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**DEVELOPMENT OF STRATEGIC SUPPLIER
RELATIONSHIPS THROUGH BUSINESS
NETWORKS.
THE CASE OF LOCCIONI GROUP**

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*Tu e la tua famiglia state investendo sul tuo futuro.
È il migliore investimento che si possa fare.
E allora benvenuta nella terra dei tuoi avi, benvenuta a casa tua.*
Giuseppe Canullo

A mi familia y a Peppe

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PREFACE

Le aziende devono affrontare diverse questioni importanti attraverso la loro fase di sviluppo. Durante questo processo, le barriere possono essere superate utilizzando le proprie capacità e risorse, ma nella maggior parte dei casi devono affidarsi a un supporto esterno. Una soluzione a questi ostacoli è lo sviluppo di relazioni commerciali con le controparti. Ciò è stato riconosciuto come un importante ma, allo stesso tempo, complesso processo.

Questa tesi è rivolta, a livello generale, a capire come le aziende gestiscono i rapporti con i fornitori strategici. In particolare, siamo alla ricerca di modelli specifici per quanto riguarda "come" gestire le relazioni con i fornitori in ambienti complessi. Le aziende sono integrate in reti di imprese, interconnesse attraverso diverse relazioni. Tra questi, il rapporto cliente-fornitore si distingue per essere uno strumento importante per le imprese per migliorare la loro situazione. Il collegamento con il venditore è già stabilito attraverso acquisti periodici, cioè, le attività operative. Il passo successivo è quello di guardare al di là di questo, per la gamma di opportunità strategiche deriverebbero dall'essere collegati a un importante fornitore. Lavorando insieme ai suoi principali fornitori, l'azienda può accedere alle tecnologie,

investimenti e nuovi mercati. Così, questa situazione migliora l'efficienza della società e crea opportunità commerciali, tra gli altri vantaggi.

Un esempio comune è dato da Johanson e Mattson (1988). Gli autori spiegano che la procedura per l'internazionalizzazione delle imprese, specialmente le PMI, può essere ridotta se collaborano con una grande azienda. Le operazioni internazionali di altre società all'interno di una rete aziendale, consentono alle imprese di accedere a questi mercati più facilmente, sfruttando i contatti e le esperienze già consolidate.

Per i manager, è normale chiedersi: *come potrebbe la mia azienda essere legata con successo ai principali fornitori del settore?* La complessità è dovuta principalmente alla mancanza di fiducia o alle capacità relazionali dei manager delle PMI, in quanto essi si considerano in una posizione di debolezza rispetto alle aziende che vogliono avvicinarsi. Tuttavia, uno degli obiettivi di questa tesi è quello di dimostrare, attraverso un caso empirico, che i rapporti cliente-fornitore di successo possono essere mantenuti, anche se le società coinvolte non sono uguali per dimensioni e posizione sul mercato.

Il caso di studio Mexus ne è un esempio realistico di come Loccioni, una media impresa italiana, è stata in grado di avviare e mantenere un rapporto di successo con un importante fornitore, National Instruments. Mexus è una soluzione innovativa che misura la quantità di iniezione di portata per un uso efficiente dell'iniettore. Loccioni

inizia lo sviluppo di Mexus come risposta ad una richiesta da Continental, uno dei suoi clienti più importanti. La mancanza di esperienza come sviluppatore di prodotti di Loccioni, ha fatto sì che il sostegno di National Instruments fosse fondamentale, leader mondiale nel campo delle prove e misurazioni. Il risultato di questo sviluppo congiunto ha soddisfatto il requisito di Continental e, allo stesso tempo, ha determinato un aumento delle interazioni commerciali tra Loccioni e NI.

L'ipotesi è che, con lo sviluppo di un rapporto cliente-fornitore con compagnie internazionali riconosciuti, in questo caso identificati come *Key Suppliers*, Loccioni migliorerà le sue condizioni commerciali. Inoltre, implicherà un aumento di opportunità di business per essere collegato ai principali operatori mondiali del settore in termini di qualità, fatturato, innovazione, gli investimenti in R&S e il riconoscimento del marchio. Attraverso l'analisi dell'esperienza di Loccioni con National Instruments, sarà possibile individuare le caratteristiche che formano un rapporto cliente-fornitore. Da lì in poi, Loccioni sarà in grado di comprendere e migliorare l'interazione con altri fornitori chiave.

Pertanto, l'analisi del caso cerca di rispondere ad una domanda di ricerca principale: *Quali sono le condizioni relativi alla rete commerciali che modellano una relazione cliente-fornitore?*

Una corretta ripartizione del caso di studio richiede diversi concetti per capire come affrontare grandi aziende e come una società di medie dimensioni dovrebbe agire al fine di costruire un duraturo e proficuo rapporto con i propri fornitori. Il punto di partenza teorico di questa tesi è il modello che è stato sviluppato dal Marketing and Purchasing (IMP) Group per comprendere e analizzare le reti aziendali. Il Modello d'Interazione dello IMP è utilizzato come punto di riferimento per valutare le connessioni tra i principali attori in reti aziendali. Inoltre, nel capitolo 2, il Modello AAR, che è stato sviluppato anche da autori del Gruppo IMP, è stato descritto per completare il quadro teorico e stabilire le basi per la successiva analisi.

Donalson e O'Toole (2007) affermano che l'inserimento di una ditta individuale nel contesto di business permette di interagire attivamente con una vasta gamma di attori collegati per scambiare conoscenza, creare opportunità e migliorare i processi comuni, compresi gli adattamenti e innovazioni. Pertanto, è relativamente facile identificare la domanda chiave, l'offerta e la rete di supporto. Tuttavia, la difficoltà comincia con il compito di analizzare queste associazioni al fine di individuare i percorsi critici ed i risultati.

Pertanto, il compito di costruire e gestire legami con i fornitori al fine di ottenere un rapporto di successo, è un impegno complesso. Nel capitolo 3, viene effettuata un'analisi del quadro teorico per quanto riguarda la gestione del portafoglio dei

fornitori. Lo scopo è quello di ottenere la struttura che verrà utilizzata per l'analisi del caso di studio Mexus, e che diventerà la base per valutare il portafoglio fornitori completo di Loccioni.

I capitoli 4 e 5 si concentrano nel caso di studio Mexus. Il primo è una descrizione dettagliata degli eventi che hanno costruito il rapporto tra Loccioni ed il suo fornitore, National Instruments, dagli inizi, passando per i motivi che hanno portato ad un aumento nelle loro interazioni, fino alla situazione attuale. Il caso di studio nel capitolo 4, così come il quadro teorico sopra descritto, stabiliscono la base per effettuare un'analisi approfondita di questo particolare rapporto tra acquirente e venditore. Lo scopo del capitolo 5 è quello di rispondere alla domanda di ricerca, individuando e applicando le condizioni relative alla rete che forma un rapporto cliente-fornitore nel caso empirico. Questo non è un fenomeno isolato e, di conseguenza, Loccioni avrà gli strumenti per continuare la valutazione del suo portafoglio fornitori.

La tesi si basa su un singolo caso di studio empirico. Osservando gli eventi che si sono verificati tra le due società, Loccioni e National Instruments, ne deriva la deduzione logica che un approccio simile potrebbe essere replicato in altre relazioni cliente-fornitore. Pertanto, questa è una tesi descrittiva, visto che mira ad individuare le caratteristiche di un rapporto cliente-fornitore per, in seguito, descrivere loro.

I dati sono stati ottenuti da fonti primarie e secondarie. I dati primari sono stati raccolti tra il febbraio e il maggio 2015, durante lo stage dell'autore. A causa del fatto che questa ricerca è parte di una recente prospettiva di Loccioni, nelle prime lo scopo era capire il rapporto tra l'azienda e i suoi fornitori. Pertanto, i responsabili dei vari reparti sono stati consultati, come i referenti buyer, responsabili d'importazione, esportazione e logistica, manager di Business Unit, personale amministrativo e marketing manager. Da queste conversazioni, è stato fatto un quadro più chiaro e più completo della situazione, che ha permesso l'individuazione del caso di studio Mexus come punto di partenza o potenziale aspetto per analizzare questo fenomeno complesso.

La ricerca empirica è stata combinata con l'applicazione del modello IMP, quindi la teoria ha agito come un quadro che ha guidato l'identificazione delle condizioni. Una combinazione di teoria e raccolta dei dati è stata applicata durante il processo di ricerca, in relazione costante entrambe le sfere.

A parte il quadro teorico, altri dati secondari sono stati utilizzati per raccogliere informazioni per il caso di studio, come ad esempio documenti, papers e siti web delle società. Inoltre, un'analisi approfondita del caso Mexus (Perna et al., 2012) è già stata effettuata.

Lo scopo della osservazione e della raccolta di dati è stato quello di individuare le condizioni del percorso seguito nella costruzione del rapporto tra Loccioni e il suo fornitore, National Instruments. Analizzando come è stata effettuata una precedente esperienza, che ha ottenuto risultati importanti e positivi, è possibile stabilire il modo in cui i nuovi approcci dovrebbero essere intrapresi. Pertanto, scoprendo le condizioni che devono essere presenti in una interazione cliente-fornitore, è stabilito un modello che può essere replicato con altri fornitori strategici, a condizioni analoghe. Dal momento che le medie imprese hanno bisogno di reti di imprese, al fine di avere accesso alla conoscenza e alle opportunità, per realizzare il cambiamento e per crescere, le interazioni forti sono tenute con i propri fornitori per identificare e sviluppare legami. Maggiori sono le connessioni, maggiori saranno le possibilità di sfruttare le capacità del fornitore e le sue competenze (Ford et al., 2011).

CHAPTER 1

INTRODUCTION

Companies face several important issues throughout their development phases. During this process, they have to face different barriers which, in some cases, can be overcome by using their own capabilities and resources, but in most cases they have to rely on external support. One solution to these obstacles is the development of proper business relationships with counterparts. This has been recognized as being an important but, at the same time, complex process.

This thesis is aimed, at a general level, to understand, how companies deal with key strategic suppliers. More specifically, we are looking for specific patterns regarding “how” to manage supplier relationships in complex settings. Companies are embedded in business networks, interconnected through several relationships. Among them, the customer-supplier relationship stands out for being an important tool for firms to improve their situation. The connection with the seller is already established

through periodical purchases, that is, operative activities. The following step is to look beyond this, to the range of strategic opportunities that being attached to a major supplier would imply. By working together with its key suppliers, the company can access technologies, investments and new markets. Thus, this situation improves the efficiency of the company and creates commercial opportunities, among other benefits.

A common example is given by Johanson and Mattson (1988). The authors explain that the steps for the internationalization of companies, specially SMEs, can be reduced if they are joined to a major company. The international operations of other companies inside a business network, allow firms to access those markets more easily, by taking advantage of the contacts and experiences already established.

For managers, it is normal to wonder: how can my company be successfully tied to major suppliers of the industry? The complexity is primarily due to the lack of confidence or relational capabilities of SME managers, as they consider themselves in a weak position with respect to the companies they want to approach. However, one of the aims of the present thesis is to demonstrate, through an empirical case, that successful customer-supplier relationships can be maintained, even if the companies involved are not equal in size and market position.

Mexus case study is a realistic example of how Loccioni, an Italian medium-sized company, was able to initiate and maintain a successful relationship with a major supplier, National Instruments. Mexus is an innovative solution that measures the flow rate injection quantity for efficient injector use. Loccioni initiates the development of Mexus as a response to a request from Continental, one of its most important customers. Loccioni's lack of experience as a product developer, made it look for support from National Instruments, a world leader in the field of test and measurement. The result of this joint development satisfied Continental's requirements and, at the same time, resulted in increased business interactions between Loccioni and NI.

The assumption is that, by developing a customer-supplier relationship with recognized international companies, in this case identified as Key Suppliers, Loccioni will improve its trade conditions. Moreover, it will mean a growth in business opportunities by being connected to the main global players of the industry in terms of quality, turnover, innovation, investment in R&D and brand recognition. Through the analysis of Loccioni's experience with National Instruments, it will be possible to identify the characteristics that shape a customer-supplier relationship. From there on, Loccioni will be able to understand and improve the interaction with other key suppliers.

Therefore, the analysis of the case seeks to answer one main research question: *Which are the network-related conditions that shape a customer-supplier relationship?*

A correct breakdown of the case study requires several concepts in order to understand how to approach major companies and how a medium-sized firm should act in order to build a long-lasting and successful relationship with its suppliers. The theoretical starting point of this thesis is the model that has been developed by the Industrial Marketing and Purchasing (IMP) Group to understand and analyze business networks. The IMP Interaction Model is used as a reference point for evaluating the connections between the main actors in business networks. Moreover, in chapter 2, the AAR Model, which was also developed by authors of the IMP Group, has been described to complement the theoretical framework and to establish the basis for the subsequent analysis.

Donalson and O'Toole (2007) affirm that the insertion of an individual firm in the business context allows it to interact proactively with a wide range of connected actors to purposefully exchange knowledge, create opportunities and joint process improvements, including adaptations and innovations. Thus, it is relatively easy to identify the key demand, supply and support networks. However, the difficulty begins

with the task of analyzing these associations in order to identify critical paths and outcomes.

Therefore, the task of building and managing bonds with suppliers in order to achieve a successful relationship, is a complex endeavor. In chapter 3, an analysis of the theoretical framework regarding supplier portfolio management is carried out. The purpose is to obtain the structure which will be used in the analysis of Mexus case study, and which will become the foundation to assess Loccioni's supplier portfolio.

Chapter 4 and 5 are focused in the Mexus case study. The first one is a detailed description of the events that shaped the relationship between Loccioni and its supplier, National Instruments, from the beginnings, going through the reasons that led to an increase in their interactions, until the current situation. The case study in chapter 4, as well as the theoretical framework described above, establish the basis to carry out a thorough analysis of this particular buyer-seller relationship. The aim of chapter 5 is to answer the research question by identifying and applying the network-related conditions that shape a customer-supplier relationship in the empirical case. More importantly, this is not an isolated phenomenon and, therefore, Loccioni will have the tools to continue the assessment of its supplier portfolio.

The thesis is based on a single empirical case study. The observation of the events that occurred between both companies, Loccioni and National Instruments, has

derived on the logical inference that a similar approach can be replicated in other customer-supplier relationships. Therefore, this is a descriptive thesis, considering that it aims to identify the characteristics of a customer-supplier relationship, in order to describe them. Furthermore, the thesis is based on an empirical case and, thus, the variables that are present in the study cannot be modified.

The data was obtained from primary and secondary sources. The primary data was collected between February and May, 2015, during the internship of the author. Due to the fact that this research is part of a recent perspective of Loccioni, the first interviews involved general understanding of the relationship between the company and its suppliers. Therefore, the people in charge of different departments were consulted, such as buyer referents, import, export and logistic responsible, managers of Business Units, administrative staff and marketing manager. From this conversations, a clearer and more comprehensive picture of the situation was established, which allowed the identification of Mexus case study as a starting point or potential facet to analyze this complex phenomenon.

The empirical research was combined with the application of the IMP model, hence the theory acted as a framework that guided the identification of the conditions. A combination of theory and data collection was applied during the research process, constantly relating both spheres.

Apart from the theoretical framework, other secondary data was used to collect information for the case study, such as papers, reports and the companies' websites. Moreover, a thorough analysis of Mexus case (Perna et al., 2012) has already been carried out.

The purpose of the observation and data collection was to identify the conditions of the path followed in the construction of the relationship between Loccioni and its supplier, National Instruments. By analyzing how a previous experience was carried out, which obtain valuable and positive outcomes, it is possible to establish the way in which new approaches should be undertaken. Therefore, by discovering the conditions that must be present in a buyer-seller interaction, a model is established and it can be replicated with other strategic suppliers, under similar terms. Since medium-sized companies need business networks in order to have access to knowledge and opportunities, to achieve change and to grow, strong interactions are required with their suppliers to identify and develop bonds. The more connections, the greater the opportunities to exploit the supplier's capabilities and competencies will be (Ford et al., 2011).

CHAPTER 2

SUPPLIER RELATIONSHIPS WITHIN THE IMP (INDUSTRIAL MARKETING & PURCHASING) GROUP PERSPECTIVE: SOME KEY FEATURES

2.1. Introduction

At the beginning of this research, the basis of the project, as well as its objectives, were not completely clear due to the fact that this is part of a recent perspective of Loccioni, in its aim to grow steadily and become a major player in the global market, where the Group operates. Therefore, the first steps regarding the theoretical

approach were taken in order to understand the characteristics of the purchasing activities. Those steps were actually an important foundation to understand the specific theories used in the research.

As the analysis of the situation deepened, the basis of the project inside Loccioni became clearer, due to an increased exchange of information among the participants and employees of the different areas involved. As a result, a better vision of the objectives of the analysis were identified. In this regard, the macro-elements analyzed were the starting point to focus on a more strategic approach, leaving aside the operative objective regarding cost reduction in order to highlight the analysis of supplier relationships. Therefore, the theoretical framework of this thesis turns now towards the analysis of the models presented by the International Marketing and Purchasing Group, which focuses on the subject matter.

2.2. The IMP Group: Origins and Roots

The IMP Group was originally formed in the mid-1970s, as a research project on “Industrial Marketing and Purchasing”, by a group of researchers representing the Universities of Uppsala, Bath, UMIST, ESC Lyon and the Ludwig Maximilians University. The IMP represents nearly 40 years of informal and formal research

collaborations, stretching across research departments, disciplines, universities and business schools across the globe. Also, the Group has a research tradition of empirically based studies about the way in which companies are doing business. Since its first Interaction Model was developed and used, ideas on the characteristics of business relationships and networks, on the processes within them and on how individual companies can operate in these areas, have been developed in further dynamic models of interaction in industrial networks, such as the AAR model and the 4R model.

Therefore, the models developed by the IMP Group are explored in the present thesis with the purpose of obtaining the basis and guidelines for the analysis of the case study. Moreover, there are many examples that explain how the Group uses its models in empirical studies of industrial marketing and purchasing, enabling their application in the current case study.

2.3. Understanding Relationships and Networks

Starting point: Business relationships

The researchers of the IMP Group believe that the critical task for the business marketer and purchaser is the development and management of their relationship with

customers and suppliers. Even more critical is the fact that this task is not confined to a single relationship, since each company has a portfolio of purchases and sales relationships.

The relationship consists of learned rules and norms of behavior. It provides the atmosphere in which individual episodes take place, such as negotiations, payments, deliveries, etc. Relationships evolve over time and can be considered to go through a series of stages characterized by increasing mutual adaptation, reduced distance and increasing commitment (Ford, 1980).

The starting point for the development of a relationship is the interaction which represents the here and now of inter-firm behavior and “constitutes the dynamic aspect of relationships” (Johanson and Mattson, 1987). Thus, interactions comprise exchange and adaptation processes, which derive in interdependence of companies in different forms, such as the need to generate revenue, to acquire knowledge, or the wish to develop innovation. In any case, the basis of the interdependence of companies in business relationships are the resources which they possess: financial, network position (contacts, reputation) or skills (technology, know-how).

Interdependence is one of the four elements comprised in relationships. Easton (1992) quotes Johanson and Mattson in order to determine the other three elements: mutual orientation, bonds of various kinds and strengths, and the investments each has made

in the relationship. Mutual orientation implies cooperation and a certain complementarity between the parties. The third aspect, bonds, provide a more stable and predictable structure to the network. These bonds can be of various types, such as economic, social, technical, logistical, administrative, informational, legal. Finally, investments in a specific relationship demonstrate the commitment to it.

Why would a firm like to develop relationships? Easton (1992) identifies two possible answers. The first, exploiting the complementarities of a partner, as a relationship allows a more effective acquisition of resources by matching needs and making some adaptations. The second reason for developing a relationship concerns a firm's ability to exploit network access to third parties.

As it was stated before, Ford (1980) suggests buyer-seller relationships follow an evolutionary process in terms of:

- The increasing experience of both partners;
- The reduction of their uncertainty and all kinds of distance:
 - Social: unfamiliarity with each other's ways of working.
 - Geographical: physical distance.
 - Cultural: different norms, values or working methods.
 - Technical: different product and processes technologies.
- The growth of actual and perceived commitment;

- The formal and informal adaptations, investments and saving involved.

Ford (1980) also concludes that companies should examine their existing relationships in order to understand the value of developing them further by answering the questions below:

- What is the likely potential of this relationship?
- What resources are required to fulfil this potential?
- Where does this relationship fit within the context of the company's overall operations and resource allocation in that market?
- Are the current efforts devoted to the relationship appropriate to this overall strategy?
- Are we over-committed to this partner?

One step forward: Business networks

The aggregation of relationships among firms results in networks (Easton,1992). In order to understand what happens inside a business we need to know about its relationships. In order to understand the relationships of a company it is important to know about the network it forms part of. Without a wider network view, any approach to relationship strategy is under risk of degenerating into short-termism. This means that the development of relationship strategies depends on an analysis of

the company, its individual relationships and its overall relationship portfolio and network position. An in-depth description of networks is presented below.

Each business company is enmeshed in a complex network of interactions, which also includes the relationships of these counterparts with other suppliers or customers. Within the network, the companies exchange information, expertise, goods and services, etc. The managerial challenge therefore, is how to differentiate the large number of business relationships a firm has.

Another important contribution of the IMP Group is the study of *Network positions*. Hender (1992) states that the position in the network is an outcome of past relationship strategies and a resource for future strategies within the company's supplier portfolio. Relationships, rights and obligations are the result of the resources which the company initially brought to the network, the experience it has gained and the investments it has made in its relationships.

Håkansson and Snehota (1995) complemented the analysis of network position made by Johanson and Mattson (1992) with the aim of providing a conceptual understanding of how the individual actor is embedded in the environment. The position affects the economic outcome of a company's relationships over time and the possibilities to extend them across various other parties, as well as to develop the company's capability by drawing on the capacity of others. These relationships define

the position of the actor in the network, and the latter characterizes the actor's links to the environment and is, therefore, of strategic significance. Through direct and indirect resource interdependences the positions of two actors are interrelated. This also means that the more specialized the production of the actors is in a network, the stronger their position in the relationship will be.

In order to influence their position in the network, companies carry out strategic actions to meet the changes or to produce variations in the network. These goals may be achieved by breaking old relationships, establishing new ones, changing the character of existing relationships or preserving others endangered by adverse actions performed by other actors. Another aim of the strategic action could be to restructure the web of dependencies in the production system, fact that is mentioned below, in this chapter, as a network outcome.

Changing a company's network position always involves changes in the company's relationships, in the companies with which it interacts and in itself (Ford et al. 2011). Furthermore, the change can only be achieved through the network, as the company seeking change will always be dependent on others, such as existing counterparts, where some of the investments have already been made and where the costs and benefits are more apparent. However, a company's total set of relationships can only

be changed slowly and with an awareness of how to manage the expectations of others.

The importance of mobilization for networking success is one of the reasons why we find many examples of networking in situations where there is a strong company that can influence a pair or set of other companies. Another common networking situation is when a company has a strong integrating role, even if that company is not necessarily a very large company. In all situations, when a company is responsible for a larger system or offering that is built up from a set of sub-offerings or components, networking is needed to provide a viable solution for end-users. Also the implementation of networks involves education or training as a basis for change, often by creating personal networks of similarly qualified people across company boundaries or by exchanging specialists to identify possibilities and to facilitate networking.

On the other hand, managing business relationships is based on routines. Activities have to be carried out and linked together, resources have to be developed and tied to other companies. The greatest challenge in managing business relationships is to network with and through others to achieve change in the wider and more complex networks in which companies increasingly operate and which are the source of their future opportunities. A company's interdependences within many interconnected

relationships suggest that the resources and activities that are outside the company are more important to its success than the resources and activities within its own boundaries (Ford et al. 2011).

2.4. The Interaction Model

After having described the concepts of business relationships and networks, it is time to introduce the Interaction Model of the IMP Group. The Interaction Model is a dynamic model that analyzes the buyer-supplier relationship in order to understand its complexity. The Interaction Approach takes the relationship as its unit of analysis rather than the individual transaction. It involves simultaneous analysis of the attitudes and actions of both parties, and emphasizes the essential similarity between the purchasing and marketing tasks in relationships (Håkansson, 1982).

The IMP Group explains the Interaction Model as a process between two parties, buyer and seller, so temporarily the aggregate approach of a network has to be discarded. In this relationships, it is possible to identify four basic elements:

1. The interaction process. The relationships are frequently long term, so it is important to distinguish between individual “episodes”, which comprise the product, information, financial and/or social exchange; and the longer-term

aspects of that relationship, which affects and may be affected by each episode.

2. The participants in the interaction process. This includes the characteristics of the two organizations and the individuals who represent them. Regarding the first point, the technical expertise, as well as the organizational size, structure and strategy influence the positions from which they interact. With respect to the second aspect, the individuals involved in the interaction are in charge of developing relationships and building up strong social bonds which influence the decisions of each company.
3. The environment within which interactions takes place. The interaction must be considered in a wider context with several aspects, which deserve a deeper analysis:
 - a. Market structure: a relationship exists either nationally or internationally within the same market.
 - b. Dynamism: while a close relationship increases the knowledge of both parties, it also involves high opportunity costs of reliance on a single or small number of relationships.
 - c. Position in the manufacturing channel and interrelationships with other players.

- d. The social system: attitudes and perceptions.
4. The atmosphere affecting and 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 cooperation, as well as the companies' mutual expectations.

Once we have a clear vision of the components of the Interaction Model, it is important to understand the interactions within the relationships. In this regard, Ford, Håkansson and Johanson (1986) present four basic aspects that should be analyzed by the parties to measure the importance of their interactions.

The first aspect is *Capability* and it describes the relationship between the parties in terms of what they can do for each other. It is related to functional interdependence. In this way, interaction takes place in the form of continuous questioning: What can you do for me? What can I do for you? Through this process, the essentially passive resources of a company are translated into capabilities for a specific partner. Those capabilities change or develop over time by learning, through interaction, what is required by counterparts, as well as what it can expect in return.

The second aspect, *Mutuality*, deals with the question How do you see me?, and it focuses on the social relations between the parties. Mutuality describes how the members share and handle their respective goals or interests.

Particularity is the third aspect and it is related to the complex interactions between the parties with other actors. The companies can choose to use particularity as a type of strategic variable. For example, they can decide to give certain counterparts special treatment depending on their perceived value, while others only get standard treatment.

Finally, the fourth aspect is *Inconsistency*, which refers to the ambiguity or lack of clarity in interaction, meaning that there could coexist conflict and co-operation. In the view of Ford, Håkansson and Johanson (1986), companies are intricate webs of inter-related activities and resources, which are embedded in wider networks of similarly intricate, inter-related activities and resources through interactions. In such a world, inconsistency may make it possible to explore and test different developments, as well as rearrange relationships with other companies and handle both conflicting and common interests.

The Interaction Model will be used in the present thesis as a framework to analyze the relationship of Loccioni with its suppliers in order to understand its complexity, the attitudes and actions of each member. Furthermore, the correlation of this

approach with the AAR Model, described hereafter, guides the empirical part of this thesis.

2.5. AAR Model

Håkansson and Johanson (1992) developed the model of industrial networks, with the aim of allowing an integrated analysis of stability and development in industry and to provide a basis for studies of the roles of actors and sets of actors in industrial development processes, given the relation between industrial stability and development. Therefore, one of the main goals of the AAR model is to analyze the business network dynamic and consistency.

The AAR model's variables are actors, activities and resources, which are related to each other in the overall structure of networks. A brief description of the layers is presented in Table 1.

Table 1. Layers of the AAR Model.

ACTORS	ACTIVITIES	RESOURCES
Bonds among actors connect actors and influence how they perceive each other and form	An activity occurs when one or several actors combine, develop,	Performing transformation and transfer activities

<p>their identities in relation to each other.</p> <p>Actors control activities and/or resources. Individuals, groups of individuals, parts of firms, firms and groups of firms can be actors.</p> <p>The authors of the theory identified five characteristics in actors:</p> <ol style="list-style-type: none"> 1. They perform and control activities. 2. Through exchange processes, they develop relationships with each other. 3. Their activities are based on control over resources. 4. They are goal oriented, to increase their control over the network. 5. Actors have differential knowledge about activities, resources and other actors in the network, which they develop through experience 	<p>exchange or create resources by utilizing other resources. There are two kinds of activities, transformation and transfer. The first occurs when resources are changed in some way, while the second implies the transfer of direct control over a resource from one actor to another. These activities are linked to each other and conform an activity cycle, which is never controlled by a single actor.</p>	<p>requires resources. All resources are controlled by actors, directly by one actor or jointly by several actors, and also indirectly by those actors who have relationships with the actor directly controlling the resource. When heterogeneous resources are combined, their joint performance increases through experiential learning and adaptation. Furthermore, new knowledge emerges which creates possibilities for new and improved combinations.</p>
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with activities in the network.		
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Ford, Gadde, Håkansson and Snehota (2011) describe the substance of the AAR Model and its correlation with the Interaction Approach as follows:

- Interaction between actors: early interaction between business actors is two-way communication that enables the parties to become aware of each other, learn from and teach each other about what they stand for, what they need from the relationship and what they can offer. As the actors become acquainted with each other, their mutual knowledge will be enough for one or more of them to become committed to developing business between them. Commitment depends on trust and interpersonal interaction between the actors. When it is effective, interpersonal interaction leads to the formation of actor bonds between the individuals, based on their mutual learning, trust and commitment.
- Interaction between activities: some interlocking of the behavior of the two companies will be necessary. Over time, the interaction leads to the development of activity links between the companies. These links may encompass many aspects of the operations of the two companies, such as their design, production or logistics.

Besides, the authors identify the network outcomes divided in each layer of the AAR model. The analysis of the way in which the network can restructure a company's relationships, by changing the activities that each of the companies perform and the link between them, is particularly interesting for the present research. Network outcomes can also restructure the network, with new companies and relationships emerging, and existing ones disappearing. The four ways of restructuring a network are detailed below and have also been analyzed in the case study:

- Aggregation: the company undertakes some activities internally;
 - Dis-aggregation: delegates some activities on a relationship counterpart;
 - Disintermediation: 2 companies establish a new direct relationship;
 - Intermediation: a new company is established as an intermediary.
- Interaction between resources: if the parties in a business relationship wish to continue its development, investment will be required and this may include time spent developing contacts with their counterparts, developing the offering or introducing different equipment or working practices. These particular investments are relationship-specific adaptations and are not always balanced between the two companies. But no relationship can evolve over

time without at least some adaptation by the companies involved. The mutual adaptation of some of the resources of the companies in a relationship forms resource ties between them.

This last description of the combination of both models (AAR and Interaction Approach) is especially interesting and suitable for the case analysis of this thesis, as it will be seen at the end of chapter 3.

CHAPTER 3

MANAGING RELEVANT SUPPLIER RELATIONSHIPS: THE SUPPLIER PORTFOLIO MODEL

3.1. Introduction

The previous chapter focuses on building the conceptual basis for analyzing business relationships. Therefore, the Interaction approach and the AAR model of the IMP Group have been explained in detail. The present chapter is a review of the available

“supplier” portfolio models, which have been considered relevant and useful within industrial markets.

Business-to-business markets are characterized by a small number of players and high degrees of dependency that transform the episodes in long-term relationships. It is in this context that the portfolio analysis has been developed, in order to assess and plan the relationship strategy. In contrast with the emphasis that many researchers put on new buying situations or discrete purchase decisions, the aim of this chapter is to analyze the theoretical framework related to areas where long-term stable relationships are important as a source of future competitive advantage.

3.2. Supplier Portfolio Models: Theoretical Framework

There is not an ideal relationship type and the definition of what constitutes an adequate relationship depends on each specific case. Thus, companies must decide what relational strategy to adopt with each supplier and how to allocate resources among relationships. One solution to this problem is said to lie on selective strategies and approaches to reach “optimum” supplier relationships, identifying which suppliers should consume a greater share of resources and which should be managed in a way that consumes less resources. This perspective aims to set a balanced

combination of supplier relationships, best serving the long-term interests of the company. In order to achieve this objective, portfolio models are presented as a convincing and useful tool (Roseira and Brito, 2009).

Although empirical studies (Gelderman and van Weele, 2005; Wagner and Johnson, 2004) have shown that portfolio models enjoy a high reputation among practitioners, they have been received with skepticism by academics. Authors from the IMP Group (e.g., Dubois and Pedersen, 2003) have been particularly critical of portfolio models in their lack of an integrative view of suppliers' interdependencies (Roseira and Brito, 2009).

Turnbull and Zolkiewski (2000), researchers of the IMP Group, have analyzed different relationship portfolio models, including two and three-dimensional axes along with single, two and three-step analysis phases. The most common and widely adopted are the models proposed by Fiocca (1982) and Shapiro et al. (1987). However, these models have limited potential for use in strategic marketing management, since many drawbacks to their use have been identified. In the case of Fiocca (1982), the problems relate to the mixture of subjective and actual values needed to calculate the portfolio dimensions. Besides, the author does not take into account critical factors involved in doing business internationally. With respect to the model proposed by Shapiro et al. (1987), they leave the interpretation of low and high

values to the analyst's discretion, so again, the subjective judgments limit its potential application. A full review of these models is presented in the empirical research by Zolkiewski and Turnbull (2000).

In view of the limited empirical research existing, it can be concluded that further empirical research is needed to test the model dimensions of robustness and validity. It is also apparent from the various practical attempts to use portfolio models that, although these models are inherently appealing as means of analysis, in practical terms they are extremely difficult to define and operationalize (Turnbull and Zolkiewski 2000). However, the simple analysis of supplier relationships can provide important inputs into the management process as a much wider strategic perspective can be gained. First, some considerations need to be taken as to which the most pertinent variables are and how subjective data can be included in a way which allows consistency of comparison in future years.

3.3. Alternative Ways of Portfolio Evaluation

Companies need to evaluate their supplier relationships. Therefore, it is necessary to have tools that allow the company to examine its own expectations and those of the companies with which it deals, as well as the value of the relationship. In this regard,

two related lines of research were considered, both from IMP researchers. Firstly, the analysis of marketing-purchasing interfaces (Cunningham and Homse, 1996) in which the authors consider the organizational and resource allocation issues arising from patterns of personal contacts between suppliers and their customers. This approach has evolved from the Interaction model. Secondly, a superior approach is provided by Håkansson and Gadde (1992), who rather than focusing only in the personal contacts within the context of the interaction theory, goes one step further by including in the analysis the three layers of the AAR Model: Actors, Activities and Resources.

To begin with, Cunningham and Homse (1986) believe that the evaluation of human resources which suppliers allocate to handle customer relations can be considered a subjective way of analyzing the relationship. In this regard, the authors establish three headings to be considered when assessing the inter-organizational contacts:

- The *frequency* with which the partners meet, as an indicator of the amount of resources committed to the relationship.
- The *breadth* of contact, which means the number of areas covered by the pattern of personal relationships. A broad relationship brings together supplier

and customer staff to discuss commercial and technical matters, and reflects a highly integrated relationship.

- Finally, the *level* of contact refers to the position in the organization hierarchy of those involved.

Another option to evaluate the supplier portfolio, is through the analysis of the characteristic of supplier-customer relationships, identified in a study of the attitudes and experiences of over 400 buyers of industrial goods in Europe. The results revealed that there are eight major groups of factors which characterize relationships between suppliers and customers. This analysis was made with the aim of providing buyers with the relative capacities to use as points of comparison between competing suppliers. However, it can also be useful as part of the analysis of supplier portfolio, considering that the eight factors are the key marketing tasks which the supplier must perform in order to achieve a successful supplier-customer relationship.

Table 2. Characteristics of supplier-customer relationships

1. Customer orientation	Suppliers must analyze customer needs, be international in outlook, show interest in the customer's problem and be sensitive to the way foreign firms operate.
2. Technological expertise	Willingness of suppliers to offer new technology and

	innovative products to the customer.
3. Commercial competence	Provision of adequate and speedy responses to requests for information and be able to handle complaints.
4. Flexibility and adaptability	Willingness to adapt products, manufacturing processes, payment systems, delivery dates and administrative procedures.
5. Supply performance capability	Ability to provide a reliable delivery, quality assurance, after-sales service and information.
6. Price competitiveness	A price representing good value for money, accompanied by a willingness to negotiate on price.
7. Organizational effectiveness	Facilitate communications and negotiations through inter-organizational personal contacts between the two companies.
8. Social integration	An atmosphere of co-operation, trust, commitment, closeness and legitimate exercise of power.

Source: Cunningham, Malcom T. and Elling Homse (1986).

Håkansson and Gadde (1992) offer a new approach to define the situation of the buyer-supplier relationship, based on the characteristics of this interaction which were analyzed in four case studies. Hereafter, the attributes identified as complexity,

long-term nature, adaptability, informal social processes and power-dependence, as well as the existence of conflict and co-operation in relationships, are detailed.

1. Complexity: arises from the number of people involved and, thus, requires substantial co-ordination of operations at the purchasing firm. One interesting solution is appointing a specific person to be the link between both companies.

At a deeper level, this complexity is attributable to the dependence in relation to how production technology, logistics and administration work, regarding each supplier, and the interdependence among them. It should be an appropriate first step to have the executives in the purchasing department identify the main connections and then, in systematic discussions with other executives, raise awareness of the current and potential connections, so that they both respect and take advantage of the opportunities arising from various situations.

2. Long-term nature: there is always a history which affects the relationship regarding expectations and actions. The activities carried out between the parties should be seen as investments, and thus they are expected to provide return over several periods. This activities also imply costs incurred during the same period, which are identified as contact/information costs and adaptation

costs. The first ones are high in the initial stages, when the buyer is getting to know the suppliers, and they continue over time but generally at a lower level. The supplier also incurs in adaptation costs initially, in order to fulfil the requirements of the buyer.

The costs and revenues in relationships have some of the same characteristics as investments. The costs appear at an early stage, while the revenues are accumulated over a longer period of time. According to this statement, it is more effective to maintain old customer relationships than to look for new ones. This means there must be a high level of day-to-day activities.

3. Adaptations: the degree of adaptations stands in direct proportion to the differences between the parties: the greater the differences, the more reason to make specific adaptations. These may be considered the only means a firm has to benefit from the unique attributes of its supplier. There are three particular aspects of adaptation. First, the types of adaptation are various: technical, knowledge-based, administrative, economic and legal. The second aspect is the form of the adaptations, which can be a major, isolated occurrence or a gradual, incremental adaptation over time. Third, it is important to identify the factors affecting the demand for and content of adaptations. The need may arise because of specific characteristics of the

seller, or due to unique demands made by the purchasing firm, or because of an interaction of seller and buyer. Regarding the nature of the adaptations, it depends on the type of product involved.

4. Reciprocal trust: the relationship has to provide security, which cannot be created on a single occasion, but must be developed over time. The connection must be built up through a process of interaction in which reciprocal trust can successively be deepened. The typical process follows a course in which the two parties first test each other through small business deals, and then move along to more complete deliveries. This allows the companies to learn about each other.
5. Power and dependence: relationships are seldom symmetrical and thus, unbalanced. If a purchasing firm wishes to try to get priority from one supplier, it must begin by trying to make itself interesting to it in some other way, setting off its disadvantage with some other advantage.
6. Conflict and co-operation: the parties in a business relationship have contradictory and shared interests. Effective relationships require some collaboration, but they require an equal measure of conflict. If the level of conflict and co-operation is low, the relationship will be characterized as marginal and it will not be especially meaningful to either party. On the other

hand, if there is a high degree of conflict and a low degree of collaboration, the relationship will not work very well. The same applies to the opposite case, low conflict, where the situation tends to be too “nice”. The desirable type of relationship is one in which conflict is handled constructively. There will be conflict as long as both parties remain independent, because they will never have identical goals. Increased openness should be a prerequisite to prevent the escalation of conflict.

3.4. Model to Analyze Supplier Portfolios

From the review above, several models emerged. However, neither of them can assure by itself an overall view of the situation or an absolutely correct and objective assessment that allows consistency of comparison.

For this reason, and continuing with the theoretical support provided by the researchers of the IMP Group, two studies introduced in this chapter and in the

previous one, are combined and used as an important step towards a better understanding of the dimensions of supplier relationships. The connection was possible because the features identified by Håkansson and Gadde (1992) as typical characteristics of buyer-seller relationships, which were described above, are also present in the analysis of Ford, Gadde, Håkansson and Snehota (2011), when describing the correlation of the AAR Model and the Interaction Approach, detailed in chapter 2. The aim of this contrast between both studies, undertaken by the same authors with a 19-year gap, is to identify the variables to assess a supplier portfolio. Additionally, Turnbull and Zolkiewski (2000) recommend that it may be necessary to determine other appropriate quantitative measures of supplier portfolio management may need to be determined in order to offer a mechanism which allows managers to map the complexity of the network concept in a relatively simple manner. That is the reason why each variable in Table 3, has two possible values, high or low. Considering the explanation of each variable, it is possible to understand that a buyer-seller relationship, where the supplier has a *High Value*, means that the relational strategy developed for that supplier should consume a greater share of resources in order to achieve a successful result. On the other hand, a supplier relationship assessed as *Low Value* should be managed in a less resource consuming way.

Table 3. Variables to assess supplier portfolio

AAR Model	Variables	Description	Value	
			High	Low
Actor bonds	Communication	Both companies have appointed a Coordinator to facilitate communications and negotiations.	There is a Coordinator	There is not Coordinator
	Awareness	Systematic discussions at the executive level of both companies to raise awareness of the current and the potential connections.	Current interaction at executive level	Non interaction at executive level
Activity links	History effects	Deep relationships are often years old and this affects the current interplay as well as the overtly shared expectations.	Long-lasting relationship with high expectations	New relationship / No expectations
	Development costs	Contact/information costs and adaptation costs. They are higher in the initial stages, when the buyer is getting to know the suppliers and their abilities and expertise. After that, the costs are reduced while the returns/benefits arise (technical development, rationalization, etc.)	The relationship is creating revenues	The relationship is not profitable (revenues do not exceed costs)

	Maintainance costs	Level of day-to-day activities with suppliers. If during a given period, a firm does not maintain its connection but the level was already high, it may still keep much of its position.	Day-to-day activities remain at a relatively high level	Day-to-day activities do not occur, less than monthly activities
Resource ties	Balance	The power and dependence on relationships are always asymmetrical. If the relationship is more important for the buyer, then the imbalance is negative, and vice versa.	Positive imbalance: the supplier has more interest than the buyer	Negative imbalance: the buyer has more interest than the supplier
	Adaptations	The type of product involved in the relationship, may require some level of adaptation, from the technical and knowledge-based point of view.	Important adaptations are required in every interaction	Minor o no adaptations are required.

The dimensions illustrate the level of involvement that the companies in business relationships should have in order to overcome the difficulties and obtain benefits from them. The conditions are primarily based on trust, commitment and communication, as well as the willingness to make changes, co-operate with each

other and exchange relevant information. As the actors increase their dependency through activity links and resource ties, their connections and opportunities should also increase.

The theoretical framework from which these dimensions were taken from has been used in empirical cases in order to prove its feasibility. Therefore, the conditions stated above will also be used in an empirical study in order to confirm or reject their validity as valuable tools for analyzing supplier portfolio. The only characteristic that the selected case study must have is the presence of a buyer-seller relationship.

CHAPTER 4

CASE STUDY

4.1. Brief history of Loccioni

Loccioni is an Italian company established in Marche region, in 1968 by Enrico Loccioni. The company is a system integrator so its products, mainly measurement and testing machines for automotive and home appliance components, are based on integrating the technology acquired from suppliers to the one developed internally.

Loccioni's turnover in 2014 was M€70 and currently it has approximately 400 employees and operates in 43 countries worldwide.

In 1968, Enrico Loccioni established ICIE, whose main activity was the control of electrical systems. The first years of the company were characterized by a rapid development, partly thanks to the support of Merloni Group (Merloni), an important Italian company in the field of household electrical appliances and the most important customer in those years. Merloni is the company that allowed Loccioni to discover the new business model, which focuses in the development of customized solutions to meet the requirements of each client.

In 1980, AEA (Applicazioni Elettroniche Avanzate) was founded, representing the beginnings of the company in the field of measurement and control systems. Its first test bench was produced in that year for Weber (now Magneti Marelli), an Italian carburetor manufacturer. Since then, Loccioni has developed hundreds of tailored solutions in terms of automatic or semiautomatic test lines for automotive components (Perna, 2012).

In the '90s, as a result of the diversification of projects, the company decided to switch its focus, from a solution provider to a center of knowledge. This new perspective, related to the need for a continuous learning process, changing and creating new ideas, was accompanied by the founding of Summa, Loccioni's

propulsion center, in charge of R&D, strategic planning, management control, human resources, administration, logistics and marketing.

The company is now structured in five Business Units: *Mobility*, *Home or Industry*, *Energy*, *Human Care* and *Environment*. The first one is in charge of testing and assembling for the automotive sector. The solutions range from experiments of the prototype to the development of turnkey projects. *Home* produces test benches for the production lines of electrical appliances. The third is present in the renewable energy sector and energy efficiency. *Human care*, represents an improvement in the process and structure of healthcare, pharmaceutical, food and all related well-being solutions. The last BU, *Environment*, designs, produces and delivers turnkey systems for monitoring industrial emissions in the atmosphere, following the national and international laws.

Therefore, the company was founded as a manufacturing company but through the years it has developed a new growing path, closer to the service sector, offering complete solutions. This is a result of the focus that Enrico Loccioni has always put to serve and support customers, establishing a network of relations beyond regular service delivery. This perspective has required time, development of the appropriate expertise and knowledge of the market, but at the same time it has meant a competitive advantage.

Regarding the internationalization process, Loccioni started it during the first years, specifically in 1976 when the first test system was installed abroad, in Kiev, Russia. That was the first experience, followed by the development of projects in more than 50 countries. In recent years, Loccioni opened three offices in United States (2010), Germany (2012), and China (2013), which are working under the culture and values of the headquarter in Italy, and until the present they also rely on it for most of the fundamental management processes.

The fact that the Company has grown exponentially in the manufacturing of assembly and testing systems for different industrial sectors is not surprising, considering that it works for main global players of knowledge-intensive industries, and it needs to follow its customer's expansion to other countries. It is possible to identify this business approach as the main external factor that has influenced the decision of the company to initiate the international process.

Regarding the internal or endogenous factors, Loccioni presents itself as a knowledge-enterprise, which means that the company needs the experience abroad to broaden its expertise and innovation capacity, in order to maintain and support this image for its customers. Also, the main objectives of the sales subsidiaries were to develop new business, acquire new customers as well as foster loyalty from the

current ones, create new jobs and improve its reputation abroad as its opportunities of growing even more.

4.2. Supplier Relationship: Overview and Current Evolution

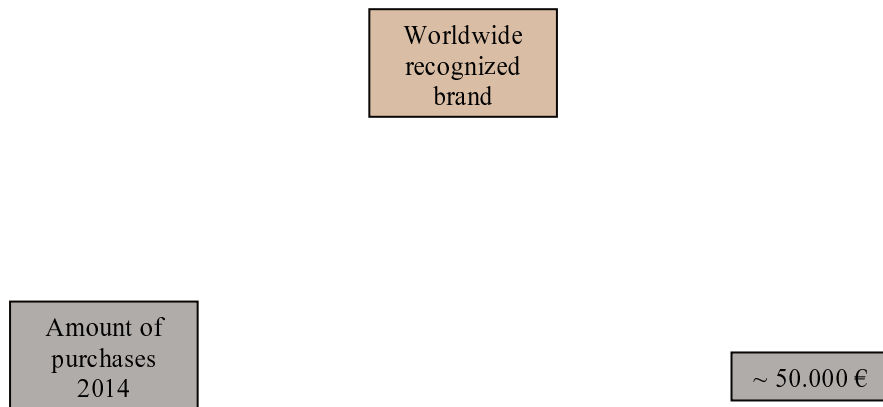
Loccioni is a growing company, so there are many different projects going on which require qualified people with time, experience and a proactive approach in order to accomplish them. One of them was designed by the purchasing department of the company in collaboration with Summa. Therefore, the purchasing areas, which have the experience acquired through daily operations with suppliers, joined the strategic department of Loccioni, all this with a common objective: developing strategic supplier relationships.

Before agreeing on this aim, there were many discussions between the members, regarding the reasons to analyze the current supplier portfolio, since each area has different perspectives on the suppliers' importance and the value that can be achieved by interacting with them.

Because of this, a first step was taken in order to identify the different categories of suppliers that are currently part of Loccioni's portfolio. As it is possible to observe in the matrix below (Figure 1), the internal categorization of suppliers is based on two

variables. The first one is the total amount of annual purchases, with a turning point of € 50.000 (fifty thousand euros) of total purchases per year. The second variable is how recognized their brands are globally, showing the other facet of a buyer-seller relationship based on qualitative aspects which turn traditional outsourcing into a potential business network. In this case, the point of inflection has been established by the company based on variables such as reputation amongst other members of the industry, branches abroad, quality of their products, investment in R&D, etc.

Figure 1. Suppliers' categories.



The result of the categorization described above is the profile of four different types of suppliers, each of them with a different importance for the company:

- Partner: Loccioni considers them irreplaceable, since the most important components that conform its test benches are purchased from them, which also means that a high percentage of the production costs depend on purchasing conditions established by both parts. Being linked to these major players allows the company to compete in the market with quality, and it also gives access to new business opportunities and to knowledge and innovation. Therefore, the companies in this quadrant are part of what Loccioni calls its current network, even though each supplier belonging to this group may have more or less intensity and commitment in the relationship.
- Strategic: Loccioni has started the interactions with them from a more strategic than functional point of view. This is mainly because the products of

these major suppliers are still procured from other companies with better purchasing conditions or because their products contain technological specifications that are still not implemented by Loccioni. However, these suppliers are considered strategic due to their continuous investment in R&D, their global recognition and their presence in valuable business networks. Therefore, in this quadrant, it is possible to identify the suppliers with whom Loccioni is interested in building a strategic relationship and some steps in this direction have already been taken.

- Ordinary: these are historical suppliers for Loccioni, considering that the company purchases from them important quantities of parts continuously used in the production of the test benches. Consequently, the purchasing conditions are optimal. Furthermore, an important number of the suppliers in this quadrant are Italian firms, located mostly near the company. They have participated in many events organized in Angeli di Rosora and their members have already developed a close relationship. Therefore, Loccioni has established a strong and long-lasting network with many of these companies, as it has relied on them from the first years of the company and also since most of them depend on this relationship to continue growing. However, these suppliers are not considered strategic because they are smaller than Loccioni,

their investment in R&D is minimum or they are not part of a broader global network which could bring business opportunities to Loccioni.

- Elementary: Loccioni has made sporadic purchases in some cases in order to fulfil a specific requirement. In other cases, they provide the company with low-cost products, which means that they are replaceable. Their brands are not strategic for the company because they are not globally recognized and they do not offer opportunities to develop new businesses.

The project which is currently taking place focuses on the two right quadrants, Partners and Strategic suppliers, due to the assumption or hypothesis that the company can benefit from the connection with them. These interactions could result in an evolution of Loccioni's competitive position, which seeks an improvement in trade conditions, as well as growth in business opportunities by being attached to the main global players of the industry in terms of quality, turnover, innovation, investment in R&D, social and brand recognition.

The two left quadrants are not part of the current project due to the fact that those suppliers are not considered as strategic for the company. Loccioni is interested in reducing the number of Elementary suppliers by transferring purchases to other companies. Regarding the Ordinary suppliers, on the one side, the company already

considers them part of its network and, on the other side, they do not have a global brand or international recognition. Thus, the strategy to apply with them is more related to improvements in purchasing conditions than in business developments.

The present project represents a challenge for Loccioni in terms of the size of the companies that it is trying to approach. The key suppliers of the Company are firms with years of experience in the industry, they have already been through Loccioni's present stage many years ago. Even though this project can be considered a challenge, it is not impossible, as shown by the experience that Loccioni had in recent years with National Instruments, one of the key suppliers of the company, situation that is used as the case study in this thesis.

4.3. Strategic supplier relationship: the case of Loccioni and National Instruments

National Instruments is an American company with international operations, which produces automated test equipment and virtual instrumentation software. It is a large company that was founded in 1976. The revenue in 2014 was \$1.24B and it operates in nearly 50 countries with more than 7.100 employees.

In the 80s, NI developed their first product: LabVIEW. Since then, the company has been dedicated to the development and sales of software, hardware and services. In recent years, it has extended the business to communication and embedded systems, depending largely on PXI and CompactRIO technologies.

Since 1995, National Instruments has held an annual developer conference in Austin, called the *NIWeek*, a week-long conference at the Austin Convention Center, attended by engineers and scientists from around the world. Activities center on technical sessions on the company's products as well as underlying technologies, presented both by NI employees and external presenters. Loccioni has been attending these conferences since 2011.

4.4. Mexus: The co-development of a new measurement system

Mexus is an innovative solution in the automotive component testing field. It measures the flow rate injection quantity for efficient injector use. Loccioni initiated the development of Mexus as an answer to a request from one of its oldest and key customers, Continental. This company asked Loccioni to develop a new testing

system due to the failure of the previous one. Loccioni invested around EUR 500.000 (five hundreds thousands euros) in this project for R&D materials, equipment and salaries between 2005, when the project began, and 2008, when the last version of Mexus was launched (Perna et al, 2012). Finally, the development of Mexus provided the information that Continental needed to improve its production techniques. More importantly, Loccioni developed a very close relationship with both Continental and National Instruments.

Interaction with Continental

Figure 2. Continental and Loccioni's relationship timeline.

1993	First sale to Continental	2005 2006	Mexus Project was born	2007	Loccioni sold Mexus to Continental	2008	Continental supported Loccioni's acquisition of Inov8's Akribis technology	2009	Continental transferred to Loccioni the maintenance of all its Akribis meters
			Continental suffered a technical problem with the injector production lines.						
			Loccioni's engineers discovered that the problem's origin laid in the Akribis meter's inefficiency.						
			Continental asked Loccioni to develop a new technical solution.						
			Hundreds of test runs were done on the proptotypes at Continental's Italian manufacturing plant, involving Loccioni's engineers and Continental Test Lab SDI.						

Continental AG, commonly known as Continental, is a leading German automotive manufacturing company specialized in tires, brake systems, automotive safety, powertrain and chassis components as well as other parts for the automotive and transportation industries. Continental is based in Hanover, Germany and it is the world's 4th largest tire manufacturer.

Continental's automotive division has been a customer of Loccioni since the 1990s and it is currently one of the most important automotive customers, mainly for quality testing systems. In 2005, Continental had a technical problem with the injector production lines in its manufacturing plant in Limbach, Germany, which was linked

to the measuring/testing system provided by Loccioni. Because of that, the customer asked Loccioni to analyze and solve the inefficiency in the test system.

The technical team of Loccioni's R&D department visited the Limbach manufacturing plant and studied the problem. After several days of system analysis and investigation, Loccioni's engineers discovered that the problem's origin laid in the Akribis, a meter that tests injectors, which was produced by the UK company Inov8, one of Loccioni's most important competitors, as well as a supplier. Continental delegated to Loccioni the responsibility of finding a new testing system model, based on a different technology than the one in Akribis. Loccioni accepted this opportunity and this was the beginning of the Mexus project.

New product development was not one of Loccioni's strengths. On the contrary, the fact that the company had specialized in integrating systems since its beginnings represented a problem, as it had limited experience of actually developing a product on its own. But no relationship can evolve over time without at least some adaptation by the companies involved (Ford, 2011), and that is the reason why Loccioni assigned immediately financial and human resources in order to meet the challenge.

Even though Continental did not commit itself to buy the outcome of the project, the customer allowed Loccioni to carry out its testing. During the first year, hundreds of test runs were carried out on the first Mexus model at Continental's Italian

manufacturing plant. Engineers from both companies participated in the project in order to discover the problems with the prototypes. This cooperation process not only provided solutions that made Mexus fully functional, but also allowed both technical teams to enhance their fuel injection know-how. The year 2006 represented the strengthening of the relationship between Continental and Loccioni due to a very intense interaction and strong collaboration between the two R&D departments. Continental also contributed with its own resources, including an important R&D structure, the Test Lab SDI, which became even more committed to this project in the testing phase.

During 2006, Loccioni's technicians worked at Continental's Italian plant four times, with an average stay of 20 days at a time. The frequency of the contacts between the two companies was also high during the second year. In addition, meetings took place at Loccioni's headquarters to plan further technical steps of the project.

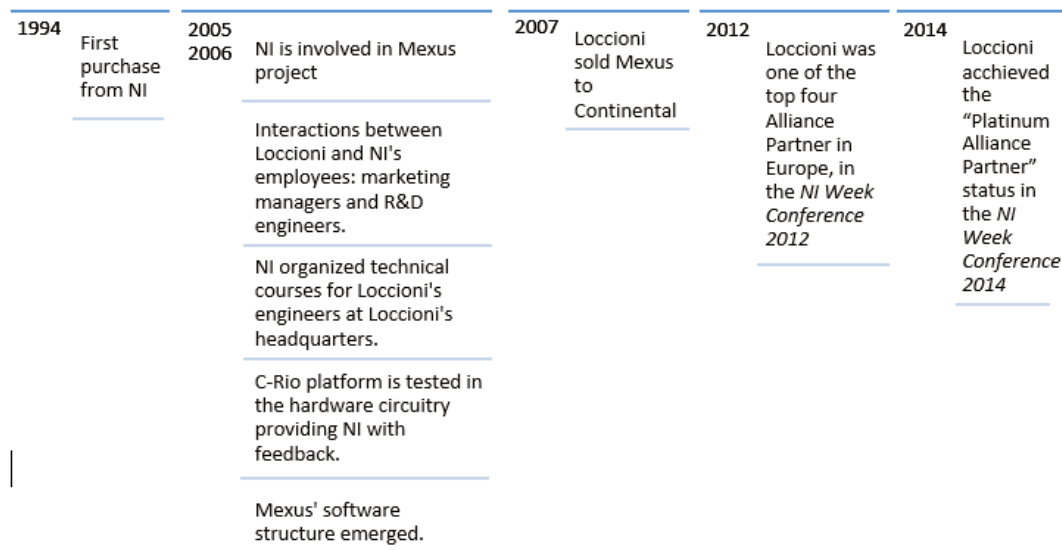
All the team work during the Mexus project, through the interaction and know-how exchange between the R&D departments of both companies, allowed Continental to have access to Loccioni's support and improve the performance of two key parameters related with injected fuel quantity and instantaneous fuel flow rate.

Finally, at the end of 2007, Loccioni patented Mexus and its calculation algorithm, and sold the first version to Continental. Furthermore, the relationship between both

companies and the Mexus project continued in 2008 when Loccioni formally acquired Inov8's Akribis technology due to a financial trouble of the latter. Continental supported and encouraged this takeover and, in 2009, delegated the maintenance of all the Akribis meters in its manufacturing plants to Loccioni. With both Akribis and Mexus, Loccioni became the world leader in shot-to-shot measurement instruments for diesel, gasoline, and alternative fuel injectors, and improved the range of testing and measuring solutions available to its customers.

Interaction with National Instruments

Figure 3. NI and Loccioni's relationship timeline



Loccioni did not have the experience or the competence to develop a new technology and system, so a strategic partner was necessary to carry out the Mexus project. One of the main reasons behind the development of network-like structures is the increasing reliance on specialization in resources and activities (Ford, 2011). Therefore, aiming to guarantee reliability in measurement, Loccioni put its trust in the technology of National Instruments, world leader in the field of test and measurement. Also, NI was chosen because it was already producing a high-quality platform. Besides, it is a very collaboration-oriented company, interested in establishing long-term agreements.

Loccioni considered National Instruments a reliable and competent supplier of programming software and modular hardware and, throughout more than 10 years of interactions, a solid relationship was established. The first purchase was in 1994, when Loccioni bought a hardware system from NI to integrate it into a special machine developed for Loccioni's home appliance customers. Even though at the beginning the amount of purchases was not significant, after the Mexus project started, the level of interaction increased significantly.

NI's technological competence was the perfect component that Loccioni needed to develop Mexus. For its control program, the system Compact Rio (C-Rio) was used,

which is a real-time industrial control and data acquisition system powered by a particular technology, that had been already developed by NI. This component enabled Loccioni a quick transition from the prototypal phase to the final stage, by building a data acquisition system that optimized its hardware circuitry.

It was a win-win situation since the beginning, also from the point of view of NI, due to the fact that Loccioni involved it in a strategic high-tech project, whose final customer was a major player of the automotive sector. NI also needed a testing period for its C-Rio platform in order to obtain feedback on possible new applications, such as the automotive sector. Because of this, NI was also willing to modify some elements of its platform to satisfy Loccioni's requirements.

Relational embeddedness or cohesion perspectives on networks stress the role of direct cohesive ties as a mechanism for gaining fine-grained information. Actors who share direct connections with each other are likely to possess more common information and knowledge of each other (Gulati, 1998). Supporting this concept, during the two years that the development of Mexus lasted, the companies were characterized by continuous interaction in technical and marketing aspects. Regarding the first aspect, NI organized technical courses for Loccioni's engineers at the latter's headquarters in order to explain the potential and use of Compact Rio platform, and to share know-how. At these meetings, Loccioni and NI exchanged detailed technical

information to solve various problems that arose during the development of the device and it was in that period when Mexus's software structure also started to emerge.

After this experience, in 2014, National Instruments decided to include the Company in its website as a *Platinum Alliance Partner*. Even more important, the roles of particular actors as intermediaries lies on the opportunities they provide for connecting different networks of actors (Ford, 2011). For that matter, NI has also given Loccioni the opportunity to develop a new business by introducing it to a potential customer, which was part of NI customer portfolio.

CHAPTER 5

CASE ANALYSIS

An interesting and complex question for a manager is: *Which are the network-related conditions that shape the relationship with my major suppliers?* The complexity is primarily due to the fact that SME managers consider themselves to be in a weak position with respect to the companies that they want to approach and, in most cases, they lack the relational capacity to realize that they are part of a web of networks that

can enhance their marketing efforts. Secondly, the possibility to be part of a business network depends on the interactions between the actors of the parties involved, who should have resources and activities valuable for both sides in order to exchange or complement each other.

Mexus case study is an empirical example of how a medium sized company, like Loccioni, was able to initiate and maintain a successful relationship with a major supplier. The case shows, first, that the origin of an effective buyer-seller relationship can be the need of the customer to access technologies or knowledge which are out of reach. Besides, the study illustrates the potential for increasing efficiency and effectiveness in both purchasing and customer service activities. With systematic development of individual supplier relations and supplier networks, significant improvements can be made (Håkansson and Gadde, 1992).

5.1. Analysis of the Mexus Case

In the first section of the thesis, the analysis of Mexus case is carried out by adopting the ARA model.

Actors

The starting point is the identification of the actors and the relationships among them. In the Mexus case, it is possible to identify three separate relationships: Continental and Loccioni; National Instruments and Loccioni; Inov8 and Loccioni. Although the third one was not involved directly in the development of Mexus, it is important to mention it because it is related to changes in the activity layer.

The relationship between Continental and Loccioni was primarily a one-way interaction, as Continental demanded a solution from Loccioni, even if it was not confident that the Italian company would be able to provide it. However, as Continental became acquainted with Loccioni's work in Mexus project, the commitment of the customer increased, which shows that trust in this relationship increased.

On the other hand, the interactions between National Instruments and Loccioni were a two-way communication, because there was an interdependent interest in this project. Even though both companies knew from the beginning of the project what they needed from the relationship and what they could offer to it, their knowledge of each other varied widely. In fact, Loccioni had considered NI an ordinary supplier before 2005, and for NI the Italian company recently became a Platinum Alliance Partner. This clear vision of what they wanted to achieve was the cornerstone which led to the increase in commitment and trust between the actors.

Activities

The traditional activity link between both companies is a commercial transaction, through which Loccioni mainly provides Continental with quality testing systems. However, with the Mexus project the intensity and nature of the interaction changed from a pure commercial perspective to a collaborative work between the two R&D departments.

Besides, there were changes in the activities performed by each company. First, there was a shift from a specialization in integrating systems to the development of new products in the case of Loccioni, and the active participation in the joint development of new solutions in the case of Continental. Consequently, these activities influenced the restructuring of the network. First, an aggregation occurred when Loccioni undertook some activities internally by accepting the challenge of producing a new product. After that, a dis-intermediation is observed through the establishment of a new direct relationship between Continental and Loccioni in 2009, when the customer transferred the maintenance of all the Akribis meters in its manufacturing plants from Inov8 to Loccioni.

In the case of NI, there was also a shift from a commercial activity link to a collaboration between the R&D departments of both companies, which also meant a

change in the activities that each of them performed inside the network. Besides, in this case, the participation of NI in the Mexus project was similar to the one of Continental, acting as an assistant for product development. However, Loccioni made a different contribution with its supplier because it took part as a laboratory for testing the new technology (C-Rio platform). As it was the case with Continental, this network was also restructured when Loccioni involved NI in the Mexus project. Relying on a relationship counterpart for some activities meant a dis-aggregation of the interaction.

Resources

Continental and Loccioni were committed, in different proportions, to the development of Mexus and, therefore, both companies allocated time and resources in different quantities. In the case of Loccioni, a dedicated team was set up to follow the different steps. Also, the company invested around 500,000 EUR in this project for R&D, materials, equipment, and salaries between 2005 and 2008. During 2006 its technicians worked at Continental's Italian plant four times, with an average stay of 20 days at a time.

On the other hand, Continental did not make any financial investment. At the beginning, the degree of engagement from Continental was lower but, after observing

the efforts Loccioni made, the customer made available its Test Lab SDI, an important R&D structure, which hosted the most advanced power train bench system testing and it was composed by four mechanical engineers. After this change, a mutual dependence was established, as Continental had the opportunity to develop new technologies that were improvements in the injections efficiency and performance. Consequently, the resource ties were strengthened, as the Test Lab became even more committed to this project in the testing phase.

The investment in the interaction between NI and Loccioni was more balanced, due to the strong commitment of the supplier. In this kind of projects, the know-how is one of the most precious resources. Therefore, NI supported the development by involving two people from its technical and marketing areas, who were in charge of organizing technical courses for Loccioni's engineers in order to share their technological competence. Besides, several exchanges of detailed technical information and NI's willingness to modify some elements of its platform to satisfy Loccioni's requirements, showed the mutual dependence and strength of resource ties between the companies. Even though NI invested time and effort to develop their relationship, no financial contribution to cover part of the development costs was made.

5.2. Network-related Conditions: Variables Identified in Mexus Case

The theoretical framework used to analyze the case study is the correlation explained in chapter 3, which associates the AAR Model with the Interaction Approach, on the one side, and the characteristics of buyer-seller relationships, on the other side. The same variables should be used in future assessment of Loccioni's current situation with its key suppliers, identified as Partner and Strategic in the matrix presented in chapter 5 (*Figure 1. Suppliers' categories*).

In the following table, it is possible to observe the summary of the variables that shape a customer-supplier relationship, which were identified in the Mexus case study. Thereupon, an explanation of each of them is stated.

Table 4. Variables identified in Mexus case study

AAR MODEL	VARIABLES	VALUE	
		HIGH	LOW
Actor bonds	Communication	There is a coordinator but it is not 100% devoted to the development of the relationships	
	Awareness	The current interaction is mainly at the operative level with some inputs at the executive level.	

Activity links	History effects	More than 10 years of relationship and high expectations fulfilled from both sides.	
	Development costs	The development costs are low due to the long-term relationship.	
	Maintenance costs		The synergy created among the companies ensures the maintenance of the relationship, even if the current daily activities are not in a high level
Resource ties	Balance		Loccioni's interest in developing a relationship with NI is higher, even if the supplier can also obtain benefits from it.
	Adaptations	Technical and knowledge-based adaptations had already been implemented and will continue to exist as the interaction of both companies increases.	

1. Communication

Business relationships are complex, especially if they involve large companies, where several people in the purchasing firm are in regular contact with a large number of people from the selling side. This situation creates different kinds of interactions, such as commercial, technical, administrative. Even though these topics are discussed

independently of one another, it does not mean that they are totally detached. Rather, they are interconnected and they should be seen as a way of improving contacts between the companies.

Therefore, as the relationships become more complex, a significant coordination might be required at the purchasing firm. One solution is to appoint a specific person to be in charge of the supplier relationship. This issue has been partially solved at Loccioni by establishing a purchaser, or referent, who actually has many other functions inside the company. Loccioni's purchasing department, in correlation with the rest of the organization chart, is also organized per Business Unit. Thus, in first place, the referent is in charge of the purchases for a complete BU, and he or she is concurrently responsible for other tasks as well, such as the coordination of the relationships with the key suppliers.

Consequently, even though Loccioni has established a referent or coordinator who is in charge of developing the relationship with each key supplier, his/her daily activities make it difficult for the purchaser to work as an effective supplier relationship coordinator.

Regarding the Mexus case, the particularity of the situation forced Loccioni to create a new team, composed by two engineers of the R&D automotive laboratory and a marketing manager. These three employees took the role of coordinators of the

relationship with the supplier. National Instruments also created a team with its technical marketing manager and marketing manager who were in contact with Loccioni. However, once the project was finished, both special teams were dissolved. Currently, National Instruments offers a sponsor to its system integrator customers, who is the local NI field sales representative. This person is in contact with Loccioni's referent in order to solve the purchasing issues mainly, and also help Loccioni to meet all the requirements of the Alliance Partner program.

2. Awareness

Complexity in business relationships, due to the great number of intermediates, also affects the awareness of the connections that can exist within the purchasing and selling firms. As it was stated before, the figure of a coordinator may solve many of these communication problems.

However, in order to increase and improve bonds amongst the actors, the companies involved have to identify the main and potential connections. A way to do it, is by exchanging information in order to have an in-depth knowledge of their capabilities. Generally, the first acquaintances appear at the technical level, since the purchaser needs more information about the products. It is the job of the coordinator to move

the focus of the relationship from technical aspects, to business-centered potential connections.

Therefore, the purchasing coordinator of the firm plays an important role by creating new connections among the companies, from which both sides of the relationship can benefit. Focusing on Loccioni, it would be an appropriate first step to have the executives in the purchasing department, in conjunction with Summa, identifying the main connections and then raising awareness of the current and potential links.

Consequently, it is better if the coordinator has an executive position, through which he or she can manage the communication from a higher strategic level. This has two aims, firstly to change the focus of communication from mainly operative to strategic, and secondly to raise the level of awareness on the supplier's side.

In the Mexus case, discussions were held mainly at the operative level since they were aimed at solving Continental's problem. Loccioni and NI exchanged detailed technical information to solve various problems that arose during the development of the device. They also cooperated closely during the debugging of a Mexus prototype that emitted electrical noise. According to Loccioni's R&D manager, companies very rarely provide this type of feedback (Perna et al., 2012).

Currently, most of the interactions continue to be at the operative level, through the figure of the purchaser. There are also some interactions between the NI sponsor and

Loccioni's referent in order to fulfil the yearly requirements to maintain and increase the level of the company as a NI Alliance Partner.

3. History effects

After some years of commercial interactions, it is expected that collaboration-oriented companies will work toward deepening their ties. That is the reason why business relationships are often decades old. Furthermore, as time passes, the awareness of the capabilities and connections among the companies increases, generating new expectations of each other. History can affect a business relationship positively or negatively, depending on the way in which each company responds to the expectations of the other.

Regarding the case study, more than a decade of interactions allowed Loccioni to consider NI a reliable and competent supplier and to create an expectation of what the supplier was capable of. Besides, throughout those years, Loccioni learnt more about the technical ability of the supplier and about the availability of an important component for Mexus' development, C-Rio. Therefore, it is clear that NI's positive answer to Loccioni's request to be part of the Mexus project can be seen as an expectation from the buyer, fully satisfied by the supplier.





On the other hand, National Instruments also has great expectations of Loccioni, by inviting the company to be part of the Alliance Partner program. NI gives its partners several benefits and resources, such as:

- Business Empowerment
 - Showcase the Company on the ni.com website, in the Alliance Partner Directory.
 - Use the Alliance Partner brand, which is recognized worldwide, in order to be in contact with the Alliance Partner Network.
 - NI allows the companies to build relationships by engaging in joint sales visits and attending user group meetings and seminars.
 - Participate in Joint Marketing Opportunities, such as NI direct mail, events, and PR efforts.
 - Access the Marketing Handbook to know best practices and recommendations for every aspect of marketing, including communications, social media, web, events, and trademarks.
 - Attend Alliance Day events during NIWeek or a local Alliance Day at an NI branch for an opportunity to network with NI sales and industry experts and learn best practices to increase customer success.
- Technical Empowerment

- Get enhanced technical support.
- Gain access to research and development and get an advanced look at new products through NI beta programs and roadmaps.
- Exclusive discounts.

However, in order to obtain these benefits, the company must fulfil some requirements established by NI. All partners enter into the program with clearly defined business goals and strategies for partnering with NI. The different categories of partners are based on factors such as company size, expertise, geographic location, and quantity of LabVIEW experts on staff. Figure 4 shows the different levels and requirements that NI expects from its customers. Loccioni started to work on them in 2003 and is currently fully engaged with the NI Alliance Partner program, after having achieved Platinum level in 2014.

Figure 4. Requirements to become a NI Partner.

				
Maintain sponsorship from an NI employee	✓	✓	✓	✓
Exhibit expertise in selecting and recommending NI products	✓	✓	✓	✓
Pay annual membership fee by purchasing the NI Developer Suite Software Reference Library	✓	✓	✓	✓
Demonstrate in-depth knowledge of NI products for relevant applications and industries	✓	✓	✓	✓
Have Certified LabVIEW Developers or Architects on staff	✓	✓	✓	✓
Establish and maintain high-level NI product sales through partner influence		✓	✓	✓
Provide customer references for add-on products and system integration projects			✓	✓
Demonstrate the financial security and resources necessary to meet commitments			✓	✓
Pass a CSIA audit of system integration business practices				✓

Source: <http://www.ni.com/alliance/join/>

4. Development costs

A company can invest in different material things that are worth the investment because they may be profitable or useful in the future. Investment is also an act of devoting time, effort, or energy to a particular undertaking with the expectation of a worthwhile result. This is the vision of investing in customer-seller relationships. The activities undertaken have costs for the companies involved, which can be higher or lower depending on the engagement and the efforts made by each member. Those activities have long-term effects, just as investments, and companies can eventually see revenues as a result of their commitment.

By analyzing the Mexus case in monetary terms, it is clear that the highest contribution came from Loccioni, due to the fact that it was the most interested member in finding a solution that would fulfil Continental's requirements. However, the most interesting kind of investments to analyze regarding customer-seller relationships, are qualitative rather than quantitative.

In this regard, during the project, Loccioni received specific know-how and technical support, which is considered a qualitative benefit that contributes to exceed the development costs. Besides, by carrying out the project together with NI, the interaction increased and Loccioni was recognized as an important partner for the supplier. This has implied quantitative and qualitative benefits for Loccioni. The first

one is related to the exclusive discounts that can be obtained, while the second benefit involves technical and business empowerment. Both points were detailed above.

Consequently, the beginning of the Mexus project can be considered the turning point in which this buyer-seller relationship went from not being profitable to being profitable. Currently, the contact or information costs are minimum, considering that both companies have known each other for a long time and have established a direct communication channel. On the other hand, adaptation costs will remain over time, as technology evolves and some necessary changes are necessary for Loccioni to use NI products. Therefore, although both costs remain over time, their decreasing rate allows both companies to experience a profitable relationship.

5. Maintenance costs

It is more effective to maintain a buyer-seller relationship than to seek out new ones. Therefore, companies should focus on ways of maintaining these relationships. The best solution is to avoid the cessation of daily activities.

Before, during and after the Mexus case, day-to-day activities remained at the same level. The specificity of the hardware and software that Loccioni buys from NI, does not justify a daily interaction between both companies. However, the fact that the companies have maintained a relationship for more than 10 years, allows them to

create a kind of synergy. Thus, if during a given period Loccioni does not contact the supplier, the high level of connection already achieved in the relationship enables both companies to keep much of their position. In any case, the maintenance of the relationship is guaranteed because of Loccioni's commitment to keep a relatively constant level of purchases in order to remain a NI Platinum Alliance Partner.

6. Balance

In the past, it was recommended that purchasers should try to behave in such a way that avoided dependence. Independence was a key objective. As purchasing began to work systematically with long-term relationships, dependence is now more accepted (Håkansson and Gadde, 1992). Therefore, the power-dependence issue is a constant in every buyer-seller relationship.

However, as a rule, power-dependence relations are unbalanced, and this asymmetry is specially high in the case of SME with respect to its major suppliers. In general, small and medium-sized firms face a negative imbalance, considering that they are interested in developing a buyer-seller relationship with bigger companies in the industry, which are more powerful and have more experience and connections. The question now is how to handle dependence situations. The answer can be found by analyzing the Mexus case.

As it can be observed in Table 5, National Instruments is a large firm, with a turnover 14 times higher than Loccioni. Therefore, the supplier is the biggest of the parties from an economic point of view. From the beginning of the relationship and until the present, Loccioni has shown more interest than the supplier in building a strong bond.

Table 5. Loccioni and National Instruments general information: Asymmetric relationship

	LOCCIONI	NI
Year of foundation	1968	1976
Type of Co.	Medium size firm	Large firm
Turnover 2014	70 million Euros	1.02 billion Euros*
Quantity of employees	400	7100
Worldwide presence (# of countries)	43	65
Quantity of branches abroad	3	48
R&D investments	5% of sales turnover	16% of sales turnover

Source: information obtained in Loccioni and NI's websites: loccioni.com and ni.com.

* The value in US Dollars was 1.24 billion. The exchange rate used to convert it into Euros corresponds to the value on December 31st, 2014.

Despite the fact that Loccioni is not one of NI's major buyers, the customer made itself interesting for the supplier by using two strategies. First, Loccioni may not be a large firm but it has an important customer portfolio, formed by key companies like Continental, Daimler, Delphi, Magnetti Marelli, Indesit, Haier, among others. Second, with the Mexus project, Loccioni involved NI in a technological challenge, giving it the opportunity to participate in a high-tech development, which was equally strategic for NI, since the C-Rio platform could now be embedded in the automotive sector.

Loccioni tried, with positive results, to set off its volume disadvantage with another advantage from a technical point of view. This "balancing act" is considered an important aspect of handling suppliers and has set a precedent for Loccioni to replicate it with its Partner and Strategic suppliers.

7. Adaptations

Companies in a relationship have many kind of differences, such as history, visions, objectives, production process, necessities, interests, business volumes, final customers, and thousands of others. These differences are even bigger as the companies expand to other industries and countries. A desirable type of relationship is one in which those differences are handled constructively. In order to achieve

mutual profit, continuous development of collaboration has to be carried out, and the starting point is through adaptations from both sides of the relationship.

In the Mexus case, it is possible to identify two types of adaptation. The first type was technical, due to the fact that NI had to adapt its new technology, C-Rio platform, in order to apply it in a new context. The second type was a knowledge-based adaptation, related to the learning process by which both sides gradually get a better idea of the connections between them. NI organized technical courses for Loccioni's engineers in order to explain the Compact Rio platform's potential and uses. Besides, both companies exchanged detailed technical information to solve various problems that arose during Mexus' development. Thus, two sources of knowledge, that of the buyer and that of the supplier, proceed to approach one another, with reciprocal adaptation.

Currently, NI and Loccioni are not working together in a new development. However, as they still share many of their differences, this could become a point of departure for future developments.

Finally, returning to the question made at the beginning of this chapter, some answers arise on how a firm can be successfully tied to major players of the industry. From the previous analysis of the network-related conditions that shape a customer-supplier

relationship, a variable is shared by the seven points, that is: the joint history of both companies.

Ford, Håkansson and Johanson (1986) stated that a relationship is defined in terms of the existing and previous patterns of interaction. What defines a relationship, apart from the interaction, is the relationship itself and the participants' experience, which provides the context for all subsequent interaction. This means that no single element or episode in the dealings between companies can be considered in isolation.

Throughout the years, companies go through different stages of the learning process. This road must be traveled in order to gradually increase the commitment and reciprocal trust. Once the companies have reached a high level of awareness, it is time for the customer to go further, by increasing the communication between them at a strategic level.

Buyer-seller relationships are, by nature, asymmetrical. Therefore, the size of a company should not be an obstacle to move on through the learning process. SMEs can be part of a business network, provided that they interact at the correct level, with the right people, and involving activities and resources which are valuable for the other side. A small and medium-sized company can strategically become interesting for a large firm, as the case study has shown.

CHAPTER 6

CONCLUSIONS

*Making good use of suppliers is different from buying well.
Gadde and Snehota, 2000.*

The main management task is to keep the customer and supplier relationships productive and profitable. The case analyzed in this thesis shows that purchasing success comes by developing a long-term approach to buyer-seller relationships. This study also helps managers to develop a more strategic view of the interaction with suppliers. Success in business relationships depends on a thorough analysis of the value of a company's relationships, it requires the ability to establish clear objectives and to think about the effects of the company's actions.

6.1. Summary: Network-related Conditions that Shape a Customer-Supplier Relationship

The aim of the research was to find the conditions that shape a customer-supplier relationship. In this regard, the variables identified were analyzed in the Mexus case

study. The result demonstrates that the seven conditions are useful indicators of the current situation of the customer-supplier relationship, and they can be reconsidered in the light of further supplier analysis. Furthermore, by analyzing these conditions, other strategic implications were discovered, related to the way in which the company should manage the relationship with each supplier.

Firstly, the variables included in the layer of *Actors*, *Communication* and *Awareness*, raise the importance of the necessity of a Coordinator. The company should change from the figure of a Referent or Purchaser per Business Unit, to a Key Supplier Manager. A similar situation was experienced by Loccioni's Business Development area, in the 1990s. Before that year, there was only one sales manager responsible for a group of six salespeople. They reported directly to the sales manager who, in turn, responded to the managing director. At the beginning of the 1990s, the sales function was reorganized. The management of relationships with key customers became so important that it resulted in the introduction of key account managers (KAMs) within Loccioni (Perna and Baraldi, 2014).

There are infinite numbers of ways of implementing the coordination. An appropriate first step is to convince the executive level of the company about the importance of developing a strong bond with each supplier. After that, the executives in the purchasing department, in conjunction with Summa, should work in the identification

of the main connections and then bring to attention the current and potential links. To efficiently perform these activities, the figure of a coordinator is necessary, who constantly works in creating results at an executive level.

Regarding the variables included in the layer Activities, an interesting implication, which was discovered in the analysis of the case, is the characteristics the suppliers should have in order to justify the efforts and resources dedicated by Loccioni to develop the relationship. In this regard, the expectations from both sides were identified as the cornerstone.

Loccioni has always been willing to fulfil the requirements of its key suppliers, in order to gain ground, experience and awareness from them. Likewise, a way to understand if the suppliers have an interest in intensifying the ties with Loccioni is by asking them to collaborate in new projects or to share their know-how and experiences. The responses should demonstrate how committed the supplier is in developing the relationship.

The suppliers identified as Partner and Strategic, with whom Loccioni is interested in developing a relationship, are currently in different stages. Loccioni cannot invest time, effort or energy in all the suppliers at the same level. Therefore, the current stage of the relationship is another criteria to delimit the scope, in addition to the two

established in the matrix (Figure 1. Suppliers' categories): amount of purchases; reputation, international presence, and quality. In the cases where the shared history is not long enough, and thus the costs are still higher than the benefits, the buyer should continue in the current path until the investment shows positive results.

Finally, the third layer, Resources, confirmed what is already known inside Loccioni, but until now has not been used as an opportunity to improve the buyer-seller relationship. The situation that Loccioni faces with all key suppliers, identified as Partner and Strategic, is the same that the one it had to deal with regarding NI. The company is not a major buyer, neither does it present similar turnover volumes, international presence or quantity of employees. However, Loccioni is a developed system integrator, with important investments in R&D and it has an interesting advantage coming from its customers portfolio, composed by large loyal firms.

Loccioni's main activity of system integrator, transforms it into a key element in the value chain. The customers rely on its capabilities and experience, while the supplier depends on Loccioni to embed its systems and products into different contexts, that is to say, Loccioni's business units: automotive, industry, human care, environment, energy, and the new ones under development. Therefore, Loccioni has important qualitative resources that can be used to balance the situation with each key supplier.

It may not be economically interesting for the suppliers, but it can make itself interesting to them by working together in technological developments to solve Loccioni's customers' requirements.

In order to exploit this resource, Loccioni has to encourage its suppliers to increase their knowledge of its own application of technology. By doing this, Loccioni achieves an important developmental boost, but the purchasing firm also commits itself, as it improves at using the technology of the supplier involved.

The fact that Loccioni is subject to unique demand from its customers and it is working under special conditions with them, increases the need for adaptations in most of the relationships with its suppliers. Therefore, the buyer-seller interactions remain at a high level, and this may create demands and potential for specific adaptations, which ultimately lead to the starting point for future joint developments.

The case study of this thesis is theoretically relevant since it helps identify the variables or conditions that shape a successful customer-supplier relationship. In this regard, the empirical study is a foundation for future supplier portfolio analysis.

The limitation is basically the fact that only one case was analyzed. This constraint has not made it possible to establish a pattern based on the detection of replicated events throughout the analysis of different supplier-buyer relationships. However,

Loccioni is currently working in the study of the current conditions with the rest of the suppliers, identified as Partner and Strategic.

This limitation also opens new lines of research, such as:

- Which are the personal and professional characteristics that the coordinator or Key Supplier Manager should have?
- How should the strategic approach with each supplier be?
- How can a company manage the typical problems that are part of a business relationship, such as conflict of interests or asymmetries?
- How can the corporate culture be opened in order to include other organizations as partners?

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