly, researchers' decisions condensate data long before data collection, e.g. deciding which conceptual framework or research questions to elect (Miles et al., 2014). Qualitative data is likely to be analyzed through the creation of a conceptual framework that can be formulated before, during or after data collection (Saunders et al., 2009). In this research, the conceptual framework was partially formulated during secondary data collection. Data analysis, in its majority, is subsequent to the creation of the conceptual framework. As referred before, notes and secondary data supported an interview report that was performed within 24 hours of the interview. Condensing the meaning of large amounts of data into fewer words allows the researcher to identify apparent relationships between themes (Saunders et al., 2009).

The second phase, disassembling data, may involve formal coding. Data categorization involves developing categories and subsequently classifying data (Saunders et al.,

2009). “Dimensions can be suggested by the research problem or by existing literature, or the researcher can simply choose some dimensions” (Eisenhardt, 1989, p. 540).

The researcher may only code data of some topics (Yin, 2011). The present study encompasses formal coding of nearly all gathered data. Secondary data, mostly referring the market context, was not formally coded. MAXqda11 was the selected tool, mainly to organize and assist the analysis of the empirical data collected from interviews. MAXqda is a widely used computer software, specifically designed to assist in disassembling and analyzing qualitative data (Yin, 2011).

Many approaches may be used across different qualitative studies (Miles et al., 2014). Deductive coding consists in developing a provisional “start list” of codes and subcodes, prior to fieldwork. This preliminary list derives from the conceptual framework. “Still other codes emerge progressively during data collection” (Miles et al., 2014, p. 81). As mentioned before, the abductive approach encompasses different phases that can predominantly comprise deductive, abductive or inductive reasoning. In this research, coding follows the description of Miles et al. (2014) for deductive coding. That is, the first draft of the coding scheme was completed before the interviews, supported by the research problem and the literature review. Other codes emerged from data collected through interviews, leading gradually to a modified coding scheme (see Appendix C for more details).

Coding triggers analytic thought. Formulating memos is a way of capturing those thoughts. Miles et al. (2014) advise the researcher to prioritize analytic memoing. Analytic memoing consists in producing brief or extended documents with researcher’s reflections and thought processes about the data. For this current investigation, analytic memos were created even before the first interview, as this practice started with secondary data collection.

3.5.2 Reassembling, Interpreting and Concluding

In the third phase, the reassembling phase, the researcher becomes aware of potential patterns and constantly queries himself and the data (Yin, 2011). Data is reassembled

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focusing the development of a narrative about each case study, i.e. each intercompetitor relationship. Cases description was arrayed considering the conceptual framework, the collected data and the chronological sequence. Chapter four holds the description of both the empirical setting and the case studies. Market context is similar to all parties and this is the reason why it is presented before (and outside) of individual cases.

Within-case analysis is an important step of data analysis. “Within-case analysis typically involves detailed case study write-ups for each site. These write-ups are often simply pure descriptions, but they are central to the generation of insight” (Eisenhardt, 1989, p. 540). According to Eisenhardt (1989), writing-up cases allows the researcher to handle quite early the analysis process with a staggering volume of data. Miles et al. (2014) assert that first the researcher, through within-case analysis, describes, understands and explains what has happened in one single case study. Describing and interpreting data constitutes a large part of many case studies (Stake, 2005).

The fourth phase encloses an explanatory interpretation. Yin (2011) considers that a good interpretation has no definition. However, Yin (2011) also argues that it should contain as many attributes as possible among: completeness, fairness, empirical accuracy, value-added and credibility. “Coupled with within-case analysis is cross-case search for patterns” (Eisenhardt, 1989, p. 540). After within-case analysis, which is mainly descriptive, it is conducted a cross-case analysis. This way, more powerful explanations and descriptions can be produced, even increasing generalisability (Miles et al., 2014).

Miles et al. (2014) argue that cross-case analysis can be grouped into two distinct approaches: case-oriented and variable-oriented. Case-oriented approach considers the case as a whole entity and leads to more general explanations. Variable-oriented approach is conceptual and theory centred, with the variables, rather than the whole case being compared. Yin (2009) suggests a case-oriented strategy through a replication strategy to tackle cross-case analysis.

This study combines both case-oriented and variable-oriented. Miles et al. (2014) state that usually it is desirable to combine both approaches and propose a strategy denominated “stacking comparable cases”. Briefly, it consists in writing up each case of a series of cases using a standard set of variables. Then, cases are systematically

compared (Miles et al., 2014). Cross-case analysis holds the risk of premature and even false conclusions as a result of information processing biases. This can be prevented by selecting categories or dimensions, and then looking for within-group similarities, coupled with intergroup differences (Eisenhardt, 1989). As suggested, in chapter five, embedded units of analysis (context, nature, interaction processes and outcomes) are examined before the analysis of both the intercompetitor relationship development and network implications.

Both Eisenhardt (1989) and Miles et al. (2014) suggest the use of tabular displays and graphs of information about cases. Knowledge drawn from a particular case study is related to how the case is like and unlike other previous known cases, mostly by comparison (Stake, 2005). Still, multiple cases may lead to negative case finding to strengthen a theory (Miles et al., 2014).

3.6 Research Quality Criteria

Beverland & Lindgreen (2010, p. 56) point out that “several authors have noted the need for greater sensitivity to quality criteria in business marketing case research”. Quality criteria address the question: how do I know that the research findings are right? “In literal sense of the question you cannot know. All you can do is to reduce the possibility of getting the answer wrong” (Saunders et al., 2009, p. 156). Beverland & Lindgreen (2010) argue that addressing research quality is important for qualitative case researchers, for six reasons: leads to better practices in the field, enriches insights and therefore lays a better theory, develops the status of the method, improves the legitimacy of the case research, reduces concerns over the value of the qualitative research and, finally, provides clear guidelines on how case quality can be addressed.

In this section, quality criteria of this research are addressed, particularly in case study and qualitative research. Saunders et al. (2009) argue that researchers have to pay attention to validity, generalisability and reliability, in order to deal with the issue of research findings credibility. According to Yin (2009), addressing construct validity, internal validity, external validity and reliability maximizes the quality of case study

design. The next four subsections present detailed characteristics of validity, generalisability, reliability and other qualitative quality criteria.

3.6.1 Validity

Bryman (2004) asserts that validity deals with the issue of appraising if a measure of a concept really measures that concept. In other words, “validity is concerned with whether the findings are really about what they appear to be about” (Saunders et al., 2009, p. 157). Internal validity is of utmost importance for explanatory studies. It seeks to prevent the investigator: first, from taking incorrect conclusions when trying to establish a causal relationship between events and, second, from making invalid inferences based on interviews and documentary evidence collected as part of the case study (Yin, 2009). Eisenhardt (1989) argues that the researcher needs to verify the emergent links between constructs and the evidence in each case, that is, to work individually and not only with the aggregate cases. Yin (2009) states that to enhance internal validity different types of pattern matching can be used during data analysis. On the course of data analysis, cases are described and analyzed individually. Further, patterns emerge from data analysis and explanations are built.

Yin (2009) argues that validity also encompasses construct validity. While internal validity searches for a causal relationship between events, construct validity demonstrates the correct operational measures being studied (Yin, 2009). To meet the test of construct validity, Yin (2009) suggests that it is necessary to define the research theme in terms of specific concepts and also to identify operational measures that match those concepts. When a priori constructing and specifying the construct, “the researcher is attempting to establish construct validity” (Eisenhardt, 1989, p. 542). This research conceptual framework presented in section 2.4 is supported both in the theory and in the preliminary analysis of secondary data. Additionally, multiple sources of evidence were used. Cases were mainly backed on interviews to both parties of the intercompetitor relationship and secondary data. A temporal chain of evidence was established and cases overall findings were discussed with key informants.

3.6.2 Generalisability

Generalisability is frequently referred as external validity (Saunders et al., 2009). Study findings are not automatically generalized. External validity deals with problems associated with results generalization beyond the immediate case study. Yin (2009) states that single case can be generalized, but it is the replication logic, i.e., replicating results, that may provide stronger support for theory generalization.

Case study research is often attacked on the grounds of lack of generalisability (Easton, 1995). “A single case study must be able to stand on its own” (Easton, 1995, p. 475). Case studies can offer depth and comprehensiveness, even if they have low statistical representativeness. In case study research, multiple sources of evidence are used for data collection and a small number of social entities or situations is involved to develop a holistic description, as the end result (Easton, 1995). Specific and complex cases, given their optimization, do not aim at generalization or standard solution determination. Moreover, general models based on quantitative or qualitative data that reflect a particular study context have to be adapted and adjusted in such a way that they can be used in various circumstances (Easton, 2000). The present study comprises a rich context description and all cases share part of that context which limits generalisability. Even though, in the current research, nine cases are described and analyzed following a replication’s logic.

Yin (2009) distinguishes between statistical generalization and analytical generalization. The former is less relevant for case studies. Statistical generalization relies on inferences made on the population, based on empirical data collected from a sample. Analytical generalization finds support in replication. That is “a previously developed theory is used as a template with which to compare the empirical results of the case study. If two or more cases are shown to support the same theory, replication may be claimed” (Yin, 2009, p. 38). Generalisability of qualitative research is related to its significance to theory. Relating the research with the existing theory demonstrates that research findings have a broader theoretical significance (Saunders et al., 2009).

3.6.3 Reliability

“Reliability is fundamentally concerned with issues of consistency of measures” (Bryman, 2004, p. 70). That is, reliability refers to the extent to which data collection and data analysis provide consistent findings (Saunders et al., 2009). Thus, the ultimate goal of testing reliability is to minimize both errors and biased conclusions in the study (Yin, 2009). According to Yin (2009), reliability increases with a description of case study research procedures, i.e. by performing a case study protocol and developing a case study database.

Saunders et al. (2009) mention four threats to reliability: participant error, participant bias, observer error and observer bias (the avoidance observer bias can be referred as objectivity). Saunders et al. (2009) particularly focus data quality issues in interviews. The lack of standardization in interviews may lead to concerns about reliability, mainly related with interviewer and interviewee biases. Yet, non-standardize interviews allow to explore the complexity of the topic, providing flexibility. Specifically related with non-standardize interviews, Saunders et al. (2009) argue that taking notes, rather than audio-recording, and face-to-face, rather than telephone interviews, increase reliability.

To overcome the lack of data reliability, Saunders et al. (2009) and Yin (2009) defend data collection prior planning. Yin (2009) suggests that collecting information from more than one organization, when studying organizational relationships, allows the researcher to draw unbiased conclusions about interorganizational partnerships. As mentioned before, several tactics can be employed in different research stages to deal with quality criteria. Yin (2009) offers the following table (Table 9) that summarizes several tactics involved in case study quality tests, according to the phase of the research in which those tactics occur.

Table 9: Case study tactics for four design tests

TESTS	Case Study Tactic	Phase of research in which tactic occurs
Construct validity	<ul style="list-style-type: none"> ◆ use multiple sources of evidence ◆ establish chain of evidence ◆ have key informants review draft case study report 	data collection data collection composition
Internal validity	<ul style="list-style-type: none"> ◆ do pattern matching ◆ do explanation building ◆ address rival explanations ◆ use logic models 	data analysis data analysis data analysis data analysis
External validity	<ul style="list-style-type: none"> ◆ use theory in single-case studies ◆ use replication logic in multiple-case studies 	research design research design
Reliability	<ul style="list-style-type: none"> ◆ use case study protocol ◆ develop case study database 	data collection data collection

Source: Yin (2009, p. 41)

3.6.4 Other qualitative research quality criteria

Tracy (2010, p. 837) argues that, in qualitative research, “distinct concepts stands in marked contrast to the relative consensus in the quantitative community that good research aims for validity, reliability, generalisability, and objectivity”. Quality standards in qualitative research criteria are often framed as being more flexible and contextually situated than in rigid quantitative criteria. To summarize, Tracy (2010) presents eight criteria that can be followed according to the research goal and the researcher preferences: worthy topic, rich rigor, sincerity, credibility, resonance, significant contribution, ethics, and meaningful coherence. Those eight criteria are presented in the next table (Table 10).

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Table 10: Eight “Big-Tent” criteria for excellent qualitative research

Criteria for quality (end goal)	Various means, practices, and methods through which to achieve
Worthy topic	The topic of the research is <ul style="list-style-type: none"> • Relevant • Timely • Significant • Interesting
Rich rigor	The study uses sufficient, abundant, appropriate, and complex <ul style="list-style-type: none"> • Theoretical constructs • Data and time in the field • Sample(s) • Context(s) • Data collection and analysis processes
Sincerity	The study is characterized by <ul style="list-style-type: none"> • Self-reflexivity about subjective values, biases, and inclinations of the researcher(s) • Transparency about the methods and challenges
Credibility	The research is marked by <ul style="list-style-type: none"> • Thick description, concrete detail, explication of tacit (nontextual) knowledge, and showing rather than telling • Triangulation or crystallization • Multivocality • Member reflections
Resonance	The research influences, affects, or moves particular readers or a variety of audiences through <ul style="list-style-type: none"> • Aesthetic, evocative representation • Naturalistic generalizations • Transferable findings
Significant contribution	The research provides a significant contribution <ul style="list-style-type: none"> • Conceptually/theoretically • Practically • Morally • Methodologically • Heuristically
Ethical	The research considers <ul style="list-style-type: none"> • Procedural ethics (such as human subjects) • Situational and culturally specific ethics • Relational ethics • Exiting ethics (leaving the scene and sharing the research)
Meaningful coherence	The study <ul style="list-style-type: none"> • Achieves what it purports to be about • Uses methods and procedures that fit its stated goals • Meaningfully interconnects literature, research questions/foci, findings, and interpretations with each other

Source: Tracy (2010, p. 840)

In the same line of thought, Beverland and Lindgreen (2010) conclude that recent articles presenting case studies are addressing more quality issues. Among others, those papers are: addressing the justification for the method choice, providing enough background case or industry detail to make judgments on the boundary conditions of findings, referring sufficient detail about the methods, disclosing detail on the questions asked and engaged in triangulation, giving details on the analysis procedures and presenting raw data. In this study, the promotion of quality issues is mainly presented throughout this chapter. The next table (Table 11) summarizes several procedures performed to ensure this research’s quality. Further, it combines the aforementioned

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eight key markers of quality in qualitative research with validity, generalisability and reliability.

Table 11: Quality criteria – procedures summary

Procedures for Coping With Quality Criteria	
Validity; Rich Rigor; Credibility	multiple sources of evidence used (interviews to both relationship parties and several sources of secondary data)
Validity; Credibility	cases overall findings discussed with key informants
Validity; Rich Rigor	conceptual framework presented a priory; within and cross case analysis performed
Validity	explanation gradually build; other plausible explanations put forwards
Generalisability; Resonance	generalization not claimed
Resonance	findings are transferable
Validity; Reliability; Rich Rigor; Meaningful Coherence	chain of evidence established (evidentiary process can be traced backwards from the report to the initial research questions)
Reliability; Rich Rigor	protocol used focusing fieldwork procedures (with data collection planning); case study database build, organized and coded; interviews performed to both relationship parties; notes taken, rather than audio-recording interviews and face-to-face, rather than telephone interviews; use of non-standardize interviews to accommodate complexity
Reliability	choice of neutral time to do interview (longitudinal study, interviews during six months); companies not identified; same researcher conducting interviews and interpreting replies
Worthy Topic	relevant and interesting topic under research
Rich Rigor	rich complexity and abundant data; rich descriptions and explanations; smart choice of samples and contexts
Sincerity	research goals, motivations and methods are transparent
Credibility	thick description of nine cases
Significant Contribution	theoretical and managerial contributions are advanced
Ethical	procedural, situational, relational and exiting ethics considered
Meaningful Coherence	research questions are answered; methodological choices are described

Chapter 4 – Empirical Research

Data analysis starts in this chapter with a description of both the empirical setting and the individual case studies. This chapter is structured in two main sections. The first section congregates a characterization of pharmaceutical products, market and industry. The second section holds nine case studies that focus horizontal relationships between competitors. Each of these cases includes the context, nature, interaction processes and outcomes of the focal intercompetitor relationship.

4.1 Empirical Setting

The setting of this study is the Portuguese Pharmaceutical Industry. This section also comprises main characteristics of pharmaceutical products and its market, enhancing the understanding of industry.

4.1.1 Pharmaceutical Products

According to EMA (2014a) a medicinal product is a “substance or combination of substances that is intended to treat, prevent or diagnose a disease, or to restore, correct or modify physiological functions by exerting a pharmacological, immunological or metabolic action”. The definition of medicines is legally defined in Portugal in the Decree-Law n°. 176/2006, dated August 30th and is similar to the EMA statement because it corresponds to the national transposition of the European regulation. FDA (2014b) offers a more extended characterization and defines a drug as: (1) a substance

recognized by an official pharmacopoeia or formulary, (2) a substance intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease, (3) a substance (other than food) intended to affect the structure or any function of the body, (4) a substance intended for use as a component of a medicine, but not a device or a component, part or accessory of a device, and (5) a biological product included in the definitions above and generally covered by the same laws and regulations, despite the differences in the manufacturing processes (chemical process versus biological process).

Two main characteristics are regularly used to classify medicines: their patent protection and their need for prescription. In this section are presented the detailed characteristics of those Innovative (patented) and Generic (non-patented) products. This section also includes a brief reference to prescription and non-prescription.

4.1.1.1 Innovative Medicines

An innovative medicine contains an active substance or a combination of active substances not previously authorized. Frequently, innovative medicines are protected under a patent, i.e., an official status securing the exclusive right to the patent holder, for a defined period, to produce, use, or sell the registered invention (EMA, 2014a). Under patent protection, companies that successfully introduce new products are regularly able to earn large returns on their innovations (Edwards, Thomas, Hannay, & et al., 1983).

A New Molecular Entity is an active ingredient that has never before been marketed in any form (FDA, 2014b). New Molecular Entity (NME) development costs are increasing over time (DiMasi, Hansen, & Grabowski, 2003). DiMasi, Hansen, Grabowski, and Lasagna (1991) estimated that the out-of-pocket cost to get the approval of a New Molecular Entity was US\$ 114 million (1987 dollars). The average pre-tax cost of bringing a new molecular entity to market, excluding post-marketing studies, is US\$ 802 million (2000 dollars) (DiMasi et al., 2003). Per new drug entering the market, roughly half of this cost, US\$ 403 million, (2000 dollars) is the estimated average out-of-pocket cost. The other half is the cost of capital used to fund the clinical development expenses to the point of the FDA marketing approval. DiMasi and Grabowski (2007) found that total out-of-pocket cost per approved biopharmaceutical was US\$ 559

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million (2005 dollars) and per approved pharmaceutical was US\$ 672 million (2005 dollars). Adding the cost of capital, the total estimated cost was, respectively, US\$ 1241 million and US\$ 1318 million (2005 dollars).

DiMasi et al. (1991) assume that for most New Molecular Entities to pass through all the phases of development, say from synthesis to marketing approval, it takes nearly 12 years. Figure 31 presents a summary of a new drug development.

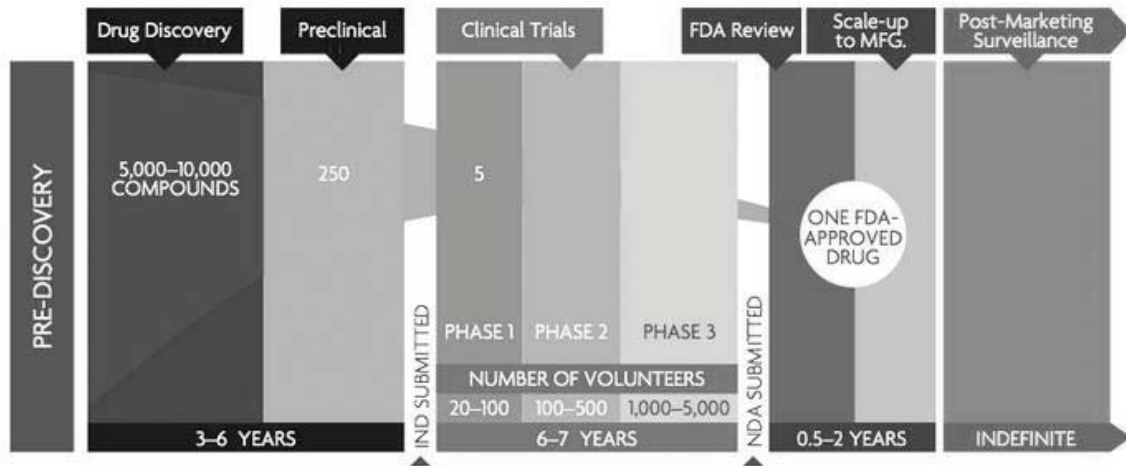


Figure 31: The research and development process

Source: PhRMA (2014)

Discovery and development of new medicines may take ten to fifteen years. The development process of a new medicine can roughly be divided in three stages: preclinical testing, clinical trials and post approval phase. Preclinical testing allows reducing the number of compounds from thousands to a few hundred promising possibilities. At the end of this process, approximately five compounds move to the next stage. Clinical trials in human volunteers involve three phases. Phase 1 determines the safety of the compound, phase 2 establishes the compound effectiveness and phase 3 allows gathering information in a much large group. Finally, after the compound approval, the research continues with the objective of monitoring safety and long-term effects, identifying eventual additional uses and registering any adverse events, among others (PhRMA, 2014).

4.1.1.2 Generic Medicines

“Generic drug products are off-patent, well-established compounds that are produced as standardized commodities by more than one firm. Generic products are generally unadvertised and usually subject to price competition among the various producers with the result of low profit margins for generic producers” (Edwards et al., 1983, p. 12).

A generic drug is the same as a brand name drug in dosage, safety, strength, how it is taken, quality, performance, and intended use. Approving a generic drug product requires many rigorous tests and procedures to assure that the generic drug can be substituted for the brand name drug. Substitutability, or “therapeutic equivalence,” is evaluated. Drug products evaluated as “therapeutically equivalent” can be expected to have equal effect and no difference when substituted for the brand name product (FDA, 2014b).

An important market entry barrier ceases to exist with the expiration of the exclusivity rights for the original medicine and the generic medicines can start to be marketed (EMA, 2014a). Standard patent protection in the European Union lasts for 20 years (EGA, 2014a), with the possibility of being extended in the case of orphan medicines. Orphan status is assigned to a medicine intended to be used against a rare condition (EMA, 2014a). Often innovative pharmaceutical products are covered by multiple patents, 20 to 40 different patents on various aspects and properties of the product. A patent on a new use (indication) may block generic registration or marketing of medicines which have their base patents already expired (EGA, 2014a).

Aiming to compensate manufacturers for the lost period between patent application and marketing authorization, in the case of the pharmaceutical sector, patent protection can be extended by a Supplementary Protection Certificate (SPC), granting up to five years of additional patent protection to the pharmaceutical products. Generic medicines can be marketed in the European Union only after expiration of the relevant patents and SPCs assigned to the product (EGA, 2014a).

Independent from patent protection, the new chemical entities are also protected by “data and market exclusivity”. Introduced in 1987, this mechanism was designed to compensate manufacturers for the insufficient product patent protection existent in some

An Interaction and Network Perspective of Horizontal Relationships countries (see Figure 32). For the period of its duration, generics' manufacturers cannot apply for a market authorization (EGA, 2014a).

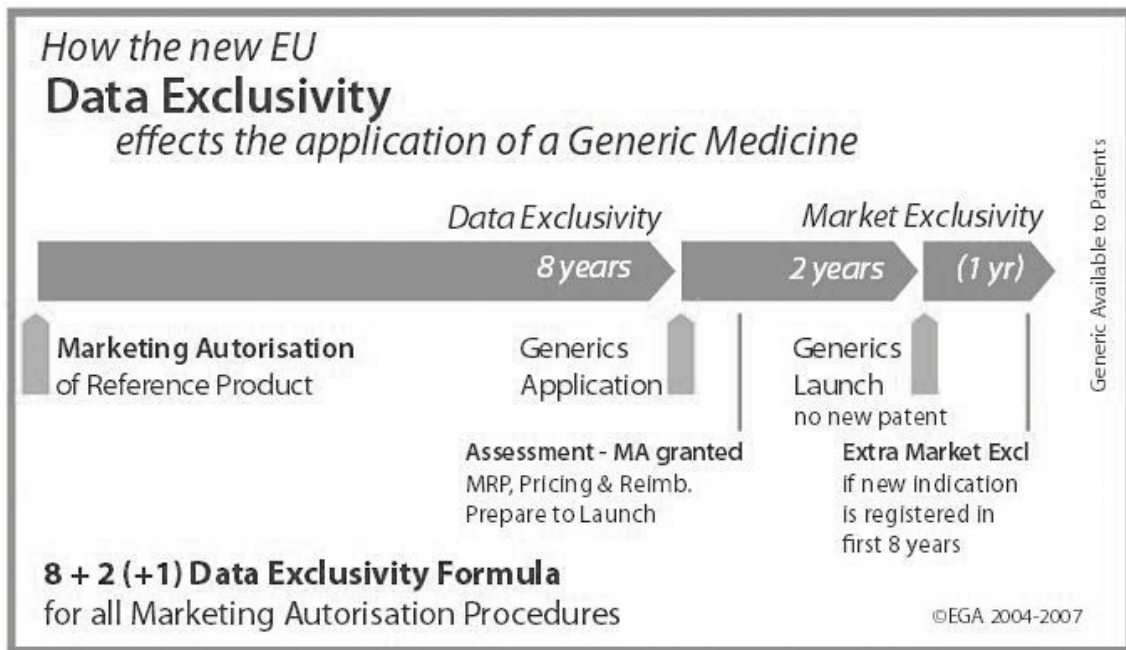


Figure 32: EU data exclusivity provisions affecting all applications for marketing authorization submitted after 31 October 2005

Source: EGA (2014b)

In 2004, the New EU Pharmaceutical Legislation granted eight years of data exclusivity rights and ten years of market exclusivity rights, starting from the date of the first authorization in Europe. Generics application can only be submitted after the eight years period of data exclusivity rights has elapsed. Generics marketing are blocked for an additional two years period, till the end of the market exclusivity period of ten years. This period of market exclusivity can be extended further by one additional year if, during the first eight years of the patent protection, one or more new therapeutic indications has brought a significant clinical benefit in comparison with the existing therapies (EGA, 2014b).

4.1.1.3 Prescription and Nonprescription Medicines

Prescription medicines include both patented and non-patented drugs. Edwards et al. (1983) argue that the pharmaceutical industry exhibits three distinct divisions based on product features: patented, generic and over-the-counter (OTC) drugs. Over-the-counter or non-prescription medicines are drugs that can be freely purchased by consumers without a medical prescription. These medicines have been identified as safe and appropriate for human use without the supervision of a health care professional, such as a physician (FDA, 2014b).

These drugs are sometimes approved under applications similar to the ones for new prescription drugs, but more often they are legally marketed without a specific application, by following a simpler regulation called an OTC drug monograph. OTC drug monographs are a kind of “recipe book” covering acceptable ingredients, doses, formulations, and labelling. Monographs are continually updated, with the inclusion of additional ingredients and labelling, as needed. Products conforming to a monograph may be marketed without further FDA clearance, while those that do not conform, must undergo a separate review and an approval through the “New Drug Approval System” (FDA, 2014a).

Nonprescription medicines may differ from country to country, i.e. medicines considered as nonprescription in some countries may be regarded as prescription mandatory in others. In addition, sale conditions of nonprescription medicines are not the same in all countries, e.g. labelling, advertising and distribution are often heterogeneous.

OTC medicines “encompasses products sold directly to consumers without prescription in the context of extensive advertising” (Edwards et al., 1983, p. 12). OTC medicines rely frequently on established brands and include non-patented molecules. “Competition in this segment of the pharmaceutical industry depends largely on marketing of established brands with occasional new product development. New proprietary drugs rarely represent breakthroughs in treatment and often are simple reformulations of existing therapies that facilitate consumer convenience or are products switched from prescription to OTC status” (Edwards et al., 1983, p. 12). Switching from prescription to OTC medicines may prove to be a successful counter-strategy against generic

erosion. Upon patent expiry, pharmaceutical companies risk losing sales. Increasing number of prescription drugs are being made available over the counter worldwide (Davis, 1994). Patients become thus consumers and pharmaceutical companies, when they are allowed, usually invest in medicine advertising (EMA, 2014b).

4.1.2 Pharmaceutical Market

IMS (2013) predicts that total global spending on medicines will reach almost 1.2 trillion US dollars in 2017. The absolute value of global pharmaceutical spending is projected to increase approximately \$215Bn US dollars from 2012 to 2017. The slowing growth reflects the contained spending imposed by governments in many developed countries, due to austerity measures. The growth is positively influenced by the launch of innovative medicines, regarded as the engine of the market growth, expected to increase, particularly, with orphan medicines launches.

4.1.2.1 Global Pharmaceutical Market

In 2012, eight countries (US, Germany, France, Italy, UK, Spain, Japan and China) accounted for 69% of the global spending on medicines. In 2017, the same countries are expected to account for 67% (IMS, 2013). Although their weight remains nearly the same, China spending will take a bigger share of the global market, concurred from those other countries. In what concerns the countries with the highest spending on medicines, IMS (2013) estimates that the US will continue to be the major medicine spending country, in 2017. From 2012 to 2017, Japan and China will switch places, which means that Japan will drop from second to third place and China will become the second biggest country in medicine spending. Brazil will overcome Germany and France and will take the fourth position.

US is the biggest medicine spending country in the world. In 2012, US has spent 34% of the global medicine spending, followed by Japan with 12% and China with 8%. IMS (2013) forecasts that pharmaceutical markets in developed countries are expected to show a slow growth in the next five years, due to patent expiration, to the sustained

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impact of the global economic crisis and to the increasingly specialist nature of many new medicines, coupled with a cautious approach to the uptake of innovation in Europe. In 2012, EU5 (Germany, France, Italy, Spain and UK) represents 15% of the global medicine spending. Among EU5 countries growth will be negligible, due to the austerity measures implemented, such as, an imposed shift to the usage of generics and a restriction in the use of innovative launches (IMS, 2013).

Two-thirds of global pharmaceutical spending in 2011 were innovative products. However, in the next years, sales of new patented medicines are not expected to balance sales from innovative medicines with expiring patents, innovative products share in the total pharmaceutical products is expected to decline. Generic medicines spending is driving most of the growth in the leading emerging markets (Brazil, China, India and Russia), with approximately 70% of the generic revenues coming from outside, i.e. from the developed markets. In 2016 generics revenues are expected to reach 400 billion US dollars (IFPMA, 2012).

“The mix of total global spending on medicines will shift toward generics over the next five years, rising from 27% to 36% of the total by 2017, even as brands will continue to account for more than two thirds of spending in developed markets” (IMS, 2013, p. 22). In developed countries, medicine spending has been contained or reduced, due to patent expiration and to the growing emphasis on generics utilization. Increasing focus on spending containment is expected for the coming years. In countries with low income per capita, medicine spending is expected to grow, as a result of: the increasing rates of diagnosis and treatment, and a change in the disease nature from acute to chronic (IMS, 2013).

Based mainly on data from the pharmaceutical industry, EFPIA (2013) estimates the pharmaceutical market value, at ex-factory prices, to have been approximately 160’600 million Euros in 2011. Portugal is the 13th largest European country. The pharmaceutical market value (at 2011 ex-factory prices) of European countries is presented in Table 12.

Table 12: Pharmaceutical market value (at ex-factory prices) in Europe

Country	€million	Country	€million
France	27’491	Hungary	2’111

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Germany	26'122	Czech Republic	2'090
Italy	20'272	Finland	2'006
Spain	13'941	Ireland	1'708
United Kingdom	13'801	Norway	1'550
Turkey	7'172	Slovakia	1'119
Poland	5'062	Bulgaria	753
Greece	4'867	Croatia	611
Netherlands	4'713	Serbia	564
Belgium	4'536	Slovenia	514
Switzerland	3'941	lithuania	487
Sweden	3'411	latvia	291
Portugal	3'136	Estonia	204
Austria	3'096	Cyprus	203
Romania	2'524	Iceland	106
Denmark	2'124	Malta	77

Source: EFPIA (2013)

The value of the total market in European Union countries may be influenced by parallel trade. According to an European Commission Communication dated 2003, December 30th, on parallel imports of proprietary medicinal products, COM(2003)839, “the volume of parallel imports of proprietary medicinal products within the European Union is significant, on account of differences in the prices set by national governments in the health sector. The Commission accepts that parallel trade is lawful based on the principle of the free movement of goods, provided that it does not pose a threat either to public health or to industrial and commercial property”.

4.1.2.2 Portuguese Pharmaceutical Market

All activities relating to human medicines and health products in Portugal are monitored, assessed and regulated by INFARMED – National Authority of Medicines and Health Products, a Portuguese Government agency accountable to the Health Ministry (INFARMED, 2014c). Currently, in Portugal there are six wholesalers that have approximately 90% of the total non-hospital market and nearly 2800 pharmacies. There are huge barriers to establish new pharmacies and they are spread throughout the national territory, mainly according to population numbers and geography

(INFARMED, 2014c). In Portugal, OTC stores are possible since 2005. The Decree-Law n. ° 134/2005 of August 16th allows the nonprescription medicines to be traded outside the pharmacies. At the end of 2013, there were roughly 1'000 registered OTC stores (INFARMED, 2014d).

The value of Portuguese pharmaceutical total market, i.e., pharmacies, OTC stores and hospitals, in 2013 was roughly 3'420 million Euros. Specifically, in 2013, pharmacy's market value was 2'410 million Euros, OTC stores 37 million Euros and hospitals 975 million Euros (INFARMED, 2014a, 2014b). Table 13 presents detailed figures of Portuguese non-hospital market, i.e. pharmacies and OTC stores.

Table 13: Detailed pharmaceutical market value in Portugal

Year	Pharmacies (Million €)	Growth Rate	OTC Stores (Million €)	Growth Rate	Total (non- hospital) (Million €)	Growth Rate
2000	2'337				2'337	
2001	2'552	9,2%			2'552	9,2%
2002	2'735	7,2%			2'735	7,2%
2003	2'876	5,2%			2'876	5,2%
2004	2'979	3,6%			2'979	3,6%
2005	3'105	4,2%			3'105	4,2%
2006	3'162	1,8%	4	4484,3%	3'166	2,0%
2007	3'288	4,0%	13	234,5%	3'300	4,3%
2008	3'353	2,0%	19	50,2%	3'372	2,2%
2009	3'321	-0,9%	25	28,4%	3'346	-0,8%
2010	3'238	-2,5%	29	16,4%	3'266	-2,4%
2011	2'943	-9,1%	31	7,2%	2'973	-9,0%
2012	2'600	-11,7%	33	5,9%	2'632	-11,5%
2013	2'410	-7,3%	37	12,4%	2'446	-7,1%

Source: INFARMED (2005, 2008a, 2008b, 2014b)

Non-hospital market expanded from 2000 to 2008. Since 2008 this market value has been decreasing. In 2013, OTC medicines accounted for 9% of the total non-hospital market, with about 230 million Euros. Pharmacies and OTC stores represented respectively 84% and 16% of the OTC medicines market (INFARMED, 2014d).

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The Portuguese pharmaceutical market is highly dependent of government regulation. The foundation of SNS – National Health System (Decree-Law n. ° 56/79 of September 15th) in 1979 is a major example of a regulation that affects the Portuguese pharmaceutical market. SNS grants healthcare (including medicines) to all citizens, independently of their economic or social condition.

Pharmaceutical industry's interest in Generic medicines rose especially with legislative changes and Government incentives to increase their consumption, mainly after the year 2000. Aiming at reducing government expense in health care, particularly in medicines, recent years have been marked by the introduction of additional reimbursements and awareness campaigns to encourage the use of generics. In the year 2000, Generic's market share was 0,1%, both in value and in number of units sold. By 2004, Generic's market share was 8% in value and 5% in units (INFARMED, 2005).

Generic medicine market share has since continued to grow. In 2007, it was 18% in value and 12% in units. Pharmaceutical industry promoted mainly Simvastatin and Omeprazole. Both molecules account for more than 30% of the total Generic medicine sales in value (INFARMED, 2008a). From 2007 onwards, Generic's market share in value has been growing slowly, being 21% in 2013. Yet, Generic's market share in units has continued to rise, accounting for 31% of the total non-hospital market in 2013. The average price of the Generic Medicine in January 2007 was over 20 Euros and in 2013 was less than 7 Euros (INFARMED, 2014b).

As well as promoting the adoption of Generic medicines, countries also try to reduce or to control the spending growth derived from the use of innovative medicines (see Figure 33). Price competition in the pharmaceutical industry has increased with the introduction of pharmacoeconomic studies. These studies' aim is to evaluate the cost and effects (e.g. enhanced life quality) of a pharmaceutical product compared with another medicine that has the same therapeutic indication. Intended to hold or even regress medicine spending, countries implemented legal instruments for the approval of new medicines. Portugal and Finland were the first two European countries adopting pharmacoeconomic study guidelines (Pinto, Miguel, & Paquete, 2010).

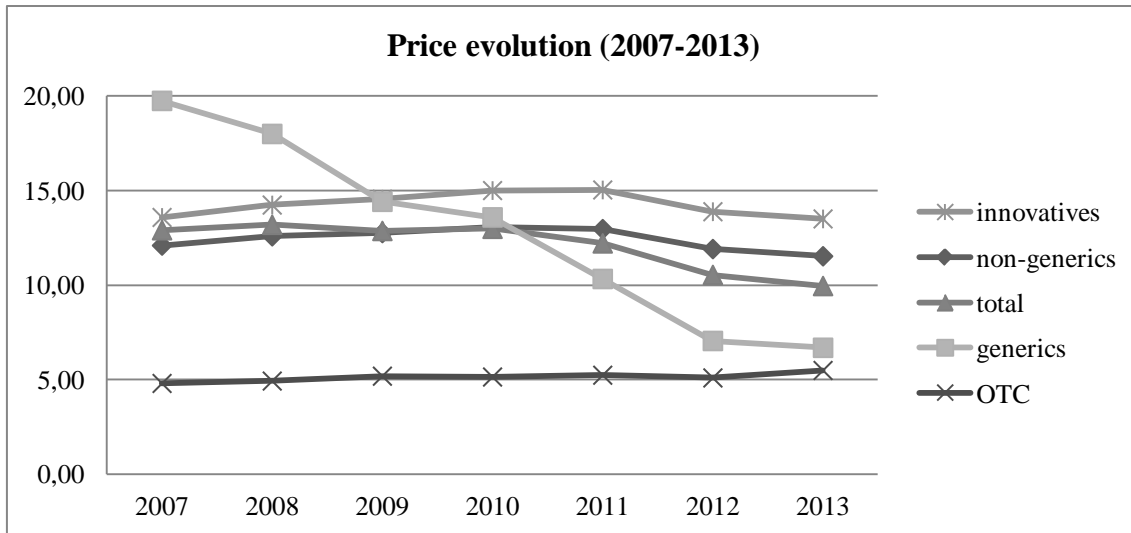


Figure 33: Average price evolution from 2007 to 2013 in non-hospital market

Source: INFARMED (2014b)

Prices of innovative and OTC medicines do not follow the erosion of Generic medicines. Non-Generic medicine's mean price was 12,10 Euros in 2007, rose to 13,08 Euros in 2010 and dropped to 11,53 Euros in the year 2013. The average price of all medicines in non-hospital market exceeded 13 Euros from 2007 till 2010 and was approximately 10 Euros by the year 2013 (INFARMED, 2014b).

4.1.3 Pharmaceutical Industry

The pharmaceutical industry integrates public and private organizations that discover, develop or manufacture pharmaceuticals, i.e. drugs and medications (Dailey, 2011). Nowadays, new medicine research and development is frequently considered to be the engine of the pharmaceutical industry.

Before 1930, innovation was sporadic and developed outside the pharmaceutical industry. There were around ten basic medicines. Often companies manufactured a limited number of unpatented products which were largely marketed without prescription directly to consumers. In the US and in 1930's, more than 40% of the prescription medicines were compounded by the pharmacist, which compares to around

1% in the 1980's. Systematic research of new medicines, World War II and innovative medicine patents, among others, changed the pharmaceutical industry. Pharmaceutical companies started competing through product development (Edwards et al., 1983).

Bartlett and Ghoshal (2008) argue that the degree of sophistication of a pharmaceutical company, in terms of R&D, marketing or distribution, is highly related with the profit and the products it produces. Often, companies from peripheral countries, that aspire to take a place in the global market enter at the bottom of the value curve and stay there. Even pharmaceutical companies that operate successfully in higher-value segments at home can face this same problem when going abroad. According to Bartlett and Ghoshal (2008), pharmaceutical companies have to climb the value curve with a continuous investment in research, in order to succeed in the global market. Figure 34 presents the pharmaceutical industry value curve.

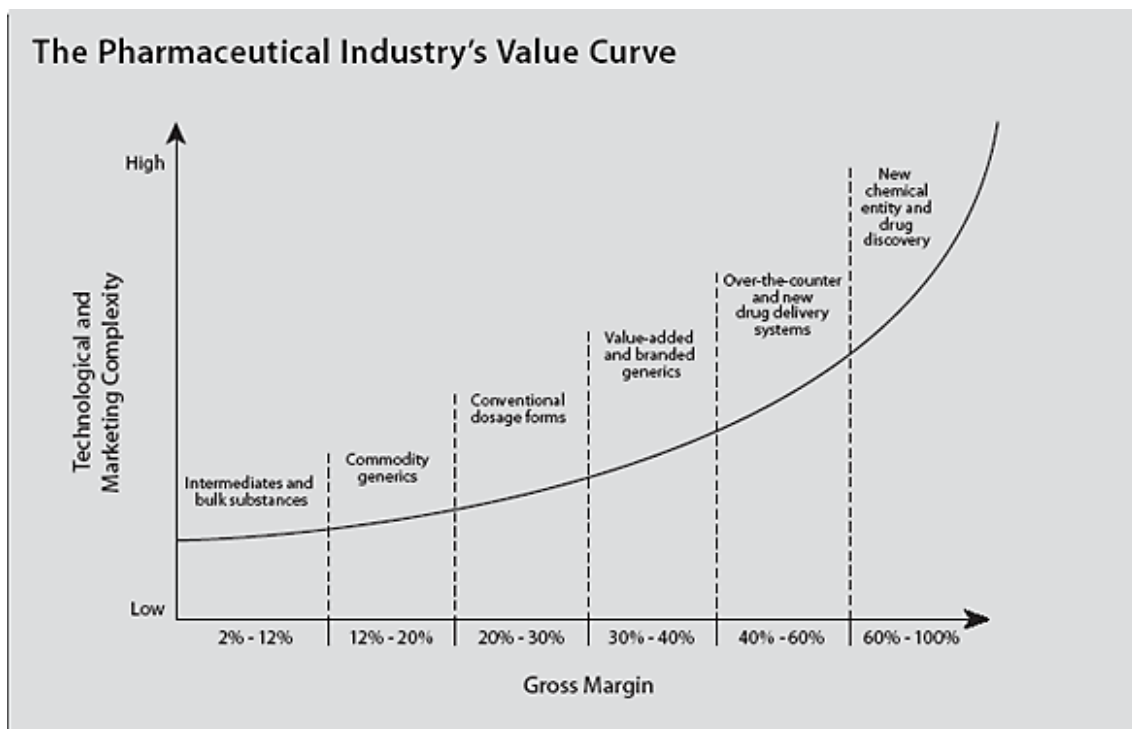


Figure 34: The pharmaceutical industry's value curve

Source: Bartlett and Ghoshal (2008, p. 76)

4.1.3.1 Global Pharmaceutical Industry

In 2007, US pharmaceutical production share was estimated to be 38% of the total world pharmaceutical production. Together with Europe and Japan, these three regions, account for 82% of the world pharmaceutical production. Within the top 15 pharmaceutical companies (worldwide sales in 2009), seven are from Europe, six are from US, one from Japan and only one is from a country other than these (EFPIA, 2010).

The European pharmaceutical industry has produced drugs that account for approximately 205 billion Euros in 2011. The top seven countries (Switzerland, Germany, Italy, UK, Ireland, France and Spain) roughly account for 75% of the total pharmaceutical value produced in Europe (EFPIA, 2013). Detailed figures by European country are presented in the table below (Table 14).

Table 14: Pharmaceutical industry production in Europe

Country	€Million	Country	€Million
Switzerland	32'380	Portugal	1'533
Germany	26'935	Finland	1'293
Italy	25'137	Greece	846
United Kingdom	20'206	Norway	679
Ireland	19'700	Romania	587
France	19'578	Croatia	433
Spain	14'022	Cyprus	180
Belgium	7'714	Bulgaria	157
Denmark	7'672	Latvia	108
Sweden	6'582	Estonia	n.a.
Netherlands	6'180	Lithuania	n.a.
Turkey	4'229	Malta	n.a.
Hungary	2'665	Czech Republic	n.a.
Poland	2'623	Serbia	n.a.
Austria	2'541	Slovakia	n.a.
Slovenia	1'642		

Source: EFPIA (2013)

The value of pharmaceutical R&D expenditure is approximately the same in Europe and in the US since 1990. European and US pharmaceutical industry has invested in R&D

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approximately 30 billion Euros in 2012. Four European countries (UK, Germany, Switzerland and France) account for approximately 70% of the total value invested in R&D in Europe (EFPIA, 2013). Detailed figures by European country are presented in Table 15.

Table 15: Pharmaceutical industry research and development in Europe

Country	€Million	Country	€Million
United Kingdom	5'588	Norway	141
Germany	5'318	Slovenia	91
Switzerland	4'972	Greece	84
France	4'787	Portugal	78
Belgium	1'907	Czech Republic	49
Italy	1'250	Turkey	43
Denmark	1'102	Croatia	40
Spain	981	Cyprus	14
Sweden	864	Bulgaria	n.a.
Netherlands	642	Estonia	n.a.
Finland	264	Latvia	n.a.
Poland	223	Lithuania	n.a.
Romania	218	Malta	n.a.
Ireland	194	Serbia	n.a.
Austria	193	Slovakia	n.a.
Hungary	149		

Source: EFPIA (2013)

Europe has traditionally been the biggest exporter of pharmaceuticals in the world. Pharmaceutical exports represent more than a quarter of Europe's total high-tech exports. In 2009, Germany, Belgium and Switzerland were the global top three exporter countries (IFPMA, 2012).

In Europe, on average, approximately 65% of a medicine retail price reverts to the manufacturer. Despite significant differences in the distribution margins and in Value Added Tax rates from country to country, in Europe, distributors (pharmacies and wholesalers) and the State share 35% of medicine retail price (EFPIA, 2013).

4.1.3.2 Portuguese Pharmaceutical Industry

The Portuguese pharmaceutical industry has already a long tradition. Its development had a big boost in the last decade of the 19th century with the adoption of Oliveira Martins' protectionist customs tariff, in 1892, which has encouraged Portuguese production, in detriment of imported medicines (Dias, 2005).

Portuguese pharmaceutical industry brief history

Many laboratories were founded in the late 19th and early 20th century. The first major investment in the pharmaceutical industry was in 1891 with the firm "Estácio e Companhia" generating "Companhia Portuguesa Higiene". This company produced locally medicines that were similar to those of the foreign industry. This first implementation was followed by the pharmaceutical company "J. Neves", founded in 1892, "Laboratório Normal" in 1904, "Sanitas" in 1911 and "Davita" in 1912, among others (Dias, 2005).

The World War I found the Portuguese pharmaceutical industry sufficiently equipped to respond to the shortage of medicines supply from the usual suppliers, in particular from Germany. The lack of active ingredients, easily imported in peacetime, required further production efforts that led to the new subsidiaries and to the creation of new Portuguese laboratories. "Laboratórios Sicla" was created in 1915 in response to the lack of chemicals products (Dias, 2005).

World War I and the post-war era were the most fertile in the emergence and development of the national pharmaceutical industry. The environment of great optimism in the industry cooled down with the peace in Europe and the adoption of the new customs tariff of 1923 that has decreased national pharmaceuticals protection. "Sociedade Industrial Farmacêutica", founded in Lisbon in 1923, and "BIAL", founded in Oporto in 1924, are among the pharmaceutical industrial companies that emerged during this period (Dias, 2005).

After World War II some Portuguese pharmaceutical companies were also established. However, one can claim other events, such as medicines reimbursement and health care

access, to be the major factors that have changed the Portuguese pharmaceutical market. In Portugal, reimbursement of compounding medicines and Portuguese produced medicines begun in 1960. Foreign produced medicines were reimbursed only if a similar national produced medicine didn't exist (Pinto et al., 2010).

SNS (Serviço Nacional de Saúde) – National Health System foundation in late 1970's was also a major stimulus to the formation of pharmaceutical companies (Portuguese and foreigners) in the 1980's. The majority of pharmaceutical multinational companies only had a distribution and marketing activity in Portugal. Yet, some of them also established production facilities, e.g. Ciba-Geigy (today Novartis) has bought "Laboratório Normal" in 1981. More recently, in 1999, Novartis (that still owns "Laboratório Normal") ceased to produce medicines in Portugal.

Not only the Portuguese customs tariffs or the reimbursement rules, but essentially the integration in the EEC - European Economic Community and the patent law evolution had a major influence on the development of the Portuguese pharmaceutical industry. With the new conditions, some multinationals such as Merck, Sharp & Dohme, Grünental, Jassen-Cilag and Bayer abandoned the local production and sold their industrial facilities respectively to Iberfar, Medinfar, Lusomedicamenta and Bluepharma, during the period 1996 to 2004.

Until 1995, Portuguese patent legislation allowed the production of medicines similar to innovative ones still covered by a patent. These are commonly known as "copy medicines" and have the same active substances of the innovative medicines. Until 1995, Portuguese patent law protected the manufacturing process and not the product itself. As such, the active substances of the "copy medicines" were obtained by an alternative manufacturing (synthesis) process, allowing them to coexist with the innovative products under patent protection. "Marketing Authorization" was given on the basis of the available data of the original innovative active principle and the manufacturing method description. This "process innovation" conferred the Portuguese pharmaceutical industry an advantage in the domestic market and reduced their competitiveness in the global market.

The evolution of patent legislation, primarily with the Decree-Law n.º 16/95 of January 24th, that protected the innovation in the form of active substances, changed the national

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medicine production. Generic medicine's legislation has begun in Portugal in 1990 with the Decree-Law n. ° 81/90 of March 12th that regulated Generics production and marketing. Yet, only in 1995, after the reformulation of the Portuguese patent legislation, has the national pharmaceutical industry begun to show some interest for generic medicines. In 2003, the Decree-Law n. ° 249/2003 of October 11th allowed "copy medicines" to be converted to Generic medicines.

Present Status of Portuguese Pharmaceutical Industry

Portugal has nowadays approximately 350 pharmaceutical companies, i.e. companies that either import or produce medicines. According to INFARMED (2014c), there are 26 production facilities authorized to produce medicines (excluding medical gases and active pharmaceutical ingredients). Within those 26 industrial units, seven are owned by foreign multinational companies.

The pharmaceutical industry in Portugal is located mainly in the Lisbon area and produced approximately 1'100 million Euros of pharmaceutical products in 2012. From 2004 to 2012, pharmaceutical production rose 25% in value, increasing mostly in the years 2005, 2007 and 2012. Medicines production represents 80% of the total pharmaceutical production, which was, in 2012, approximately 880 million Euros (INE, 2014).

In Portugal, between 2008 and 2010, pharmaceutical industry expenditures in research and development of pharmaceutical products and of preparations were approximately 75 million Euros per year (INE, 2014). According to the Portuguese Pharmaceutical Industry Association (APIFARMA) among European Union countries, Portugal has one of the lowest values invested in research and development. Within European Union, the United Kingdom, France and Germany are undoubtedly the top three countries with highest investment in research and development of pharmaceutical products and preparations (APIFARMA, 2013).

Portugal exported roughly 685 million Euros of pharmaceutical products in 2013. Within those, nearly 90% are Medicines (combined nomenclature 3003 and 3004 of the

goods classification in international trade) with a value of 638 million Euros. Portuguese medicine exports are mainly to European Union countries, with 65% of the total (including parallel trade). Six countries, individually, account at least 5% of the total medicine export destinations: Germany, UK, Angola, France, Belgium and US. Together those six countries account for 70% of the total medicines exports (EUROSTAT, 2014).

Currently, Portuguese pharmaceutical companies' foundation year ranges from 1924 to 2001, with 1960 being the average foundation year. Based in APIFARMA (2014), the Portuguese pharmaceutical industry average turnover, in 2009, was approximately 60 million Euros. The Portuguese pharmaceutical industry, on average, exported 30%, had 300 employees of which 12% were R&D employees, and invested 8% of the turnover in R&D.

Contemporary Partnerships within Portuguese Pharmaceutical Industry

Within the Portuguese pharmaceutical industry there are two major projects that gather medicine producers: PharmaPortugal and ISO Project. These two multi-player partnerships complement each other. Both aim to improve the development and the global competitiveness of the Portuguese pharmaceutical industry.

In 2002 and 2003, before these two partnerships were created, the Portuguese pharmaceutical industry performed a road show within Portugal to advertize its characteristics to public authorities and media. Aiming to promote pharmaceutical exports and internationalization, in 2004, INFARMED, AICEP – Trade & Investment Agency (ICEP, at the time) and several Portuguese producers established a strategic partnership named PharmaPortugal. Initially, PharmaPortugal included 15 members of APIFARMA: Atral, Azevedos, Basi, Bial, Bluepharma, Edol, Iberfar, Jaba, Labesfal, Lusomedicamenta, Medinfar, OM, Tecnifar, Tecnimede and Vitória (APIFARMA, 2014).

Throughout the life of this strategic partnership, other companies were involved, such as Baldacci, Jaba Recordati, Korangi and Medirex Pharma (APIFARMA, 2014). Over the

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years, PharmaPortugal partnership protocol has been restructured to accommodate changes in the industry, such as ownership transfers, with companies that ceased to be Portuguese after being bought by foreign multinational pharmaceutical companies (e.g. Jaba, Labesfal or Vitória). Nowadays, this partnership involves INFARMED and eleven Portuguese pharmaceutical companies: Atral, Azevedos, Basi, Bial, Bluepharma, Edol, Iberfar, Lusomedicamenta, Medinfar, Tecnifar e Tecnimede (APIFARMA, 2014). On total, they own 15 production facilities in Portugal (INFARMED, 2014c).

PharmaPortugal primarily aims at promoting the internationalization of Portuguese pharmaceutical companies that produce and export medicines and other health products. In addition, this partnership seeks to promote the external image of the pharmaceutical industry based in Portugal and to increase the cooperation between Portuguese and foreign companies, among others.

The national regulatory agency, INFARMED, with the objective of supporting the companies' internationalization, pledged to establish the contact with foreign regulatory agencies, to participate in business foreign missions, to assist companies with technical and regulatory expertise, and not only to simplify but also to adapt procedures in issuing export documents requested by both domestic and foreign regulatory agencies. INFARMED responsibility in PharmaPortugal is in line with the government defined goal for the pharmaceutical sector.

The ISO Project started in 2005 and included all PharmaPortugal companies and INFARMED. In the genesis of ISO Project, four working groups were planned: suppliers' qualification, procurement, training and energetic efficiency. These working groups comprised employees from the membership companies, aiming at promoting the procedures standardization and exploring mutual synergies.

In 2014, the ISO Project experienced a major restructure. Nowadays, it encompasses several national legal entities that hold both manufacturing authorization and good manufacturing practices certification. Presently, ISO Project is constituted by INFARMED and several pharmaceutical companies: Atral, Azevedos, Basi, Bial, Bluepharma, Edol, Generis, Iberfar, LEF-Infosaúde, Lusomedicamenta, Medinfar, OM Pharma, Sofex, Tecnimede and Vitória. These companies own 21 production facilities in Portugal. Working groups addressing suppliers' qualification, procurement and

training were settled. Within each working group, four main objectives were advanced: standardizing working procedures, optimizing resources, exchanging information and knowledge, and improving organizations efficiency. Each participant company has committed itself to share task related information and to attend workgroup meetings.

Nowadays, within the scope of the procurement group of the ISO project, companies are negotiating with several external services providers. Participation in the negotiations is not mandatory and some companies are joining efforts with the aim of reducing costs. Recently, several companies had participated together in the negotiation of energy (electricity and natural gas). Presently, companies are involved in the negotiation with suppliers of work clothes, laboratory material and reagents, industrial waste disposal, occupational health, among others.

4.2 Case Studies

This section includes the description of nine case studies that are mainly supported by interviews performed to managers of companies that constitute either ParmaPortugal or ISO Project (procurement working group). Each case addresses a relationship between two pharmaceutical companies. Cases are numbered and companies are named after the Greek Alphabet preceded by "Firm" (e.g. Firm-Alpha). Cases one to four are mainly supported by interviews within the procurement department of both companies involved in those cases. Cases five to nine entail mainly the international department of companies included in this cases.

"We should not forget why we are out in the field in the first place: to describe and analyze a pattern of interrelationships" (Miles et al., 2014, p. 20). Each case study herein presented comprises four main sections, in line with the theoretical framework described in section 2.4 of the present study: context, nature, interaction processes and outcomes.

4.2.1 Case One: Firm-Omega & Firm-Iota Relationship

4.2.1.1 Relationship Context

In this section are presented the contextual characteristics of the two partners interviewed. It is also addressed the shared context of the focal relationship.

Firm-Omega – Context

Firm-Omega is a privately-owned Portuguese pharmaceutical company with more than 200 employees and a turnover above 30 million Euros in 2009. Firm-Omega started producing medicines roughly 60 years ago. It has built its first industrial facilities in the 1960's, meanwhile improved and enlarged. In 1990's Firm-Omega bought the local industrial unit of a major international pharmaceutical company. Post 2000, major upgrades were conducted in the industrial plant.

Firm-Omega holds quality, environmental, health and safety certifications: ISO 9001:2008, Good Manufacturing Practices (GMP) compliance, ISO 14001:2004 and OHSAS 18001:2007. As a pharmaceutical company dedicated to contract manufacturing, Firm-Omega is committed to offering its clients a comprehensive range of services: manufacturing of solids (tablets, film and sugar coated tablets, capsules and granules), manufacturing of liquids (all forms: drops, syrups, solutions, suspensions and sachets, batches from 1000 to 2700 litres), packaging and contracted Quality Control, including stability tests.

This company is committed with eliminating waste and controlling processes variation. As an example, the next figure (Figure 35) represents the survey of the process for producing solid forms (tablets) in Firm-Omega, which is common industry practice, similar to other producers.

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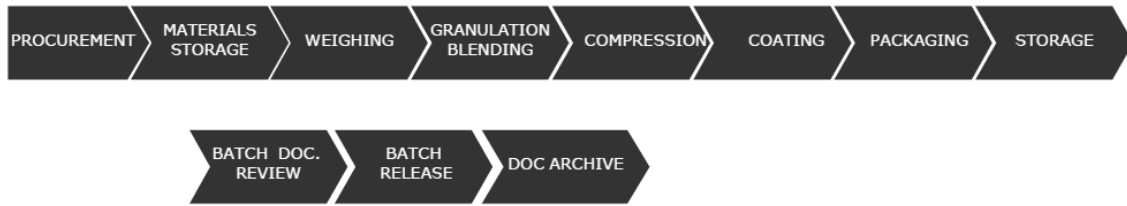


Figure 35: Production process – example

Firm-Omega's activities cover pharmaceutical contract manufacturing, regulatory affairs, marketing and medical information, warehousing and logistics. By providing contract manufacturing services, Firm-Omega produces for major national and international players and aims at getting its manufactured products in several markets (mainly European). Due to the downward evolution of prices, particularly in Portugal, Firm-Omega has set the goal of diversifying its activities and internationalizing its business. And it did it with success, as starting in 2009 from an exports' turnover that was minimal, it was able in the year 2014 to have exports representing already 30% of its turnover, expecting this percentage to be above 40% in 2016.

Firm-Iota – Context

Firm-Iota is integrated in a privately-owned Portuguese pharmaceutical group with R&D, production, marketing, sales and distribution. The company has approximately 150 employees and is part of a Group that has more than 300 employees. Firm-Iota turnover was roughly 60 million Euros in 2009. This company was founded in the 1970's. In the 2000's it has established a subsidiary in Maghreb, has acquired a production facility in Portugal from an international pharmaceutical company and has invested in brand generics, OTC products and biotechnology.

Firm-Iota has two manufacturing units that are certified with Good Manufacturing Practices, ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007. In 2013, the company produced 15 million medicine packages, with 50% of its production to contract manufacturing clients. Firm-Iota is licensed to produce solid, semi-solid and liquid pharmaceuticals, as well as cosmetics and body hygiene products. Firm-Iota has

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more than 40 national and international clients and manufactures solid forms (tablets, coated tablets, capsules, pellets, granules, sachets, suppositories) semi-solid forms (creams, ointments) and liquid forms (solutions, suspensions, syrups).

Recently, Firm-Iota invested over 3.5 million Euros in its main factory to improve the production process. The increase of contract manufacturing business, in order to fully use the factory production capacity, is one of the firm's main goals. Firm-Iota internationalization comprises several areas, such as: contract manufacturing; development of formulas; analytical services and stability studies; compilation of registration dossiers; licensing and distribution.

In 2009, Firm-Iota exported 1.5% of its turnover and by the year 2013 its exports represented approximately 10% of the company's turnover. Firm-Iota uses distributors to be present in Europe, Francophone West Africa, Portuguese-speaking African Countries, Middle East and Asia. Its main target markets are North Africa, Francophone West Africa, Angola, Cape Verde, Mozambique and Middle East.

Shared Context

The relationship considered in this Case One is between the procurement departments of Firm-Omega and Form-Iota and has started in 2005. The existing relationship is centred on individuals of both companies who made acquaintance in ISO Project meetings. "Project ISO brings closer companies at an intermediate level". Participant companies have the same clients and suppliers in many cases. The relationship is very stable, with no major changes identified.

The goal of each company's procurement department is independently settled by its management. Both company's departments are focused on achieving their individual goals. Those goals are defined mainly in terms of the reduction of purchase price variance and in an overall reduction of the purchasing budget. Frequently, these companies combine efforts to achieve a batch of a minimum quantity order or to reduce the price of the purchased products or services.

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The establishment of each company goals assumes the past performance of the department, including the gains already seized with the horizontal relationship. Gains that were achieved by the existent horizontal relationship lead to an interdependence. Those two departments are indirectly tied together, since the setting of new goals takes into consideration the gain made only possible by the maintenance of this horizontal relationship.

The beginning of the relationship was followed by joint good experiences. Both companies had combined efforts to help a third company become a potential supplier of the pharmaceutical industry. This third company, that provides pest control services, needed to adjust procedures to qualify itself as a supplier of the pharmaceutical industry. The joint action of both Firm-Omega and Firm-Iota generated an alternative to provide them pest control services, escaping premium prices paid to a dominant company. It was the relationship development that led to their joint effort in reducing purchase prices or in easily achieving minimum order quantities. The two counterparts bring to this relationship their purchasing volume and their knowledge. Both companies feel free to approach the other counterpart with new business deals proposals, materialized if both find the deal attractive (e.g. jointly negotiating paper/carton).

Additionally, in this relationship it is common to issue or receive requests for a product loan. Firm-Omega and Firm-Iota try to help each other when needed (and if possible), by lending or selling products at no profit. In some cases, lending or selling products may even encompass a loss. Products (medicines ingredients) need to be tested or analyzed before being used in production and this mandatory procedure is costly. Loaned products have already their mandatory analysis performed.

As already referred, Firm-Omega and Firm-Iota frequently check their interest in jointly negotiating with some suppliers. Bad or useful experiences may also take place when their supplier rejects joint requests. This example was clear in their attempt to jointly buy sucrose. As would be expected, over time this horizontal relationship has produced bad and good experiences. Recently, both companies were involved in the joint negotiation of energy within the ISO Project with major savings. Within this horizontal relationship, both companies are focused on mutual gains and achievable objectives.

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This horizontal relationship also had a huge impact on business between Firm-Omega and Firm-Iota. When Firm-Iota had a temporary need to outsource the production of one of its main OTC products, it chose Firm-Omega. One of the main reasons was the existence of this truthful horizontal relationship.

4.2.1.2 Relationship Nature

“All Portuguese pharmaceutical producers nowadays compete for contract manufacturing.” The companies’ offer span is quite reduced and having similar offers leads to high competition. Between Firm-Omega and Firm-Iota competition is high. For the company as a whole cooperation is low. “Signs of cooperation are present here and there.” However, both companies cooperate in some departments, namely in the case of the procurement department.

“Before this relationship, Firm-Omega was only one more competitor. Now, the first person that I call asking for a favour (such as, when asking for aluminium for packaging if my supplier misses a delivery) is Firm-Omega”.

Regarding both companies, for the specific departments that integrate this horizontal relationship, cooperation is regarded as high. Competition is also considered by Firm-Iota to be fairly present. Despite considering its counterpart mainly as a competitor, it was argued that “We are all very small companies in the pharmaceutical global market and cooperation is paramount”. Firm-Omega perceives that competition within the department is very low.

4.2.1.3 Interaction Processes

In this horizontal relationship three interaction processes, say exchange, adaptation and coordination, were observed. The major resource exchanged between Firm-Omega and Firm-Iota was information. The exchange of information is frequent and it is neither planned nor following a specific schedule. “We talk with each other at least once a month... whenever it is necessary to solve a situation”. Frequency of exchanging is

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associated with the occasion or the event, e.g. frequency increases when companies are closing a joint negotiation.

“We both play an open game... communication between us is transparent”. The type of information exchanged is related with their internal and mutual objective. It is centred on operational subjects, such as, procurement quantities, purchase prices, post-sale services and minimum order quantities. Both companies share their own expectation vis a vis the other about their joint negotiations.

However, Firm-Omega and Firm-Iota do not share information on a supplier if they have a special agreement or if it is a supplier critical to the company. In this situation, both companies simply tell the other that it is not possible to discuss information related with a particular purchase/supplier. “When we cannot say something, we don’t and we say that we cannot”. This condition is expected in information exchange of many active principal ingredients (API). The API price is often an important component of the medicine final price. For this reason, exchanging information on APIs takes time, many good experiences and it only happens if that API (or related information) is not an important one.

As mentioned before, Firm-Omega and Firm-Iota ask each other some favours to overcome problems. Product exchange is rare and just occurs under specific conditions, such as, supplier delivery failures or urgent unexpected needs. Lending or selling each other aluminum foil for medicine packaging may prevent a production problem. Social exchange keeps up with resource exchange. Companies have exchanged attitudes, values and norms. Both interviewees refer to the counterpart as a “friend” or “like a brother” recognizing and praising their counterpart honesty and loyalty.

Adaptation between both parties is scarce. Neither Firm-Omega nor Firm-Iota have made internal adaptations to accommodate requisites from the counterpart. Requirements were not even suggested to the other. Both companies adapt to a third party if needed (e.g. mutual supplier) even though, often, the third party is the one that adjusts to Firm-Omega and Firm-Iota.

“We have to coordinate agendas, information exchange... all that needs to be done to close a good deal”. Communication procedures between both companies are adjusted

An Interaction and Network Perspective of Horizontal Relationships informally over time. After spotting an opportunity, companies assess each other's interest. During joint negotiations, follow-up procedures are established to ensure that information is available on time and to keep record of the potential benefit. "We do a lot of teamwork, always looking for our company's best interest". Results are often formally presented in joint meetings and inside each company.

4.2.1.4 Outcomes

Both companies developed bonds, mainly informational, social knowledge and economic. These bonds are associated with "good" joint projects. Restrictions associated with this horizontal relationship are seen by both companies as inexistent, since they do not see their actions restricted by the other. Companies tend to cherish good deals and gains achieved together. Some bond types, such as, technical or planning bonds are present, mainly to accommodate third party requirements or suggestions, e.g. logistic coordination to buy together a product.

Both companies share a lot of information regarding their goal. If one company wants to change a supplier, needs to buy a service/product, or has a problem with a supplier, that company frequently promotes information exchange on that particular subject with its counterpart. The information shared is often considered useful to prevent losses or to reduce costs. Economic gains are the ultimate objective of each company. Examples of good experiences are retained. In 2005, companies' joint efforts to qualify a service supplier provided them with a cheaper alternative. The energy deal (electricity and natural gas) negotiated in 2014 led to a saving over 20% in both companies.

Both companies are committed to honesty and loyalty towards the other partner. Through this horizontal relationship, both companies share norms and values, as well as the acquired knowledge about each other. This knowledge is related with the counterpart internal processes of procurement, suppliers, departments, problems and also specific goals and needs. Knowledge about their counterpart has already led to contract manufacturing services with customers, as both companies have already recommended their counterpart services of contract manufacturing to potential customers.

4.2.2 Case Two: Firm-Rho & Firm-Omega Relationship

4.2.2.1 Relationship Context

Firm-Omega – Context

Firm-Omega individual context has already been described in the previous case study.

Firm-Rho – Context

Firm-Rho was a privately-owned Portuguese pharmaceutical company until the end of the year 2014, when it was acquired by a foreign entity. It has nearly 350 employees and a turnover around 50 million Euros in the year 2014, exporting 75% of its sales. Firm-Rho was established in 2000's out of a management buyout of a multinational's industrial unit in Portugal. At the time, it kept the former shareholder as its main customer. Firm-Rho acquired a second industrial facility in Portugal around the year 2010.

With a turnover of high growth rate, Firm-Rho has two main business areas: contract manufacturing services and marketing & sales. Contract manufacturing is the main business, with about 50% of its production being exported to 45 markets worldwide. The main external markets are the European, recently the Middle East and North Africa region and the Portuguese-speaking African countries. Firm-Rho is committed with quality, environment, health and safety, holding several certifications, such as, Good Manufacturing Practices (GMP), ISO 14001:2004 and OHSAS 18001:2007. Its production capacity is approximately 50 million units per year and it includes: effervescent, solid, semi-solid and liquid medicines, sprays, collyria and injectables.

Shared Context

The focal relationship started in 2005, within the scope of the ISO project. In the beginning, both companies were involved in the negotiation of the contract with the supplier of pest control services. This contract involved helping the pest control supplier to qualify as an alternative. This negotiation brought benefits to Firm-Rho and Firm-Omega, and both companies achieved their objectives. Other joint negotiations that followed failed or didn't bring benefits to Firm-Rho.

Between 2007 and 2014, the ISO project has almost been inactive. On top of that, changing supplier is not an easy task within the pharmaceutical industry, due to the applicable rigid regulation. The process of changing a supplier related with the medicine manufacturing is a long and difficult process. In particular, the change of a supplier of a pharmaceutical component or of a primary packaging component (e.g. aluminium in contact with the pill) requires the compliance with strict regulations and must be authorized prior to the modification. Changing secondary packaging components (e.g. carton) or printing services is much easier.

The relationship between the procurement departments of both Firm-Rho and Firm-Omega was practically dormant between 2007 and 2014. "We were eight to nine years without doing anything together, with few exceptions; we just exchanged SOS emails if needed." In 2014, again under the umbrella of project ISO, the relationship was resumed. Both companies came closer and negotiated together the utility contract with the energy supplier.

In 2014, both companies achieved their individual and mutual goals by jointly negotiating with the energy supplier. Each company accomplished the objective of reducing its energy costs. Both companies kept the objective of achieving savings through the horizontal relationship. In 2015, both Firm-Rho and Firm-Omega were integrated in several joint negotiations (e.g. work clothing and laboratory reagents), what is strengthening the horizontal relationship.

4.2.2.2 Relationship Nature

“Before and after this relationship, we were and are still competitors of the pharmaceutical sector.” Competition, on a company level, was regarded as high by both companies. Competition within the procurement department is not high, but both companies constantly bear in mind that they are competitors. “The procurement group of the ISO project cannot fully work.” Despite being competitors, both companies have already made positive references on the services of the other partner and have made recommendations to potential clients.

Both companies believe that cooperation aiming at reducing costs is possible in services or products that represent indirect costs, such as energy (electricity and natural gas). Across the whole procurement department, the cooperation is not that high. Willingness to cooperate and proactiveness within the focal relationship is low. The stronger cooperation exists at a personal level, e.g. exchanging the contact of the supplier or sharing impressions on suppliers.

4.2.2.3 Interaction Processes

Information exchange was the main interaction process of the relationship between the procurement departments of both Firm-Rho and Firm-Omega. At the beginning of the relationship, companies started by exchanging information related to suppliers with the aim of reducing costs by joint negotiations. The sharing of information allowed both companies to achieve their goals, e.g. the joint negotiation of the pest control service.

However, just exchanging information related with companies current suppliers did not always lead to the goals' achievement. Some negotiations that followed did not bring a benefit to all companies involved. Particularly, the perception of Firm-Rho was that the horizontal relationship did not lead to savings. From 2007 till 2014, “we only exchanged emails to overcome a problem with our stock.” These sporadic information exchange produced results. “Sometimes we can mutually help each other. For example, if they need a bag of starch, we have it in stock and we do not need it, we can sell it or lend it.”

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In 2014, both companies exchanged information on their energy supplier and participated in the joint negotiation. Information is mainly operational and non-core to the business, such as the price paid per kilowatt. “Sharing info is easy when information involved is not critical”. Both companies considered that their goal had been achieved. Since the beginning of the relationship, information and social exchange have been present. “When individuals are together in the same room, they can talk about the weather or football, but in the end, often people talk about common matters: their day-to-day work, sharing a problem, a solution, a procedure, and giving a “free advice.”

Social exchange is scarce and acceptably developed. Both companies sense their counterpart attitudes and values, even when social exchange is limited. Adaptation to third parties by both Firm-Rho and Firm-Omega or to both companies by third parties is not abundant; yet it's more frequent than adaptation towards one another. For example, both companies can adapt payments to a common supplier or the supplier can adapt its offer to both companies.

Coordination is frequent within the focal relationship and in general is strongly related with the information exchange. To pursue the mutual goal of reducing costs, companies have to normalize information that is exchanged or have to ensure and improve procedures to share information. “The most time consuming part is normalizing the information exchanged, which is necessary to proceed with the suppliers’ negotiations.” With positive contributions from each company to the other one, coordination evolves. “We must do our work and free our time to the horizontal relationship too.” Companies attend meetings, gather and share information, and also monitor and follow-up on results.

4.2.2.4 Outcomes

Focusing on developed bonds between Firm-Rho and Firm-Omega, four main bonds were identified: knowledge, informational, economic and social. Knowledge bonds are fairly developed over time and are not necessarily restricted to the involved (procurement) department. Both companies know more about each other, currently.

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Informational bonds are strongly related with the information exchanged by both companies. “Exchanging information is not easy.” That is, suppliers or customers often require confidentiality agreements. On top of that, the joint acquisition of products may be almost impossible because of the timing to materialise the purchase, confidentiality issues, competitiveness loss, procurement’s lengthy procedures and, last but not least, many times there is no alternative supplier (nor buyer).

Economic bonds are connected with gains and benefits that are derived from the horizontal relationship. In the past, not all experiences were as good as the one of the energy negotiation. Gains are determined by comparison of the negotiation outcome with the cost prior to the horizontal relationship negotiation. Both companies have developed social bonds. Companies trust each other in a professional manner and task related.

4.2.3 Case Three: Firm-Gamma & Firm-Iota Relationship

4.2.3.1 Relationship Context

Firm-Iota – Context

Firm-Iota individual context has already been described in Case One.

Firm-Gamma – Context

Firm-Gamma is integrated in a privately-owned Portuguese pharmaceutical group with regulatory affairs support, production of medicines and parenteral solutions, as well as marketing, promotion and distribution services to other companies. Firm-Gamma, in 2013, had approximately 50 employees and a turnover around 23 million Euros. It is part of a group that has more than 220 employees and a turnover above 150 million Euros. The group was founded in the late 1990’s and Firm-Gamma has integrated the

group by acquisition, after the year 2005. Recently, it has invested 15 million Euros in production capacity and quality control. Firm-Gamma holds Good Manufacturing Practices (GMP) certification and it continues to invest in logistics and warehousing capacity.

Manufacturing by contract to third parties is one of the main objectives of Firm-Gamma internationalization strategy. Firm-Gamma produces liquids (glass and plastic packaging systems) and semi-solids (creams, ointments and suppositories). Nowadays, its medicines production is mainly placed in foreign markets. Firm-Gamma exports primarily to Europe, Africa and Middle East.

Shared Context

The relationship between the purchasing departments of Firm-Gamma and Firm-Iota started in 2014. Department Managers from both companies made acquaintance in the scope of the ISO project, subsequently to the project's restructuring. "In 2005, at the beginning of the ISO project, we were five companies and now we are around sixteen." This relationship is quite recent and one can appraise that managers hardly know each other. "In the procurement group all is very recent."

Both companies shared an exhibition stand in the Convention on Pharmaceutical Ingredients – CPhI (international fair / tradeshow), in 2014, and have used this event to meet buyers and suppliers. The two interviewees from both companies have attended this tradeshow. They pointed out the individual objective of their attendance, "we did not have the time to talk to each other, since we had meetings all the time with customers and suppliers, as we had to take the most out of our presence at the fair."

Each company establishes its own procurement department's goals. A common goal encompasses the improvement of both companies purchasing commercial conditions. Because the relationship is at its beginning, both companies only occasionally have combined efforts. The first negotiation that involved both Firm-Gamma and Firm-Iota, occurred within the ISO Project and had the purpose of reducing the energy costs.

Only Firm-Iota has achieved the goal of energy cost saving. In other words, this joint negotiation did not bring savings to Firm-Gamma. Furthermore, considering the null gain and contractual reasons, Firm-Gamma was out of the energy deal prepared within ISO project. Both companies consider that their relationship does not involve restrictions. “Each deal represents an opportunity that we can embrace (or not).” Nevertheless, Firm-Gamma stays focused on the goal of obtaining savings. “The goal is to have savings. It did not occur till now and the gain is not granted.”

4.2.3.2 Relationship Nature

Some years ago Firm-Gamma only produced to itself and had specific markets. “Before, we were neither competitors nor partners. Nowadays we are more competitors and partners.” Presently, both Firm-Iota and Firm-Gamma compete for contract manufacturing. Thus, competition between companies can be regarded somewhere between medium and high.

“Within the procurement department we do not compete and cooperation is very recent.” Cooperation has increased between some departments of both companies, as in this case of the procurement departments. The youth of the cooperating relationship was mentioned by both companies, as being related with the reduced cooperation level.

4.2.3.3 Interaction Processes

The horizontal relationship involving the procurement departments of both Firm-Gamma and firm-Iota comprises mainly the exchange of information. Within the scope of project ISO, both companies exchange information with the goal of reducing their energy (electricity and natural gas) costs. To negotiate with energy suppliers, both companies exchanged information related to their energy providers and energy consumption.

As a result of their Managers personal contacts, companies started to exchange emails with the objective of buying and selling raw materials between them. “We already

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exchange emails to help each other... SOS emails to help someone in distress...” Those emails are exchanged with the intent of overcoming problems with the companies’ suppliers. Among other cases, companies exchange information when they need a product earlier than the expected delivery date of their regular suppliers.

The information shared is operational and the goal is to improve purchasing conditions. Information is only related with the deal and both companies know that savings are not granted. Still, companies continue to exchange information with the objective of improving their negotiations with several suppliers. Between Firm-Gamma and Firm-Iota, both social exchange and adaptation are almost inexistent.

Coordination is performed mainly to support the exchange of information. Individually, both companies produce reports, negotiate with potential suppliers and place the order. After ordering, companies also independently follow-up deliveries. Part of the work performed within ISO project, such as, “checking consumptions or performing forecasts is a part of my job. We need to do that internally the only thing now is that we must coordinate efforts to deliver info on time to partners”.

4.2.3.4 Outcomes

Firm-Gamma and Firm-Iota developed mainly an informational bond that is associated with the information exchange. Both companies know each other better with continuous interaction, establishing a knowledge bond. The informational bond is also linked to an economic bond via both companies’ goals. In other words, the economic bond between the companies’ procurement departments is coupled with expected benefit from the horizontal relationship.

Companies aim at improving their negotiation power with their suppliers. Both companies consider that the economic benefits are the potential savings resulting from the join negotiation. Restrictions are regarded as inexistent by both companies. “We do not have restrictions, each deal represents an opportunity that we can embrace, or not.” Social bonds are poorly developed.

4.2.4 Case Four: Firm-Phi & Firm-Sigma Relationship

4.2.4.1 Relationship Context

In this section is presented the individual context of both Firm-Phi and Firm-Sigma. The shared context of the focal relationship is also addressed.

Firm-Phi – Context

Firm-Phi is a privately-owned Portuguese pharmaceutical company with nearly 650 employees and a turnover above 120 million Euros in the year 2014. Firm-Phi activity started in the late 1970's with medicine promotion and sales. In the 1990's it initiated production, as well as research and development. Its production and promotion of medicines have been enlarging over the years. Currently, Firm-Phi has a strong positioning in the generics market and a clear orientation for quality and technological innovation. Firm-Phi owns three production facilities. Currently, Firm-Phi is also investing in South America.

In Portugal, Firm-Phi owns several commercial brands, has two production units and one R&D Centre. Firm-Phi manufactures several types of pharmaceutical forms: tablets, creams, pastes, suppositories, low volume injectables, liquids and suspensions, among others. The research laboratory has capacity for research and development of new chemical entities, development of new forms of synthesis, development of new pharmaceutical forms (including modified release forms and sterile forms), analytical development and validation of processes, pharmacological screening, toxicology studies, clinical studies and cells culture.

Firm-Phi holds quality, environmental, health and safety certifications, such as, ISO 9001:2008, Good Manufacturing Practices (GMP), ISO 14001:2004 and OHSAS 18001:2007, Good Laboratory Practices and ISO 17025:2005. Up to date, Firm-Phi has developed over 75 products and currently it manages over 2000 marketing authorizations at a global level. It is present, either directly (has established three

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Firm-Sigma – Context

Firm-Sigma is a privately-owned pharmaceutical company with nearly 250 employees and turnover was roughly 55 million Euros, in 2012. The majority of the company's capital changed hands in the late 2000's, leading to an adjustment in the top management team. Firm-Sigma is a drug development, contract manufacturing and licensing-out Portuguese pharmaceutical company, specialized in the manufacturing of solid oral dosage forms. Recently equipped, the oral dosage manufacturing facility has advanced pharmaceutical machinery, tailored to facilitate and optimize the production and the packaging processes. With two production plants in Portugal, in 2012, Firm-Sigma has produced approximately 50 million medicine packages, being 25% of its production for 40 contract manufacturing clients.

Firm-Sigma works in accordance with the Good Manufacturing Practices (GMP), Good Distribution Practices, Good Laboratory Practices, and documented Standard Operating Procedures. Firm-Sigma provides a full customized manufacturing service to its customers and is able to produce solid pharmaceutical forms in accordance with the customers' specifications. In addition to contract manufacturing, Firm-Sigma offers packaging services, formulation development services, batch validation and releases, dossiers registration and regulatory support.

In 2012, the majority of the production of contract manufacturing was sold to 20 multinational pharmaceutical companies. Exports are approximately 5% of the company's turnover, equivalent to four million medicine packages. Firm-Sigma internationalization strategy also encompasses out-licensing deals, either through business partnerships in emerging countries or through the transfer of marketing authorizations owned by Firm-Sigma for many "international nonproprietary names" in

several EU countries. Exporting to emerging economies, such as Latin America, Middle East and North Africa region, is part of Firm-Sigma's business strategy.

Shared Context

This horizontal relationship between the procurement department of Firm-Phi and Firm-Sigma started in 2011. Companies promoted a "kick-off meeting in 2011." Managers from the procurement department of both companies already knew each other since 2005. At that time, both individuals worked in other companies and were holding different jobs. "It had nothing to do with the present relationship between us. This relationship involving both companies started in 2011."

"The motivation of the management board was the major driver to this relationship." The two management boards from both companies are close and sponsored this relationship. Both companies' management boards share the executive committee of a trade association. This proximity was at the origin of the horizontal relationship between the procurement departments of both companies. In the beginning (during the first two years from 2011 till 2013), the management board was present in joint meetings that took place every 3 to 6 months. Nowadays, meetings are held in ISO project and "babysitting is no longer needed".

This relationship between both companies' procurement departments is to jointly negotiate with suppliers to obtain economic benefits. "In 2011, we could not order following the same old routine, we needed to start buying better." The mutual goal was coupled with each company goal of enhancing negotiation power with the suppliers.

In 2011, Firm-Phi and Firm-Sigma started by choosing external services providers that could be jointly negotiated and hired. "Together we prepared a priority list comprising several services' providers. That priority list had three main drivers: the cost, the potential gain and the time needed". In other words, both companies tried rapidly to obtain significant savings. In the beginning, both companies also did not want to exchange core information, e.g. information related with suppliers of APIs. Hence, the

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focus was on contracts involving insurances, fleet, security and energy (electricity and natural gas).

The first contract that both companies renegotiated together involved energy suppliers. Renegotiating the energy contract was considered simple by both companies and led to substantial savings. Companies tried to follow the same procedures to renegotiate insurance's contracts. In this last case, companies gathered information and requested a bid. The simple act of comparing insurances' providers led to substantial savings to both companies without changing their supplier. The private security contract renegotiation was similar to the insurances one. Despite sharing good experiences, not all objectives were accomplished. For example, the renegotiating the fleet contract was abandoned because of its complexity. The fleet contract involves the human resources department, particularly personnel benefits' management. However, the knowledge exchange related with the fleet management led to important savings.

Nowadays both companies' procurement departments are involved in the ISO project. Companies started attending meetings from the ISO project in 2014 after the project was restructured. Both companies considerer having built a good mutual history and consider that the good experiences are important for the relationship development. The ISO project did not change the course of their relationship that continues to evolve.

4.2.4.2 Relationship Nature

Before the focal relationship, each company regarded its counterpart simply as another competitor. With the relationship, the establishment of cooperation started and both competition and cooperation were the new status of the relationship. Both companies consider cooperation crucial to increase their competitiveness. "We need to cooperate to compete with big foreign companies. Together we are smaller than many of those foreign companies." Particularly in the generic medicine's market, both companies argue that their major competitors come from abroad. Companies relate competition when there is overlap of commercialized products.

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With the relationship development, both companies believe that cooperation has been increasing over time. “Today we cooperate a lot and the competition factor is not that important for me, over time I have neutralized it. For me, my counterpart is more like a partner than a competitor, because I tend to value more our partnership”. Within the procurement department of each company, cooperation has raised and competition has fallen.

4.2.4.3 Interaction Processes

The relationship between the procurement departments of Firm-Phi and Firm-Sigma encompasses interaction processes of exchange, adaptation and coordination. Companies exchange mainly information and knowhow to improve negotiation with suppliers and enhance savings. The information shared is mainly operational and related with mutual goal.

At the beginning, in 2011, companies started by exchanging the only information that was strictly necessary to conclude negotiations with success. The first joint negotiation was the energy contract. Both companies exchanged non-core information on the service provided, such as, price per kilowatt and general information about their suppliers. Over time, their personal relationship evolved and both adopted informal communication between them. In 2013, the energy contract was renewed using only text messaging on the mobile phones. “We know each other well and we also know well our account manager of the energy supplier.”

Information exchange does not necessarily lead companies to jointly negotiate or change the service provider, e.g. insurances, fleet or private security. However, exchanging information concerning those services led to substantial savings. Companies obtained those savings simply by comparing external service providers of insurances or private security. Moreover, exchanging knowhow helped each company reduce its costs. Sharing “what to do and how to do some things” related to the fleet management (e.g. if the leasing contract should include tires / insurances / maintenance / replacement car, or if company cars should be all from the same manufacturer) led to substantial savings. “We also exchange information on our work related experience, for example

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we can issue recommendations to the service provider to solve a particular problem of my counterpart.”

Companies also exchange emails requesting raw materials. “Today we do it regularly; at one time the request was mostly welcomed because we had exceeding stock. This procedure only takes place when we can’t timely purchase the product from the regular channels. It occurs, for instance, when the delivery is not on time.” Over time, companies started to exchange more information and not always related with the procurement department, such as, information from human resources’ departments. At the present time, information exchange occurs regularly. Frequency of exchange increases when close to the expiry date of a joint contract.

Social exchange takes place within the relationship and facilitates the other exchanges (information mainly). After the first personal contact, the relationship “socially” evolved in a good manner. Firm-Phi and Firm-Sigma exchange values and attitudes, appreciating honesty and respect from one another. “It makes everything easier at all levels.” Both companies believe that they share important values that only work if they are mutual. “Social exchange is not an obvious thing to get but we know that we both have high business ethics.” Mutual values and attitudes were to be considered fragile and missing in the counterpart and it could jeopardise the whole relationship. “If they break the relationship is over...”

Adaptation towards each other is small or even inexistent. “We do not adapt ourselves to them.” However, over time, both companies start knowing each other better and adopt counterpart practices, if they are perceived as superior. Adaptation can occur by both companies to the service provider or by the service provider to both companies, e.g. jointly, Firm-Phi and Firm-Sigma, already have adapted themselves to a new contract.

Coordination efforts to achieve common goals are well developed. Coordination is connected with the exchange performed and with the benefits of the relationship. Both companies informally developed communication procedures that change mainly according to the third counterpart. The dynamic character of the coordination between Firm-Phi and Firm-Sigma is present in communication procedures, as well as in the control and follow-up performed by them. At the beginning, companies formally and

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jointly composed a priority list of external service providers. Information on professional uniforms, private security, energy, fleet and insurances was coordinated and changed to add similar things. “We needed to distinguish and add apples with apples and pears with pears.” Nowadays companies know each other better and informational exchange occurs in a more fluid and informal manner.

Joint follow-up meetings, involving both companies’ boards, were held and results were presented. Economic benefits were determined by comparison (with the previous contract costs). Monitoring and evaluating the relationship benefits are currently less formal. “In the beginning, we measured and estimated the economic gains related with this relationship, today it is not the same thing.” Both companies believe that Firm-Phi was the one that carried out more coordination efforts.

4.2.4.4 Outcomes

Companies have essentially developed informational, economic, social and knowledge bonds. Informational bonds are strongly related with the information exchanged by both companies. Information is mainly operational and exchanged in line with mutual goals. Information exchange is central to companies’ economic gains with the horizontal relationship and to the development of other bonds. Even not considering the joint purchase volume or the negotiation power increase, information sharing has led to major savings.

Economic bonds are associated to economic gains that derive from the horizontal relationship. Those are clear when suppliers’ contracts are jointly negotiated and lead to savings to both companies. Still, economic gains are also present when companies share knowhow that can be used by their counterpart to seize an economic gain. Both companies increase their knowledge by exchanging information. Knowledge bonds are developed over time and influence the relationship between Firm-Phi and Firm-Sigma, as well as the relationship with third counterparts.

Social exchange between both interviewees started after the beginning of information exchange. Social bonds are linked to the existing social exchange within the focal

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The history of this relationship is still recent and considered not to have restrictions. In contrast, both companies judge that benefits are substantial and derive from the exchanged information and bigger potential purchase volume. Firm-Phi and Firm-Sigma appreciate their counterpart experience and knowledge.

4.2.5 Case Five: Firm-Delta & Firm-Phi Relationship

4.2.5.1 Relationship Context

Firm-Phi – Context

Firm-Phi individual context has already been described in the previous case study.

Firm-Delta – Context

Established in the 1920's, Firm-Delta is a privately-owned Portuguese pharmaceutical company with approximately 900 employees and a turnover near 200 million Euros in the year 2014. In Portugal, Firm-Delta owns a production facility and a R&D centre focused on innovation projects in the areas of the central nervous and cardiovascular systems. Since the 1990's it owns a second production facility in Spain and offices in Italy, Switzerland, Mozambique, Angola, Ivory Coast and Panama. In the near future, the establishment of offices in UK and Germany is also expected. Firm-Delta exports to nearly 50 countries around the world, with more than 250 employees actively promoting its pharmaceuticals in more than 30 countries.

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Firm-Delta is highly committed with quality, environment, health and safety. Firm-Delta sells, under license of several multinational companies, a wide range of products in diversified therapeutic areas: anti-diabetic, antibiotic, anti-inflammatory, analgesic, cardiovascular, antidepressant and anxiolytic, antiasthma, vitamin, anti-ulcer, diagnostic and vaccine for allergies treatment. Firm-delta continuous efforts and investments in the research of new molecular entities led to a new patented anti-epileptic drug, marketed globally since the year 2010. Presently, it has three NMEs in the preclinical phase and two NMEs in the clinical trials phase. It is expecting to market, in the coming years, the two new molecular entities already in clinical trials.

Shared Context

Both companies are members of the partnership PharmaPortugal, since 2004. However, the horizontal relationship development between international departments of both Firm-Delta and Firm-Phi occurred mainly since 2008. The beginning of the relationship was encouraged by the Portuguese Government that aimed at improving the trade balance with a particular Latin America country, setting the objective of increasing exports (including medicine exports). The mutual goal supporting the focal relationship is compatible with Firm-Delta and Firm-Phi abilities and individual objectives in Latin America.

The focal horizontal relationship has begun during a diplomatic mission organized to the focus country, involving several public and private economic sectors. In 2008, individuals from both companies' international departments were introduced by their companies' directors who already knew each other. "I was introduced by my company's director, during the flight, in the first diplomatic mission to that country."

During the diplomatic mission, companies made acquaintance and presented their products and services. Subsequent to the diplomatic mission, with the objective and the capacity of improving their exports, the companies joined efforts to achieve their mutual goal. Both companies started negotiating with the foreign country's Government. "Negotiations were always held jointly." The joint negotiation is necessary to improve group results. "Prior to this partnership, selling in that country was very different. At

first, the quantities traded were quite small. Together, we were able to put pressure on the foreign government to commit itself with product quantities and prices. Before 2008, I went there all alone and nothing happened... we did not sell a package.”

The existing relationship between Firm-Delta and Firm-Phi is considered stable and profitable by both counterparts. Personnel did not change over the years in both companies and in their common customer. Goals and strategies from both companies are the same since 2008. The decision to choose the same local agent to cope with local regulation is also considered to be good for the focal relationship development.

“The first contract was closed with real team work - we even worked all with the same laptop, for the contract development. That gave the ‘team’ the hope and the idea that this deal (or joint negotiation) could work for everyone.” Nowadays, the relationship has progressed, as well as the exports to that country, with a very good trend.

4.2.5.2 Relationship Nature

Competition levels between Firm-Delta and Firm-Phi are stable over the years. Both companies consider that before the focal relationship, competition was inexistent in international markets and low to medium in the domestic market. Before 2008, both companies regarded cooperation also as nearly absent. Presently, considering the company “as a whole” the two involved companies weakly cooperate and weakly compete.

But also nowadays, within the international department, both companies regard cooperation as high and competition as low. Particularly, concerning the joint deal with the Latin America’s country, since 2008, both companies strongly cooperate with each other. “Cooperation is well developed... yet, in relation to other countries we do not cooperate, at most cooperation is poorly developed.” Companies cooperate to overcome obstacles to exports. However, after removing market entry barriers, companies frequently start to compete, instead of keeping cooperation. Within the focal relationship, competition was always regarded as low, because Firm-Delta and Firm-Phi do not have overlapping products in international markets.

4.2.5.3 Interaction Processes

The focal relationship encompasses the three interaction processes: Exchange, adaptation and coordination. In 2008, companies started by aligning their strategy towards the Latin America's market. Individuals' knowledge about each other counterpart and the inexistence of overlapping products in international markets mostly helped Firm-Delta and Firm-Phi in the exchange information process and in reaching a consensus.

Information exchange is fluent between both companies, "it happens at least once a month". Information shared is mainly operational; strategic or tactical information is only exchanged if necessary. The information exchanged concerns: clients, products, delivery times and contract features. Companies may also restrict informational exchange. "We do not share information associated with our future plans on product exports until those products are safely registered, till the opportunity is settled."

Companies exchange information related with their local regulatory agent, before and after the decision to choose him. Contracts with the customers are jointly negotiated, with both companies sharing information before and after each negotiation. Nowadays, supply contracts are the same for all (information is shared prior to the closing of the contract final text). Information can also address maritime transportation problems, ordered quantities, delivery time (usually when something doesn't match the plan), market information (e.g. if the client wants to change something, if another possible deal is active with that client, the buyer financial capacity), letters of credit and bank information, among other.

Social exchange is also regularly shared between Firm-Delta and Firm-Phi. "We share values and norms...; honesty and transparency are always present; we couldn't do business with dishonest and slicker companies or individuals. All this is quite informal and implicit since the beginning" Today, company contacts extended to personal ones. "Personal is always present, as all in life. For example, in joint missions we all have dinner together and we rotate the dinner payment among each company."

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Adaptation towards one another is low. Yet, both companies adapt themselves to the final customer. “We sell according to the client needs and the local regulation.” Both companies did not have to change anything in their companies to accommodate the focal relationship. “The only thing is to arrange the meetings (missions) with all companies involved, the flight reservation is made together, the dinner payments are rotated among the companies and more often than not we stay in the same hotel.”

Companies happen to adopt a best practice. For example, at first Firm-Delta worked with bank transfers and all the other companies worked with letters of credit. After some mutual explanations, Firm-Delta changed. “They said that it was the safest thing to do.” Now, sale contracts are similar for both companies. Since there are five companies involved in the deal with this Latin America’s country, the pressure from the group is crucial. Often when the majority adopts a procedure, the others (minority) are “forced” to adapt.

Companies coordinate efforts to keep this horizontal relationship. Both companies consider that together they developed a good and functional relationship. First, companies align their strategy regarding each other. Second, in this deal, companies consider very important to speak with one common voice. Final, specificities of each company are accommodated and taken into consideration.

Communication procedures were raised naturally. The negotiation of the first contract took two years and by then it was essential to build trust and define procedures among participants. Involved companies have always created a unique document to jointly discuss with the client. External communication is jointly prepared. Letters to the domestic trading and investment agency, domestic regulatory agency, foreign regulatory agencies and embassies (either foreign or domestic) are often jointly prepared and centrally sent. Firm-Delta and Firm-Phi, both jointly and individually, monitor the relationship benefits. “Sometimes I wonder if our common customer has already made a payment to my counterparts. Or if my partner is anticipating delivery delays.”

4.2.5.4 Outcomes

Till this Latin America's deal, companies hardly knew each other. Nowadays, both companies are closer to each other and developed several bonds. Mainly, both companies developed informational bonds, but confined to the international department and only related with a particular foreign market. Proximity between individuals from both companies also led to constructive social bonds. Companies' mutual trust is regarded as high by both companies.

“In seven years, many things changed inside our companies and today we know each other better.” Knowledge bonds were developed by each other, mainly associated with products, strategies, production processes and facilities from each other's counterpart. “I have an idea of the products that they produce.” Economic bonds derive from the sales and contractual renewal.

4.2.6 Case Six: Firm-Kappa & Firm-Delta Relationship

4.2.6.1 Relationship Context

Firm-Delta – Context

Firm-Delta individual context has already been described in the previous case five.

Firm-Kappa – Context

Firm-Kappa is a privately-owned Portuguese pharmaceutical company with about 300 employees and a turnover over 30 million Euros in the year 2013. Firm-Kappa is presently mainly a Contract Development and Manufacturing Organization. Firm-Kappa was established in the beginning of years 2000's when it has acquired from a pharmaceutical multinational its production facilities in Portugal. Around the year 2010,

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Firm-Kappa invested in its manufacturing facility to double the bulk production capacity and to triple the packaging capacity. Recently, Firm-Kappa established two subsidiaries in two Portuguese-speaking African countries.

Firm-Kappa is committed with quality, environment, occupational health, safety and R&D. It holds several certifications, such as, Good Manufacturing Practices (GMP), ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007. In particular, in 2009, Firm-Kappa obtained official approval by the FDA for the development of solid pharmaceutical forms. Firm-Kappa activities are carried out in three distinct areas: production, R&D and marketing.

This company also established one R&D Centre to support the company internationalization. Firm-Kappa, presently exports 60 products to approximately 35 countries, which represents more than 80% of its turnover. In Portuguese-speaking African countries, Firm-Kappa is presently promoting and marketing its brand generic medicines.

Shared Context

Firm-Delta and Firm-Kappa joined PharmaPortugal in 2004 and are both members of the partnership since that time. Both companies involvement in the partnership is limited and the relationship between the international departments of both companies was poorly developed till 2008. The focal relationship between Firm-Delta and Firm-Kappa was promoted by economic diplomacy of the Portuguese Government. In 2008, the Portuguese Government aimed at reducing the trade deficit with a Latin America's country. "The trade deficit between the two countries was huge because of our oil imports; the Portuguese Government wanted to improve the trade balance with that particular country".

Both companies' directors know each other for many years, even before the existence of Firm-Kappa. However, this relationship evolved mainly after a diplomatic mission held in 2008. "Economic diplomacy opened a big door to enter that market; if we were there all alone, the door would have been a little one. We entered that door together. The path

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in a foreign market is always a hard one and often it is better to take that path collectively.”

Following that diplomatic mission, both companies' international departments combined efforts to achieve their mutual goals. Focusing mainly on two goals, presence in that Latin America's country and increase in overall exports, the companies initiated joint negotiations with the foreign country's Government (the customer). “the company's expansion cannot be restricted to the internal market, with its negative evolution; we had to focus on foreign markets. The only way was to export, but our key foreign markets, like Spain and Angola, were no longer that good as well... we needed to search for other markets.”

The relationship between Firm-Delta and Firm-Kappa is considered stable and beneficial by both counterparts. Since 2008, personal contacts, goals and strategies of both companies did not change. Joint negotiation has been improving results to all involved companies. “The relationship is very informal, but we can speak for each other if necessary with our mutual customer... Sometimes people from other industries ask me if we are still exporting together to that Latin America's country because five years is a long time... I was even asked if our companies have cross shareholding.”

4.2.6.2 Relationship Nature

Over the years, competition levels between Firm-Delta and Firm-Kappa are unchanged. Both companies regard their product portfolio complementarities or overlaps to address competition. Within the focal relationship, competition in international markets was considered to be inexistent and low in the domestic market. In this foreign country, complementarities exist and they are highlighted. Moreover, companies do not have an overlapping product portfolio. Before 2008, cooperation was nearly absent. Presently, within the international department, companies regard cooperation between medium and strong. This cooperation level is only related with the joint deal in one Latin America's country. Considering the company as a whole, cooperation is confined to a foreign market and is regarded as weak.

4.2.6.3 Interaction Processes

The focal relationship encompasses exchange, adaptation and coordination. Between Firm-Delta and Firm-Kappa, exchange is primarily informational and occurred mostly after 2008. Following the aforementioned diplomatic mission, companies defined which products to export and started negotiations with the mutual customer. “Orders were divided among us according to our capacity, complementarities and concessions, in the case of product overlapping.” Subsequently, all companies started to register products and started to export in 2011.

Information exchanged is mainly operational and related with companies’ international business. Particularly, in the Latin America’s country deal, companies still hold negotiations together and necessarily exchange information on prices, delivery, payment conditions, selling contracts and joint missions. Information exchange is also fairly associated with other operational subjects, e.g. to solve a maintenance problem or to enhance procurement.

“Recently, I was asked for help. My counterpart needed a company to provide a maintenance services in the air conditioning... It was with pleasure that I gave her the contact of our supplier.”

“In my last joint mission I asked two partner companies if they wanted to jointly buy with me a particular API... one of them refused, but the other was interested.”

Information exchange is easier when both companies share a common background, attitudes and norms. Social exchange within the focal relationship is regarded to be a relationship accelerator that enhances its results. Adaptation between Firm-Delta and Firm-Kappa is limited, with companies considering incorporating a given counterpart’s practice if they consider it better. For instance, companies adjusted contractual terms and today contracts and payment conditions are similar. Still, both companies adaptation are mainly to third parties, e.g. common customer.

Coordination associated with information exchange is relevant for the relationship development. “Communication among us is very good and efficient... we keep it very

informal and it emerges by itself... in August we did not had time to speak to each other... there was always someone in vacations... but that wasn't a problem." Companies also jointly follow up on their objectives. However, each company controls, monitors and follows-up its international objectives and contracts in the Latin America's joint deal.

4.2.6.4 Outcomes

Presently, the focal relationship holds mainly informational, social, knowledge and economic bonds. Informational bonds were developed between both companies over the years. Nowadays, companies exchange operational information related with their exports to the above-mentioned Latin America's country, aiming at ensuring the deal goes on. Further, companies exchange information regarding other operational areas. Social bonds increase with time and with the preservation of the information exchange. The development of the relationship is enhanced by the social bonds developed.

Information exchange and joint work allows both companies to accumulate and incorporate knowledge, such as data and knowhow. Knowledge bonds are linked to information on their counterpart, domestic and external markets and market actors, among others. Ultimately, both companies preserve the focal relationship, with the ultimate economic objective. Acting jointly allowed both companies to improve their economic gains. The development of economic bonds is strongly connected with those economic gains obtained from the horizontal relationship.

4.2.7 Case Seven: Firm-Beta & Firm-Kappa Relationship

4.2.7.1 Relationship Context

Firm-Kappa – Context

Firm-Kappa individual context was described in case six.

Firm-Beta – Context

Firm-Beta is a privately-owned Portuguese pharmaceutical company with R&D, production, promotion and sales, distribution and logistics. In 2009, the company had approximately 560 employees and a turnover of roughly 130 million Euros. This company was founded in the 1980's. Firm-Beta made direct investments in Africa and South America.

Nowadays in Portugal, Firm-Beta has one manufacturing facility that is certified with Good Manufacturing Practices (GMP), ISO 9001:2008, ISO 14001:2004 and OHSAS 18001:2007 covering areas like Quality, Environment and Health and Safety at work. With a production capacity of 76 million units per year, labouring in two shifts, Firm-Beta may consider extending the operating period to three shifts to meet the markets' needs. Firm-Beta can produce several pharmaceutical forms: solids (powders, pellets, tablets, coated tablets, sugar coated tablets and capsules), liquids (syrups, suspensions and solutions) semi-solids (ointments, gels and creams) and sterile products (freeze-dried and injectables). Specifically, Firm-Beta is an expert in freeze drying, being one of the largest Iberian producers of lyophilized products.

In the industrial area and within its scope of action, Firm-Beta was the first Portuguese producer of medicines specialized in small and medium series. Since the beginning of the 1990's, Firm-Beta pursues the internationalization of the company, through direct exports, licensing or direct investment in foreign countries. It holds a qualified universe of clients and it exports more than 70% of its production, mainly to European markets. It exports to nearly 45 international markets, regionally grouped in Europe, Middle East and North Africa, French and Portuguese speaking African countries and South America. Firm-Beta internationalization strategy also comprises contract manufacturing, formulation and process development, stability studies, analytical

methods development and validation, regulatory and documentation support, marketing and distribution.

Shared Context

Since 2004, Firm-Beta and Firm-Kappa are both members of PharmaPortugal partnership. Prior to the partnership foundation, Firm-Beta lobbied for its establishment. Since the beginning, Firm-Beta has been an active contributor within the partnership. Firm-Beta and Firm-Kappa participation within PharmaPortugal is disparate. The focal relationship between international departments of both companies evolved mainly after 2008. The economic diplomacy of the Portuguese Government induced the focal relationship. In 2008, the Portuguese Government aiming at reducing the trade deficit with a Latin America's country stimulated exports to that country. "We seized that opportunity. Companies that didn't have the technical capacity or adequate structure do it, rapidly stayed behind."

Both companies' international departments focus on their mutual goal, highlighting synergies, and complementarities. Terms of the deal in that Latin America's country were established since the beginning. Product portfolio of both companies overlaps one another. Yet, Firm-Beta and Firm-Kappa tried to reach a compromise and keep the deal. "Half a loaf is better than none and we want to keep this deal." Exports may be unequally distributed among both firms and that distribution can change over time, because exports are dependent of the customer's order.

"In that Latin America's country, we are not interested in what the other company is selling; we are focused on that we are selling." After the diplomatic mission in the Latin America's country, each company started to focus on foreign regulatory procedures necessary to start exporting. That is, formal authorization from the local regulatory agency is required to sell medicines and exports are dependent on those approvals. The same local agent was chosen by both companies to take care of the mandatory regulatory dossiers. Since 2008, the relationship between Firm-Beta and Firm-Kappa was considered to be stable, both in terms of personal contacts as well as individual goals. Companies' joint negotiation has been improving mutual gains.

Within the PharmaPortugal's scope, both companies joined efforts to tear down market entry barriers in another Latin America's country and in Arab countries. Joint efforts of domestic private companies, the domestic regulatory agency, the trade and investment agency, the foreign affairs ministry and both countries Governments were involved to increase Portuguese medicine exports. Recently, changes in the foreign country's legislation enhanced the probability of Portuguese pharmaceutical companies heightening exports.

4.2.7.2 Relationship Nature

Between Firm-Beta and Firm-Kappa competition is strong and is present both in domestic and in foreign markets. Both companies compete for contract manufacturing and do market overlapping products. "After overcoming a foreign market entry barrier, we can compete, but we also focus on complementarities." In the Latin America's target country, both companies take into consideration their complementarities before they start registering their medicines. "Without publicity and having to register a product before selling it, we focus on complementarities and start by approving medicines that are not already registered by another partner."

"With trade lenses, we see competition. Yet, with industrial lenses, we see cooperation." Cooperation is country dependent and is more dynamic than competition. Regarding foreign markets, both companies tend to cooperate, mainly to overcome market entry barriers. As referred, within a foreign market, cooperation can melt into competition after companies jointly tear down a market entry barrier. Particularly since 2008, the two companies in analysis consider that cooperation is strong and crucial for achieving good results in the aforementioned Latin America's country. Still, both companies also consider that cooperation in that specific country is not easily replicated in other foreign markets. Presently, cooperation between Firm-Beta and Firm-Kappa is considered to be fairly present in other foreign countries or in other topics, besides these exports.

4.2.7.3 Interaction Processes

Between Firm-Beta and Firm-Kappa exchange, adaptation and coordination are present. Mostly after 2008, information exchange is frequent between international departments of both companies. Subsequent to the diplomatic mission to the mentioned Latin America's country, companies started sharing specific strategic information just to keep this deal alive. For example, "while negotiating complementarities, companies lay their cards over the table". Companies do not exchange information on their internal plans. "We do not even share one internal goal."

In relation to the Latin America's country, since 2008, companies share operational information if they are sure that it does not affect other businesses associated, be domestic or foreign. Particularly in this deal, companies hold joint negotiations with their mutual customer. As a result, both companies necessarily exchange information on prices, delivery, payment conditions, selling contracts and joint missions.

Since 2008, in this particular Latin America's country, the major goal is the same for all companies: all companies try to have a good share of sales in this deal leading to non-agreements between companies. "More than complementarities, we both share the offer of some products." That is, companies can share an order, divide the product or seek complementarities. "Many times, some details don't matter, what matters is to fulfil the order and act ethically to ensure the deal continuity." Companies also share business norms in this small and stable industrial market. Still, beliefs and attitudes are poorly exchanged. "Each company has a strong DNA." Having a relationship socially developed aids interaction. Yet, having the same objectives and vision was considered to be crucial.

Adaptation between Firm-Beta and Firm-Kappa is limited and, if performed, is based on the information that is exchanged. "For example, we can learn from each other. If we have an industrial problem and our counterpart gives us an advice, we can consider it to be a good advice and we can adopt it." Both companies considered that adaptations were equally performed. Still, third parties, such as common customers or local/foreign authorities, may incorporate or lead to adaptations by both companies.

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Coordination processes are frequent and mainly associated with information exchange. Information exchange emerges instinctively, not following a specific plan. Organizing each company's work, taking into consideration its counterpart is frequent, yet it is always very superficial. When a problem arises, both companies try to find a solution together. Group pressure boosts coordination and consensus.

4.2.7.4 Outcomes

At the moment, the focal relationship between both companies' international departments embraces mainly informational, social, knowledge and economic bonds. Companies' informational bonds were poorly developed before 2008. Nowadays, companies exchange strategic and operational information to ensure the deal pursuit in the above-mentioned Latin America's country. Firm-Beta and Firm-Kappa also exchange information on other foreign countries, aiming at overcoming market entry barriers.

Social bonds increase over the years, mainly when both companies exchange information. Personal relationship is not expected to dictate foreign market's business, but social bonds enhance the development of the relationship between both companies. "In a global world, my Portuguese counterpart (and competitor) may be my only friend." Exchanging information also allows companies to learn from each other. Knowledge bonds are dependent on the information exchange and joint work. Knowledge bonds include domestic and external markets, market actors and industrial practices, among others. Still, knowledge incorporation is not that frequent.

Both companies aim at achieving economic advantages, by developing the focal horizontal relationship. That is, both companies sustain the focal relationship with an economic objective, which encloses economic bonds. Acting jointly made possible for both companies to improve their economic gains. Both companies consider that other bonds, such as planning or logistic bonds, could take place if regular deliveries were coincident.

4.2.8 Case Eight: Firm-Alpha & Firm-Beta Relationship

4.2.8.1 Relationship Context

Firm-Beta – Context

Firm-Beta individual context has already been described in the previous case seven.

Firm-Alpha – Context

Firm-Alpha has more than 350 employees and a turnover above 40 million Euros in 2009. Firm-Alpha is a Portuguese pharmaceutical company, privately-owned, whose activity started in the 1940's. Already exporting to USA since the 1950's, in the 1960's Firm-Alpha built a new production facility, started producing antibiotics and established a subsidiary in Latin America. Technology transfer projects in foreign countries started in 1980's and it has developed the first Turn-Key Project in 1990's.

After the year 2010, Firm-Alpha enlarged the exporting markets (e.g. Russia, Venezuela, Morocco and Algeria). It currently exports 40% of its turnover. Exports are mainly to the US, EU and Japan. In addition, Middle East, Central and South America, as well as Far East are also target markets. The international department of Firm-Alpha is responsible for developing foreign market studies or establishing the distribution.

Currently, Firm-Alpha offers several services, such as, turn-key projects, contract manufacturing; galenic formulation; analytical services and stability studies; compilation of registration dossiers; licensing and distribution. Regarding pharmaceutical specialties, Firm-Alpha emphasizes antibiotics exports.

Shared Context

The focal relationship between international departments of Firm-Beta and Firm-Alpha started in PharmaPortugal meetings, by the year 2004. “Before 2004, we jointly attended meetings of the national pharmaceutical companies association, or other industry conferences or meetings.” “Directors of all companies know each other for many years; this market is very small and we all know each other.”

Both companies presence at the PharmaPortugal’s meetings was considered to be a major step for the development of the focal relationship. Participation of both Firm-Beta and Firm-Alpha in the partnership was regular and productive. Within the scope of PharmaPortugal partnership, companies aimed at improving their internationalization. Companies shared experiences and pooled their know-how to increase medicine exports, by identifying several common difficulties that were holding back their internationalization.

Firm-Beta and Firm-Alpha, in PharmaPortugal meetings, also prepared their presence at the Convention on Pharmaceutical Ingredients – CPhI (international fair / tradeshow) where they shared an exhibition stand. “Some companies see PharmaPortugal merely as a service provider, we do not.” Further, the participation of the national regulatory agency in foreign missions was very fruitful over the years. Particularly, they pointed out the international credibility and visibility of the Portuguese pharmaceutical industry, making public its industry quality standards.

In 2008, two major events took place that contributed to the development of the relationship between both companies’ international departments,: Firm-Beta and Firm-Alpha were involved in joint exports to a Latin America’s country, and Firm-Beta started representing Firm-Alpha in a Portuguese-speaking African Country. Exports to the Latin America’s country were promoted by the economic diplomacy of the Portuguese Government. As mentioned before, in 2008, the Portuguese Government aimed at improving the trade balance with a particular Latin America’s country, promoted also the focal relationship.

Firm-Beta and Firm-Alpha share the goal of diversifying their presence in foreign markets and the goal of increasing the overall company’s exports. Particularly, related

An Interaction and Network Perspective of Horizontal Relationships with the aforementioned Latin America's country, both companies focus on their complementarities. Again, mutual goals alignment was crucial to cope with their mutual customer. In 2010, Firm-Alpha started producing (contract manufacturing) for Firm-Beta. Recently and within the scope of PharmaPortugal, both companies aim at overcoming market entry barriers of another Latin America's country and of Arab countries.

The relationship between Firm-Beta and Firm-Alpha is very stable; both counterparts know each other well and for many years. "This relationship is not dependent on one or two individuals; it is already embedded within both companies." Firm-Alpha Board of Directors changed recently and the relationship between both companies was not affected. The focal horizontal relationship is regarded to be beneficial for both companies internationalization.

4.2.8.2 Relationship Nature

Between Firm-Beta and Firm-Alpha competition is fairly present. Regarding the international departments of both companies, competition has weakened over the years. Competition level decrease is associated with both companies' participations in: PharmaPortugal's partnership, mutual business in a Portuguese-speaking African Country and the joint customer in a Latin America's Country.

Both companies' cooperation levels have been increasing over the years, both within and outside the international departments. Particularly in international markets, Firm-Beta and Firm-Alpha have mainly complementary offers. In foreign countries "the goal was to reach the most complementary offer and less competitive one." Within the focal relationship and regarding foreign markets, both companies aim to sell non-overlapping products. Companies also cooperate to overcome obstacles to exports and market entry barriers.

4.2.8.3 Interaction Processes

The focal relationship comprises exchange, adaptation and coordination processes. After joining PharmaPortugal's partnership in 2004, Firm-Beta and Firm-Alpha started exchanging information and lining up their foreign market's strategies. Information was exchanged focusing on themes related with their internationalization: joint presence in the Convention on Pharmaceutical Ingredients – CPhI (international fair / tradeshow) where both companies shared an exhibition stand, domestic and foreign country's regulations that were holding back both companies' exports, as well as identification of foreign target markets.

Both companies have strengthened the relationship over the years. Nowadays, international departments of both companies exchange information regularly. "We talk to each other not only when we need to solve a problem, conversations are held regularly." Specifically related with international markets, both companies exchange information about foreign markets and internationalization experiences: foreign and domestic regulation, cooperation with domestic and foreign government agencies, foreign companies (local agents), payment conditions, customers and market evolution and also logistics and deliveries, to mention the most important.

Particularly related with the aforementioned Latin America's country, since 2008, mutual goal alignment was critical for addressing their mutual customer. Companies' knowledge about each other and different product portfolio in international markets mostly helped information exchange and agreement accomplishment. Companies exchange information on the selection of the local agent for dealing with regulation. Negotiations with the mutual customer are held jointly, with information sharing before and after each negotiation.

Both companies consider social exchange to be important, with companies sharing some attitudes, goals and values. Companies developed an informal code of conduct that establishes the common ground for the relationship (goals included). Both Firm-Beta and Firm-Alpha demand from their counterpart honesty and transparency. Social exchange is fairly developed and grew over the years with information sharing and face-to-face acquaintances. "We may say that we are friends; not family friends, but good business friends. Our friendship helps but does not dictates business." Still, nowadays

the relationship is not only personal. “In our company all employees know that both companies have a good relationship. In other areas, such as maintenance, one can ask for help or a clarification to overcome a problem.”

Adaptation between Firm-Beta and Firm-Alpha regarding the horizontal relationship is very low. Both companies’ adaptations to meet third parties requirements are constant, e.g. aiming at getting or retaining a mutual customer. With information exchange, both companies acquire knowledge about each other and it is possible to incorporate practices from their counterpart. That can take place if, for example, one company identifies a procedure that it considers as being a better one.

Information exchange procedures increased naturally among involved companies and external communication is now jointly prepared and centrally sent (e.g. letters to government agencies). Both companies jointly and individually, monitor the relationship benefits. Both Firm-Beta and Firm-Alpha also coordinate efforts to achieve their goals. Coordination processes are enhanced with the companies repeated interaction and mutual experiences. Regarding the Latin America’s country, coordination was considered to be decisive, when companies needed to work out details and adjust expectations. “Having in mind the ultimate goal of increasing exports, coordination efforts are always present.” Both companies seek and explore their complementarities, mainly by coordination. The same occurs when both companies need to overcome a mutual problem. “We all try to find a solution together.”

4.2.8.4 Outcomes

Presently, the focal relationship between international departments of Firm-Beta and Firm-Alpha comprises mainly informational, social, knowledge and economic bonds. Informational bonds were mainly developed after 2004. This development was strengthened again after 2008. These bonds are specially associated with information exchange and with potential gains in foreign markets. Nowadays, both companies exchange information (mainly operational), expecting to improve their exports, e.g. to enhance the deal with the above-mentioned Latin America’s country. Informational bonds have a large impact on both companies’ international businesses.

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Social bonds are considered to aid the relationship development, as a whole. The lack of common norms and values could hold back that development and affect mutual gains. Social bonds have been increasing with time and with information exchange. Knowledge bonds are also dependent on the information exchange. Currently, knowledge bonds are not inevitably associated external markets. Companies share know-how in other areas such as industrial practices. International departments of Firm-Beta and Firm-Alpha develop economic bonds. Both companies, by developing the focal horizontal relationship, achieved economic gains and expect further ones.

4.2.9 Case Nine: Firm-Zeta & Firm-Alpha Relationship

4.2.9.1 Relationship Context

Firm-Alpha - Context

Firm-Alpha context was described in case eight.

Firm-Zeta – Context

Firm-Zeta is a privately-owned Portuguese pharmaceutical company with approximately 120 employees and a turnover above 12 million Euros in the year 2009. Firm-Zeta manufacturing activity of medicines started in the 1950's. This company is specialized in developing, producing and marketing of products in areas of ophthalmology, dermatology and medical devices.

Firm-Zeta produces liquid and semi-solid dermal forms, as well as sterile ophthalmic preparations with high quality standards, always ensuring compliance with Good Manufacturing Practices (GMP). It holds modern equipment for manufacturing and packaging of the following pharmaceutical preparations: eye drops, eye ointments, eye

gels, comfort ophthalmic solutions, ear drops, creams, ointments, cutaneous suspensions and shampoos.

Presently, Firm-Zeta exports to Portuguese-speaking African countries, Francophone Africa, Central America, Middle East and North Africa and also to the Commonwealth of Independent States countries. In the top 20 exported products, this company has 17 medicines, two OTCs and one solution of artificial tears.

Shared Context

Presently, the horizontal relationship between the international departments of both companies is almost inexistent. In 2004, international department's managers met each other in PharmaPortugal meetings. In the two years that followed, all companies involved in the partnership, including Firm-Zeta and Firm-Alpha, participated and shared an exhibition stand in the international tradeshow CPhI.

Subsequent to those initial years of the partnership PharmaPortugal, internal changes in Firm-Zeta led to different priorities that produced mutual goals' misalignment in the focal relationship. Firm-Zeta internal changes and a new team in the international department, particularly a new head of the department in 2008 and 2014, have held back the horizontal relationship development. Presently, Firm-Zeta has reestablished internationalization as a priority and the international department of Firm-Zeta is working to enhance the company's exports. Firm-Zeta considers that the development of horizontal relationships with the other Portuguese pharmaceutical companies can represent a potential gain in the near future. Still, as mentioned before, nowadays between Firm-Alpha and Firm-Zeta, the cooperative horizontal relationship is nearly absent, missing both frequent interaction processes and well developed bonds.

4.2.9.2 Relationship Nature

Both companies consider that competition between them is low, both within and outside of the international department. The weak competition is constant and related with the

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products that are marketed by both companies. That is, Firm-Zeta and Firm-Alpha do not commercialize similar products, products don't overlap. On the contrary, cooperation evolved negatively. In the beginning, cooperation was just normal, dropping to weak levels of cooperation over the years.

4.2.9.3 Interaction Processes

In 2005 and 2006, both companies attended PharmaPortugal's meetings. At that time both companies mainly addressed their presence in the Convention on Pharmaceutical Ingredients – CPhI (international fair / tradeshow), where both companies shared an exhibition stand. Presently, there aren't interaction processes between both companies' international departments.

4.2.9.4 Outcomes

Today, between international departments of both Firm-Zeta and Firm-Alpha bonds are just about extinct. Both companies' directors still know each other and happen to attend industry meetings. Hence, the existence of a thin social bond, as well as, a weak knowledge bond can be argued.

Chapter 5 – Data Analysis

In this research, data analysis had an early start with the appraisal of available data (mainly secondary data) since the beginning. Up to the present chapter, three important steps were taken, say, compiling, disassembling and reassembling (cf. Yin, 2011). This chapter continues data analysis, building on empirical findings and on reviewed literature.

This specific data analysis chapter starts by focusing on the level of embedded units of analysis and proceeds with the examination of the intercompetitor relationship development. Finally, are addressed the networks implications of those intercompetitor relationships. Considering non-economic relationships' development within a multiplayer alliance has provided the visibility required to study intercompetitor relationships. It also gave the opportunity to examine the development of multiplayer alliances and the interplay between public bodies and private companies within such context.

5.1 Analysis at the Embedded Unit Level

This section comprises the cross-case analysis of the embedded unit of analysis (context, nature, interaction processes and outcomes). As suggested by Eisenhardt (1989), looking for within-group similarities, coupled with intergroup differences of categories or dimensions, promotes reliability.

5.1.1 Analysis of the Context

Market and organizational factors affect business relationship and interaction (Baptista, 2014; Campbell, 1985; Gummesson, 2006; Håkansson et al., 1982; Möller & Wilson, 1995). In the present study, the market context is similar for all parties involved in this study. The presence of similarities is due to the fact that all encompassed companies integrate the same market. In other words, all companies are part of the same sector of activity and, despite some differences between them, they are all exposed to similar market features. “The contexts are partially shared by the network actors, at least by actors that are close to each other” (Anderson et al., 1994, p. 4).

Several market context factors provide a favourable environment for the establishment and the development of horizontal relationships. And one is the fact that the global pharmaceutical market is expected to grow. Still, in developed countries, particularly in the EU countries, the forecasted growth is negligible or even negative, due to austerity measures and other public spending containing measures. In addition, in the particular case of the Portuguese domestic market, it is also experiencing a negative dynamism with a major erosion of generics’ price. Sales of Portuguese pharmaceutical companies are, in general, not supported by their own innovative medicines both in the domestic market or through exports (which are mainly directed to EU countries).

The market context is both a driver and an outcome of horizontal relationships (cf. Pettigrew, 1997). Shared problems have brought companies together. The aim of each of the two multiplayer partnerships that are included in the present study, ParmaPortugal and ISO Project, was respectively to enhance the companies’ internationalization process and to improve the companies’ efficiency. Portuguese pharmaceutical companies expect to improve the achievement of their individual goals by combining efforts with competitors facing similar problems and having compatible objectives.

The number of Portuguese pharmaceutical companies is fairly stable. As expected, the market small size in terms of the number of actors (cf. Håkansson & Snehota, 2006), influences companies’ formal participation on intercompetitor relationships. On the one hand, the market is too small to exclude a potential partner from a relationship. On the other hand, the market is also too small for a company, by itself, not to be a member of

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an existing multiplayer partnership. Thus, parties get themselves involved, even when they are not completely sharing or committing themselves to their common objective. Market concentration also affects companies' involvement in the existing partnerships. The market small size, in terms of number of actors, also entails two characteristics: companies experience peer pressure and enclose relationship history (cf. Håkansson & Ford, 2002; Johanson & Mattsson, 1992). This issue will be further discussed later in the chapter.

All Portuguese pharmaceutical companies are formally involved in alliances with competitors. These companies mainly produce non-patented medicines and OTCs; they also provide contract manufacturing services, mostly to foreign pharmaceutical companies. Yet, unlike observed for the market context, parties hold dissimilar characteristics, leading to dissimilar parties' contexts. Companies' decision on intercompetitor relationships formal participation is, however, not influenced by their characteristics. Table 16 presents a summary of the party's context.

Table 16: Parties context summary

Party	Case Study	Involved Department	Company Age (Years)	Company Size	
				Annual Turnover	Employees
Firm-Omega	One and Two	Procurement	60	30 M€	200
Firm-Iota	One and Three	Procurement	55	60 M€	150
Firm-Rho	Two	Procurement	15	50 M€	350
Firm-Gamma	Three	Procurement	15	23 M€	50
Firm-Phi	Four and Five	Procurement and International	50	120 M€	650
Firm-Sigma	Four	Procurement	10	55 M€	250
Firm-Delta	Five and Six	International	95	200 M€	900
Firm-Kappa	Six and Seven	International	15	30 M€	300
Firm-Beta	Seven and Eight	International	40	130 M€	560
Firm-Alpha	Eight and Nine	International	70	40 M€	350
Firm-Zeta	Nine	International	60	12 M€	120

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The analysis of each relationship's shared context was empirically driven. Within the shared context, the relationship age, mutual goals, joint experiences, among other features, are the ones referred. The relationship shared context changes with the companies' interaction and is highly dependent on the relationship development, as a whole. The shared context entails the sequence and flow of events over time. In processual analysis, both context and time play a crucial role (cf. Pettigrew, 1997). The next table (Table 17) comprises four factors of the shared context.

Table 17: Shared context summary

Case	Rel. Age Years	Mutual Goals	Joint History	Years "Together"
Case One	10	Improve purchase conditions	Started in project ISO meetings; stable relationship with frequent and several good experiences over the years	10
Case Two	10	Improve purchase conditions	Started in project ISO meetings; joint good and bad experiences at the beginning; dormant from 2007 to 2014	3
Case Three	1	Improve purchase conditions	Started in project ISO meetings; relationship at a very young age	1
Case Four	4	Improve purchase conditions	Promoted by both companies directors; stable relationship with frequent and several good experiences over the years	4
Case Five	11	Improve company's internationalization	Started in PharmaPortugal meetings; evolved mostly after 2008; mainly confined to a foreign country	8
Case Six	11	Improve company's internationalization	Started in PharmaPortugal meetings; evolved mostly after 2008; mainly confined to a foreign country	8
Case Seven	11	Improve company's internationalization	Started in PharmaPortugal meetings; strengthened mostly after 2008	8
Case Eight	11	Improve company's internationalization	Started in PharmaPortugal meetings; stable and productive relationship with good experiences over the years	10

Case Nine	11	Improve company's internationalization	Started in PharmaPortugal meetings; just about inactive since 2006	2
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The age of the relationship, coupled with a joint history, plays an important role in the development of the intercompetitor relationship. Particularly, in a “very recent” relationship (e.g. case three) companies do not have previous good experiences, but they neither have “bad relationship history”. At the beginning of the relationship, interaction processes and bonds are both poorly developed. In the long-term (e.g. cases one, two, five, six, seven and eight), good joint experiences are essential to the development of the horizontal relationship. Good experiences are needed for relationship development and feed the relationship future (e.g. cases one, five, six, seven and eight).

In case two, the lack of good experiences holds back the development between Firm-Omega and Firm-Rho. Bad experiences can be perceived only by one company; however this is enough to prevent the evolution of the relationship. Bad experiences perception is generally associated with the non-accomplishment of the company individual goal. In case three, the relationship is still young and companies do not have either good or bad experiences. Yet, both Firm-Iota and Firm-Gamma expect to achieve procurement gains, by nurturing their horizontal relationship.

In cases one, four, five, six, seven and eight, good experiences, coupled with mutual goals, lead to the development of functional intercompetitor relationships. Companies’ common or compatible goal is a prerequisite for horizontal relationship development. In other words, a mutual goal, such as the improvement of internationalization or the enhancement of procurement effectiveness, is present in long lasting relationships, with the exception of case nine. The lack of similar goals and different priorities by the two companies involved in the relationship described in case nine, has led to a dormant phase of the relationship.

Individual goals are pursued by companies, while they manage their interactions based on their past experience (Håkansson & Snehota, 2006). Relationship development depends on what has happened in the past in the focal relationship and in the others, on what currently happens in the existing relationship and in other ones in which the

companies are involved, on the expectations of the involved actors and on what happens in the wider network of relationships in which they are not directly involved (Håkansson & Ford, 2002). The analysis of the context in the present study reveals a dynamic aspect of the context. Additionally, it highlights the importance of the context where the relationship takes place, in order to fully understand a dyadic business relationship, such as the one of an intercompetitor relationship.

5.1.2 Analysis of Nature

The competitor’s relationship nature consists in competition, cooperation, co-existence or coopetition (cf. Bengtsson & Kock, 1999). The present section focuses coopetition within the intercompetitor relationship. Coopetition entails simultaneously two opposite logics of the interaction between two or more actors: cooperation and competition (Bengtsson & Kock, 1999, 2014; Dahl, 2014; Tidström, 2014).

According to (Bengtsson & Kock, 2014) coopetition needs to be described along two continua: one of cooperation and the other of competition. A two continua approach was adopted to explore the link between coopetition and the relationship development. Furthermore, coopetition within each relationship is presented at two levels (the company level and the department or individual level). This distinction was empirically motivated and was also previously employed (cf. Tidström, 2014). In the next table, findings from the nine cases studies are presented. Table 18 comprises the level and the recent evolution of coopetition for each case study, i.e. intercompetitor relationship.

Table 18: Relationship nature summary

	Competition				Cooperation			
	Company		Department		Company		Department	
Case One	Strong	=	Weak to Moderate	=	Moderate	=	Strong	=
Case Two	Strong	=	Moderate to Strong	=	Weak to Moderate	=	Moderate	=
Case Three	Strong	↗	Moderate to Strong	↗	Weak	↗	Weak to Moderate	↗
Case Four	Strong	↘	Weak	↘	Weak to Moderate	↗	Moderate to Strong	↗

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Case Five	Weak to Moderate	=	Weak	=	Weak	↗ =	Moderate	↗
Case Six	Weak	=	Weak	=	Weak	↗ =	Moderate	↗
Case Seven	Strong	=	Strong	=	Weak to Moderate	↗ =	Moderate to Strong	↗ =
Case Eight	Weak to Moderate	↘	Weak	↘	Moderate	↗	Strong	↗
Case Nine	Weak	=	Weak	=	Weak	↘	Weak	↘

In these nine cases, the coo-competition nature of intercompetitor relationships does not evidence a pattern between competition and cooperation degrees, i.e. a combination of different grades of competition and cooperation is not depicted. Even though, competition configuration is related with the shared context, particularly mutual goal and joint experiences of related companies. Case studies highlight that competition and cooperation are two distinct logics that may not be opposite (e.g. cases one, four, five, six, seven and nine). In a few words, competition is market related and cooperation is relationship related.

Companies linked competition ranking within intercompetitor relationship with their product portfolio overlap in the domestic market. In all cases, at the company level, competition degree was regarded as weak or strong when companies perceived that their offer (products or services) overlapping was low or high, respectively. Findings on competition corroborate conclusions of Ford and Håkansson (2012), Bengtsson and Kock (1999) or Easton and Araujo (1992). That is, competition is perceptual and actor specific. By identifying other companies as alternatives, companies define which ones are competitors.

At the department level, competition perception involves not only the product portfolio overlap in the domestic market, but also the relationship development. To the company's department involved in the intercompetitor relationship, competition was mainly regarded as weak. Cases two, three and seven were exceptions, with high competition at the department level. While cases two and three address less developed

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relationships, case seven presents a fairly developed relationship with a particular dynamic nature that will be addressed later in this section.

The intercompetitor cooperative relationship is often restricted to few departments within one company and is expected to influence few company goals. Consequently, the cooperation degree at the company level is mainly apprehended as weak and not perceived as strong. Cooperation degree is associated with partners' mutual goals and with the individual goal of each company involved. Mutual goals are a central driver for cooperation (cf. Bengtsson et al., 2003; Easton & Araujo, 1992; Easton, 1992; Sandström, 1992). At the company level, in comparison with department level, the cooperation degree is perceived to be lower.

Cooperation is high when companies have realized and have begun to exploit the benefits of working together (cf. Håkansson & Henders, 1992). Cooperation within the department is often perceived as strong. Within the department involved in the intercompetitor relationship, cooperation tends to be regarded as high when the relationship is healthily evolving. In other words, cooperation is perceived as strong when the relationship is developing (cases one, four, seven and eight) and is regarded as weak when the relationship is very young (case three) or presently inexistent (case nine). In case two, five and six, the moderate cooperation level is associated with the shared context.

The nature of the intercompetitor relationship is dynamic, characteristic supported by Bengtsson and Kock (1999). In case four and eight, competition perception decreases over time in the course of the intercompetitor cooperative relationship. In other words, individuals involved in the intercompetitor relationship “overlook” that their counterpart is a competitor and focus on cooperation, concentrating on their common goals. Tensions (cf. Tidström, 2014) decrease with continuous interaction. Still, competitor companies do not exchange information that is considered important to their companies.

The development of the cooperative relationship is not always followed by competition decrease (cases three, five, six and seven). In case three, the product portfolio overlap raised in line with the beginning of the relationship development and this is the reason why, here, both competition and cooperation have increased. In case five, six and seven,

competition decrease may not follow cooperation augment, due to the two involved companies' culture.

The dynamic aspect of the relationship nature was also present, as stated by Bengtsson and Kock (1999), Easton and Araujo (1992) or Lundgren (1992). On foreign markets in which companies are not present, parties cooperate to overcome market entry barriers (e.g. cases five, six, seven and eight). However, after defeating the barrier and the access of the first compatriot company in that market, cooperation turns into competition (e.g. case seven). Moreover, this nature change is confined to the focal foreign market. Thus, in case seven, companies continue to cooperate to achieve other common goals. These results are similar to those described by Easton and Araujo (1992) – cooperation can melt into competition when R&D becomes exploitable.

5.1.3 Analysis of Interaction Processes

Interaction processes entail three basic processes: exchange, adaptation and coordination (Baptista, 2013; Easton, 1992; Johanson & Mattsson, 1987; Möller & Wilson, 1988, 1995; Ruekert & Walker Jr, 1987). Table 19 briefly presents those three interaction processes of the nine case studies described in chapter four.

Table 19: Interaction processes summary

	Exchange	Adaptation	Coordination
Case One	Informational and social; continuous since the beginning (2005); frequent and not planned	Scarce within the focal relationship; fairly performed by or to third parties	Well developed; follow-up and monitoring procedures associated with information exchange and goal achievement
Case Two	Mainly informational; social is also present; almost absent between 2007 and 2014	Infrequent and performed by or to third parties	Strongly associated with information exchange
Case Three	Essentially informational; recently performed	Inexistent within the focal relationship	Only to support information exchange

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Case Four	Informational and social; frequent and continuous since the beginning (2011)	Almost inexistent within the focal relationship; fairly performed by or to third parties	Well developed; follow-up and monitoring procedures associated with information exchange and goal achievement
Case Five	Informational and social; frequent since 2008; restricted to a foreign market	Scarce within the focal relationship; fairly performed by or to third parties	Well developed; follow-up and monitoring procedures associated with information exchange and goal achievement
Case Six	Mainly informational; social is also present; frequent since 2008; restricted to a foreign market	Scarce within the focal relationship; fairly performed by or to third parties	Well developed; follow-up and monitoring procedures associated with information exchange and goal achievement
Case Seven	Mainly informational; social is also present; frequent since the 2008	Scarce within the focal relationship; fairly performed by or to third parties	Well developed; follow-up and monitoring procedures associated with information exchange and goal achievement
Case Eight	Informational and social; strongly developed since 2008	Scarce within the focal relationship; fairly performed by or to third parties	Well developed; follow-up and monitoring procedures associated with information exchange and goal achievement
Case Nine	Presently, inexistent within the focal relationship	Presently, inexistent within the focal relationship	Presently, inexistent within the focal relationship

Economic exchange is absent in the described intercompetitor relationships in all cases (cf. Easton & Araujo, 1992). The intercompetitor relationship, on the contrary, entails informational and social exchange (cf. Möller & Wilson, 1995). With the exception of case nine, informational exchange is present in all addressed intercompetitor relationships. Particularly in cases one, four, seven and eight, information exchange is highlighted and is of major importance for the development of the non-economic relationship between competitors.

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By exchanging information, companies are able to respond to new opportunities and threats (Cunningham & Turnbull, 1982). In cases one, two, three and four, within the procurement department, the simple knowledge of each other's personal contacts led to the exchange of information not entirely related with the purpose of the relationship. For example, companies, when in distress, try to buy raw-material from a competitor. When satisfying the other company's request, the company that helps its competitor has in mind that one day the situation can be the other way around. Hence, companies are accepting some degree of obligation with respect to their future conduct (Richardson, 1972).

Social exchange increases over time with frequent resource exchange, i.e. information exchange (Möller & Wilson, 1988). Social process takes time and is dependent on the other exchange elements. Accordingly, in case three, due to the relationship young age and recent informational exchange, the social process is just beginning. Over time, social exchange takes place and "helps" the exchange of information and coordination processes (e.g. all cases with the exception of case three and case nine).

Social exchange in intercompetitor relationships allows companies to gradually interlock with each other (Håkansson et al., 1982) and to mobilize the other party in favour of or against a specific development phenomenon (Håkansson & Henders, 1992). This study's findings on social exchange within the intercompetitor relationship are also in line with previous research regarding personnel changes. In case nine, personal contacts discontinuities affect the social process taking place between organizations (Cunningham & Turnbull, 1982).

Adaptation processes are often scarce (cases one, two, four, five, six, seven and eight) or inexistent (cases three and nine) and are not essential to the horizontal relationship development. Adaptation processes are often present between the two relationship partners and a third company (e.g. mutual suppliers or buyers). These adaptations may be performed by both companies to meet requirement of a third party, adaptations may be carried out in the opposite situation or they can be executed jointly with the third party. Cases one, two and four entail adaptations made by, to or with a mutual supplier and cases five, six, seven and eight comprise adaptations involving a mutual customer.

Frequently, coordination processes take place when exchange processes also occur. In all cases, coordination goes hand in hand with informational exchange. Further, coordination is essential to keep an efficient informational exchange. Coordination processes are also often associated with monitoring the exchange of information and coordination efforts to complete a deal with success (cf. Baptista, 2013; Ford & Håkansson, 2012; Wilson & Möller, 1988). Companies develop coordination processes usually aiming at achieving specific common goals (e.g. to jointly buy a product or to overcome a foreign market entry barrier). Thus, over time, companies develop relationship related coordination processes entailing institutionalized procedures (cf. Easton, 1992).

5.1.4 Analysis of Outcome

The analysis of the relationship outcome was centred on the development of bonds between companies (cf. Håkansson & Snehota, 1995a; Möller & Wilson, 1988). The intercompetitor relationship outcomes are centred on four types of bonds: informational, social, knowledge and economic. The next table (Table 20) was elaborated taking into consideration the relation between the bond character, the relationship shared context, the mutual goal and the interaction processes taken between parties. Table 20 presents an interpretative grade of those four bonds within each of the nine case studies.

Table 20: Relationship outcome summary

	Bonds			
	Informational	Social	Knowledge	Economic
Case One	Strong	Strong	Strong	Strong
Case Two	Fair	Fair	Fair	Weak
Case Three	Weak	Weak	Fair	Weak
Case Four	Strong	Strong	Strong	Strong
Case Five	Fair	Strong	Fair	Weak
Case Six	Fair	Fair	Fair	Weak
Case Seven	Strong	Fair	Fair	Fair
Case Eight	Strong	Strong	Strong	Strong
Case Nine	Inexistent	Weak	Weak	Inexistent

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In all cases, diversified bonds emerge from company's interaction (Johanson & Mattsson, 1987; Möller & Wilson, 1988). Informational, social and knowledge bond types are directly and mutually induced by both companies within each intercompetitor relationship. Informational bonds are associated with information exchange (cf. Proença & Castro, 1998) and are central in the intercompetitor relationship. Social bonds involve aspects such as personal contacts (cf. Håkansson & Johansson, 1988; Proença & Castro, 1998) and can improve informational bond development. Knowledge bonds concern company's awareness about each other business (cf. Håkansson & Johansson, 1988; Proença & Castro, 1998) and are associated with the exchange of informational bonds. Economic bonds (cf. Easton, 1992; Proença & Castro, 1998) are indirectly assigned within the intercompetitor relationship. That is, the intercompetitor relationship, despite having a non-economic character in itself, has the objective of achieving economic benefits outside the relationship.

Outcomes include the relationship itself (Ford & Mouzas, 2008; Håkansson et al., 1982; Mouzas, 2006; Turnbull & Valla, 1986) and the bond development (Johanson & Mattsson, 1987). Bonds reflect the state or the character of a relationship. Further, a relationship's portray can be assessed by examining the bonds between companies, corroborating Möller and Wilson (1988) findings. It is argued that bonds reflect the relationship at a particular time, enclosing a cross-sectional character.

5.1.5 Intertwining of Embedded Unit of Analysis

All cases show that the relationship history goes hand in hand with the exchange process held by the relationship parties. In other words, within each intercompetitor relationship, both the relationship history development and the exchange processes evolution match and feed each other. Cases one, four, seven and eight reveal a healthy developed relationship; on the contrary case nine exposes a relationship that is inactive since 2006. Cases two, three, five and six portray fairly developed relationships. The relationship young age (e.g. case three) or the restricted scope of the relationship (e.g. the intercompetitor relationship depicted in cases five and six that only addresses one foreign market) may limit the exchange process.

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The state of the shared context and the interaction processes are not associated with the explicit mutual goal supporting the intercompetitor relationship. In other words, cases holding the same explicit mutual goal (improve purchase conditions or improve company's internationalization) may present relationships with an apparent unlike shared context and interaction processes. However, companies may prioritize their goals, freezing (e.g. case nine) or boosting (e.g. case three) the development of the cooperative intercompetitor relationship.

The relationship nature concerning cooperation is strongly related with the ongoing relationship. Cooperation levels are linked to interaction processes, as expected (cf. Ford & Håkansson, 2012; Håkansson & Henders, 1992). Thus, cooperation is apprehended as strong when companies interact more, that is, exchange information frequently and increase the quality (importance) of information exchanged. Particularly, the cooperation degree at the department level is greatly associated with the shared context and interaction processes held between both parties. Cases one, four, seven and eight reveal a rich share context and regular exchange processes also present strong cooperation at the department level. Cooperation is often department restricted and lightly affects company's goals. Thus, cooperation degree at the company level is generally appraised as moderate or weak.

The presence of competition influences managers' behaviour (cf. Ford & Håkansson, 2013). The perception of competition, independently of its degree, limits the exchange of information between companies. Even when companies share a prosperous context and interaction processes are extensive and frequent, competition holdback information exchange. For instance, in case one and case four, the information exchange addressing one key mutual supplier (e.g. API mutual supplier) is not performed.

Coopetition detailed degree is related with the shared context and interaction processes. In other words, the relationship joint history and interaction processes between competitors provide a solid explanation for the coopetition configuration in all presented cases, particularly in cases one, two, three, four, eight and nine. Together with the relationship joint history and interaction processes, the company's culture may provide further clarification on the coopetition degree at the department level. That is, the company's culture is advanced as a possible reason why, in cases five and six,

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cooperation degree at the department level is not higher or, in case seven, the competition degree at the department level is not lower.

Over time, bonds flourish as a consequence of interaction (Håkansson & Johansson, 1988). Hence, bonds reflect the interaction between actors. The process of bonding in a relationship occurs as an information flow. The development of bonds is affected by both the information access and the actors' actions (Håkansson & Snehota, 1995a). In this study, the relationship outcome in terms of bonds is also strongly associated with the shared context (joint history) and interaction processes (mainly information exchange).

Cases one, four, seven and eight describe relationships with rich share context and regular exchange processes which also generally present strong relationship bonds. Thus, weak economic bonds are also linked to the limited shared context and poor economic gains of the intercompetitor relationship (cases two, three, five and six). In cases five and six, the limited scope of the relationship (addressing only one foreign market) strongly shapes relationship bonds.

Knowledge and social bonds are present in all cases, even in case nine that depicts a relationship that is inactive since 2006. Knowledge and social bonds are related with industrial markets' characteristics. That is, awareness about each other businesses and the existence of personal contacts are regarded to be related to the stability and to the small number of buyers and sellers on industrial markets (cf. Håkansson et al., 1982). Further, in case nine, it can be argued that social and knowledge bonds remain alive and can be taken up later corroborating Havila and Wilkinson (2002) findings.

The next table (Table 21) comprises features from the four mentioned dimensions. Within the shared context it is presented the explicit goal supporting the cooperative relationship and the history of the relationship. The relationship nature and outcome are illustrated holding the degree of both competition and bonds, respectively. Regarding interaction processes, the exchange process is the only included in the table.

Table 21: Intertwining of embedded units of analysis summary

	Shared Context		Nature				Interaction processes	Outcomes			
	Mutual Goals	Joint History	Competition		Cooperation		Exchange	Bonds			
			Compa-ny	Depart-ment	Compa-ny	Depart-ment		Informa-tional	Social	Know-ledge	Econo-mic
Case One	Improve purchase conditions	Started in project ISO meetings; stable relationship with frequent and several good experiences since 2005	Strong	Weak to Moderate	Weak to Moderate	Strong	Informational and social; continuous since the beginning (2005); frequent and not planned	Strong	Strong	Strong	Strong
Case Two	Improve purchase conditions	Started in project ISO meetings; joint good and bad experiences at the beginning; dormant from 2007 to 2014	Strong	Moderate to Strong	Weak to Moderate	Moderate	Mainly informational; social is also present; almost absent between 2007 and 2014	Fair	Fair	Fair	Weak
Case Three	Improve purchase conditions	Started in project ISO meetings; relationship very at a very young age (2014)	Strong	Moderate to Strong	Weak	Weak to Moderate	Essentially informational; recently performed	Weak	Weak	Fair	Weak
Case Four	Improve purchase conditions	Promoted by both companies directors; stable relationship with frequent and several good experiences since 2011	Strong	Weak	Weak to Moderate	Moderate to Strong	Informational and social; frequent and continuous since the beginning (2011)	Strong	Strong	Strong	Strong

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Case Five	Improve company's internationalization	Started in PharmaPortugal meetings; evolved mostly after 2008; mainly confined to a foreign country	Weak to Moderate	Weak	Weak	Moderate	Informational and social; frequent since 2008; restricted to a foreign market	Fair	Strong	Fair	Weak
Case Six	Improve company's internationalization	Started in PharmaPortugal meetings; evolved mostly after 2008; mainly confined to a foreign country	Weak	Weak	Weak	Moderate	Mainly informational; social is also present; frequent since 2008; restricted to a foreign market	Fair	Fair	Fair	Weak
Case Seven	Improve company's internationalization	Started in PharmaPortugal meetings; evolved mostly after 2008	Strong	Strong	Weak to Moderate	Moderate to Strong	Mainly informational; Social is also present; frequent since the 2008	Strong	Fair	Fair	Fair
Case Eight	Improve company's internationalization	Started in PharmaPortugal meetings; stable and productive relationship with good experiences since 2004	Weak to Moderate	Weak	Moderate	Strong	Informational and social; strongly developed since 2008	Strong	Strong	Strong	Strong
Case Nine	Improve company's internationalization	Started in PharmaPortugal meetings; just about inactive since 2006	Weak	Weak	Weak	Weak	Presently, inexistent within the focal relationship	Inexistent	Weak	Weak	Inexistent

5.2 Intercompetitor Relationship Analysis

The present section comprises two main themes: the interaction between competitors and the development of the intercompetitor relationship.

5.2.1 Interaction between Competitors

The empirical model of analysis for the intercompetitor interaction takes into consideration the aforementioned theoretical model and the analysis of the embedded units. The model is adjusted to accommodate its specificities for the intercompetitor relationship. As expected, this model encompasses four dimensions that affect and are affected by one another. The skeleton of the model incorporates mainly concepts and models developed by Bengtsson and Kock (1999), Campbell (1985), Easton and Araujo (1992), Håkansson et al. (1982) and Möller and Wilson (1995). Hence, the developed model for the horizontal relationships analysis considers four main components that mutually affect and are affected in the relationship: the interactions in terms of context, nature, processes and outcomes (Santos & Baptista, 2015).

Contrasting with the theoretical model presented in section 2.4, this model includes the shared context and withdraw adaptation processes. The shared context was empirically driven and holds characteristics of the relationship itself, such as, the relationship age or the relationship joint history. The shared context strongly contributes to the intercompetitor interaction understanding. In contrast, the model does not include adaptation processes.

The model considers that adaptation and coordination processes are two distinct interaction processes (cf. Baptista, 2013; Möller & Wilson, 1995; Wilson & Möller, 1988). Adaptation processes are scarce or even inexistent between competitors and this is the reason why the model does not incorporate these processes. The intercompetitor interaction comprises exchange processes and coordination processes. This last one is

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largely associated with information exchange. As projected, this model does not encompass economic exchange processes.

Further, the empirical model of analysis regarding the relationship nature centers its attention on coopetition. It is argued that the relationship nature inclusion, specially coopetition, allowed a better explanation of the intercompetitor interaction. In multiplayer alliances, companies relate with each other and have explicit common goals; this explains why co-existence, collusion and conflict (cf. Bengtsson & Kock, 1999; Easton & Araujo, 1992) were excluded from the theoretical model (cf. Figure 27). Over time, as a consequence of interaction, bonds of various kinds are formed by firms (Håkansson & Johansson, 1988). Particularly, it happens with the development of informational, social, knowledge and economic bonds. The next figure (Figure 36) presents the empirical model for horizontal relationship analysis.

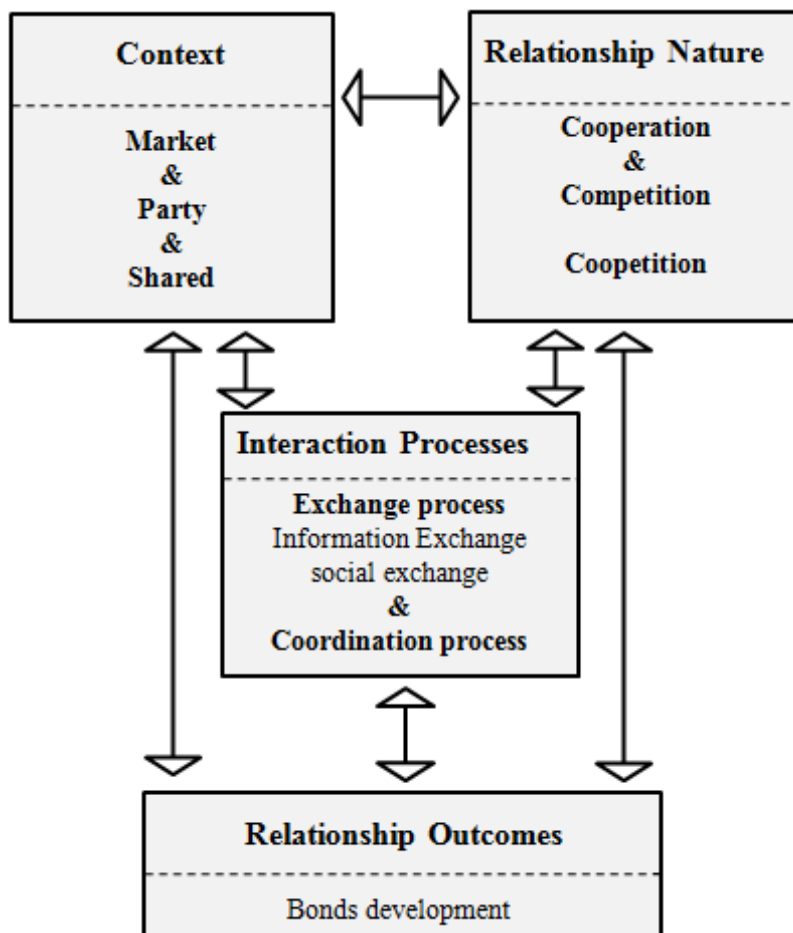


Figure 36: Empirical model of analysis for the intercompetitor interaction: 4 dimensions

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“When reaching the interpretation phase of your analysis, and when the interpretation is based on an explanatory framework, the relevance of rival explanations is doubly compelling. You should formulate and present evidence related to realistic or plausible rivals, seeking to show how the evidence might favour the rival, as if it were your primary explanation” (Yin, 2011, p. 218).

Following Yin (2011) suggestion, a second empirical model of analysis was elaborated (see Figure 37). This second model mainly diverges on the representation of the relationship outcome. It distinguishes dimensions with a strong longitudinal character (context, nature and interaction processes) and the dimension which may entail a heavy cross-sectional character (the relationship outcome as bonds).

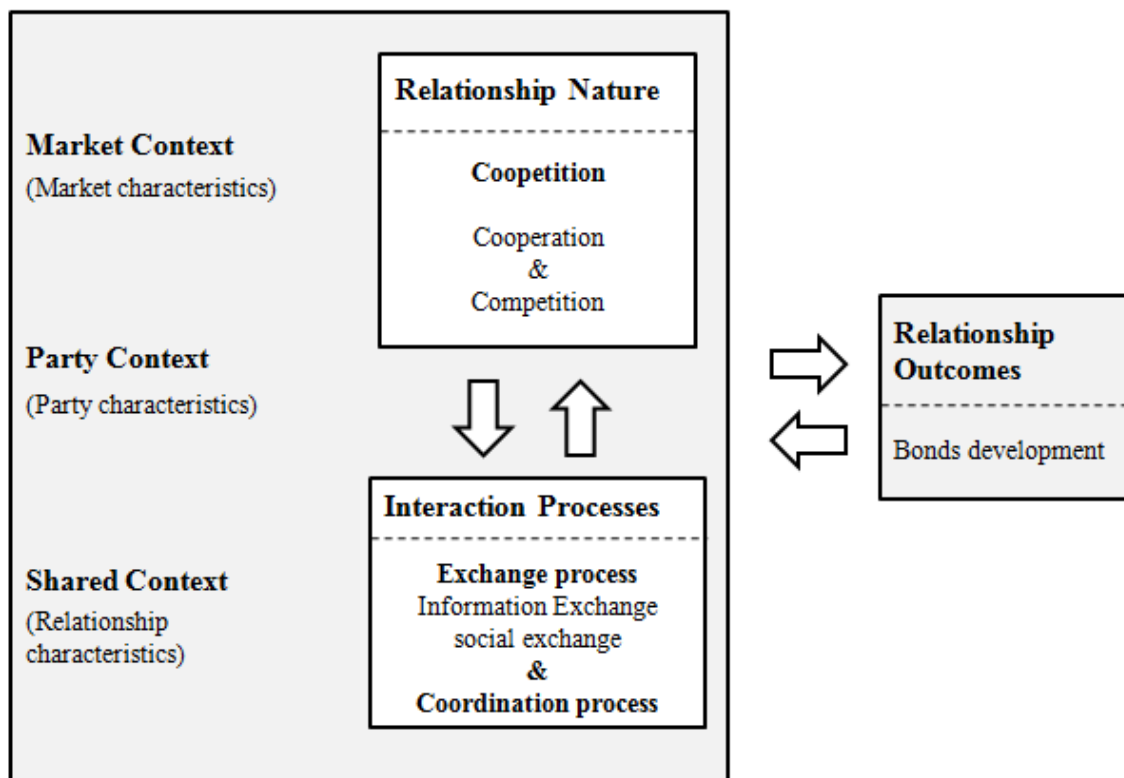


Figure 37: Empirical model of analysis for the intercompetitor interaction: 3+1 dimensions

Taking into consideration that the relationship development's outcome is the relationship itself (Ford & Mouzas, 2008; Håkansson et al., 1982; Mouzas, 2006; Turnbull & Valla, 1986), this last model emphasizes Möller and Wilson (1988) findings,

i.e. that bonds reflect the state or character of a relationship. Hence, the relationship outcome, by focusing on ongoing bonds between companies, leads to a relationship portrayal at a particular time.

“Contexts are shaping and shaped. Actors are producers and products” (Pettigrew, 1997, p. 338). In the same line of thought, relationships are both processes and outcomes. The empirical study provides evidence supporting both models. Bonds entail a dynamic character, i.e. are developed over time, and their evolution can be traced and analyzed (cf. Figure 36). Bonds also comprise a cross-sectional characteristic depicting the state of the relationship at a particular time (cf. Figure 37). Hence, both models presented in this section are not mutually exclusive. On the contrary, the two presented models can be seen as complementary. By conferring different representation to the two models it aids the analysis. On the one hand, four dimensions co-evolve affecting each other. On the other hand, the relationship outcome is the relationship itself, where bonds reveal the developed relationship.

5.2.2 Intercompetitor Relationship Development

The relationship development can be assessed by the examination of the intercompetitor relationship, as a whole, embracing the four mentioned dimensions, particularly, by analyzing the joint history and the exchange process. Table 22 comprises relationship development phases within the nine case studies described in chapter four.

Table 22: Relationship development phases – cases summary

Case One & Case Four & Case Eight	Case Two	Case Three	Case Five & Case Six & Case Seven	Case Nine
Co-Existence	Co-Existence	Co-Existence	Co-Existence	Co-Existence
With Catalyst ↓	With Catalyst ↓	With Catalyst ↓	With Catalyst ↓	With Catalyst ↓
Formation	Formation	Formation	Formation	Formation
↓	↓	↓	↓	↓

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Development	Development	Development	Dormant	Development
↓	↓		With Catalyst ↓	↓
Reformulation	Dormant		Development	Dormant
↓	With Catalyst ↓		↓	With Catalyst ↓
Development (continued)	Reformulation		Reformulation	Reformulation
	↓		↓	↓
	Development		Development (continued)	Dormant (continued)

Within the development of the nine studied intercompetitor relationships, four main phases are identified: co-existence, formation, development and dormant. This research's findings partially corroborate the framework presented in section 2.4 and the Santos and Baptista (2014) conceptual model. The next figure (Figure 38) represents phases of the intercompetitor relationship development.

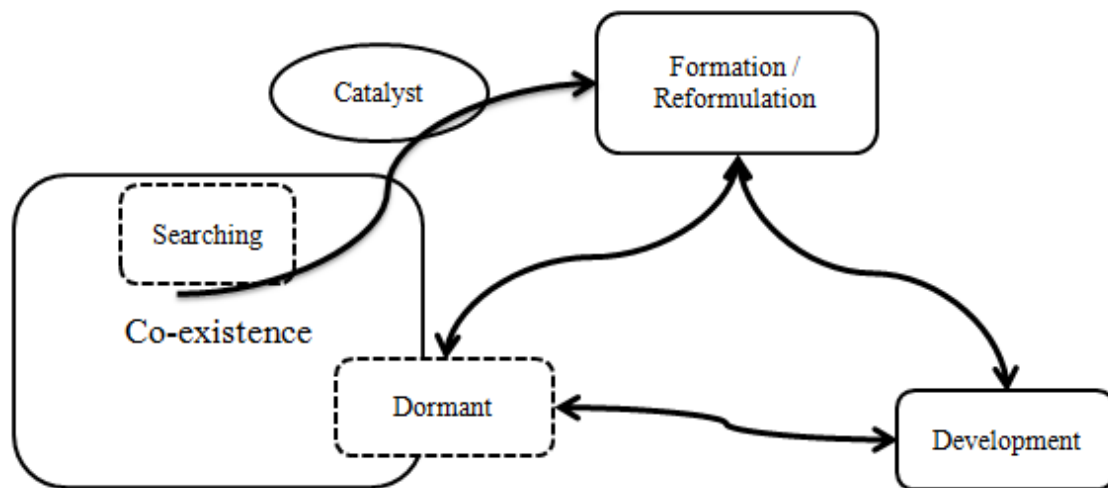


Figure 38: Phases of the intercompetitor relationship development

5.2.2.1 The Co-existence Phase

The co-existence phase takes place before competitors start formulation a cooperative relationship. Within co-existence social and knowledge bonds exist, even if they are poorly developed. Managers, directors and owners meet each other in congresses and other activity related events, embracing information and social exchanges (cf. Bengtsson & Kock, 1999).

The Portuguese pharmaceutical market small size and its stability in terms of actors favour the development of knowledge bonds. Companies' reasonable awareness of other pharmaceutical producers' characteristics enables the choice of a possible counterpart to establish an alliance in the co-existence phase. In other words, the searching phase does not exist or, at most, takes place within the co-existence phase. After the co-existence phase, companies may start the cooperative relationship by moving directly towards the formation phase. Dissimilarly, previous research from Batonda and Perry (2003), Claycomb and Frankwick (2010), Dwyer et al. (1987), Ford (1980), Kanter (1994) or Schreiner et al. (2009) denotes a searching phase.

5.2.2.2 The Formation Phase

Within the formation phase, companies line up common goals and set priorities for the cooperative relationship (Ali et al., 1997; Andersen, 2001; Claycomb & Frankwick, 2010; Das & Teng, 2002; Ford, 1980; Schreiner et al., 2009). Companies involved in intercompetitor relationships have low restrictions perception and expect high benefits. The perception of restrictions inexistence promotes the horizontal relationship. On the contrary, buyer-seller relationships comprise both opportunities and restrictions. A stronger relationship also leads to a superior restriction of companies' freedom to change (Håkansson & Ford, 2002).

From time to time, within a multiplayer alliance, companies formally reformulate their partnership. Goals are rephrased, which may entail changes in the course of the intercompetitor relationship (e.g. case two). Negotiation processes are employed by companies to reconcile incompatible goals (Ford & Håkansson, 2012) or to settle

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Considering the formation of intercompetitor relationships within a multiplayer partnership, companies can start (get formally involved in) a relationship and not proceed with its development. For this last case, visibility can be more important than the stated purpose of the cooperation, condition that is in line with Håkansson and Johansson (1988). Parties can signal other actors, such as, distributors, suppliers, customers, competitors, consultants, public authorities, to name only some (Håkansson & Johansson, 1988). Companies can also join the partnership due to peer pressure. Usually companies in this position proceed to a dormant phase (e.g. cases five, six and seven). The formation phase may also be, and often is, followed by the development phase.

5.2.2.3 The Development Phase

In the development phase, through interaction, companies relationship's experience increases, while uncertainty and distance decrease. The development phase can be characterized by the existence of recurrent interaction processes (cf. Ford, 1980). Companies aiming to achieve their mutual goals perform exchange and coordination processes. Information is exchanged frequently, companies coordinate their tasks execution and they follow-up on their mutual objectives (cf. Ford, 1980; Schreiner et al., 2009).

Interdependence increases but it is still kept at low levels. Companies do not make major changes, nor are they expected to do so by the counterpart. However, parties institutionalize values, rules and procedures (cf. Claycomb & Frankwick, 2010; Hertz, 1992). These are informally developed, i.e. unspoken and unwritten. Sandström (1992) argues that institutionalized rules minimize the possibility of relationship discontinuity. The dormant and dissolution phases are later addressed.

5.2.2.4 The Dormant Phase

The dormant phase is close to the co-existence phase and present in cases two, four, five, six, seven and nine. “Actors may have more or less ‘Dormant’ relationships with each other, for historical or other reasons without any resource dependencies between the resources they control” (Johanson & Mattsson, 1992, p. 209). Despite the companies’ involvement in formal cooperation, they may or may not develop the intercompetitor relationship. Hence, companies may enter a “stand-by” condition that still entails social and knowledge bonds.

Batonda and Perry (2003) argue that a change in business, a disappointment in a project completion or a failure to meet individual requirements may lead to the dormant state. The dormant processes include the relationship’s inactive state and the potential re-activation. Relationships addressed in cases two and nine embrace a dormant phase, after a development phase. In case two, during the dormant phase, not only interaction processes became less frequent and informational, but also social and knowledge bonds faded away over time. These bonds were later rapidly restored in a new development phase within the relationship. The intercompetitor relationship depicted in case nine appears to have evolved abruptly from the development phase to the dormant phase, due to personnel changes and goals reorientation.

5.2.2.5 The Dissolution Phase

Dissolution was not present in any of the nine case studies and this is the reason why the dissolution phase is not represented in the previous displayed model. The absence of the dissolution phase may be related with the empirical setting and sampling that focuses on ongoing intercompetitor relationships. Performed interviews and secondary data clarify the path followed by companies that are no longer involved in the multiplayer alliance and the existence of a dissolution phase.

As argued by Ford (1980), the dissolution phase depends on the actions of the involved parties or of the outsiders. The “formal” dissolution identified in the present research, results from mismatching in the qualifying criteria to integrate the partnership. For

example, when a foreign entity bought a national company member of PharmaPortugal, the acquired company did not continue integrating the partnership when this one has been reformulated.

After the dissolution phase it is argued that companies return to the co-existence phase, where social and knowledge bonds remain alive, corroborating Havila and Wilkinson (2002) findings. Figure 39 presents intercompetitor relationship phases, including the dissolution phase. The figure (Figure 39) also represents the path that can be pursued by a company that integrates a multiplayer partnership with competitors.

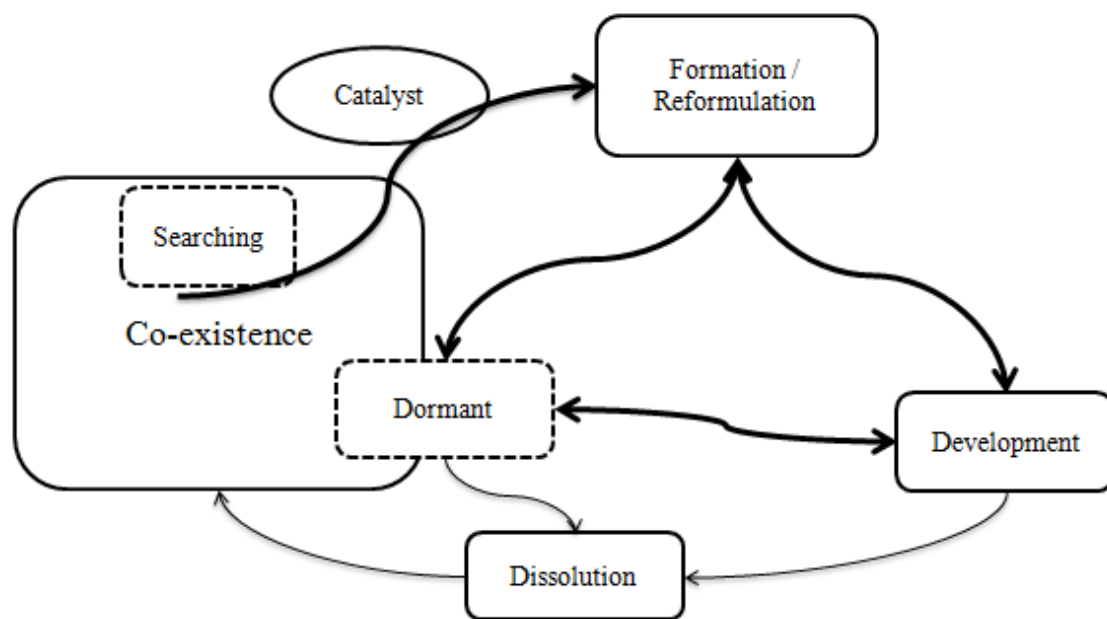


Figure 39: Intercompetitor relationship phases within multiplayer partnerships

5.2.2.6 The Catalyst

Catalysts are third parties, i.e. companies or organizations external to the focal relationship that stimulate the intercompetitor relationship, by breaking the inertia created. The same relationship can comprise more than one catalyst. The external party can be the domestic regulatory agency (in all cases), the trade and investment agency (in cases five to nine), the Portuguese Government promoting economic diplomacy (in cases five to eight), the national pharmaceutical companies association (in cases five to nine) or another trade association (in case four).

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The existence of a catalyst is critical for the development of horizontal relationships. The catalyst triggers the relationship, bringing companies together. In all cases covered by this research, catalysts were present, inducing the relationship in one or more occasions. Figures presented in this section illustrate the catalyst emerged between co-existence and formulation phases; they were common to all cases. Yet, catalysts are not exclusive to these phases; they were also present in between other relationship phases.

In cases five, six and seven, catalysts have induced the development phase, while, in cases one, four and eight, catalysts have strengthened the development phase. In cases two and nine, the catalysts have sponsored the relationship reformulation, but with different results. That is, in case two the relationship started a new development phase, following a reformulation, while in case nine, and despite the catalyst intervention, the relationship has continued to be in the dormant phase.

5.3 Network Effects

The development of the intercompetitor relationship entails network effects. Horizontal multiplayer alliances involve a small subset of relationships within the network. Involved actors share mutual and conflicting goals and interests (cf. Brito, 1999; Möller et al., 2005). Companies involve themselves in intercompetitor interactions, within a multiplayer partnership, to improve internationalization, to pool know-how, to increase medicine exports, to boost effectiveness and to strengthen their negotiation power, among others.

Actors' individual goals or alliances' mutual goals are not the only aspects that companies take into consideration to participate in horizontal multiplayer alliances. Further, the goal or objective can even be secondary. Companies' involvement in horizontal multiplayer alliances is affected by the network. In other words, companies partaking in alliances is influenced by the market stability and the small size in terms of actors (cf. Håkansson & Snehota, 2006), the interdependence within the network (cf. Håkansson & Ford, 2002; Johanson & Mattsson, 1992), the potential relationship visibility through formalization (cf. Håkansson & Johansson, 1988) and the network history (cf. Håkansson & Ford, 2002).

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The intercompetitor relationship development has repercussions in other network relationships, particularly, in relationships with public actors, such as, government bodies. The public-private relationship development, as well as other non-economic relationships, has a continuing impact on the operation of the network as a whole (cf. Easton & Araujo, 1992). This section addresses mainly two network effects: multiplayer partnerships and public-private relationships.

5.3.1 Multiplayer Partnerships

In the present research, nine intercompetitor relationships are studied within two multiplayer alliances. “Horizontal alliances often are multilateral and entail three or more firms” (Wallenburg & Schäffler, 2014, p. 42). Each multiplayer alliance (previously described in section 4.1.3.2) involves several key participating companies and others that are more self-isolated. This section addresses the analysis of the two multiplayer alliances, PharmaPortugal and Project ISO, as a whole, focusing on their structures and potential benefits.

5.3.1.1 PharmaPortugal

Structure of the Partnership

This multiplayer partnership is supported by a protocol involving the government regulatory agency, the national pharmaceutical industry association and eleven Portuguese private pharmaceutical companies. The protocol confers the necessary formality to enhance the development of relationships between all parties involved, i.e. between private companies and between public bodies and those private companies. This issue will be further discussed later in the chapter. Further, formalization improves the cooperation between private companies and other public bodies “outside the formal arrangement”, such as the trade and investment agency and the foreign affairs ministry. This characteristic confers a semi-formal configuration to the partnership’s structure.

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The next figure (Figure 40) presents the structure of the described multiplayer partnership.

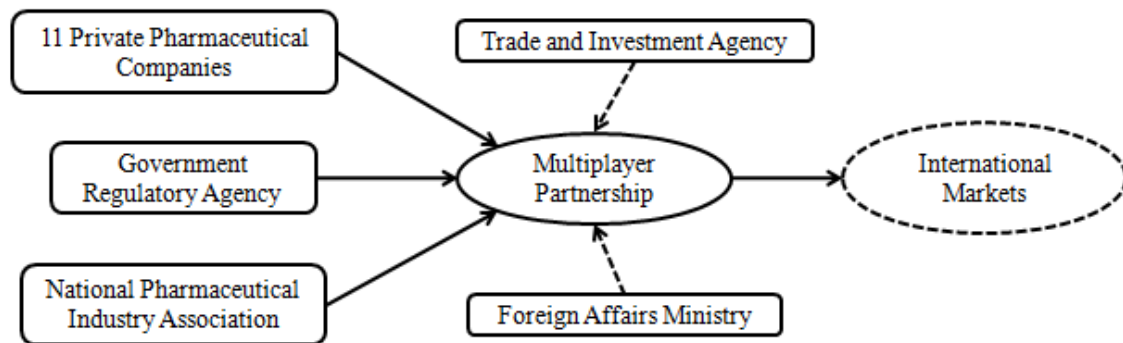


Figure 40: Partnership structure – internationalization

Companies do not operate in isolation, but rather within a network of business relationships with suppliers, customers, competitors, government agencies and trade organizations. Network arrangements may promote exports through the creation of different kinds of contacts and relationships (Welch, Welch, Young, & Wilkinson, 1998). Relationships with government-based non-profit consulting organizations, such as the government trade promotion agency, are critical for companies with no relationships to facilitate the market entry (Ojala, 2009). The export promotion agency can sponsor connections between export groups (and their members) and external parties to increase exports. A government trade promotion agency, as an honest broker, has legitimacy also to promote interaction (e.g. formal meetings, informal gatherings, trade missions). Specially, “whereas a group member is likely to find it difficult to organize and host such activities because of a perceived vested interest, especially if the group includes competitors” (Welch et al., 1998, p. 72).

Hoskisson, Wright, Filatotchev, and Peng (2013) argue that institutional arrangements and regional trading agreements may change the rules of the game and help reduce entry barriers. Countries often use several institutions, such as export promotion agencies, economic departments at embassies and foreign trade offices, as well as trade missions to promote exports (Creusen & Lejour, 2013). Trade posts of embassies and trade missions (mostly accompanied by one or a few ministers) raise significantly the export probability to a market, particularly to the middle-income countries (Creusen & Lejour,

2013; Nitsch, 2007; Rose, 2007). Further, economic diplomacy is particularly relevant in countries with substantial market entry barriers (Creusen & Lejour, 2013). The pharmaceutical market is heavily regulated and the establishment of institutional relationships within the multiplayer partnership is valuable, as it leads to multiple enhancements that entail benefits to the companies' internationalization. Public-private relationship dynamics will be further discussed later in the present chapter.

Benefits Centred on Internationalization

Johanson and Wiedersheim-Paul (1975) argue that internationalization, as opposed to a large and spectacular foreign investment, gradually evolves. The internationalization process is the result of a series of incremental decisions. Johanson and Wiedersheim-Paul (1975) distinguish four stages of a company involvement in a market: no regular export activities, export via independent representatives (agent), foreign sales subsidiary and foreign production/manufacturing. The Uppsala internationalization process model centres its attentions on the knowledge of the foreign market and on an increasing resource commitment (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). The establishment of operations in a new country is related to the psychic distance between the domestic and the host countries. The psychic distance embraces several factors that hamper the flow of information, e.g. differences in language, education, business practices, culture, and industrial development (Johanson & Vahlne, 1977).

Thorelli (1986) argues that internationalization is among the strategic issues resolved in a networking context. "Networks tend to be particularly prevalent in international marketing, in large part due to the significance of trust in trade between nations" (Thorelli, 1986, p. 45). Further, as predicted by Thorelli (1986, p. 49), "we may expect that networks will grow in number and sophistication in the future, notably in the intermediate goods, services and international areas". Considering that markets are networks of relationships, Johanson and Vahlne (2009) argue that insidership in the relevant network is necessary for a successful internationalization. Johanson and Vahlne (2009) assert that outsidership, in relation to the relevant network may lead to

uncertainty, more than psychic distance. Hence, knowledge is not accessible to everyone; instead it is confined to network insiders.

Due to pharmaceutical regulation in both domestic and international markets, companies do not start internationalization in a market by performing sporadic exports as argued by Johanson and Wiedersheim-Paul (1975). Local agents are needed from the beginning to reduce uncertainty and to provide insidership and knowledge a propos the focal market (cf. Johanson & Vahlne, 2009). Even with a local agent, often the first sale only materializes within three to four years after the initial investment in the market. Economic diplomacy can reduce substantially market entry barriers (cf. Creusen & Lejour, 2013).

Combined efforts from companies and government expedite the internationalization process (cf. Creusen & Lejour, 2013; García-Canal, Duarte, Criado, & Llana, 2002) and offer companies the possibility of reducing costs and risks (cf. Contractor & Lorange, 1988). Johanson and Wiedersheim-Paul (1975, p. 306) “assume that the most important obstacles to internalization are the lack of knowledge and resources”. By joining efforts, companies access the knowledge from their competitor counterparts, from governmental agencies and from local embassies. Companies involved in the public-private relationship can incorporate the relevant network, in the foreign market, and access its knowledge (cf. Johanson & Vahlne, 2009). Private companies reduce the time to start exporting, thereby diminishing the need for economic resources. Companies also lessen the investment risk in a foreign market and reduce wasted efforts to enter “difficult” markets.

Relationships between private companies and public bodies, within an internationalization context, increase significantly the export probability to a market (cf. Creusen & Lejour, 2013; Nitsch, 2007; Rose, 2007). The present research corroborates these results from previous studies regarding internationalization benefits that derive from public-private collaboration.

5.3.1.2 ISO Project

Structure of the Partnership

The focal multiplayer partnership is supported by a protocol involving the government regulatory agency and fifteen pharmaceutical private companies that own production facilities in Portugal. The protocol and the participation of the government regulatory agency trigger the intercompetitor relationships. As in the partnership, PharmaPortugal formalization improves the intercompetitor development.

Within the partnership three working groups were established, addressing: suppliers' qualification, procurement and training. Within each group, the partnership aims at standardizing working procedures, optimizing resources, exchanging information and knowledge, and improving organizations efficiency. The present research focuses on the procurement group, where companies can integrate joint negotiations with competitors addressing suppliers, mainly external services providers. The next figure (Figure 41) portrays the structure of the multiplayer partnership.

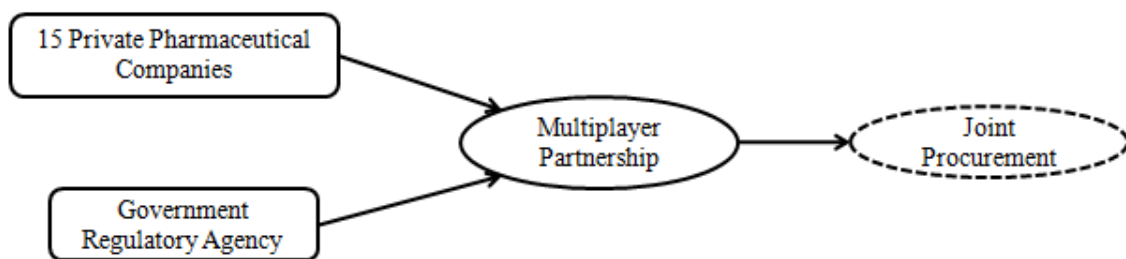


Figure 41: Partnership structure – joint procurement

Purchasing groups are a growing phenomena in business landscape (Gobbi & Hsuan, 2015; Nollet & Beaulieu, 2003; Schotanus, Telgen, & de Boer, 2010; Waltmans, Schotanus, marc Reunis, & Santema, 2006). Cooperative purchasing can be referred to as horizontal cooperative purchasing, group purchasing, collective purchasing, joint purchasing, consortium purchasing, bundled purchasing, among others. “Cooperative purchasing is defined as the cooperation between two or more organizations in a

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purchasing group in one or more steps of the purchasing process by sharing and/or bundling their purchasing volumes, information, and/or resources” (Schotanus & Telgen, 2007, p. 53).

The purchasing group within Project ISO is formal, but keeps cooperation formality as simple as possible. It involves information exchange and knowledge sharing with other pharmaceutical producers. Further, companies within Project ISO decide, for each item, who is the most suitable group member to proceed with the purchase. Joint purchasing within Project ISO is task driven, that is, companies select priorities and assign the companies that are to pursue with the information gathering and the negotiations with the potential suppliers. Subsequently, companies jointly select the supplier (or suppliers) for the item. Companies’ participation in the joint acquisition of an item is voluntary. This research’s findings are supported by Schotanus et al. (2010).

“Cooperative purchasing does not occur automatically. In other words, some knowledge and efforts are necessary to coordinate the activities, to communicate with each other, and to synchronise specifications and supplier preferences” (Schotanus et al., 2010, p. 58). Companies combined (pool and share) their purchasing volumes and information. Schotanus et al. (2010) highlight voluntary participation in a purchasing group as the most important success factor for cooperation enforcement. Further, all members with good communication practices, similar influence and objectives, as well as a fair allocation of gains and costs do improve the development of the purchasing group (Schotanus et al., 2010).

Schotanus and Telgen (2007) present a typology for purchasing groups taking into consideration members costs and gains, members influence, members characteristics, number of activities, organizational design, group size and group life span. Their research in the public sector leads to a classification into five main groups: piggy-backing groups, third-party groups, lead buying groups, project groups and programme groups. Project ISO, according to Schotanus and Telgen (2007) classification, resembles piggy-backing groups, yet the hitchhiker company is not always the same, i.e. it depends on the purchased item.

Waltmans et al. (2006) classification is centred on benefits relative allocation among group members, using an analogy with symbiotic relationships (in the field of biology).

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It is argued by Waltmans et al. (2006) that purchasing groups can be categorized as mutualistic, commensalistic and parasitic. Within Project ISO, companies' role, (such as parasite or host) is dynamic, i.e. it may change with time and according to the purchased item. Further, Project ISO evolved and changed over time, in structure, formality, members' participation and main objectives (cf. Nollet & Beaulieu, 2003).

Benefits Centred on Joint Procurement

“One of the first objectives of a purchasing group is to acquire more power, in order to be in a better bargaining position with suppliers (often meaning obtaining better prices)” (Nollet & Beaulieu, 2005, p. 14). Price reduction is referred to be the main motive for joining a purchasing group (e.g. Nollet & Beaulieu, 2003; Schotanus et al., 2010; Tella & Virolainen, 2005). In addition to price, Nollet and Beaulieu (2005) argue that companies also consider cost reductions that entail administrative costs and utilization costs. Tella and Virolainen (2005) also find that an important reason for cooperation was information about potential suppliers. Hence, companies involved in purchasing groups expect lower purchasing prices, higher quality, lower transaction costs, lighter workloads, reduced risks, and learning from each other (Schotanus & Telgen, 2007). Within project ISO, companies mainly aim at the reduction in prices and the learning with the other members' individual experience.

As referred, companies involved in multiplayer partnerships with their competitors expect high benefits and perceive low restrictions. Moreover, it is argued that high restriction perceptions can precipitate the company detachment from the intercompetitor relationship, e.g. entering in a dormant phase. With the development of the purchasing group, it is expected that companies may experience disadvantages, such as, “coordination costs, losing flexibility, losing control, supplier resistance, and possible interference by anti-trust legislation” (Schotanus & Telgen, 2007, p. 53).

5.3.2 Public-Private Relationships

Private companies also develop business relationships with government bodies in the course of multiplayer partnerships. In the present research this was mainly denoted in the PharmaPortugal case. Blois (2004), Easton and Araujo (1992) and Forsgren and Johanson (1992b) state that government or local authorities, through their actions, can strongly influence the company's ability to create value. Moreover, as referred by Kivleniece and Quelin (2012), ties between private and prominent public actors can result, among others, in extended business scope and enhanced legitimacy. Public-private partnerships are a growing reality (e.g. Koontz & Thomas, 2012). Within this section, are addressed the public-private relationships within the context of the multiplayer partnership.

Public-private relationships influence and are influenced by the context, such as, goals from those involved. Individual and shared goals play an important role in the establishment and the development of public-private relationships. Håkansson et al. (1982) and Möller and Wilson (1995) consider that the organizational factors that affect business relationships and interactions include, among others, strategy and goal compatibility.

The involvement of governmental organizations in the described multiplayer partnerships is highly associated with the strategy of the national government. For example, both private pharmaceutical companies and the Portuguese Government share the objective of improving the companies' internationalization what sustains public-private relationships within PharmaPortugal. Thus, cooperation between public agencies and private companies can range from high to low and the goal of the government is critical for cooperation evolution. Competition does not take place within the studied public-private relationships.

Economic exchange is absent from the public-private relationship (cf. Easton & Araujo, 1992), despite its effects on the economic performance of private companies. Social exchange between public bodies and private companies is scarce. Yet, goal centred information exchange is fairly performed in public-private relationship. As a consequence of the interaction between competitors, companies had identified, among themselves, several common difficulties that were holding back their

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internationalization or reducing their efficiency. The industry had previously identified shared problems and had proposed methods to overcome those problems. The proposals that were presented considered several organizations (mainly governmental), beyond the involved pharmaceutical companies and the regulatory agency, i.e. improvement suggestions were targeting not only the national regulatory agency, but also the trade and investment agency, the ministry of foreign affairs (mainly through embassies) and the customs authorities.

Companies had identified several issues that were hardening their internationalization, mainly: the low level of external recognition of the Portuguese pharmaceutical industry's quality standards, the difficulties in addressing the trade and investment agency, the duplication of registries and other bureaucratic problems, the short validity period of export certificates and the lack of up to date knowledge of the national customs authorities. Companies involved in intercompetitor relationships have lobbied governmental organizations to improve their internationalization.

Joint missions to foreign countries were proposed by companies to publicize the Portuguese pharmaceutical industry compliance with the European Medicines Agency quality standards. Through the joint efforts of the companies, the national regulatory agency, the trade and investment agency, as well as the embassies, the companies expect to increase their medicine exports to Latin America and to Arabic Countries, among others. Companies also proposed changes in the internal organization of the trade and investment agency to expedite internationalization procedures for Portuguese pharmaceutical companies. Suggestions were also addressed to the national regulatory agency aiming either at increasing exports or at reducing cost associated with exports, namely expediting the issuance of medicine export certificates or enlarging their validity and adapting their language.

Private companies seek to obtain beneficial changes, both in the domestic and in the foreign markets. Intercompetitor interaction is of paramount importance, since the national regulatory agency does not adapt or coordinate efforts to improve the internationalization capacity of just one particular company, only to satisfy joint needs or goals expressed by all companies, in order to improve the internationalization of the industry, as a whole. Private companies, after reaching common ground regarding their

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goals, are able to seek compatibilities with the goal setting from the Portuguese Government.

Within the public-private relationship, adaptation processes are fairly present. Both the companies and the public agencies adapt to each other. Coordination processes are also present in the public-private relationship and are crucial to reach goals shared by all. For example, foreign market selection is generally a companies' decision, however it is frequently influenced by the trade and investment agency and by the economic diplomacy. Public-private relationship bonds are highly related with the interaction processes. The relationship between public bodies and private companies entails mainly informational, knowledge and economic bonds.

Adaptation and coordination processes within the public-private relationship, unlike the ones within intercompetitor relationships, resemble buyer-supplier relationships (cf. Möller & Wilson, 1995). For instance, the trade and investment agency changed its internal organization to better accommodate the pharmaceutical industry internationalization specificities. The national regulatory agency nowadays does issue an export certificate in just a few days and companies are thus able to rapidly present their offers and materialize their exports. Not only the organization of joint missions to new potential markets (with companies, the regulatory agency, the trade and investment agency and the ministry of foreign affairs), but also the cooperation agreements between regulatory agencies have shorten the time required to market products in foreign countries.

The national regulatory agency, following government's orientation, supported companies' internationalization by establishing contact with foreign regulatory agencies, participating in business foreign missions, assisting companies with technical and regulatory expertise, and not only simplifying but also adapting procedures of issuing export documents requested by foreign regulatory agencies. The national regulatory agency responsibility in the partnership is in line with the government defined goal for the pharmaceutical sector.

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Chapter 6 – Conclusion and Implications

This is the final chapter of the thesis. This research discusses the horizontal relationship development within multiplayer alliances in the pharmaceutical industry. The present study focuses on adding new insights to the existing IMP research, by building models that are both theory-laden and empirically grounded. The interaction and network approach holds the theoretical foundations of this study. By focusing on cooperation, rather than on competition, the IMP approach offers a comprehensive explanation of the development of cooperative relationships between competitors (cf. Ford & Håkansson, 2013; Luo et al., 2007). The present chapter concludes the discussion of both the empirically based models addressing the intercompetitor interaction and the relationship development. Theoretical and managerial implications are presented, followed by the identification of research limitations and avenues for future research.

6.1 Concluding Notes

The research problem of this study is “to understand the development of horizontal relationships within the interaction and network perspective in the Portuguese pharmaceutical industry”. Adopting moderated constructivism, as the scientific approach, and abduction, as the research approach, nine intercompetitor relationships were studied to address this thesis research problem and associated questions. A multiple embedded case study was considered. Each case study under analysis involves one intercompetitor relationship that is coincident with the unit of analysis. The examination at the level of the embedded unit of analysis was central to handle the phenomenon complexity. It was also important to support the description and

explanation at the unit of analysis level and capture network effects. The present section summarizes and discusses the thesis' findings in order to answer the Research Questions.

6.1.1 Intercompetitor Interaction

“How can horizontal relationships be characterized within the interaction and relationship framework?” This first research question focuses on the interaction held between competitors. The answer is centred on the empirical model of analysis for the intercompetitor interaction. It is argued that the intercompetitor relationship can be assessed considering the presented model.

The empirical model of analysis for the intercompetitor interaction is mainly supported by the already portrayed theoretical model (cf. Santos & Baptista, 2015). The theoretical model, above all, incorporates concepts presented by Bengtsson and Kock (1999), Campbell (1985), Easton and Araujo (1992), Håkansson et al. (1982), and Möller and Wilson (1995). The model was further adjusted to accommodate specificities of the intercompetitor relationship. The relationship nature inclusion, in particular the coopetition, opened possibilities of enhancing the analysis of the intercompetitor interaction. Contrasting with the theoretical model, the empirical model includes the shared context and withdraws the adaptation processes. This section focuses on the four building blocks of the model: context, nature, interaction processes and outcomes.

In the present study, the context comprises three main attribute collections, say, market, party and shared. All companies under analysis incorporate the same sector of activity, entailing market context similarities. Perceived shared adversities brought companies together. Companies' characteristics do not influence the companies' formal participation in the relationship with the competitors. The relationship's shared context comprises the sequence and the flow of events over time and includes common features, such as, relationship age, mutual goals and joint experiences. The relationship shared context strongly affects (and is affected by) the interaction and the relationship development.

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The incorporation of the relationship nature, namely the coopetition, allowed a better description and a broader explanation of the intercompetitor interaction. The character of cooperative relationships between competitors calls for the simultaneous consideration of two opposite logics of the interaction, cooperation and competition (Bengtsson & Kock, 1999, 2014; Dahl, 2014; Tidström, 2014). Coopetition was analyzed in view of a two continua approach and at two levels within each relationship (the company and the department level). Within coopetition, competition is market related and cooperation is relationship related. The intercompetitor relationship development may witness a pre-eminence of cooperation over competition (or vice versa) that may change over time. Coopetition configuration is linked to the shared context, the interaction processes and the bonds; it comprises a dynamic character.

The absence of the economic exchange in the intercompetitor relationships (cf. Easton & Araujo, 1992), highlights the role of both informational and social exchange. Particularly, information exchange proved to be of major importance for the relationship development. Social exchange increases over time with the frequent information exchange, what facilitates this same process of the exchange of information, as well as coordination processes. The model considers that adaptation and coordination processes are two distinct interaction processes (cf. Baptista, 2013; Möller & Wilson, 1995; Wilson & Möller, 1988). Adaptation processes are often scarce or inexistent and are not essential to the horizontal relationship development, differing from buyer-seller relationships (cf. Brennan et al., 2003). On the contrary, coordination processes evolution is parallel with informational exchange and essential for that exchange to happen. Over time, coordination processes can turn into institutionalized procedures.

Centring the relationship outcome analysis on the development of bonds (cf. Håkansson & Snehota, 1995a; Möller & Wilson, 1988) leads to the recognition of four bond types: informational, social, knowledge and economic. Informational, social and knowledge bond types are directly and mutually induced by both of the companies involved in each intercompetitor relationship. In contrast, economic bonds are attributed indirectly, i.e. despite having a non-economic character, intercompetitor relationships have the objective of achieving economic benefits “outside the relationship”, with other network actors. Bonds can be considered to comprise a stronger dynamic character or a superior

cross-sectional character. Thus, relationship bond analysis can provide both the access to the relationship evolution and a snapshot of the relationship.

6.1.2 Intercompetitor Relationship Development

The second research question centres its attention on the intercompetitor relationship development: “How do industrial horizontal relationships develop in a multiplayer alliance context?” The answer takes into consideration a processual analysis (cf. Pettigrew, 1997; Van de Ven, 1992) centred on the sequence of events considering competitors’ interaction. This research’s findings partially corroborate the framework presented in section 2.4 and the tentative model depicted by Santos and Baptista (2014). Five main phases are identified: co-existence, formation, development, dormant and dissolution.

In the present research, co-existence is regarded as a relationship phase and not as a possible relationship nature (cf. Bengtsson & Kock, 1999; Easton & Araujo, 1992). The co-existence phase takes place before competitors start formulating a cooperative relationship. The industrial market small size and its stability in terms of actors favour the development of both social and knowledge bonds, even if they are poorly developed. Further, companies’ awareness of their competitors’ characteristics enables the choice of a possible counterpart to establish an alliance in the co-existence phase. In other words, the searching phase does not exist or, at most, takes place within the co-existence phase. In contrast, previous research from Batonda and Perry (2003), Claycomb and Frankwick (2010), Dwyer et al. (1987), Ford (1980), Kanter (1994) or Schreiner et al. (2009) identifies a searching phase. From the co-existence phase, companies can start cooperative intercompetitor relationships.

Within the formation phase, through negotiation processes, companies reach common goals and set priorities for the cooperative relationship. Industrial markets small size, in number of actors, and their stability affect the companies’ formal participation in the intercompetitor relationships. Visibility and peer pressure may also lead companies to join the relationship, even if they eventually proceed to a dormant phase. In all cases covered by this research, catalysts were present, inducing the relationship in one or

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more occasions, particularly motivating the formation phase. Catalysts are third parties, i.e. network actors external to the focal relationship that stimulate the intercompetitor relationship, for instance breaking the existent inertia. The external actor can be the domestic regulatory agency, the trade and investment agency, the Portuguese Government promoting economic diplomacy, the national pharmaceutical companies association or another trade association. The same relationship can comprise more than one catalyst. Catalysts have also induced or strengthened the development phase and sponsored the relationship reformulation.

From the formation phase, companies often continue to the development phase, which comprises recurrent interaction processes (cf. Ford, 1980). The dormant phase is close to the co-existence phase. The dormant phase potentially entails re-activation, i.e. interaction processes and bonds can be rapidly restored. Actions of involved parties or of outsiders may lead to the dissolution phase. After the dissolution phase, companies return to the co-existence phase, where social and knowledge still exist.

6.1.3 Network Effects of Intercompetitor Relationship Development

“What are the main implications of the intercompetitor relationship development?” This third and last research question entails network effects resultant from the intercompetitor relationship. The answer focuses on the study of the multiplayer alliance as a whole, i.e. considering a small subset of relationships (cf. Brito, 1999), as well as the non-economic relationship between public and private actors (cf. Easton & Araujo, 1992).

Intercompetitor relationships under research are part of two multiplayer partnerships. The formation of those multiplayer partnerships is supported by a protocol involving a public actor, such as the government regulatory agency, and several private pharmaceutical companies. The protocol confers the necessary formality to initiate the alliance and to enhance the development of the relationships, not only between the private companies themselves, but also between the public bodies and those private companies. Further, formalization confers visibility to the alliance and improves the cooperation between private companies and other public bodies “outside the formal

arrangement”, such as the trade and investment agency and the foreign affairs ministry (cf. Welch et al., 1998). This characteristic may confer a semi-formal configuration to a multiplayer partnership.

Public bodies’ participation in multiplayer alliances requires a matching of the companies’ common goals with the government strategy. Companies have a double incentive to join multiplayer partnerships: to boost effectiveness and to improve internationalization (cf. Contractor & Lorange, 1988). Intercompetitor relationships within multiplayer partnerships may comprise the goal of accessing price reductions by strengthening the negotiation power (cf. Nollet & Beaulieu, 2003; Schotanus et al., 2010; Tella & Virolainen, 2005). Public actors influence the beginning of the partnership, in many cases by making it happen. Still, the procurement related objective is mostly achieved without the participation of public actors. Private companies also join the multiplayer partnerships with the aim of increasing medicine exports. Public actors may be a valuable support for companies to overcome new market entry barriers (cf. Creusen & Lejour, 2013; Nitsch, 2007; Rose, 2007) or be a facilitator to integrate companies in the relevant foreign market network, opening the access to its knowledge (cf. Johanson & Vahlne, 2009).

Thus, depending of the goals’ compatibility of all the involved actors (public and private), other non-economic relationships, such as public-private relationships, can have a major and long-lasting impact on the operation of the network as a whole (cf. Easton & Araujo, 1992). Further, in public-private relationships, social exchange is scarce and information exchange is goal oriented and fairly performed. Within the public-private relationship, adaptation and coordination processes may occur, by both the private and the public actors.

In the public-private relationships, private companies seek to obtain beneficial adaptation from public actors. Intercompetitor interaction is crucial, since public bodies do not adapt or coordinate efforts with one particular company. That is, public actors adapt only to satisfy joint needs or goals expressed by all companies. For that to be possible, private companies need to reach common ground regarding their goals before being able to seek compatibilities with the Government strategy.

6.2 Managerial Contributions

The company, together with customers, suppliers, competitors, complementary suppliers, distributors, universities, trade and professional associations, government bodies, consultants and others, forms an intricate network of relationships. Among those relationships developed, intercompetitor relationships, such as, strategic alliances are of paramount importance and prevalence. The first managerial contribution from this research is that firms need to acknowledge the importance of the opportunities that are presented beyond cooperating relationships with buyers or suppliers. In particular, cooperative relationships with direct competitors may comprise significant knowledge and economic gains. This research findings support the conclusion that intercompetitor relationships may lead to several direct benefits, say, to facilitate new markets entry, to reduce foreignness liabilities, to increase market power, to enhance acquisition and exchange of skills, to accomplish institutional legitimacy, to attain economies of scale and of scope, as well as, to access public-private relationships.

Throughout this research, a particular attention was paid to the interaction between competitors and the intercompetitor relationship development. Interaction processes, specifically exchange and coordination processes, are of major relevance for the relationship development and benefit seizing. The second practical managerial contribution addresses the link between intercompetitor interaction and strategic alliances' management and performance. Information exchange and coordination processes proved to be of high relevance for the relationship development. Coordination processes evolution is essential for information exchange to happen. Social exchange "only aids" the exchange of information and the coordination processes and is expected to increase over time. Adaptation processes are not essential to the horizontal relationship development. Strategic alliances are frequently described as being unstable and leaning towards failure. Thus, by concentrating efforts on information exchange and coordination processes, companies are expected to enhance the associated benefits and minimize the alliance failure.

The development of intercompetitor relationships is essential to create and capture gains from the interaction with public actors. In public-private relationships, private companies seek to obtain beneficial adaptations from public actors, to overcome market

entry barriers, among others. The third managerial contribution encompasses the link between the intercompetitor and the public-private relationship, bearing in mind that public actors do not adapt or coordinate their efforts to satisfy only one particular company. Before establishing the public-private relationship, involved private companies need to clarify among themselves their mutual goals and define paths to reach those goals. When all involved actors (public and private) share mutual or compatible goals, companies can expect benefits such as, expedite the internationalization process or offer companies the possibility of reducing costs and risks. Notwithstanding, the public-private relationship may not be a long-term one, since the government, its strategy or both may change.

6.3 Limitations and Future Research

This section includes limitations and proposals for further research, highlighted by the current study. The present research encompasses a multiple case study, involves qualitative methods and data was gathered through semi-structured one-to-one interviews. Methodological choices entail potential limitations that were surmounted (e.g. forms of bias) and intentional limitations (e.g. absence of statistical generalisability). These topics are addressed in the research methodology chapter.

The current section focuses on the limitations related with the research setting. The empirical setting of this study addresses only one industrial setting, the Portuguese pharmaceutical industry. Further, this study centres its attention on the relationships between competitors that are members of the multiplayer alliances. These choices related with the empirical context enable access to data, privileging relationship visibility and researcher pre-understanding. Yet, findings considering other business contexts could complement this research's overall results, particularly those on the intercompetitor relationship development.

In the present study, the participation of all Portuguese pharmaceutical companies with production facilities in Portugal was ensured. Yet, companies were able to choose the participant department (international and/or procurement). On top of that, companies also have decided which intercompetitor relationships they were to evoke. As a result,

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involved companies mainly addressed their ongoing relationships. Restricting companies choices could have led to new features (e.g. provide further attention to the dissolution phase), but it could also have discouraged companies from participating in the study.

Aforementioned research limitations entail avenues for further research. Still, other suggestions for future research are herein advanced. Empirical research on intercompetitor relationships development is scarce and much remains to be understood. Further research grounded on the IMP approach could focus on the development of intercompetitor relationship within other business' contexts. Moreover, the importance of the shared context was highlighted in this research. Yet, this research includes members of multiplayer alliances, what leads to a similar relationship's age among studied relationships. Future research is suggested to explore how the relationship age does affect the interaction and the development of the intercompetitor cooperative relationships.

In the present research, competition level did not lessen with the development of all intercompetitor relationships. It was argued that a competition decrease may not follow a cooperation augment, due to the two involved companies' culture. Still, further research is suggested to enlighten the link between cooperation evolution and the culture of the companies involved in the relationship. Additionally, findings support that competition perception, independently of its degree, restrains informational exchange. Being the exchange of information crucial for the development of intercompetitor relationship, a future research is also recommended to clarify the link between the cooperation nurtured within intercompetitor relationships and the development of the network as a whole.

Previous research on buyer-seller relationships supports that company's adaptation decision affects the involved actors' interdependency and may either keep parties distant or instead bring them together. However, this study's findings sustain that adaptation processes are scarce or even inexistent within intercompetitor relationships. Future research could also focus on the link between the lack of adaptation within the intercompetitor relationship and the companies' ambition to keep low restrictions associated with those relationships.

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Finally, this research includes a comprehensive analysis of the development of intercompetitor relationships. As an alternative, fewer aspects could be analyzed in depth. This also remains to be accomplished by future research, together with a lot more that can be explored. There is a long way open for further studies.

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Appendix A – Interview Guide

Interview Guide

Company (interviewee)

Company's historical background
Company's production / services
Market stability (nr. of actors, product variations) Similarities (or differences) with the remaining Portuguese pharmaceutical companies
(Could you please elaborate / provide examples)

Interviewee

Education, working experience, years with the company, department, job title, functions...
Personal involvement in the cooperation with the other Portuguese pharmaceutical producers (which companies?) We will address 3 to 7 companies

For each company / Counterpart

Interviewee (individual relationship)

Personal involvement with the counterpart (organization / personnel)

Context

Relationship evolution (before, start, develop and end)
Joint history and major events common to the two firms
(Could you please elaborate / provide an example)

Nature

Relationship environment - cooperative vs. competitive
Cooperation: mutual interests (or common problems), benefits from working together
Competition: companies with independent goals, the counterpart is an alternative
Coopetition: simultaneous cooperation and competition

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(Could you please elaborate / provide an example)

Interaction

Exchange

Resource exchange (e.g. product, service, technology, information, financial resources)

Social exchange (e.g. beliefs, attitudes, values, norms, goals)

(Could you please elaborate / provide an example)

Adaptation

Changes or adjustments to accommodate the counterpart (corporate objectives / strategies / policies, department structure, type / quality products, information, payments, resources, services)

Adjustment of both companies to meet the requirements of a third counterpart (e.g. external mutual buyer)

Counterpart action / reaction (perceived changes or adjustments by the partner)

(Could you please elaborate / provide an example)

Coordination

Adjustments in procedures (to control, monitor or follow-up the relationship outcomes (benefits or restrictions))

Adjustment of communication procedures or work organization

Counterpart action / reaction (perceived coordination efforts by the partner)

(Could you please elaborate / provide an example)

Outcomes

Creation and maintenance of Bonds : Technical (e.g. product adjustments, technological cooperation), planning (logistical coordination), knowledge (knowledge about the counterpart or its business), economic (relationship specific investment or economic gains), legal (long-term contracts), social (mutual trust and confidence), administrative (administrative routines, information processing or control)

(Could you please elaborate / provide an example)

Further contacts

Other contact persons in other companies, useful for the research, will be most welcomed

Appendix B – Interviews Detail

Interviews were conducted from December 2014 till May 2015

First contact (email and telephone) at November 2014

Number of emails: 46

Number of telephone calls: 68

	Number of meetings	Duration (total)	Interviewee position
Interviewee 1	1	0:50	CEO
Interviewee 2	1	1:55	Member of the Board
Interviewee 3	2	5:05	Former Board Member
Interviewee 4	2	2:40	Head of the International Department
Interviewee 5	1	2:05	Head of the International Department
Interviewee 6	1	1:30	Procurement Manager
Interviewee 7	1	1:25	CEO
Interviewee 8	1	2:20	Vice-President
Interviewee 9	1	2:50	International Manager
Interviewee 10	1	1:30	Head of the International Department
Interviewee 11	3	3:20	Head of the Procurement Department
Interviewee 12	1	3:35	CEO
Interviewee 13	1	1:20	International Manager
Interviewee 14	1	0:45	CEO
Interviewee 15	2	4:25	Head of the Procurement Department
Interviewee 16	2	1:25	Head of the Procurement Department
Interviewee 17	1	2:10	Head of the Procurement Department
Interviewee 18	1	2:05	Head of the Procurement Department

Appendix C – Coding Scheme

First Coding Scheme		
1st level	2nd level	3rd level
Relationship components	Context	Party
		Market
	Nature	Cooperation
		Competition
	Interaction processes	Exchange
		Adaptation
		Coordination
	Outcomes	Bonds
	Relationship development	Co-existence
		Searching
Formation		
Development		
Dissolution		

Modified Coding Scheme

1st level	2nd level	3rd level	4th level
relationship components	context	party	culture
			internal changes
R&D			
goal			
promotion-mkt			
exports-internationalization			
contract manufacturing			
production technology			
production plants			
production volume			
number HR			
age			
size			
		market	external regulation
			specialization
			external dynamism
			internal dynamism
			export%
			concentration
			joint/mutual
		age	
		experience	
		stability	
		goal	
	nature	department-individual	High-High / cooperation-competition
			High-Low / cooperation-competition
			Low-High / cooperation-competition

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		Low-Low / cooperation-competition
	company	High-High / cooperation-competition
		High-Low / cooperation-competition
		Low-High / cooperation-competition
		Low-Low / cooperation-competition
interaction processes	exchange	values-norms (social)
		beliefs (social)
		attitudes (social)
		product
		information
	adaptation	values
		from 3 party to firms in HR
		level (relative)
		to third party
		resource (e.g. information)
		department-operational
	coordination	internal procedures (rather than informational)
		level (relative)
		monitor
		work
		informational procedures
outcomes	bonds	social
		administrative
		financial
		informational
		legal
		economic
		knowledge
		planning
		technical
relationship development	co-existence	

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searching
formation
development
dissolution
sleeping
catalyst
other
