Contributions to Management Science

Cecilia Rossignoli
Francesca Ricciardi

Inter-Organizational Relationships

Towards a Dynamic Model for Understanding Business Network Performance

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Chapter 1
Introduction

Inter-organizational relationships are driving growing attention among management scholars: this is a viable and fascinating field of studies, because it is more and more evident that organizations do not succeed or fail in isolation, but as parts of wider networks and social ecosystems.

We think that scholars' raising interest in inter-organizational phenomena is also linked to the discoveries on the complex and sometimes paradoxical nature of organizational performances.

Most of the approaches complementing financial measurements to assess performances, in fact, imply in-depth acknowledgement of the importance of inter-organizational relationships. For example, the stream of studies on Intellectual Capital highlights the importance of the so-called relational or social capital of organizations (Bontis 1999). Institutional studies remark that organizations cannot survive unless they yield legitimation in their social environment (Powell and Di Maggio 1991). Research streams rooted in system thinking identify systemic goals, such as sustainability, robustness to crises and adaptability to changes, which can be achieved only if organizations are capable to design and dynamically manage their social and institutional environment (Fiksel 2006). Also studies on dynamic capabilities often imply that effective inter-organizational networking is a key strategy to maintain flexibility and responsiveness (Helfat et al. 2009).

In other words, organizations are strongly influenced by their inter-organizational relationships; moreover, these relationships may generate important externalities, both positive and negative, impacting the environment at several levels.

Then, assumed that inter-organizational relationships are very important, how should they be managed?

Practitioners respond that, of course, there is not one best way. For example, trustful, long-term supply chain relationships may result in smooth and efficient

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value chain processes, on the one hand, but also in inward-looking culture and conservatism, on the other hand.

The complexity of this issue is mirrored by the wide range of different, even incompatible theories addressing inter-organizational relationships. For example, the Agency theory predicts that partnering organizations will seek to behave opportunistically and will not take into consideration the expectations of their partners unless they are formally forced to do so; conversely, the New Institutionalism theory predicts that partnering organizations are highly interested in gaining reputation and legitimacy from their interactions, and then will comply with expectations, even at the cost of losing efficiency.

This theoretical diversity often results in fragmentation of research outcomes, which are often hardly comparable; a recent literature review (Bergenholtz and Waldstrøm 2011) confirms that the field lacks coherence, which hinders a better understanding of the phenomena being studied across different approaches.

The growing complexity of the economic and technological scenario has further challenged the research community. The advent of the Internet era is resulting in disruptive changes in traditional inter-organizational networks, and some completely new inter-organizational phenomena, such as e-marketplaces and virtual organizations, are rising.

In order to take on these growing challenges, some scholars seek to extend a certain theory beyond its traditional boundaries, so that it becomes suitable to explain a wider range of inter-organizational phenomena. For example, extended versions of the Transaction Costs Economics (Ebers and Oerlemans 2013) or of the Resource Based View (Arya and Lin 2007) have been proposed and used to study inter-organizational relationships.

Other scholars advocate cross-fertilization between different, complementary theories. For example, Baum and Powell (1995) strongly encourage the cross-fertilization between organizational ecology and institutional theories, claiming that there is much that ecological and institutional arguments have to offer one another.

Other scholars propose that different explanations and theoretical approaches apply to different inter-organizational relationships, depending on the relationship type (e.g. Oliver and Ebers 1998), or on contingent factors (Möller and Rajala 2007).

In this work, we build on the idea that "the future development of organizational theory depends not on the dominance of one perspective, but on the wedding of the most important insights from various perspectives" (Carroll 1984, p. 90).

This book is then structured as follows.

In Part I (Chaps. 2, 3, and 4) we review several well-established theories explaining inter-organizational relationships from very different points of view.

Chapter 2 is dedicated to theories explaining inter-organizational relationships in terms of coordination and control needs: Transaction Costs Economics, Agency Theory, and Resource Dependence Theory.

Chapter 3 focuses on theories explaining inter-organizational relationships in terms of social rules. After an introduction presenting Game Theories and the recent

multi-disciplinary research offering valuable insights on the evolutionary roots of human cooperation, we describe the theory of Collaborative Networks and the wide constellation of theories based on the concept of institution: Old Institutionalism, New Institutionalism, and Institutional Systems.

Chapter 4 concentrates on theories explaining inter-organizational relationships in terms of strategic challenges. It includes paragraphs dedicated to the different streams of Organizational Ecology, to the Resource Based—Relational Based View of the firm, and to Knowledge Networks—Social Networks theories.

In Part II (Chaps. 5 and 6) we review the literature on some key IT-enabled emerging inter-organizational phenomena. We show that many authors describing these emerging inter-organizational models tend to avoid rooting their research in a specific inter-organizational theory.

In Chap. 5, we focus on the emerging concepts of Virtual Organization and e-intermediation.

Chapter 6 is dedicated to e-marketplaces as emerging actors of the B2B environment.

In Part III (Chaps. 7 and 8) we seek to demonstrate that none of the theories presented in Chaps. 2, 3, and 4 is enough, if taken in isolation, to explain the complexity of inter-organizational relationships in a real-world case, and we propose a meta-theoretical model to overcome this impasse.

Chapter 7 is dedicated to describe the inter-organizational relationships of Yoox, a leading firm offering e-marketplace services for fashion and design products.

Chapter 8 synthetically comments on Yoox's case in the light of the theories analysed in the first part of the book, showing that as many as nine different theories are necessary to effectively explain the different inter-organizational relationships built by Yoox in different phases of its life. Then, a framework is proposed to systematically link the different possible types of inter-organizational relationships to specific, suitable sets of theories. This framework is based on the literature on ambidexterity and paradoxical dynamism, and describes the range of possible inter-organizational relationships on the basis of three pairs of opposites: conformism-breach, exploitation-exploration, cooperation-competition. This results in a model allowing the integrated use of different theories and the study of the effects of inter-organizational ambidexterity and dynamism on performances.

The book concludes encouraging further research to leverage the richness and diversity of our stock of theories on inter-organizational relationships.

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Part I
Extant Theories Explaining Inter-Organizational Relationships

Chapter 2
Theories Explaining Inter-Organizational Relationships in Terms of Coordination and Control Needs

Abstract This chapter provides a synoptic description of the main theories that see inter-organizational relationships as coordination and control issues: the Transaction Costs Economics theory, the Agency theory and the Resource Dependence theory. These three theories share the idea that inter-organizational relationships are founded on opportunism and bounded rationality, and that organizations seek to control the critical aspects of their business network interactions in order to pursue their goals. These three theories are often considered as complementary in literature, since they often provide opposite predictions in similar cases. Scholars interested in e-marketplaces and in the inter-organizational impacts of the Internet have mainly focused on the Transaction Costs Economics theory so far; this theory has undergone important evolution and hybridization processes, and is then more thoroughly described than the other two in this chapter.

2.1 Introduction

This chapter provides a synoptic description of the main theories that see inter-organizational relationships as coordination and control issues: the Transaction Costs Economics theory (Williamson 1975), the Agency theory (Eisenhardt 1989) and the Resource Dependence theory (Pfeffer and Salancik 2003). These three theories share the idea that inter-organizational relationships are founded on opportunism and bounded rationality, and that organizations seek to control the critical aspects of their business network interactions in order to pursue their goals. According to the Transaction Costs Economics, organizations are driven by the need of reducing costs when interact with each other; according to the Agency theory, organizations are driven by the need of aligning the behaviours or outcomes of the other parties to expectations; according to the Resource Dependence theory, organizations are driven by the need to control the resources that are critical to them. In the first case, the unit of analysis is the transaction; in the second case, the unit of analysis is the contract; in the third case, the unit of analysis is the organization. These three theories are often considered as complementary in literature, since they often provide opposite predictions in similar cases. Scholars

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interested in e-marketplaces and in the inter-organizational impacts of the Internet have mainly focused on the Transaction Costs Economics theory so far; this theory has undergone important evolution and hybridization processes, and is then more thoroughly described than the other two in this chapter.

2.2 Transaction Costs Economics Theory

2.2.1 Core Concepts

Transaction Cost Economics (TCE) sees firms and markets as two alternative governance structures, each with different transactions costs. TCE refers to the initial work of Commons (1934) and Coase (1937) although it only gained relevance in the 1980s, thanks to the original work of Williamson, who adopted a microeconomic approach in direct opposition to the traditional view of the firm in neoclassical theory. The thinking of Williamson (1975, 1979, 1981, 1985) was influenced by many of the authors that preceded him, in particular Coase.

Coase (1937) identified the market costs of use, defining two key conceptual categories: the market exchange and the firm's internal transactions. The scholar attempted to put forward the economists' view of the price mechanism's role as an organizational tool. In parallel, the economists themselves acknowledged the coordinating role played by the entrepreneur. "*In view of the fact that while economists treat the price mechanism as a co-ordinating instrument, they also admit the co-ordinating function of the 'entrepreneur', it is surely important to enquire why coordination is the work of price mechanism in one case and of the entrepreneur in another*" (Coase 1937, p. 389). The contribution of Coase aims to both clarify the primary factors that lead to the decision of which of the two alternatives to opt for and discover in what way the resources are allocated, whether by the price mechanism or by the entrepreneur co-ordinator.

Klein et al. (1978), Grossmann and Hart (1986) are just some of the many authors that contributed to the theory of TCE.

The focus of the neoclassical economics studies is on the alternative characteristics of the different forms of market, in particular, their most efficient system functioning and coordinating methods. On the other hand, the internal organization is primarily the domain of sociology and political science scholars, who, in turn, have emphasized and developed the concept of bureaucracy. Thus, Hierarchy and Market are the two extreme methods used to develop and coordinate economic production. Then there are the other intermediates or derivatives, each characterized by a different degree of efficiency (Williamson 1975, 1985).

If, on the one side, classical microeconomics sees the firm as a black box, the Transaction Costs Economics Theory seeks to explain the reasons that justify the existence of firms and how these organize internally. Coase asked a question, now famous, that calls our attention to a highly relevant aspect and, that is, to paraphrase

the author: why do firms exist if the price mechanism is the most efficient mechanism for allocating resources in a market economy? "*. . .having regard to the fact that if production is regulated by price movements, production could be carried on without any organization at all, well might we ask, why is there any organization*?" (Coase 1937, p. 388).

The response to that question, said Coase, is that when the economic agents refer to the price as the coordinating mechanism these must incur transaction costs, and the more numerous and more complex the transactions, the higher the costs. The Transaction Cost Theory is centred on the dualism of Hierarchy and Market and on the transaction governance forms adopted by them, placing the emphasis on the transactions as the base analysis unit.

Once the need to develop specific transactions has been established, these can be governed either by the market or by the hierarchy. In his historical contribution of 1975, Williamson indicates which combination of factors make the market an inefficient mechanism for governing the transactions, thus making it cheaper to use the hierarchy. Indeed, the market does not always function in a predictable, linear way and three factors lead to unforeseeable costs: bounded rationality, information asymmetries and the potential for opportunistic behaviour. As a result, these costs are called "*market use costs*" and basically cover the expenses inherent in searching and getting information for the best supplier/partner/customer, the cost of establishing a contract, and the costs of monitoring and enforcing the implementation of the contract. In some cases, these costs can escalate to such an extent it is more economical to switch to other forms of transaction governance (Milgrom and Roberts 1992; Williamson 1975). A widely accepted definition of transaction can be traced to its Latin etymology, which evokes the idea of "acting through", meaning, for example, the exchange of the energy, information, values, symbols, objects, and consent between the parties. When these 'operations' are performed in compliance with a mutual agreement, the transaction takes on the form of a **contract** (explicit or implicit, complete or incomplete) that regulates its execution.

The alternative to the market is the **internal organization** (very often hierarchical). In conditions of uncertainty, targeted investments and a high rate of transactions, the internal organization replaces the market. Employee relations are regulated according to the hierarchical principle, the employment contract and through mechanisms of organizational influence.

The logic of the market is replaced by the action of the managerial hierarchies, the source of the "*organization costs of use*". These costs stem from the difficulties of controlling the size and complexity of the expanding organization. Information asymmetries resurface: those who execute the order are better informed than those responsible for instructing which transaction mode to use and setting the production target. These asymmetries generate opportunistic behaviour; the person executing the transaction pursues their personal agenda and not the organization's goals. To prevent this kind of behaviour, it is necessary to implement monitoring and incentive systems. In fact, verified critical situations (Williamson 1975; Costa and Gubitta 2008) show how an increase in the size of an organization diminishes the capacity to control it. For example, expansion strategies not justified by real

business needs (for instance, when managers overestimate their human resource needs solely with an eye to boosting their internal power base). Situations of unfairly manipulated information can be verified, while opportunistic acts that benefit the individual managers and not the organization can be committed by the hierarchical line.

The hierarchy thus sees its returns diminish as the organization's size and complexity increase. When the organization costs of use outstrip the benefits, the decision to internalize can be questioned, if not through an improbable return to the market, through recourse to hybrid forms. The adoption of a governance structure based on the internal organization implies the prevalent use of employment relationships and the development of all the organizational mechanisms, clearly with a view to minimizing the organization costs of use.

After having analyzed the factors that determine the failure of the market and the hierarchy as transaction governance structures, Williamson turns to the intermediate organizational forms midway between the hierarchy and the market and then highlights not only how the firm can be interpreted as a flow of transactions, but also how these characterize the entire economic system.

Caught up in the drift of this ongoing flow, the firm's job is to position itself where the transactions can be performed efficiently, which means that each firm must identify its boundary of efficiency, i.e., where the transaction costs are minimal.

Williamson thus clarifies just how crucial it is to define the essential characteristics of what he defines as the critical transactions. Indeed, it is the critical transactions that influence the decision of which alternative transaction governance system to use between market, hierarchy and mixed forms.

Williamson's study revolves around two sets of factors (Fig. 2.1): the human factors and the environmental factors.

The diagram shows how significant factors pair up to influence market crisis. The human factors are bounded rationality and opportunism; the environmental factors are uncertainty/complexity and a small number of interacting subjects. Bounded rationality is associated with uncertainty/complexity, while opportunism is linked to small numbers. In turn, uncertainty and opportunism, both of which are closely linked to small numbers, are the main cause of the information block.

A situation of **information impactedness** is created when one group has a better understanding or more information about an exchange than the other group.

This creates a disadvantage (whether known or unknown) that can hinder the negotiations or increase the risk inherent in the exchange. Again, such a situation is more serious when there are small numbers of exchangers in uncertain, bounded rational situations where the potential for opportunism exists. Internal organizations can help to unblock a situation of information impactedness. The organization serves to inhibit opportunism in situations of information disadvantage.

In short, the information block is a condition that all the factors indicated in Fig. 2.1 contribute to and that materializes when the circumstances related to the execution of a transaction are known to one or more subjects while their counterparts must incur a cost to discover or get that same information. The problem arises

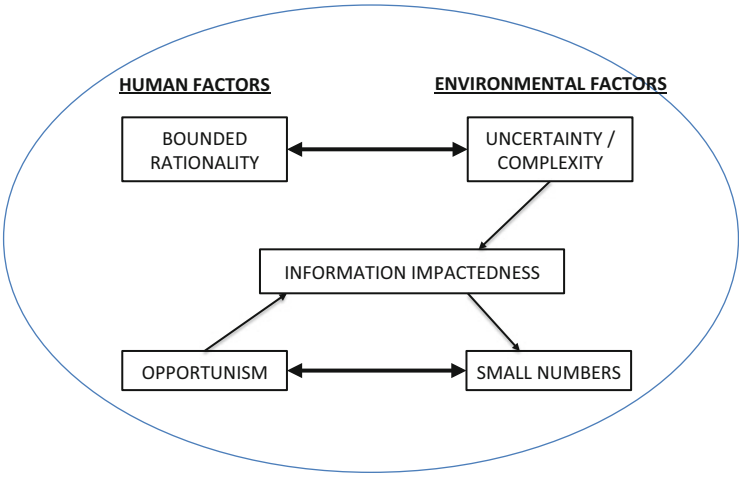

Fig. 2.1 The organizational failure framework (*Source* Williamson 1975, p. 40)

not only from information asymmetry, but also from the high cost of levelling the information playing field and the tendency of the parties to adopt opportunistic behaviour. In such situations, it is easier to control the opportunism factor by switching from the market to the hierarchy.

2.2.2 Opportunism, Small Numbers, Bounded Rationality, Uncertainty/Complexity

Opportunism allows for strategic thinking and guile in exchanges. People can lie, cheat and steal. One cannot necessarily trust everybody. Therefore agreements need to be monitored during execution—hence the need for an organization. Theoretically, with large numbers of exchangers one could avoid those who exhibit opportunistic behaviour, effectively punishing it. But in situations of small numbers of exchangers, one may not be able to avoid it. In instances of opportunistic behaviour, the advantages of the internal organization are greater than those of the market modes.

Transaction cost economics assumes that the sphere of human knowledge is rational but bounded in its intentions (Simon 1996). That boundedness is attributable to two things: neurophysiologic limitations and expressive limitations, where the former is connected to the reduced capacity to store information, to recall the information and to process it correctly, and the latter refers to the limited capacity of the individual to translate their knowledge into words, symbols and numbers that can be understood by others. Those limitations are further emphasized when we find ourselves in situations of uncertainty and/or complexity. Hence, bounded rationality establishes that, even though humans behave in an intentionally rational way,

they are actually far less so due to the limitations of their knowledge, far-sightedness, technical abilities and the available response time. In essence, we are talking about the difficulty of coming into full possession of the information and the decisions. According to Herbert Simon (1996), rationality requires complete knowledge and a perception of the knowledge generated by each choice; but knowledge of the consequences is often incomplete. As these consequences can impact the future, the imagination has to be used to bridge the experience gap and place a value on the future expectations of the consequences. Rationality means choosing from among all the possible behaviours, but the decision-makers have knowledge of only a few of these alternatives. To again cite Simon, the human capacity to formulate and resolve complex problems is very small when compared to the size of the problems that need to be solved using objective rational behaviour.

Given the limited capacity to calculate, an intentionally rational behaviour is that in which the decision-maker explores only a few alternatives, makes a guesstimate of the consequences and bases his/her decision on the criterion of satisfaction. And all this to indicate how one of the functions carried out by the organization is precisely that of placing the participating subjects in an environment that enables the decisions to be adapted to the organizational objectives and provides the individuals with adequate information to make the right decisions. It is, effectively, an attempt to save on rationality.

Williamson (1975, 1979) also believed that the inability to formulate and resolve complex problems places a restriction on the choices and leads to an incomplete adaptation to random events. This is particularly true of negotiating.

If uncertainty, opportunism and small numbers help to more precisely explain the determinants of market failure, the main problem of organizational design is aggregating these transactions into a pool of efficiently sized technical-production units.

Williamson states that the goal of an organization is to minimize the costs of exchanging resources in the business environment and the costs of managing exchanges inside the organization.

The analysis proposed by Williamson (1981, 1985) factors in the transaction costs *and* the production costs. These two types of costs are mutually exclusive and have the same rate of replacement. In order to improve the size of the organization it is necessary to consider the weight of both types of costs (transaction and production) to evaluate the best alternative between hierarchy and market. Williamson hypothesizes that *both* cost groups (production and transaction) change when variations occur in the three critical dimensions that identify the single transactions:

- The degree of **specificity of the assets** involved in the relationship
- The **frequency** of the transactions
- The **uncertainty** (deriving from opportunism and incomplete contracts)

2.2.3 Asset Specificity

Williamson clarifies the concept of asset specificity by using the term idiosyncratic investments, i.e., the investments needed to successfully execute the transaction. The higher the investments, the more it behoves the transacting parties to continue the relationship, given that calling a halt to the exchange would imply a **sunk cost**, i.e., a cost that cannot be recovered.

Market-based transactions are preferred when these are short-term and the required investments are not excessively specific. Conversely, in the presence of significant uncertainty, particularly specific investments and frequent relations between the parties, Williamson suggests using the unified governance mechanism (Coase 1937; Williamson 1975, 1979; Klein et al. 1978).

Market and hierarchy call for two different cost structures. The market has higher variable costs due to the need to search for information, enter into negotiations and control contract execution.

The hierarchy has higher fixed costs because the increase in the number of transactions means that the hierarchical fixed costs of use are split across more than one transaction and, as a result, the internal organization (unified governance) becomes comparatively more efficient than the market as a form of transaction governance.

Asset specificity occurs when the exchanges require specific investments to implement legitimate contracts or when distinctive know-how is acquired during contract application. To understand asset specificity, think, for example, of a long-term contract for the supply of semi-finished goods. The supplier has a technological choice to make: either meet demand by using a multipurpose technology or by using a specialized technology for that particular type of subcontract. In choosing the latter, the supplier opts to make a specific investment. The investment in specific assets carries benefits, for example, lower production costs, but also risks, given that the recovery value of a specific asset is far lower than the value it has in the principle transaction. In terms of contract implementation, investment specificity can take many guises and can refer to:

- **Specificity of localization** when the production of a specific output requires the parties to make physically localized investments in a specific place to save on transportation and warehousing (i.e., logistics) costs
- **Specificity of the asset** when the production of a specific output requires the parties to invest in specific plant and machinery, the value of which decreases when put to other uses
- **Specificity of human resources** in cases where the production of a specific output requires the parties to invest in human capital specifically to implement the transaction

The transaction is linked to a cost the recovery rate of which, should the client-supplier relationship be terminated, decreases the more specific the transaction. Further, that specificity implies a high level of costs to, first, search and select the

best partner for that particular transaction and, second, reach agreement on the terms of that specific transaction. On the other hand, there would be no need to reach a specific agreement if the client-supplier negotiations centre on a non-specific exchange.

Each transaction therefore needs to be supported by the use of assets in both the production and the exchange (contract negotiation and execution) phases. However, assets dedicated to a specific transaction are more or less non-recoverable when used in other types of transactions, thus becoming a sunk cost. This explains the need to enter into long-term contracts with partners that can ensure an adequate economic return over the medium to longer term.

2.2.4 Transaction Frequency

The fact that transactions can be occasional or recurrent leads to the adoption of different types of transaction governance. In fact, the more frequent a transaction, the more probable it is that a specific instrument will be designed to govern it. Frequent interactions and the expectation of recurrent exchanges that transfer and build knowledge among partners tend to deter opportunistic behaviour.

As a result, the frequency of the exchanges has two effects, given that, on the one hand, it tends to lower the internal production costs by enabling both production and administrative economies of scale and, on the other, helps to contain the external transaction costs by keeping opportunism in check.

2.2.5 Transaction Uncertainty

Each transaction is developed over an arc of time, starting with the investments made in human resources and/or financial assets and ending with the final exchange, i.e., the handover of the product/service to the client. In that arc of time, however, there is always a degree of uncertainty about whether the transaction will effectively be completed and, hence, the risk that the relative costs will fail to generate a financial return. Therefore, a positive correlation exists between uncertainty and the level of transaction costs.

Moreover, uncertainty is influenced by both the complexity of the environment and the fact that the parties might adopt opportunistic behaviour. The higher the "environmental" and/or "subjective" uncertainty, the higher the transaction costs to implement the exchanges. In other words, the more the uncertainty attached to the transaction, the more these will tend to be "close" to the hierarchy.

2.2.6 Market Versus Hierarchy

The above analysis shows how different situations can exist between the opposite ends of a *continuum*:

- At the one end there is a situation of high frequency, low specificity and low uncertainty: this situation favours the use of the market to make transactions.
- At the other end, there is a situation where the diametric opposite is true, in which the use of the hierarchy is necessary to remove uncertainty.

Between the two ends of that continuum are situated all those intermediate situations that can lead to governance-by-contract solutions according to the logic of trilateral, bilateral or unified governance (relational contract).

Basically, the hierarchy-market paradigm moves along an axis that draws the organizational boundaries and that is based on a trade-off between the production cost advantages of using the market and the coordinated cost advantages provided by the hierarchical form (Grossmann and Hart 1986).

Williamson, in considering exclusively transaction frequency and asset specificity, identifies four forms of transaction governance:

The **market** is more efficient at low rates of transaction frequency and investment specificity.

Trilateral governance is a "third-party" assisted market, i.e., a form of market that calls for a bureaucratic mechanism in addition to an external market. And this is why it is defined also as **market-b** (Barney and Ouchi 1986).

Bilateral governance considers social factors such as trust and reputation essential to ensure the flexibility and continuity of the agreement. The parties are to some extent locked-in, forced to cooperate by fiat. This form of governance is favoured when the transactions are high and recurring in number and the investments required are not too specific (**market-c**).

In direct contrast to the market, **unified governance** (**hierarchy**) is more efficient when the resources are highly idiosyncratic.

The market, a conglomerate of independent players, can often deliver a product or a service of higher quality to the firm at a lower cost because it can leverage economies of scale or specialized production competences. However, the use of the market raises the transaction costs, which have to cover the search for the best supplier, contractual negotiations, contract monitoring and implementation and the behaviour of the other party, as well as managing coordination with this latter throughout the entire duration of the contract.

2.2.7 The Electronic Market Hypothesis

As we have seen above, the Transaction Cost Economics theory assumes that make-or-buy decisions are based on the sum total of production and transaction costs, arguing that the firm's natural evolutionary path leads it to select the governance mechanism and the degree of externalization that minimize this overall cost.

Traditional TCE thinking has it that organizations address such issues by opting for one of two alternatives, either the market or the hierarchy. Nevertheless, over time, this dichotomy has acquired a more nuanced view whereby different forms of "hybrid" governance create a continuum between the two "pure" forms that are its opposite ends, i.e., the hierarchy and the market. This broader view was introduced to better convey the great variety of governance structures that exist in practice.

The markets coordinate the flow of goods and services along the value chain in a process that sees multiple individuals and firms interact to marry demand with supply and to perform external transactions. These market forces determine the attributes, the price, the quantity and the other characteristics of the products and services that yet other firms produce: the buyer compares the several options proposed by the potential vendors and reaches a reasoned decision as to the best possible combination of predetermined characteristics.

Conversely, the hierarchy coordinates the flow of materials and services that traverses the phases adjacent to the value chain, using the firm's managerial hierarchy to control and manage the flow in-house. So it is the managerial decisions of the hierarchy and not the market forces that actually determine the characteristics, the price (if relevant), the quantity and the shipment methods for the goods and services that then enter the value chain.

As shown earlier, an organization that decides to produce a good or a service in-house pays the bill of production but saves on the coordination costs; vice versa, if the good or service is bought on the market, the organization does not have to go to the trouble of producing them but has to pay the coordination costs, i.e., the cost of activities such as searching for information, contract negotiation, monitoring the behaviour of the counterparty, and complying with legal, accounting and fiscal obligations.

These are the theoretical assumptions used by Malone et al. (1987) to identify some of the market and hierarchy trade-offs between production and coordination costs, as shown in Table 2.1, below.

Malone et al. (1987), taking their cue from the analysis conducted by Williamson (Williamson 1975), acknowledge and confirm the assumption of a substantial trade-off between the production cost economies that drive a firm to

Table 2.1 Market costs and hierarchy costs (Malone et al. 1987)

Organizational form	Production costs	Coordination costs
Market	Low	High
Hierarchy	High	Low

use the market and the governance cost economies that, on the other hand, lead the firm to use the hierarchy to govern the transactions.

The market favours competition and, presumably, lower prices precisely because it enables people to weigh up the offers of diverse suppliers and gives them a choice. When the buyers' individual demands are grouped into a larger and hence more significant unit of demand (bulk-buying), this can create economies of scale, i.e., cost advantages, that favour the buy-side. Further, specialized production can generate what are called 'economies of specialization' that enable the same good or service to be produced at a lower cost, an advantage that, in turn, can be passed on to the user/buyer.

These basic observations give us an idea of the *production cost* advantages linked to using the market as opposed to the hierarchy. Conversely, the opposite is true for the *transaction costs*. In fact, the absence of the numerous costs incurred in the search for information and the stipulation of contracts makes hierarchy-driven internal coordination simpler. The partner is always the same and the search for information is a one-off event that happens at the start of the collaborative relationship, as is the drawing up of the contracts.

Much use of the theoretical framework provided by the TCE theory has been made to evaluate the impact of information technology on an organization's business operations. Even 30 years ago, Ciborra (1983) was already predicting that IT would lead to a reduction in transaction costs, helping to create more efficient markets and hierarchy.

These were the aspects developed by Malone et al. (1987), who pointed out that the demand and supply of the traditional markets determine how goods and services are transferred from multiple firms to multiple clients and in what quantities. The client compares the offers of several vendors in order to find a good that meets their specific needs as to characteristics, service, price and other factors. Assessing the offers of many vendors translates into search costs for the buyer. However, the advent of the *electronic markets* has made it much easier for the buyer to compare the alternatives, both enhancing the volume of information available and reducing the information search costs.

Information and Communication Technology (ICT) has enabled firms to not only save on costs, but also time, i.e., compacting that spent on searching, gathering, transmitting and processing the information. After analyzing the impact of IT on organizational activities, Malone et al. (1987) identified three potential effects:

- The electronic communication effect
- The electronic brokerage effect and
- The electronic integration effect

The first, the *electronic communication effect*, implies that it is possible to transfer a higher quantity of information in a given unit of time (or the same quantity in less time) and to reduce the communication costs normally incurred using more traditional methods.

The *electronic mediation effect* is threefold: it enables multiple buyers and vendors to connect via a platform; it matches the counterparties in the most

economical way for each side, opportunely filtering the buy and sell offers; and, ultimately, acts as an efficacious and speedy mediator. This effect heightens transparency and spurs a parallel increase in the quality of the information, expanding the range of possible alternatives from which to choose. In addition, it is designed to give the user a simple and quick way to compare the different options, thus reducing the cost of the entire selection process.

Finally, the use of ICT makes it possible to harness more powerful and accessible connections, thus creating what is called the *electronic integration effect*.

When all three of those effects are combined, the coordination costs are much lower than those of production. These important consequences benefit both the markets and the hierarchies although, according to Malone et al., over the long term, the market will be the form of transaction governance that reaps the highest rewards of the advances in ICT.

In fact, as shown in Fig. 2.2, below, it is cheaper to use the market when the specificity of the investment and the complexity of the preliminary product evaluation process are low. According to the Electronic Market Hypothesis (EMH), the new technologies tend to influence both these aspects, making the investments needed in inter-organizational relations less specific and the product evaluation process easier.

In gauging the specificity of an investment, a production factor used by a firm is highly specific when the asset cannot be readily reused by other potential commercial partners, for example, due to its geographical location or physical characteristics or the specificity of the human capital required to operate it, or because it only acquires value when put to the use for which it is destined. Such production factors make the hierarchy the best form of transaction governance because the transactions aimed at objects characterized by these types of factors must be monitored carefully by the vendor so that the product meets the specific requirements of the buyer/user.

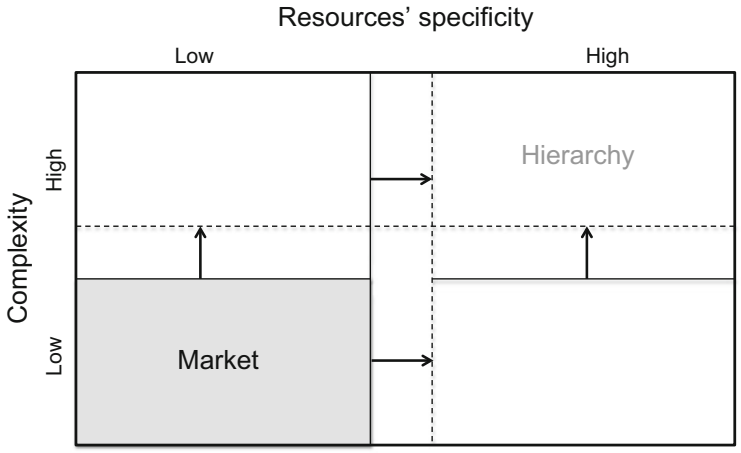

Fig. 2.2 The expansion of the market over the hierarchy (Malone et al. 1987)

On the other hand, thanks to the advent and the maturation of IT the flexible industrial technologies now facilitate and accelerate the revamping of production lines. The information systems are not always able to support different processes, activities and functions and do not require the total customization of hardware and software, having been tailored to the specific needs of the firm. Hence, the hardware/software can be reallocated and more easily readapted to meet any change in production or management needs.

However, the degree of product evaluation complexity derives from how much information is needed to give potential customers sufficient details on the product's features to enable them to make their choice from the range of offers. Thanks to the use of simple and highly accessible tools, the current technologies make it very easy to compare the features of products that are also highly diverse and highly complex in nature. One example is the use of web browsers to search product catalogues from which to select a certain product or products with the required features. The user can deploy automatic tools, such as intelligent agents or search engines, keying in search parameters to identify and visualize the products that match their product specifications.

Figure 2.2 illustrates the organizational implications of reducing the degree of complexity of both product descriptions and investment specificity. In particular, it shows how an increase in descriptive complexity and resource specificity shifts the boundaries of the market transactions dimension, expanding it. As analyzed in the previous section, these conditions facilitate the emergence and consolidation of market rather than hierarchically organized transactions precisely because both the contracting parties have more to gain from the exchange.

The figure's horizontal line represents the product description and its degree of complexity. The upward shift in the horizontal line illustrates how the take-up of ICT has enabled a reduction in the high degree of complexity previously attributed to many goods and services prior to its arrival. On the other hand, the vertical line represents the specificity of the resources, which tends to diminish post-ICT, shifting the vertical line gradually to the right and expanding the less specific production assets dimension. These shifts, marked with arrows, increase the dimension in which the market is the best form of transaction management.

Despite its simplicity, the figure below summarizes all the hypotheses formulated earlier and highlights the outcome of the EMH theory supported by Malone, Benjamin and Yates. Two years later, the same authors (Malone et al. 1989) published a new article in the Harvard Business Review to demonstrate the validity of their theory. The new contribution cited many concrete examples in which their predictions of 1987 were being effectively realized, following the evolutionary path that these same had already anticipated.

Figure 2.2 shows that the products with more complex descriptions that demand the highest specific investments require a particularly elaborate information flow, which is why these can be acquired more efficaciously using the hierarchy instead of the market. Malone et al. (1987) predicted that these situations would become less and less frequent because the advances in ICT would make it possible to automate increasingly more complex exchanges of information. Therefore, these

authors hypothesized that, over the longer term, the electronic market would become the most widespread transaction governance mechanism because it would enhance all the typical traits of the traditional market: competition, efficiency and substitutability. Nevertheless, the organizations will not make a sudden dash for the electronic market but will advance at a slower pace through intermediate steps.

The first of these intermediate steps is a partial electronic market in which the suppliers, mostly providers of coordination technology, push the potential buyers toward the supplier's own products or services while also giving them access to the other business vendors. Hence, in the partial electronic market, the interests of a certain member will prevail and, more often than not, those of the market operator itself. The next step is an impartial electronic market that gives all the vendors a chance to win clients based on the merits of their goods and services. In this case, independent market platforms are created and managed by unbiased operators for buyers with which they have no relation. The final step is a customized electronic market that provides the buyers with support decisions to help them wade through the maze of options. Many authors, for example, Daniel and Klimis (1999), Malone et al. (1989), Bakos (1991), Hopper (1990) and Brynjolfson et al. (1994), have investigated the different evolutionary paths that can be charted toward new forms of market.

However, the contribution of Malone et al. (1989) remains particularly significant for having developed the model's indirect implications on the role of the value chain intermediaries. Indeed, according to these authors, the impact of the shift to the market will greatly threaten their role because the market's ability to replace them, and do a more efficient job, will make traditional intermediaries less and less indispensable, leading, more likely than not, to their demise. This highly controversial hypothesis is the subject of intense debate in the literature, which has reached the conclusion that, rather than all the traditional intermediaries disappearing, in reality, the new organizational forms will merely lead to a reshaping of the existing scenario. Such a reconfiguration is expected to spur the creation of new types of intermediaries, defined as electronic or infomediators or cybermediators, to take over the high-profile roles in those sectors in which they initially developed (Fielt et al. 2006; Giaglis et al. 2002).

Last, but by no means least, is the important conclusion reached by the EMH model that all the participants should benefit from the improvements generated by the electronic market, and that each of these should agree to pay for the services provided by the market-maker (Sampson 2003).

2.2.8 The "Move to the Middle" Hypothesis and the Market-Hierarchy Hybrids

Clemons et al. (1993) have brought new predictions to the debate, which, like those of Malone et al. (1987), are also TCE-based. These authors claim that the impact of

ICT on the business organization cannot be understood unless the concept of *risk* is taken into account, particularly, the operational risks and the risks related to opportunistic behaviour.

By operational risks, the authors mean the costs deriving from the information asymmetries and the different objectives of the exchange participants. The risk of opportunism refers, again according to the authors, to the cost of what are known as relation-specific investments, i.e., those that are closely related to a particular contractual relationship or to the number of potential suppliers of a product. Another source of these costs is that defined by the managerial literature as the loss of resources control, for instance, when sensitive information is transmitted to an external supplier, which, in turn, might use it to their own advantage, thus damaging the client firm.

Clemons et al. (1993) reworked the Transaction Cost Economics theory to factor in the risk concept, claiming that the transaction cost is composed of the coordination costs and the transaction risks. In this model, *cooperation* is seen as an effort to increase, on the one side, the use of the resources and, on the other, the value of the transaction by more explicitly coordinating the business activities thanks to greater integration of the business processes.

Nevertheless, increased integration cannot but translate into higher transaction-related risks due to the possibility that the counterpart will behave opportunistically. This reasoned assumption ensues from observing firm behaviour: firms have historically avoided this risk through either upstream or downstream vertical integration or have merely refused to pursue initiatives with the potential to create value.

Clemons et al. (1993) demonstrate that the use of IT can reduce coordination costs without necessarily increasing the risk associated with a higher level of explicit collaboration. The authors conclude that the benefits of external production and specialization economies of scale should spur the firms to make more use of outsourcing channels. In addition, that move is expected to be accompanied by greater cooperation than in the past.

The buyer-supplier relationship is a form studied also by Bakos and Brynjolfsson (1993), who focus on several aspects of the issue. According to these authors, transactions linked closely to the use of ICT mean that the suppliers need to increase their investments in resources that cannot be subject to contract, such as quality, innovation and the sharing of information, despite the fact that these might not have enough contractual power to guarantee a return on investment. Bakos and Brynjolfsson (1993) believe that reducing the number of suppliers would ensure each supplier higher contractual power and provide them with the incentive needed to finance the investments that cannot be factored into a contract and which otherwise would not be made.

In brief, this model is underpinned by two basic assumptions: that the increasingly pervasive presence of ICT will determine: (1) an increase in long-term supply relations (outsourcing) and (2) a decrease in the number of suppliers with which the firm will forge close-knit, longer term relations.

This perspective sees outsourcing as a hybrid form of transaction governance, positioned "in the middle" of the market and hierarchy continuum. The hypothesis is that the progressive growth in the ICT take-up will create the conditions that promote greater use of outsourcing, the good management of which generates the advantages of both the hierarchy (low coordination costs) and the market (low production costs), as well as enabling risk control. Hence, the name of the model is "Move to the Middle Hypothesis".

The Move to the Middle Hypothesis has played a significant role in TCE's evolution from a basically bipolar model (market versus hierarchy) to a model that envisages many possible governance forms in a continuum of combinations that stretch from one end (the market) to the other (the hierarchy). In fact, like the market, long-term inter-organizational relations—for example, an outsourcing agreement—require both a supplier and a client but also knowledge, cooperation and the sharing of resources and effort that is typical of the hierarchical context.

Many years have passed since Malone, Benjamin and Yates published their academic article on the impact of Information Technology (IT) on the choice of the organizational coordination of business activities . Despite that, the Electronic Markets Hypothesis still remains a point of reference for many scholars today (Wigand 2011). Among the many authors to follow this debate in the literature, (Wigand 1995) later re-examined the arguments of Malone et al. (1987) from a strategic angle, incorporating into their theory what the author defines as the "strategic electronic network effect", thus extending the explicative reach of the original theory. According to this thinking, ICT can help to surpass the market's implicit limitations, favoring a shift from the market to hybrid forms such as clans or networks. ICT implementation, in fact, tends to reduce transaction costs, facilitating the creation of hybrid transaction governance forms based on price, contractual or hierarchical mechanisms (Wigand 1997). These collaborative forms, positioned between the market and the hierarchy, enable the firms to benefit from both low market prices and hierarchical stability (Wigand 1997).

All these contributions agree that the advances in ICT will not lead the market to dominate the hierarchy, as predicted by EMH (see above) but to the increasing development of further hybrid forms of transaction governance that enjoy the best of both worlds: the hierarchy's low coordination costs and the market's low production costs.

2.3 Agency Theory

2.3.1 Core Concepts

The Agency Theory is rooted in the seminal studies on risk sharing among individuals and groups, that were published between the 1960s and 1970s (e.g., Arrow 1971; Wilson 1968). Building on these researches, some scholars focused on the

so-called agency problem, that occurs when one party (the principal) delegates work to another party (the agent) who performs the work (Jensen and Meckling 1976; Ross 1973). The agency relationship is seen as ubiquitous: for example, the relationship between firm owners and managers can be seen in this light, but also many inter-organizational relationships, such as the buyer-supplier one, are affected by agency problems. In other words, the agency theory is potentially interested in all cooperative relationships.

Agency theory focuses on two problems that can occur in agency relationships:

1. Conflicting goals and interests between the principal and the agent.
2. Different attitudes toward risk between the principal and the agent.

The relationship between the principal and the agent is described using the metaphor of a contract (Jensen and Meckling 1976). The contract governing the relationship is then the unit of analysis in this theory, whose goal is to determine which is the most efficient contract, given the key assumptions about people (self-interest, bounded rationality, risk aversion), organizations (goal conflict) and information (in this theory, information is assumed as a commodity that can be purchased).

More specifically, the key question (Eisenhardt 1989) in this theory is: in a given situation, how can we predict whether a behavior-oriented contract (e.g. salaries, hierarchical governance) will be more or less attractive and efficient than an outcome-oriented contract (e.g. commissions, stock options, transfer of property rights, market governance)?

In the next paragraphs, we will follow Eisenhardt's (1989) seminal paper to synthesize the key answers to this question and then we will seek to adapt them to the specific topic of inter-organizational relationships.

2.3.2 Outcome-Based and Behavior-Based Contracts

From its roots in information economics, agency theory has developed along two lines: positivist and principal-agent (Jensen 1983). Both streams focus on the contract between principal and agent as a common unit of analysis, but positivist researchers have focused on identifying situations in which the principal and agent are likely to have conflicting goals, and on the relationship between owners and managers of large, public corporations especially; whilst the principal-agent approach has a broader focus. As Eisenhardt (1989) claims, "the important point is that the two streams are complementary: positivist theory identifies various contract alternatives, and principal-agent theory indicates which contract is the most efficient under varying levels of outcome uncertainty, risk aversion, information, and other variables" (p. 60). Eisenhardt lists two propositions synthesizing the outcomes of the positivist stream of studies.

When the contract between the principal and agent is outcome based, the agent is more likely to behave in the interests of the principal.

The argument is that outcome-based contracts (e.g. commissions, stock options, transfer of property rights, market governance) align the preferences of agents with those of the principal, because the rewards for both depend on the same actions; thus, the conflicts of self-interest between principal and agent are reduced. For example, Jensen and Meckling (1976) described how increasing the firm ownership of the managers decreases managerial opportunism.

When the principal has information to verify agent behavior, the agent is more likely to behave in the interests of the principal.

This second proposition claims that information systems also curb agent opportunism. In fact, information systems inform the principal about what the agent is actually doing, then the agent will realize that he or she cannot deceive the principal. For example, Fama and Jensen (1983) described the information role that boards of directors play in controlling managerial behavior.

2.3.3 The Principal-Agent Literature: Information Systems, Outcome Uncertainty, Risk Aversion and Goal Conflict

The approach of the simple model assumed by the principal-agent literature can be described in terms of cases (e.g., Demski and Feltham 1978). The first case is when the principal knows what the agent has done. Given that the principal is buying the agent's behavior, then a contract that is based on behavior is most efficient in this case. An outcome-based contract would needlessly transfer risk to the agent, who is assumed to be more risk averse than the principal. The second case is when the principal does not know exactly what the agent has done. Given the self-interest of the agent, the agent may or may not have behaved as agreed. The agency problem, then, arises because (a) the principal and the agent have different goals and (b) the principal cannot determine if the agent has behaved appropriately.

As a consequence, the heart of principal-agent theory is the trade-off between the cost of measuring behavior and the cost of measuring outcomes and transferring risk to the agent (agents are assumed to ask higher rewards to accept the risks of outcome-based contracts) .

Two aspects of the agency problem are cited in literature: moral hazard and adverse selection. Moral hazard refers to lack of effort on the part of the agent. Adverse selection refers to the misrepresentation of the agent's abilities: it arises when the principal cannot completely verify the agent's real skills or abilities in advance. In other words, adverse selection involves hidden information, and moral hazard hidden action ((Pavlou et al. 2007).

In the case of unobservable behavior (due to moral hazard or adverse selection), the principal has two options (Eisenhardt 1989). The first one consists in investing

in information systems, that in this theory are generally defined not as technological solutions, but as social and organizational solutions, such as budgeting systems, reporting procedures, boards of directors, additional layers of management. Such investments reveal the agent's behavior to the principal, and the situation reverts to the complete information case described above (Conlon and Parks 1988; Eccles 1985; Fama and Jensen 1983). Consistently, Eisenhardt (1989) states that:

> Information systems are positively related to behavior-based contracts and negatively related to outcome-based contracts.

The other option for the principal is to contract on the outcomes of the agent's behavior. Such an outcome-based contract motivates behavior by aligning the agent's preferences with those of the principal, but at the price of transferring risk to the agent. The issue of risk arises because outcomes are only partly a function of behaviors. Uncontrollable variations in outcomes can be caused by many factors such as, for example, government policies, economic climate, competitor actions, technological change. When outcome uncertainty is low, the costs of shifting risk to the agent are low and outcome-based contracts are attractive; but when uncertainty increases, it becomes increasingly expensive to shift risk to the agent, despite the motivational benefits of outcome-based contracts. Consistently, Eisenhardt (1989) claims that

> Outcome uncertainty is positively related to behavior-based contracts and negatively related to outcome-based contracts.

On the other hand, the risk aversion of the agent can vary: for example richer and larger enterprises can accept risks that smaller and weaker firms cannot afford. As the agent becomes increasingly less risk averse, it becomes more attractive to pass risk to the agent using an outcome-based contract. Conversely, as the agent becomes more risk averse, it is increasingly expensive to pass risk to the agent. Consistently, Eisenhardt (1989) claims that

> The risk aversion of the agent is positively related to behavior-based contracts and negatively related to outcome-based contracts.

Similarly, as the principal becomes more risk averse, it is increasingly attractive to pass risk to the agent. In formal terms,

> The risk aversion of the principal is negatively related to behavior-based contracts and positively related to outcome-based contracts.

Another extension of the theory is to assume that the goal conflict between the principal and agent decreases (e.g., Demski 1980) as occurs, for example, in a highly socialized or clan-oriented firm (Ouchi 1979). If there is no goal conflict, the agent has no reason to behave differently from the principal's will, even if his or her behavior is not monitored. As goal conflict decreases, then, there is a decreasing motivational imperative for outcome-based contracting, and the issue reduces to risk-sharing considerations: if we assume that the agent is risk averse,

> The goal conflict between principal and agent is negatively related to behavior-based contracts and positively related to outcome-based contracts.

2.3.4 Task Programmability, Outcome Measurability, Relationship Length

Programmability is defined as the degree to which appropriate behavior by the agent can be specified in advance. Since the behavior of agents engaged in more programmed tasks is easier to observe and evaluate, information about the agent's behavior is more readily determined and the situation reverts to the complete information case. "Thus, retail sales clerks are more likely to be paid via behavior-based contracting (e.g., hourly wages), whereas entrepreneurs are more likely to be compensated with outcome-based contracts (e.g., stock ownership)" (Eisenhardt 1989). In formal terms,

> Task programmability is positively related to behavior-based contracts and negatively related to outcome-based contracts.

Another task characteristic is the measurability of the outcome. Some tasks require a long time to complete, involve joint or team effort, or produce intangible, soft outcomes. In these circumstances, outcomes are difficult to measure, at least within a practical amount of time. When outcomes are measured with difficulty, outcome-based contracts become less attractive. In contrast, when outcomes are readily measured, outcome-based contracts are more attractive (Anderson 1985). Consistently, Eisenhardt (1989) claims that

> Outcome measurability is negatively related to behavior-based contracts and positively related to outcome-based contracts.

Finally, when principals and agents engage in a long-term relationship, it is likely that the principal will learn about the agent (e.g., Lambert 1983) and so will be able to assess behavior more readily; whilst in short-term agency relationships, the information asymmetry between principal and agent is likely to be greater, thus making outcome-based contracts more attractive. Consistently, Eisenhardt (1989) asserts that

> The length of the agency relationship is positively related to behavior-based contracts and negatively related to outcome-based contracts.

2.3.5 Agency Theory and Inter-Organizational Relationships

Agency theory has several similarities with the Transaction Cost perspective (Williamson 1975). As noted by Barney and Ouchi (1986), the two theories share the assumptions of self-interest and bounded rationality. Moreover, both theories concentrate on economic mechanisms for managing conflicts, such as price or incentives, while the social and political mechanisms of power, bargaining, negotiation and coalitions are not considered. They also have similar dependent variables; in fact, hierarchies may be considered as roughly corresponding to behavior-

based contracts, and markets as roughly corresponding to outcome-based contracts. However, the two theories arise from different traditions in economics: Transaction Costs Economics focuses on organizational boundaries, whereas in Agency theory it is the contract between cooperating parties, regardless of firm boundaries, to be highlighted.

Despite similarities, in effect, the focus on risk in Agency theories leads to different predictions from those claimed by the Transaction Costs theory. For example, Walker and Weber (1987) studied the "make or buy" decision for components in a large automobile manufacturer (which was the principal in this case). The authors were unable to explain their results using a Transaction Cost framework. They found that managers can be very sensitive to outcome uncertainty. In particular, if high levels of outcome uncertainty are perceived, the managers are be more likely to choose the "buy" option, thereby transferring risk to the supplying firm, even despite transaction costs. This is consistent with the Agency theory, which predicts (see the Propositions in the paragraphs above) that risk-neutral managers are likely to choose the "make" option (behavior-based contract), whilst risk-averse executives are likely to choose the "buy" option (outcome-based contract), independently from the related transaction costs.

Another important contribution of Agency theory involves information systems. In agency theory, information is regarded as a commodity: it has a cost, and it can be purchased. The implication is that organizations can invest in information systems in order to control agent opportunism. In the classical, seminal papers of the principal-agent literature, "information systems" are not the IT-supported systems that we usually think about when we use this expression: in this stream of studies, information systems are defined as the organizational solutions aimed to allow effective information streams between principal and agents (such as budgeting, MBO, boards of directors, managerial supervision, etc.), and are considered independently from their possible IT base.

Maybe because the role of IT is usually not mentioned in this theory, Information Systems scholars have preferably concentrated on the implications of the Transaction Costs theory, and have sometimes overlooked the implications of Agency theory so far. But if we consider that modern, IT-based Information Systems can actually boost the information flows between the principal and the agents (let us think, for example, to the control potential of ERPs), we can understand that the predictions of Agency theory can be of great interest for Information Systems scholars.

In fact, whilst Transaction Costs had predicted that the growing importance and effectiveness of Information Systems would decrease transaction costs and then lead to market solutions, roughly equivalent to outcome-based contracts, the Agency theory on the contrary predicted that enhanced Information Systems would enhance control possibilities and then lead to behavior-based contracts, roughly equivalent to hierarchy solutions. As we have seen in the paragraphs dedicated to the Transaction Costs theory, this second prediction seems more consistent with field data.

But what are the typical behavior-based contracts in inter-organizational settings? For example, vertical integration between customer and supplier (Anderson 1985; Eccles 1985); inter-organizational collaboration for innovation and new product development (Bolton 1988; Zenger 1988); alliances (Ozcan and Eisenhardt 2009); joint ventures (Reuer and Ragozzino 2006); franchising contracts (El Akremi et al. 2010); long-term outsourcing contracts (Bahli and Rivard 2003) including institutionalized codes of conduct (Goo et al. 2009). In all these cases, the agent is chosen for its perceived controllability/reliability, and the principal does not pass a great deal of risk to the agent.

Conversely, outcome-based inter-organizational contracts include the traditional buyer-seller relationships, where the supplier accepts the risk that its outcome is not considered sufficient by the principal, and then is not paid for.

Building on the propositions presented in the paragraphs above, we propose the following framework, synthesizing the predictions of Agency theory translated into inter-organizational settings:

Factors leading to behavior-based inter-organizational contracts (e.g. vertical integration between customer and supplier; inter-organizational collaboration for new product development; joint ventures; franchising contracts; long-term outsourcing contracts) include:

1. Efficient inter-organizational information systems (information on the behaviors of the agent is available for the principal, for example through a shared collaborative IT-supported work environment)
2. High outcome uncertainty (e.g. in case of turbulent markets, evolving government policies, continuous technological changes, the agent organization may refuse to be rewarded on the basis of its outcomes, which may be unacceptably beyond its control)
3. High risk-aversion of the agent organization (e.g. a small, fragile supplier is likely not to accept the risks implied in outcome-based contracts)
4. Low risk-aversion of the principal organization (e.g. a large, rich customer is more likely to accept not to pass risk to the supplier)
5. Low levels of goal conflict between the principal and the agent organization (e.g. in the classical relationship between a fashion manufacturer and its mono-brand retailers)
6. High task programmability (the tasks committed to the agent organization are easy to standardize and pre-determine, such as, for example, in outsourced basic security services)
7. Low outcome measurability (the agent organization's outcomes are difficult to measure within a reasonable amount of time, such as, for example, in new product co-design)
8. Long-lasting (satisfying) previous inter-organizational relationships, which facilitated reciprocal perceived predictability

Of course, the opposite conditions (inefficient inter-organizational information systems; low outcome uncertainty; low risk-aversion of the agent organization;

high risk-aversion of the principal organization; high levels of goal conflict; low task programmability; high outcome measurability; short-term relationships) are expected to lead to outcome- based contracts, i.e. the classical buyer-seller relationships.

2.4 Resource Dependence Theory

2.4.1 Core Concepts

What makes the competitive environment uncertain is the scarcity of resources, the unforeseeable changes in scenario, and the ongoing attempts of the other organizations to control the critical resources far beyond their organizational boundaries. This creates the need for the firm to forge relationships with other organizations that own complementary resources. To reduce their dependency on resources not owned or controlled directly, the firms seek to regulate the environment by implementing targeted strategies. One strategic option is to create stable inter-organizational relations based on cooperation.

The organizations are not therefore self-sufficient but depend on the environment for the resources they need to survive and grow. The Resource Dependence Theory mainly refers to the contribution of Pfeffer and Salancik (2003). In their theoretical approach, a key role is assigned to the environment and the social context in which the firm operates. Even the decisions made by the internal organization reflect the pressures of the external environment (Pfeffer and Salancik 2003). Moreover, the organizations are "*embedded*" in networks of interdependencies and social relations. The external relations generate the resources that the organization uses as inputs to ensure its survival. The dependencies are often reciprocal and sometimes indirect. If firms could generate all the resources they need to survive there would be no need to forge "relations" with the external environment and, therefore, other organizations. But the firms need to interact with other organizations to procure an ongoing and abundant flow of resources to satisfy its stakeholders. The availability of the resources depends on the complexity, dynamism and munificence of the environment. The organizations seek to interact with the environment to ensure they have access to the resources on which they depend.

2.4.2 The Role of the Environment

According to the Resource Dependence Theory, the organizations seek, on the one side, to minimize their dependence on other organizations for the procurement of

important resources and, on the other, to work on influencing the environment to make those resources available.

The Resource Dependence Theory is based on the following assumptions:

- That organizations prefer certain and predictable environments to uncertain ones
- That organizations prefer more permissive environments to those that restrict their degree of freedom
- That, where possible, organizations adopt strategies to change the environment

Pfeffer and Salancik (2003) emphatically point out the importance of the environment in understanding organizations.

In particular, the authors investigate how the organizational environments influence and restrict the organizations and how the organizations respond to external restrictions. The organizations are inevitably tied to the conditions of their environment. In fact, all organizations carry out activities the logical conclusion of which is the regulation of the environment (Hawley 1950). Nevertheless, despite the apparent evidence of this position, most of the literature on organizations has still not acknowledged the importance of the context (Pfeffer and Salancik 2003).

According to Pfeffer and Salancik, organizations survive to the extent these are efficacious. Their efficacy stems from the management of the requests, especially requests from the stakeholder groups on which the organization depends for resources and support. The key to organizational survival is the ability to acquire and maintain the resources. To acquire resources, the organizations must perforce interact with their social environments. The problem of interaction would not exist if the organizations had complete control over all the factors and elements necessary to their operations.

It is easy to see how the management of an organizational coalition encompasses also the resolution of the various conflicts that arise between the different interests (Pfeffer and Salancik 2003). The organizations are "wedged" into an environment that consists of other organizations. As a result, the former are dependent on the latter for most of the resources they need. The organizations are linked to their environments through federations, associations, client-supplier relations, competitive relations and a social-legal system that defines and controls the nature and the boundaries of those relations.

The firms enter relations with the other organizations based on cooperation and coordination with the aim of controlling environmental uncertainty (Thompson 1967; Pfeffer and Salancik 2003; Alter and Hage 1993). The basic tenet of the Resource Dependence Theory is that the organizations operate inside uncertain and fluctuating environments. That uncertainty is generally attributable to several factors:

- Scarcity of resources
- Unpredictability of environmental changes
- Functional specialization of the diverse organizations
- Control of critical resources by other organizations

If we place the uncertain environment in which the organizations operate alongside their preference for stable and predictable environments, it becomes very clear why the firms necessarily seek to control and govern environmental uncertainty. The need to reduce uncertainty by controlling the resources pushes the organization's internal decision-makers to create stable and more predictable "negotiated" environments. The negotiation oriented to reducing uncertainty has as its object critical resource flows and, as a consequence, involves the organizations that control them. The extent to which the external organizations put up barriers to that action indicates how much environmental control an organization has. External restrictions can be attributed to a dependency on resources that are controlled beyond the organization's institutional boundaries. The Resource Dependence View defines the extent to which the survival of an organization is linked to the resources it does not directly control. The attempt to reduce that dependency or to make other organizations dependent on one's own resources is thus what worries the decision-makers the most.

To better understand this situation, let's imagine the case of two companies that we shall call A and B and, in particular, the fact that A depends on B, the organization that controls the resources. The conditions that determine to what extent A depends on B are:

- Access to and control of the resources that enable A to enter into a relation of exchange
- Importance of the resource to the survival of A
- Extent to which the resource is controlled by B
- Existence for A of alternative resource providers and the freedom to use them
- Ability of A to exercise coercive power of another kind over B
- Ability of A to change its goals, strategies and operating activities to eliminate the need to procure the resources controlled by B

The existence of unfavourable conditions for A determines its dependency on B. In this case, A is interested in negotiating a coordinating or linking mechanism with B given that a situation of dependency signals the end of its own discretionary power (Soda 1998).

The resource dependence view builds on the hypothesis that dependency can be reduced through strategies that regulate the environment, such as the creation of stable inter-organizational relations based on cooperation instead of competition. Joint ventures, cartels, interlocking directorates, associations and social norms are a few of the possible solutions to the need for coordination and, therefore, are a plausible alternative to shape a negotiated and predictable environment.

2.4.3 Cooperative Relations with Other Organizations

Cooperative relations with other organizations shrink or remove external barriers from both the vertical value creation chain and the horizontal value creation chain,

i.e., that which regulates the competition (Lang and Lockhart 1990). Nevertheless, in addition to cooperative relations, the Resource Dependence Theory considers other options linked to the restructuring of institutional and legal assets: mergers, vertical integration, diversification and the strategic integration of businesses in other sectors. According to this theory, the organization tends to choose the inter-organizational strategy that minimizes both uncertainty and loss of control.

The determinants of a network according to the resource theory approach can be recapped as follows:

- The firm, or, more generally, the organization is the unit of analysis
- The firms are not free of restrictions and conditioning but operate within a vast web of interdependencies with other firms
- The interdependencies refer to the resources needed by the firm to perform its operations
- The extent of the interdependencies generates uncertainty for the firm's success and survival. Accordingly, in order to both reduce its dependency on the other organizations that control the resources and to increase its power over other organizations, the firm takes action to manage the web of interdependencies. Cooperation strategies can be formulated to achieve these objectives. Resource-dependency forces the firm to weigh up a mixed bag of alternatives to address the levels of interdependency and environmental uncertainty; however, this theory does not attempt to define the boundaries of these strategies
- The firms are unable to produce all the inputs they need to survive. This forces them to go beyond their boundaries to stabilize and reduce the uncertainty of the resource flows. The firm has a number of options, including cooperative relations. When seen through this lens, the inter-organizational relations become a "power base" (Soda 1998). The emphasis on power in contrast to economic efficiency is what sets the Resource Dependence Theory apart from the Transaction Costs Theory (Pfeffer and Salancik 2003)

Seen from this angle, the firm's environment can be interpreted as a network of other firms that are themselves the ports of call for other exchange channels and containers through which the resources flow. An organization that is unable to produce all the necessary resources will find itself in a state of heavy dependency. The power shift to the outside is driven by the desire to control and deploy key resources and the stronger the control factor, the higher the influence in determining the types of channels and the nature of the exchange relationship.

Organizations can access complementary resources or knowledge for several reasons: competitive; to develop internal competences; or to spread and thus dilute the risk inherent in innovative activities. It is important for a firm to obtain cooperation-based advantages in terms of intangible resources and innovation (Kline and Rosenberg 1986; Mansell and Wehn 1998; Rubenson and Schuetze 2000).

Organizations are characterized by competences, knowledge and technologies, i.e., a set of intangible resources that can swiftly adapt to the changes imposed by the environment. And it is precisely because the individual firms are not always able

to obtain all these resources, which require major investments and, hence, the sharing of the inherent risks, that the development of continuative and stable relations can bring a diverse range of advantages to the entire cast of actors.

2.4.4 The Role of IT in Inter-Organizational Relations Ruled by the Resource Dependence Approach

Although the Resource Dependence theory describes long-term, collaborative inter-oorganizational relations, based for example on joint venture alliances or long-term outsourcing agreements, clearly if the relations are shaped by power, genuine cooperation is rare. Larger and stronger enterprises, for example, can impose their conditions to smaller and weaker suppliers. According to the Resource Dependence theory, the stronger the power asymmetry, the more likely phenomena such as inter-organizational bullying are (Ricciardi 2014).

If an organization succeeds in achieving favourable or at least sustainable interaction conditions in these control-oriented networks, the Resource Dependence theory predicts that the relations will be stable and result in higher efficiency and more reliable risk management; this assumption is implicit in the stream of studies dedicated to inter-firm process integration and supply chain management, where IT-based solutions play a pivotal role (Lambert and Cooper 2000).

Conversely, as soon as an organization perceives that other relationships could provide it with more power in controlling key resources, the organization will be tempted to break the old relations (e.g. alliances, agreements, supply chains) and to join the new network. In other words, no power relationship is forever, especially if the stronger partner goes too far in abusing the weaker one. Technological innovations are the most important factor of change in power relations. For example, when consumers were given the possibility to buy airplane tickets directly on the web, this destroyed a great deal of the traditional travel agencies' power in their relationships with the airline companies. Today, the fees that the travel agencies can get from airline companies are dramatically lower than before the Internet era.

The Resource Dependence theory, then, sees IT as a double-bladed weapon: on the one side, it allows stricter and more efficient control and inter-dependency, for example through supply chain management systems and other process integration software solutions; on the other hand, it sooner or later generates changes resulting in centrifugal forces that can break also the soundest inter-organizational ties, agreements and habits.

Conclusions
The three theories that we have presented in this chapter share an anthropological assumption: human nature is based on opportunism and relations must

(continued)

be strongly coordinated and controlled to prevent opportunism from harming us.

The Transaction Costs Economics approach sees relations in terms of transactions; the purpose is minimizing costs (or costs and risks, in recent versions of the theory); and inter-organizational relations are controlled through the economic mechanisms of price (or through hybridized price-hierarchy mechanisms, in recent versions of the theory).

The Agency approach sees relations in terms of contracts; the purpose is aligning the agent's goals with those of the principal; and inter-organizational relations are controlled through the economic mechanisms of incentives.

The Resource Dependence approach sees relations in terms of means to influence the business environment; the purpose is maximizing control on key resources; and inter-organizational relations are controlled through the power mechanisms of bullying, alliances, bargaining, negotiation and coalitions.

These three theories predict different, even opposite impacts of the Internet era and of ubiquitous IT. We will compare these predictions with the emerging phenomena of Virtual Organizations and e-Marketplaces that will be described in Chaps. 5 and 6.

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Chapter 3
Theories Explaining Inter-Organizational Relationships in Terms of Social Rules

Abstract The social context provide actors, organizations included, with complex reward/sanction systems that have little to do with financial profit and with the classical economics reasons driving decision making. These social reward/sanction systems strongly influence organizations and particularly shape their long-term relations and inter-organizational networking.

In this chapter, we present two approaches investigating how the social context influences inter-organizational relations: social embeddedness and institutional embeddedness. Whilst the former focuses on the power of the basic, self-regulating psycho-social mechanisms, such as reciprocation, reputation, loyalty and trust, the latter investigates the role of socially and culturally constructed systems of myths, rules and beliefs. The researches on social embeddedness can be described as a substantially homogeneous and internally consistent corpus of predictions; instead, the theories on institutional embeddedness are divided into three lines of thought based on different assumptions: old institutionalism, new institutionalism, and institutional systems studies.

These theories are consistent with the recent findings of game theories on the evolutionary roots of altruism, conformism and pro-social behaviors; while represent different levels of analysis, they provide sound and interesting explanations to a wide range of inter-organizational phenomena.

3.1 Introduction: Game Theories and the Evolutionary Roots of Cooperation

In the last decades, an impressive number of experiments and field studies conducted on the basis of neurosciences, game theories, system theories and evolutionary theories demonstrated that human cooperation has a strong innate basis and has evolved as a key evolutionary strategy for the survival of our species. This contradicts the classical economics assumption of 'rational' egoism as the only basic, innate driver of human behavior, and provides the studies on cooperation in organizational and inter-organizational settings with sound inter-disciplinary foundations (Ricciardi 2013). We are extremely social animals, 'super-cooperators'

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(Highfield and Nowak 2011), and the laws of altruism are as much hard-wired in our brains as those of egoism. We will further develop these concepts in Chap. 8.

Game theories were developed to explain economic interactions between humans. To pursue this goal, the researchers design games, i.e. highly abstract instances of interactions between independent decision makers, and conduct experiments in which invite people to play the games.

One of the most famous examples is the Ultimatum Game. "In the Ultimatum Game, two players are offered a chance to win a certain sum of money. All they must do is divide it. The [player chosen as] proposer suggests how to split the sum. The responder can accept or reject the deal. If the deal is rejected, neither player gets anything" (Nowak et al. 2000). The two players, i.e. the proposer and the responder, have never met before and cannot negotiate during the game.

In the first place, classical game theory addressed the Ultimatum Game on the basis of the rational actor assumption of classical economics. Scholars then predicted that the proposer would offer the lowest possible sum (for example, one dollar out of 100), and that the respondent would in any case accept, because from a rational standpoint even one dollar is better than zero. But this prediction proved false. The Ultimatum Game has been replicated hundreds of times, using different money amounts, involving people of all cultures, geographic origins and social conditions, and the outcome is always robustly the same (Nowak et al. 2000): most proposers offer a sum which is much higher than the lowest possible, between 25 and 45 % of the total amount, and most respondents who are offered a sum lower than 20–30 % reject.

In other words, this experimental game, which had been designed to corroborate the rational actor assumption, "paradoxically showed that people tend to behave altruistically, to expect the others to do so, and to indignantly punish opportunists, even at the cost of losing payoff" (Ricciardi 2013).

The scholars focused on the emotions and feelings showed by the players, such as gratitude, shame, pride, sympathy or indignation.

Why do these emotions exist and drive economic decisions, such as those involved in the Ultimatum Game? This question triggered a sort of Copernican revolution in Game Theories. Scholars started thinking in terms of populations and long-term relations instead of individuals and single transactions; and developed new mathematical models, rooted in systems thinking (Nowak and Sigmund 1993).

These models analyse the consequences of actors' decision at the system level, and show that egoism may yield a higher payoff for some individuals and in the short run, but cooperation yields a higher and more stable average payoff for all the population's members.

The Ultimatum Game, seen in this light, looks very differently. If the proposer offers only one dollar out of 100, he or she maximizes his or her single transaction's outcome, but loses the opportunity to be perceived as a good cooperator by the responder, who is then likely to refuse to cooperate, in turn, in possible future situations. If the responder accepts the offer of just one dollar, he or she yields one dollar, but allows that the selfish proposer is rewarded and then encouraged to repeat his or her egoistic behavior in the future.

Most players are not aware of these explanations: they just feel ashamed, legitimated, satisfied or angry, and tend to behave consistently. Nevertheless, refusing one dollar, or also ten dollars, may be much more intelligent and forward-looking than 'rationally' accepting the sum. Cooperation is so important for our species that we have a whole set of emotions to encourage and govern it, also without the help of aware reasoning (De Waal 2008).

These innate emotions trigger processes such as reciprocation, reputation, punishment, revenge, or gossip, which result in strong self-organizing capabilities of social groups. These capabilities, based on feelings and direct personal relations, can be sufficient to support and govern cooperation in small groups, up to 100–150 people, given that the environment is substantially stable and there are no relevant problems of resource shortage (Dunbar and Dunbar 1998).

But to make cooperation possible in larger groups, or in cases of turbulent environments and possible resource shortage, the self-organizing power of innate pro-social feelings and attitudes may be insufficient. These social groups are more subject to the epidemic invasion of opportunism, which spreads like a virus, as the Game Theories and Systems Theories models demonstrate.

In order to prevent these epidemics of opportunism and mistrust from making cooperation impossible, humans create socially shared myths, values, beliefs, roles, rules, reward/sanction systems—in other words: institutions. Our innate conformism encourages us to abide by them, and this may take our cooperation capabilities to dramatically higher levels, if the institutions work effectively.

Both cooperation strategies, i.e. the self-organizing strategies based on pro-social innate attitudes and the institutional strategies based on socially built rules and beliefs, are essential, complementary and powerful enablers of cooperation.

Organization studies have investigated both strategies; we will describe studies on social embeddedness in Sect. 3.2, and studies on institutional embeddedness in Sect. 3.3.

3.2 Social Embeddedness: Collaborative Networks and Personal Ties

3.2.1 Core Concepts: Relational and Structural Embeddedness, Social Network

Organizational research is paying great attention to the networks stemming from the repeated interactions occurring within a selected and relatively stable group of organizations. These networks are often characterized by strong interdependency, relatively low importance of contracts and formal agreements, high importance of mutual trust, informal co-adaptation, flexible problem-solving and spontaneous knowledge sharing.

The literature has identified these networks with many different labels: constellation of firms (Lorenzoni and Ornati 1989), network forms of organization (Powell 2003; Podolny and Page 1998); interorganizational networks (Alter and Hage 1993); network governance (Jones et al. 1997); interfirm networks (Uzzi 1997; Gulati et al. 2000).

We will adopt here the definition of inter-organizational *collaborative networks*, to highlight their self-regulating cooperation capabilities.

Since collaborative networks are more and more common in all industrial sectors (e.g. Powell et al. 1996), organizational theories are challenged to explain their success. An important attempt was made by the Transaction Costs Economics (TCE) theory: as more thoroughly detailed in Chap. 2, TCE sees collaborative networks as an hybrid form between markets and hierarchies.

But in the mid-1980s, Granovetter's seminal paper (1985) introduces the embeddedness perspective, explicitly contrasting it with TCE. According to the embeddedness approach, repetitive market relations and the linking of personal relationships in a specific network generate embedded logics of exchange that radically differ from those identified by TCT. Economic actions embedded in structures of long-term social relations, far from being governed by a mix of price and authority mechanisms, are governed by mechanisms that have nothing to do with what the classical economic theories call the rational, transaction-oriented decision making. Instead, inter-firm coordination in well-established collaborative networks is based on ethical emotions and the related pro-social mechanisms, such as reputation, reciprocation, personal bonding, knowledge sharing, mutual adaptation and trust (Hite and Hesterly 2001).

Embeddedness has two dimensions: the quality of the personal relations that the firm's people develop throughout the network (relational embeddedness), and some key features of the network itself (Simsek et al. 2003), such as the number of actors involved, the degree of network closure or the density and distribution of ties (structural embeddedness). All these characteristics translate into the network's topology, which is the core object of study in Social Network Analysis (Wasserman and Faust 1993); along with relational embeddedness, structural embeddedness influence the impact of interorganizational relations on the network's performances, which, in turn, may encourage further networking.

A collaborative network, then, is not a static framework, but a process of progressive mutual evaluation and growing trust and inter-dependence (Larson 1992).

Studies on collaborative networks, on the other hand, tend to suffer from conflicting ontological definitions of what a network organization actually is (Borgatti and Foster 2003).

In fact, the economics and social studies disciplines use the term 'network' (Wellmann and Berkowitz 1988) to refer to a large and diverse range of contexts. However, we can narrow these down to two possible approaches. The first sees the network as a useful tool for conducting relations. The second sees the network as a multiple source of organizational forms or modes for business and economic processes. According to the former perspective, the network is created to explore

a vast world of social relations (Powell and Smith-Doerr 1994), while the latter is conceived as a form of organizing the economic activities that can govern the web of interdependencies that connects individuals, organizations, companies, groups or communities (Soda 1998). Collaborative networks are interpreted from the organizational studies perspective and, as we have anticipated above, are considered as either an intermediate form between the market and the hierarchy, or as a different, specific organizational form (Thorelli 1986; Powell 1987, 1990; Borys and Jemison 1989).

Firms and organizations institute multiple relations of different kinds with different aims with a large number of counterparts (suppliers, clients, competitors, financial institutions, etc.) and thus create dense fabrics of contacts and interdependencies.

Collaborative networks are mainly based on informal coordination practices that rely on direct personal relations. As a consequence, they tend to be localized or limited to a defined group with similar aspirations, interests and issues, and to work according to ethical values such as loyalty, trust, mutual respect as opposed to administrative or pricing mechanisms.

Controlling an activity in a collaborative network is done by identifying with a common interest, a collective result that everyone contributes to and works toward. Hence, the tendency is to create a flat organizational structure where all participants are formally ranked as equal, even though, in practice, there can be significant differences in the degree of power and authority.

The collaborative network approach thus enables the firms to interconnect in order to increase their competitiveness and to share resources.

Collaborative networks are independent, autonomous organizations that reach joint decisions by combining their efforts to design, develop and produce goods and services, to develop new processes and products, to reduce innovation timeframes and to more speedily tap into markets, exchange information and other resources in stable conditions of continuity.

3.2.2 The Key Role of Relations in a Network

Relations built between multiple actors influence the behaviour of the actors. The relations between the collaborative network partners can have as their object the transfer of tangible and intangible resources, the exchange of information and/or knowledge (advice network), or can be based on friendship, affection, family relations, etc. (primary network). Usually, a relationship between two actors sees them exchange products, information and knowledge, while in other cases the relationship does not imply a specific exchange but a concerted action to achieve more than one goal. Several authors have investigated the content and the importance of the relations; Mitchell (1969) in particular distinguishes between four types of relations and thus identifies four forms of network:

- Transactional relations, i.e., a network for the exchange of goods and services
- Informational relations, i.e., a communication network
- Relations of norms and friendship in which the network is one of social expectation
- Associative relations, i.e., a network of affiliation or joint action

Networks can host non-competitive relations that connect different companies, in which case the organizational form is based on cooperation and coordination between firms that forge interdependent relations. The concept of interdependence (Thompson 1967) is a particularly well-developed thread of organizational studies with a special focus on organizational networks. Here, though, it is sufficient to recall those few key concepts that underpin the next chapters. In particular, interdependent forms can be found along both the vertical and the horizontal value-creation chains. In the former there is the client-supplier relationship, in the second the firms operate at the same level of the value chain, which can give rise to competitive relations. This is why the concept of collaborative network is often applied to a wide variety of phenomena, from vertical integration strategies to strategic alliances, from production chains to subcontracting relations, franchising organizations, industrial districts and clusters (Antonelli et al. 2004). The collaborative network concept can also cover the business networks recently legislated by Italian jurisprudence (Law 122 of 30/7/2010). A rich body of literature is available on these research themes; particularly well received is the work of Aoki (Aoki et al. 1990) in which the firm is seen as a "nexus of treaties".

Cook and Emerson place great emphasis precisely on the social aspects and the quality of the relations of exchange that occur between the network actors (Cook and Emerson 1978). On the other hand, Håkansson and Johanson (1993) develop not only the relations theme, but also that of the interdependent relations entered into by the participants. Interdependence becomes central because based on the resources owned each network actor controls some of the activities. In turn, each activity is tied to the success of the activities already performed within that network. This translates into forms of dependence in which each actor retains some degree of power and is in a position to control, also indirectly, the activities of the other actors. Hence, the only way to achieve a sustainable competitive advantage is to involve the entire cast of organizational actors. Interdependent relations are the cornerstone of network stability.

Nevertheless, the network's internal power is not distributed equally among all the actors (Hakansson and Johanson 1993; Samlinger 1993). The varying degrees of power are evident in the higher or lesser extent of advantages that a network actor has over the others.

To make the network more stable, the participants enter a process of mutual adaptation, for example, to find solutions to problems that arise between clients and suppliers. However, that can be achieved only when all the parties are stakeholders with a shared vision. The concept of reciprocity becomes a key factor of network stability, just like its relations take time to consolidate. Only when relations are developed over the medium-term can the actors recognize and develop mutual trust.

Ethical values become of paramount importance in the analysis of collaborative networks.

3.2.3 The Network's Ethical Values

In this section, we examine what makes a collaborative network effective, for instance, the traits of trust, reciprocity and loyalty are all qualities that enable the smooth running of a network. These are the ethical values that differentiate the network from the traditional polarity of hierarchy and market (Thompson 2003).

Solidarity: solidarity is usually the outcome of shared common experiences; the social classes, for instance, are often characterized by ethical solidarity because the subjects are objectively situated in the same social and economic position and, hence, are subject to the same types of pressure, cultural stimuli, work regimes, and income status, etc. The same goes for family, linguistic and ethical groups. Solidarity is forged precisely because people share and have the same experiences.

Altruism: why some people help others without personal gain or at times even to their own disadvantage was considered a great mystery by classical economics, which usually explained altruism as a fragile product of education and religion, a thin surface barely hiding the true egoistic nature of rational actors. But in the last 15 years our understanding of the evolutionary roots of human altruism has increased dramatically (Ricciardi 2013). Altruism yields strategic payoffs, such as reciprocation, reputation, and the possibility of flexible long-term collaboration, that tend to make the whole system more stable and sustainable.

Loyalty: what pushes certain people to remain connected to a network? What is it that drives these people to continue to relate with the other agents of a specific business network? The answer lies in the concept of loyalty. Albert Hirschman (1970), in his analysis of the reactions of the various members of an organization to incidents of network turbulence and upheaval, suggests three separate strategies: "exit", "voice" or "loyalty". The first route sees the various network participants quit the organization to avoid getting involved in the network's problem-solving endeavour. The second option sees the participants remain anchored to the network while "making their voice heard" on the problems and various hurdles that the network clearly faces. This option translates into a proactive approach where the participants express their opinion on a specific action or change with the aim of improving the situation. The third strategic choice is simply to remain loyal to the organization, continuing to passively support both it and its chosen trajectory.

Enduring and continuative relations based on loyalty and fidelity can be a highly important factor in ensuring the stability of a network, making "exit" and "voice" scenarios unnecessary.

Of course, in practice, the strategic options are sometimes combined in sequences such as voice-loyalty and voice- exit but not, obviously, exit-loyalty.

Ultimately, voice, which in the literal sense means the importance of language, is a strategy that might spark discussion, debate and persuasion, all of which are of

fundamental importance to the optimal functioning of a network given that the networks often operate on an informal, cooperative and smaller scale, which makes these values vital.

Reciprocity: Reciprocity encourages an actor to behave altruistically with those who are likely to interact again with the actor. In any case, giving and receiving in social interactions is an important mechanism to support and build relations. Reciprocity is more easily visible in small communities, in places where the social distance is short or when the people that interact have similar views, life styles and habits. In these environments, gratitude and reciprocation are strong drivers of behaviors.

Reputation: reputation encourages to behave altruistically also independently from the likelihood of direct reciprocation, just to build and maintain the image of good cooperator and brave punisher of defeaters. A good reputation enhances the possibilities to be chosen by the best business partners in the future; if reciprocation represents a sort of barter economy of altruism, reputation is the intangible money that compensates efforts, reliability and altruism on a larger scale (Nowak 2006).

Trust: while cooperation is a key factor in the functioning of a network, it can be very fragile, and this is why the trust demonstrated by the different network actors can be considered imperative to cooperation and the performing of the various organizational activities. Many authors have addressed the concept of trust. The concept of trust that we want to underscore in this context is highlighted by Blau (1964), who defines it as a fundamental rule of stable social relations.

Of course, if everyone behaved honestly there would be no need to even talk about trust. However, when there is uncertainty on how a person or persons will behave, implying a risk of possible dishonesty that would compromise the relative relations, trust is indispensable.

Opportunistic behaviour could skew the balance of an organization, hence the trust that the different subjects place in the other agents with whom they interact can instil strong and stable cooperation. Trust and cooperation are the switchboards that interconnect many kinds of relations.

The concepts of trust and cooperation form a highly intimate duo that complete and reinforce each other.

Trust and cooperation work hand-in-hand to shape solidaristic behaviour between the network agents (Thompson 2003). Solidaristic behaviour can be interpreted in the broader sense to include the set of rules and norms that the subjects have agreed to observe while performing their various interactions. Such rules are clearly a kind of informal and legally non-binding contract between the agents (individuals, firms, other organizations, etc.), the aim of which is to establish common rules, habits, behaviour and protocols. A major issue of cooperation is how to manage the multi-party agreement over time; this could be even harder in collective forms where the parties involved have formal equality with no single member having the power or authority to impose their will on the others.

3.2.4 The Collaborative Network: Advantages and Disadvantages

The authors that have developed this theory claim that the form of relational governance favoured by a collaborative network generates many advantages.

Indeed, factors such as trust and loyalty can translate into significant cost savings in the monitoring and control department. The means of coordination used by the network promotes the transfer and learning of knowledge; the various network actors seek to not only maximize variables such as price, but also to achieve shared goals and to give the cooperative endeavour a medium to long-term useful life; the efficiency gains attributable to the network form can be found mainly in the flexibility and degree of control if can give over the exchange (Powell 1990). Moreover, when cooperation is the work of a group of people in the same community, the exchange process is standardized and thus tends to minimize the effort; the collaboration becomes emergent, informal and unpremeditated.

Another key to the success of this type of network is the intellectual and physical resources shared within the network; this can be enhanced by the use of simple, pervasive technology. These principles allow the network to adapt promptly to the changes in the environment and to implement radical innovations quickly, enabling the firms to grow their competitive advantage and reap rewards in several areas.

From the economic-financial viewpoint, clearly, the production and transaction costs in a collaborative network decrease when the organization finds a qualified and reliable partner to perform mutually beneficial functions. An organizational configuration of this type offers a flexible (i.e., variable) cost structure that can adapt to demand cycles and spread the risk across the partners. In addition, social embeddedness can sidestep the high bureaucratic costs of managing a complex organizational structure. In fact, the use of outsourcing systems ensures the organization remains flat and flexible and enables it to draw on low-cost external sources of outputs and knowledge.

Another advantage of collaboration is that the partners can enjoy the benefits of a joint offer by sharing resources, combining their own core competences with additional external knowledge to develop complementary competences without sacrificing agility. The result usually is an increase in sales and thus business turnover in the internal and the external markets, as well as expansion into new business areas. All of that adds lustre to the prestige of the organizations and consolidates their competitive positioning, raising their chances of survival in a typically unstable organizational context where market turbulence and vulnerability are the norm.

Ultimately, the impact of the collaboration shows also on the *human*, *physical and intangible* capital. The positive impact of a collaborative network on human capital is an increase in the volume of competences and information exchanged between the actors of the network firms, providing an incentive also for collaborative research and development activities. A further positive effect is the growth in employment. On the *physical* capital front, the assets shared by the network

partners can have a positive impact through the sharing of services, equipment and raw materials. As far as *intangible* capital goes, the new organizational forms can spur innovation to even higher levels and create new value thanks to the exchange of ideas and organizational practices, the scope for combining resources and technology, and the achievement of virtuous synergies among the various actors involved (Camarinha and Afsarmanesh 2006).

Table 3.1, below, lists the main factors that spur an organization to form or join a collaborative network.

Nevertheless, collaborative networks are not without their critical aspects. The biggest hurdle to creating a structure of this type is the high cost and time needed to set up and launch the collaboration, on top of the general operating costs, while the potential returns will be generated over the medium to long-term.

Moreover, a line of research highlights the so-called 'dark side' of collaborative networks: social ties may imprison actors in maladaptive situations or behaviors (Gargiulo and Benassi 1999; Portes and Landolt 1996; Volker and Flap 2001).

Finally, any collaboration requires a measure of trust between the organizations involved but trust tends to be hard to establish when it comes to both sharing information, often sensitive, and decentralizing the decision-making power. To develop trust, a collaborative relationship needs to: reward all the partners (the "win-win" ethos) to make the experience collective; establish a transparent regulatory framework acceptable to all the partners; and craft a decision-making process that is as flexible as possible These factors are all strongly influenced by the institutional environment, which is the topic of the next paragraph.

Table 3.1 Advantages of collaborative networks

Market factors	Organizational factors
Increase in sales/profits	Improved management of resources and competences
To better deal with market turbulence	Cost-sharing
To raise the chances of survival and to better compete against the big firms	Higher risk capacity
Easier access to lending	Member support during reorganization
Better bargaining power	Learning and training
Higher prestige and reputation	Sharing of assets such as knowledge, information, equipment, and raw materials
Access to and exploration of new markets/products/knowledge	Sharper focus on the goals to achieve
Geographical expansion	Spur the development of distinctive competences
Higher innovation potential	Consolidate trust
Economies of scale	
Brand growth	

Source Developed by the author based on Camarinha and Afsarmanesh (2006)

3.3 Institutional Embeddedness: Old Institutionalism, New Institutionalism, Institutional Systems

3.3.1 Core Concepts of Old and New Institutionalism: Actors, Institutions, Legitimacy and Path Dependency

Many popular organizational theories, such as the Transaction Costs Economics or the Resource Based View of the firm, are often criticized because they fail to keep into consideration the importance of the specific social context in which the organization operates.

In order to overcome these limitations, organization studies often rely on the rich research tradition focusing on institutional theories, that was born in sociological studies, and that dates back to the mid-twentieth century.

These theories build on the idea that human activity is highly embedded in communities and behaviors are governed by social structures, which include for example habits, laws, customs, culture and some key organizations (such as the government bodies or the most influential firms); these social structures influencing the community's behaviors are called *institutions*.

An important stream of studies stemmed from this idea in the first place, and developed the concept of *actor*. Actors are (1) individual persons, (2) national states, and (3) organizations created by persons and states. This stream of studies, often called *realist institutionalism*, developed a normative approach, stating that even if the traditional institutions had heavily influenced actors for centuries, now old superstitions needed to be overcome, and actors had to become active creators of new, rational institutions. According to this view, "social institutions that restricted the development and choices of real social actors could be seen as inefficient at the least, and perhaps as destructive of freedom and progress" (Meyer 2008, p. 789).

Management scholars embracing realist institutionalism are less interested in explaining and describing the generalized societal beliefs influencing organizations, and more interested in understanding how organizations exercise power in order to formulate and enforce rule systems consistent with their own interests.

In other words, realist institutionalism sees organizations as rational actors (in the classical economics sense) seeking to control key resources by controlling institutions. The relationships between actors and institutions are explained as substantially driven by interested, rational and highly empowered actors: institutional norms have a binding power over an actor (e.g., an organization) only inasmuch the actor continues to support the institution (Tolbert and Zucker 1999) or is really forced to comply by even more powerful actors. These concepts are very similar to those developed by the Resource Dependence Theory (see Sect. 2.5) and have raised criticism because they cannot explain, for example, the institutional passivity of multi-national companies, which often conform to local customs and then react very differently to similar situations occurring in different countries (Meyer 2008).

A new perspective then emerged, called sociological institutionalism, phenomenological institutionalism, neo-institutionalism or new institutionalism (Powell and DiMaggio 1991), whilst the realist view, based on the rational actor assumption, was retrospectively called *old institutionalism*.

Neo-institutionalism assumes that the institutional environment exerts a great influence on organizations, even greater than that stemming from rational interests and individual- or group-based interactions. According to neo-institutional theory, actors internalize norms through socialization processes, and are more likely to be creatures of the institutional rules, than creators of them. Most institutional norms have been created by forces in the past, and may have binding power whether or not present actors support them.

In this new form of institutionalism, the rational actor models of old institutionalism are rejected, and scholars concentrate on organizational conformity, isomorphism, and adherence to norms and values as conditions for organizational survival: these studies highlight that organizational legitimacy is a necessary pre-condition to be allowed to interact in a certain institutional environment (DiMaggio and Powell 1983; Powell and DiMaggio 1991; Scott 2001; Jepperson 2002; Hasse and Kruecken 2005).

According to this theory, once the institutionalization process has occurred, i.e. once rules, beliefs and customs have been interiorized, people will show strong resistance to change. Consistently with this assumption, a viable stream of studies focuses on *path dependency*, highlighting that each individual organization, or even each individual person, depending on past experiences and history, develops a specific set of habits and beliefs, which will be very stable even against a changing environment. Individuals or organizations, faced with a new problem, are likely to use their accustomed old solutions, whether or not they can reasonably be expected to work—or have ever worked (March 1988).

The persistence of old and possibly counter-productive habits and customs, that is very frequent in real-world organizations, is then soundly explained by path dependency and, more generally, by neo-institutional approaches. For this reason, the neo-institutional theory is often successfully adopted to study a large set of phenomena that are not understandable through the rational actor assumption.

It is important to highlight that new institutionalism does not rule out the possibility that actors behave rationally and opportunistically as the rational actor assumption predicts; but this theory explains such behaviors with the desire of managers to conform to western classical economics beliefs and expectations on how economic activities should be conducted (Tolbert and Zucker 1999).

DiMaggio and Powell (1983) provided a popular framework for analysing how institutions penetrate actors. From a realist point of view (old institutionalism), institutional structures can affect actors only through *coercive* processes, such as legal actions. From a phenomenological point of view (new institutionalism), instead, actors spontaneously adopt the standards created by the institutional environment, through *mimetic* processes. On the middle ground between old and new institutionalism, it can be assumed that control on actors is exerted through

normative processes, in which actors are socially stimulated to comply with professionalized standards.

In other words, old and new institutionalism can be seen either as two opposite and fighting theories, or as two extremes of a continuum explaining different relationships between organizations and institutions; this continuum should be seen as relying on two complementary assumptions, ranging from the highly rational and empowered actor of the old institutionalism to the highly socialized and passive actor of new institutionalism.

If taken separately, indeed, both old and new institutionalism are subject to easy criticism. According to new institutionalism, organizations change only in order to comply with norms and standards, and to imitate the most successful competitors; therefore, this theory explains phenomena of organizational passivity, but does not explain the institutional proactivity that occurs when, for example, firms of the same sector lobby to influence the government's decisions. These phenomena are effectively explained by old institutionalism, which, in turn, cannot explain, for example, the spontaneous waves of innovation generated by the undiscriminating imitation of the most trendy management models on the part of firms expecting to achieve, by doing so, a stronger legitimacy.

Thus, some scholars suggest that the two approaches be integrated and considered complementary (e.g. Kostova et al. 2008).

These authors claim that the core assumption of new institutionalism, i.e. that actors perceive legitimacy as a necessary and sufficient condition for survival, is not always true. Nor is always true the core assumption of old institutionalism, i.e. that actors can be fully empowered and educated to rational action (i.e., in the classical economics view, to focus only on financial payoff and opportunistic resource control), and then are not influenced by the forces of conformism and habits.

Perhaps the most viable stream of studies overcoming the opposition between old and new institutionalism is that focusing on *institutionalization* and *de-institutionalization*, i.e. on the processes of creation, evolution, consolidation, crisis, change and abandoning of institutional structures such as legitimated rules, roles, beliefs, and reward/sanction systems.

In order to describe this stream of studies, we will refer to Tolbert and Zucker's (1999) seminal paper. These authors highlight that the two extremes of the old and new institutionalism continuum depict not only two opposing assumption on actors (i.e. highly rational and proactive actor vs. highly socialized and passive actor), but also two opposing assumption on the reasons for organizational survival. Old institutionalism assumes that organizations survive if they achieve a sufficient level of efficiency, even at the cost of changing the existing institutions; whilst new institutionalism assumes that organizations survive if they achieve a sufficient level of legitimacy, even at the cost of renouncing efficiency.

In other words, new institutionalism explains why organizations survive despite evident inefficiencies (Meyer and Zucker 1989): if organizations succeed in becoming isomorphic with their institutional environment, they gain the legitimacy and resources needed to survive (Meyer and Rowan 1977), independently from their productive inefficiencies.

Tolbert and Zucker (1999) suggest that real-world institutionalization processes (i.e. the rise of new institutional structures) can be explained only through an hybridization between new institutionalism and old institutionalism (old institutionalism is seen as highly compatible and overlapping with the resource dependence theory), hypothesizing that the success and persistence of an institutional structure is not independent of its positive correlation with the satisfaction of the actors' desires and needs. According to Tolbert and Zucker (1999), the "full institutionalization of a structure is likely to depend on the cojoint effects of relatively low resistance by opposing groups, continued cultural support and promotion by advocacy groups, and positive correlation with desired outcomes" (p. 184).

Studies on institutionalization and de-institutionalization, then, concentrate on the struggle between the forces that tend to preserve institutions and those that tend to change them. Conflicting interests can result in political and power conflicts where different actors seek to protect, modify or replace the existing institutions.

3.3.2 Institutional Systems Studies: The Role of Institutions in Socio-ecological and Socio-Technical Systems (SES and STS)

Although very different in their core hypotheses, old and new institutionalism share an actor-centred view. In other words, both old and new institutionalism concentrate on the advantages, in terms of access to resources, that individual actors can get from institutions, either by manipulating them (old institutionalism) or by conforming to them (new institutionalism). These theories assume that institutions always yield access to resources, provided that individual actors have proven capable either of isomorphism (new institutionalism) or to adapt institutions to their own particular interests (old institutionalism).

This assumption is deeply rooted in the sociological approaches of mid-twentieth century, that considered environments as stable, technologies as irrelevant to trigger social phenomena, and resources as inexhaustible.

A parallel stream of studies has recently stemmed from completely different assumptions, which could be synthesized as follows: environments can change even dramatically; resources are not inexhaustible; and the interactions between people, technologies and institutions are crucial to cope with these challenges. Consistently, institutions are not seen only as means to provide individual actors with resources; they are also seen, even more importantly, as (possible) means to prevent individual actors from jeopardizing the whole system by abusing or wasting its resources.

This stream of studies, sometimes identified as *institutional systems studies*, utilizes systems theory (Luhmann 1995) to understand the role of institutions. More specifically, institutional systems studies aim to explain why the same institutional

structures, in different contexts, may result in very different outcomes, triggering either prosperity or collapse for organizations or even entire populations.

Institutional systems scholars have developed numerous historical and longitudinal studies demonstrating that institutions are subject to large-scale selective processes. In other words, an institutional structure may rise, last or die also without a rational designer driving the process for its own interest, but just because the behaviors triggered by the institution, when interacting with the environment, result in success or disaster. An example that is often cited is the tragic history of the Maoi civilization on Easter island. The traditional institutions of the indigenous population unfortunately requested to chop down trees; and in the end, when the last tree fell and the island could not provide enough food and energy sources any more, the whole Maoi civilization collapsed into cannibalism. They all died, along with their institutional structures, in the ecological disaster triggered by their own institutionally-driven behaviors (Anderies 2000).

System thinking sees any social entity as a system of relations linking people, organizations, behaviors, technologies and resources; institutions shape these relations, and then are studied as very important determinants of the system's key features. In particular, institutional systems research concentrates on two key characteristics of systems, both strongly influenced by institutions, and namely: (1) system sustainability, and (2) system resilience/robustness (Fiksel 2006; Martin-Breen and Anderies 2011).

Sustainability measures the extent to which the behaviors of the system are compatible with the safeguard of its key resources. For example, the system of the Maoi civilization on Easter island was not sustainable.

Resilience measures the extent to which the system is capable to cope with changes. As long as the possible variations of the environment are known, resilience involves mainly robustness to typical oscillations of key variables, both frequent (e.g., irregular rains for farmers; fluctuations of demand for firms) and rare or disruptive (e.g. hurricanes; severe global financial crises). Moreover, in complex adaptive systems, resilience implies also the capability to adapt to structural changes, (e.g. climate change; irreversibly declining demand for an obsolete class of products); in this case, the system may recover from crisis not by returning to the pre-crisis condition, but turning into something new.

Both system sustainability and system resilience depend on behaviors, and the range of possible behaviors depends on institutions and technologies. These two factors are seen as strictly intertwined in institutional systems studies (this sharply contrasts with the neo-institutional school, which sees technologies and institutions as two completely separated worlds).

For example, if a group of irrigators can build a dam, that physical infrastructure stores water from good years to be used in bad years. But if the dam is not available, the community will need to develop stringent rules and strict monitoring for bad years, in order to allocate a much smaller supply to users than in good years (Janssen et al. 2007); on the other hand, the existence of a dam implies specific rules for its maintenance and security.

Two important and complementary streams of studies have developed around the basic idea of the co-evolution of institutions and technologies: Socio-Ecological Systems (SES) studies, and Socio-Technical Systems (STS) studies. The former focuses on resource management, by studying the interactions between a specific natural environment and a specific social system (Brondizio et al. 2009), described through its institutional and technological structures (Lebel et al. 2006). The latter pays less attention to environmental impact and concentrates on innovation processes, by studying the co-evolution between technologies and institutions in social systems (Geels 2004).

Among the most famous SES outcomes we cite the researches on common pool resources, that yielded a Nobel prize to Elinor Ostrom in 2009. Common pool resources are those scarce, fragile, critical common resources, such as clean water, forests or fisheries, that are subject to over-exploitation and irreversible destruction (the so-called "tragedy of the commons", like on Easter island) unless effective institutions protect them. Ostrom's outcomes on how institutions can protect strategic resources are being extended also to intangible resources, such as a community's intellectual capital, prestige, and innovation attitudes. For example, these researches highlight that a social system that rewards innovation can be robust to many external shocks, at least as long as it innovates quickly enough (Anderies et al. 2004).

STS studies, on the other hand, originate from Trist's seminal paper (1981), which claimed that institutions, including hierarchies, power structures and cooperation rules, can be changed by the effects of technological triggers. This statement does not imply any techno-centric determinism: on the contrary, STS scholars study also how institutions, in turn, affect technologies, and suggest that institutions should not be used just to explain inertia and stability, but also to explain dynamism and innovation (Geels 2004, 2005).

Overall, SES and STS studies encourage new, more advanced ways to understand institutional change and design.

3.3.3 Institutions and Inter-Organizational Relations

The three approaches described in this paragraph depict three different scenarios of inter-organizational relations. The first one, resulting from the Old Institutionalism approach, is highly compatible with the Resource Dependence Theory (see Chap. 2); whilst the other two provide predictions that are not compatible with the rational actor assumption.

Inter-organizational relations according to Old Institutionalism:

- Organizations interact and build alliances in order to advocate institutional innovations at regional or state level that they perceive as more suitable to protect their common interests (e.g. lobbying, crony capitalism). This goal can

be perceived as so important that even bitter competitors of the same industrial sector can be encouraged to cooperate in order to pursue it (Cantwell et al. 2010).

- Organizations can build alliances also to protect interests that contrast sharply with those of the wider community or entire social fabric, such as in the cases of predatory networks, mafia networks and mob ties (Kleemans and Van De Bunt 1999). In these cases, the institutional war is likely to imply also physical violence.
- Any inter-organizational network of long-term business relations can be seen as an institutional environment with its internal culture, roles and rules; just like any other institutional environment, it is likely to be more advantageous for some actors than for others. Inter-organizational institutions, in fact, govern access to valuable resources within the business network, such as money, power, knowledge and prestige.
- The advantaged actors will seek to protect extant institutions and to secure general compliance through coercive forces (e.g. organizational bullying between powerful customers and small suppliers in B2B relations); whilst the others will seek either to change the institutions, or to transgress them, or even to abandon the network after building alternative inter-organizational relations, ruled by more advantageous institutions.
- As a consequence, inter-organizational relations are stable only if either there is no alternative, or the institutional structures governing the relation distribute the resources in a way that is considered acceptable by all the actors.

Inter-organizational relations according to New Institutionalism:

- Organizations are strongly influenced by their regional and national institutional environments when they interact with each other: as a consequence, their attitude to build long-term business relations and the type and strength of these relations reflects the beliefs and rules of their institutional environment. For this reason, there are regions or nations where certain types of networks (e.g. project networks) are much more widespread than elsewhere (Lane and Bachmann 1996; Ebers 1997).
- Organizations interact and build alliances in order to enhance their own legitimacy: for example, a supplier will accept even very low profits to keep a famous and respected customer's loyalty, which will increase its prestige.
- Inter-organizational relations are built conforming with the wider institutional environment; each actor complies with rules and cultural expectations spontaneously, even at the cost of production inefficiencies.
- Inter-organizational relations are likely to imply the imitation of the management solutions (including the information systems) adopted by the most prestigious organization in the network.
- In well-established inter-organizational network, based on stable, long-term business relations, the following phenomena are likely to develop: conformism, conservatism, uniformity, path dependency. In these networks, innovation attitudes are discouraged.

- Inter-organizational relations driven by legitimation needs are likely to result in severe misalignment between the institutional façade of the organization (declared values, official norms, organizational chart) and the actual processes and technologies adopted.

Inter-organizational relations according to Institutional Systems studies:

- At any level of analysis (e.g. industrial cluster, metropolitan area, nation) a social community's institutions interact with the resources and technologies that the community can rely on. This interaction determines the whole system's sustainability, robustness to variations and crises, and adaptability to irreversible changes. Also an inter-organizational network can be seen as a system made up of people, resources and technologies, and then its survival heavily depends on its institutions.
- Inter-organizational networks that leverage institutions and technologies to protect the fragile resources that are strategic for the whole system's survival are more sustainable, and have more chances of success in the long run. Possible examples include a network of hotels that adopts behaviors protecting the environmental quality of their tourist destination, or a community of open-source developers that protects the community's reputation and encourages the developer's participation through strong reciprocal control of participants' ethics.
- Inter-organizational networks that leverage institutions and technologies to enhance the system's capabilities to put up with environmental variations are more robust, and have more chances of success. For example, an association of farmers can provide the community with shared equipment and mutual aid rules in case of flood, drought etc.
- Inter-organizational networks implying e-commerce processes are much more likely to survive in institutional environments that facilitate the building of transactional integrity, which is critical to the development of e-business (Oxley and Yeung 2001).
- Inter-organizational networks that leverage institutions and technologies to enhance the system's capability to innovate and adapt to new conditions are more resilient to irreversible changes in the business environment. For example, a network of small firms can build an institutionally secured agreement to share the risks and costs of long-term research and development programs (Sydow and Staber 2002). Organizational adaptability and innovation capability are also strongly influenced by the wider business eco-system, which is usually shaped by its institutional backing. Innovation-oriented inter-firm networking, then, is enabled and supported by regionally embedded institutions such as chambers of commerce, banks, universities, science parks, employers' unions, and training centres (Gunasekara 2006); these institutions often enable and incentive the exchange of information among firms, thus fostering the whole system's responsiveness and innovativeness (Ebers 1997; Whitley 1993; Gemunden et al. 1992).

Conclusions

The studies investigating the social factors that influence inter-organizational relationships have mostly been conducted at the relational and institutional levels of analysis (Ebers 1997).

Relational-level research emphasizes as explanatory factors the attributes that characterize the content of the personal bonds among actors, in terms of intensity, trust, reciprocity, reputation, and similar basic and self-regulating mechanisms.

Institutional-level studies, on the other hand, base their explanations on the attributes of the wider institutional environment the organizations are embedded in, and on the specific institutional system regulating the specific inter-organizational network (network values, inter-organizational rules, intra-network sanctions and rewards).

These researches, although resulting in different predictions, can be considered as highly complementary and provide powerful insights on phenomena that the theories rooted in classical economics had left substantially unexplained.

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Chapter 4
Theories Explaining Inter-Organizational Relationships in Terms of Strategic Challenges

Abstract This chapter presents three research lines that, although independently developed and focusing on different levels of analysis, share the claim that inter-organizational relationships are very important determinants of organizational strategic capabilities, such as competitiveness and innovativeness.

Organizational Ecology theories focus on organizational populations and organizational communities, and show that inter-organizational relationships play different roles in different phases of organizational community evolution. When conditions of environmental openness allow new niches, cooperative and symbiotic inter-organizational relationships protect new and innovative organizations; but when the business environment gets saturated, inter-organizational competition results in organizational mortality, while cooperative relationships are likely to trigger negative inertial processes that hinder further innovation and make the system more and more fragile, until it finally collapses.

The Resource Based View, on the other side, provides explanations on the possible positive role of inter-organizational relationships in yielding sustainable competitive advantage for individual firms. Trustful and effective relationships with business partners may allow access to valuable resources, and high-quality relationships are, per se, hardly imitable and replaceable. Therefore, the Resource Based View and its corollary, the relational based view, claim that inter-organizational relationships are a key potential source of sustainable competitive advantage.

Knowledge Networks research, which is the third stream presented in this chapter, focuses on knowledge as the key resource that can be transferred, shared and developed throughout inter-organizational networks. Through social network analysis and graph theory, this research line investigates how the structure of the network, the nature of the relationships, and the characteristics of partners influence knowledge-related performances such as innovativeness.

Because of their strong links with the three theories above, also some basic concepts of Dynamic Capabilities, Intellectual Capital and Social Capital literature are briefly presented in this chapter.

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4.1 Introduction

The three theories presented in this chapter can be considered complementary and mutually integrating. They all allow to see inter-organizational relationships as important determinants of strategic capabilities such as competitiveness and innovativeness. The different outcomes between these research lines are mainly due to different level of analysis and different length of the time period considered in each approach. In fact, as we will more thoroughly show below, Organizational Ecology research focuses on very long periods (decades or even centuries), whilst the Resource Based View and Knowledge Network research lines tend to span few years or even to concentrate on cross-sectional analyses. Moreover, Organizational Ecology research considers whole organizational populations and communities, while Knowledge Networks research focuses on ego-networks mainly, and the Resource Based View is interested in the individual firm.

4.2 Organizational Ecology Theories

4.2.1 Core Concepts: Organizational Types, Organizational Populations and Organizational Communities

In Organizational Ecology theories, the relationship between the organization and its environment is interpreted through evolutionary concepts.

Organizational Ecology theories have developed different approaches and outcomes since when they drove international attention in the 1960s–1970s, but they all focus on a core concept, labelled as *organizational type*, or also organizational form, organizational model, organizational blueprint.

This concept aims to identify an analogue to the biologist's notion of species (Hannan and Freeman 1977). An organizational type identifies a class of organizations that are relatively homogenous in terms of environmental vulnerability. They rely on similar structures; they have developed similar rules or solutions for acting upon inputs in order to produce organizational outputs; and they tend to compete for the same resources. When the Organizational Ecology theories spread, in the 1970s and 1980s, the concept of business model was not used yet; nevertheless, if we read the definitions of Organizational Ecology theorists, we find that their concept of organizational type/form/model/blueprint is not far from the idea that we express today with the label *business model*.

A system of organizations of the same type is studied as an *organizational population*. For example, the top law offices in a certain city can be considered an organizational population. Of course, populations of interest are defined depending on the researcher's investigation concerns. The system of all the organizational populations within defined boundaries (for example, within a region) is an *organizational community*. Single organizations, organizational populations and

organizational communities are then the three possible levels of analysis for Organizational Ecology scholars; these three levels of analysis have generated three distinct research lines (Carroll 1984), described below.

1. The developmental approach focuses on the adaptive capabilities of single organizations. It assumes that organizations are highly adaptive and that structural changes occur in response to internal and external stimuli. According to Carroll (1984), this research line tends to be deterministic and, perhaps for this reason, is less cited and less discussed today than the following two, which offer more complex and counter-intuitive insights.
2. The organizational populations approach, also known as the Population Ecology of Organizations, is probably the most famous among the ecology-oriented organizational theories. This perspective assumes that the adaptation capabilities of organizations are, as a matter of fact, very low, because of external and internal inertial pressures (that will be more thoroughly described in the next paragraph). Therefore, real innovation does not occur within organizations, but within organizational populations, when new ecological niches emerge and new organizations are founded. Competition within populations of organizations of the same type, selection mechanisms and organizational mortality are the key factor that allow innovation.
3. The organizational communities approach, also called macroevolutionary approach, describes the rise and fall of organizational types, i.e. of entire populations, instead of single organizations. In other words, this line of research deals with the extinction of entire classes of organizations, and not with the mortality of individual organizations; the typical boundaries for analyses are provided by territorial concepts such as cities, regions or nations.

The developmental perspective, then, claims that single organizations are capable of adaptation through learning, whilst on the contrary the other two perspectives, i.e. the population ecology of organizations and the organizational communities approach, investigate why the single organizations are usually *incapable* to adapt, and how radical innovation is then possible.

In this chapter, we will concentrate on the organizational populations and organizational communities perspectives, since we think that their outcomes are more relevant to understand inter-organizational relationships, whilst the contribution of the developmental perspective is less suitable to our goals.

Aldrich (1979) linked organizational theory to the evolutionary logic, by describing organizational evolution as a three stage process consisting of variation, selection, and retention.

- *Organizational variation* is an essential precondition of selection; it consists in the emergence of a new organizational type/form/blueprint. For example, a wave of organizational variations resulted from the emergence of new business models based on e-commerce solutions in the late 1990s.
- *Organizational selection* posits a mechanism for the elimination of certain organizations, or of entire organizational populations. Elimination can occur

through dissolution, absorption, or radical transformation and depends on the interaction between the organization and the environment. Then, the predictor of organizational survival is an interaction variable composed of organizational form and environmental condition (Carroll 1984).

- *Organizational retention* posits a mechanism for the conservation of advantageous organizational traits, which otherwise would be lost for incremental change. For example, Hannan and Freeman (1993) argued that the role of organizational inertia is to reproduce the organizational structure ensuring accountability and reliability.

The organizational population approach has focused mainly on the second and third phase, i.e. organizational selection and retention, often considering the first phase, i.e. variation, as a given. On the contrary, the organizational communities approach has dedicated more attention to explain organizational variation. We will now provide in Sect. 4.2.2 a synthetic overview of how the role of inter-organizational relations is described in studies focusing on *selection* and *retention* processes: this will allow, in Sect. 4.2.3, a better understanding of the role of inter-organizational relations also in the first phase, i.e. organizational *variation*, when, according to organizational ecology approaches, new organizational types and new business models are born.

4.2.2 Organizational Selection and Retention: The Role of Inter-Organizational Relations in the Development of Organizational Identity and Organizational Inertia

Scholars have concentrated on two main factors that exert selective pressures on organizations: competition and constraints (Hannan 2005).

Competition involves the other organizations that compete for the same resources; examples of resources include profitable customers, funding possibilities, or reliable suppliers. Even if an organization has no direct relationship with its competitors, each competitor shapes the environment and influences the organization's relationships with, and access to, key resources.

But not only do organizations confront their competitors; they also confront the consequences of their own previous choices, which imply constraints and expectations. Constraints can come from within the organization, from other organizations, from consumers and public opinion; they go far beyond the strictly economic constraints to change, such as the sunk costs of technological innovation.

In fact, organizational identity gets conferred by internal and external audiences, which decide what are the organization's key features. Once an audience attaches an identity to an organization, changes in core features are likely to cause problems: if their default expectations are violated, relevant audiences are likely to get confused and angered. In fact, organizational populations scholars conducted large-scale studies demonstrating that change in core structure increases the hazard

of organizational mortality, because the short-term destabilizing effects of change often overcome the longer-term possible improvements resulting from feature replacement. The magnitude of this negative effect of change on survival increases with organizational age. Then, older cohorts of organizations are more likely to be conservative, since many of those that tried to change their core features have died.

The importance of organizational identity and the related inertial forces provide explanations for organizational mortality at different organizational ages.

New organizations are usually weak in the first place, and are likely to be unfit to compete, especially in phases of high density and resource shortage within the population. Moreover, new organizations have not gained legitimacy in their business environment yet. Even if they survive their infancy, will they be capable to grow in size and reliability so to compensate for the flexibility they are progressively losing?

These "newness liabilities" and "adolescent liabilities" explain the high mortality rates in young organizations, which on the other hand are not constrained by inertia, and have the opportunity to choose designs that fit the current socio-economic environments.

Conversely, old organizations find themselves trapped by their own origins. Organizational aging means lack of necessary changes ("obsolescence liabilities") and accumulation of counter-productive changes ("senescence liabilities").

In fact, inertial forces increase with age; the stronger the inertial forces, the more limited the prospects of adapting to changing environments. Moreover, whilst changes improving fitness are more and more hindered, changes that worsen fitness are likely to accumulate with age: for example, many old organizations are suffocated by a progressive detrimental accumulation of bureaucratic rules, that further impedes adjustment to environmental change. The most important factors that seem to protect old organizations from obsolescence and senescence liabilities are size and legitimacy: the mortality rates are much higher among old and small organizations than among old and large ones; moreover, as long as old organizations meet the expectations of relevant audiences, they are less subject to mortality.

According to this theoretical view, then, inter-organizational relations are both a key factor to eliminate organizations (due to the action of competitors and/or delegitimating inter-organizational audiences) and to protect them (due to the action of legitimating inter-organizational audiences). This approach sees inter-organizational competition and legitimation processes as essentially conservative forces, which tend to stabilize the business environment. How do new organizational forms emerge, then? What makes organizational innovation possible? Whilst the population ecology approach tends to overlook such questions, the organizational communities approach puts them at the core of the inquiry, as the next paragraph will show.

4.2.3 *Organizational Variation: The Role of Inter-Organizational Relations in Organizational Innovation*

Environments are not all equal. Some have less resource constraints and less competitive saturation: this results in conditions of environmental openness, where opportunistic choice can work as the central dynamic of organizational change. We can consider organizational communities as contexts governing the extent to which ecological opportunity, in the form of environmental openness, is available (Astley 1985).

In fact, organizational communities are functionally integrated systems of interacting organizational populations. They may begin to exchange resources mainly with each other rather than with the environment. In this case, the so-called community closure occurs: the more that communities develop this internal structure of functional interdependencies, the more they approximate closed systems containing a limited number of possible niches.

In this phase, symbiotic interdependencies emerge between populations. New populations branch out from the established ones, or invade the community from outside, in order to fulfill ancillary roles: in this way, functional complementarities and inter-population / inter-organization dependencies multiply until a climax stage, when internal relationships can no longer increase without reducing the community's effectiveness.

As a community evolves towards closure, niches are progressively filled, and competitive saturation gradually inhibits the emergence of new populations. At this point, the community is in equilibrium, marked by stability in the forms and numbers of each population. But such stability is a coin with an opposite side, and this opposite side is fragility. When confronted with disturbances beyond their normal experiences, closed organizational communities may collapse because of a domino effect. After this, a new equilibrium status is eventually reached through a process called ecological *succession* (Gutierez and Fey 1980). Community succession functions as a regulator determining the availability of open environmental space. After a first phase of community closure and a second phase of community stability, the phase of community disintegration suddenly empties the environment and invite a flood of new organizational forms to take advantage of the new opportunities. This is consistent with the evolutionary theory of punctuated equilibria. In organizational terms, this means long periods of substantially stable industrial structure, followed by episodes in which numerous new branches are established, before activities stabilize again and niches become again protected from competitive invasion.

In this view, technological inventions alone are not sufficient to trigger innovation clustering: the key factor is the provision of open environmental space.

The availability of open environmental space is strongly influenced by inter-organizational networks: in fact, it is the organizational community that opens up new niches and offers previously unforeseen growth potential, by encouraging and protecting the creation of new, symbiotic branches.

As the reader can see, the organizational communities approach differs from the organizational populations one not only as for the level of analysis, but also as for the role attached to organizational variation. According to the population ecology model, variation is simply raw material: when the environment dictates a change, appropriate variability is present in a given population to provide an effective response. According to the community ecology, in contrast, variation is an important evolutionary force in its own right, whilst selection stabilizes forms and retards evolutionary processes. "Chance, fortuity, opportunism, and choice are the dominant factors determining the direction in which evolution progresses. In the absence of selection pressures, organizational variability becomes, itself, the central dynamic of change" (Astley 1985, p. 239).

4.3 Resource-Based and Relational-Based View of the Firm

4.3.1 Core Concepts: Resources and Social/Relational Capital

The Resource Based View (RBV) of the firm is a theoretical approach that made its official debut in 1984 when *Strategic Management Journal* published Wernerfelt's article, *A Resource–Based View of the Firm*. The article builds on the assumption that the firm's resources and capacity can be a source of competitive advantage and income when these have the characteristics of duration, heterogeneity, immobility and inimitability (Dierickx and Cool 1989; Barney and Arikan 2001; Peteraf 1993; Lado and Wilson 1994). So it is a question of explaining and predicting why some firms achieve sustainable positions of competitive advantage and generate income as opposed to others unable to accomplish the same goals.

The firm therefore is not a bundle of contracts but a "bundle of resources" (Penrose 1959), where "resource" acts as the umbrella term for all the assets, capabilities, internal processes, attributes, information, knowledge, and so forth controlled by the firm with the aim of designing and implementing strategies that raise its efficiency and efficacy (Wernerfelt 1984). In the language of strategic analysis, firm resources are the strengths that can be used to implement internal organizational theoretical approaches to drive "superior performance" (Barney and Arikan 2001) in the firm's business markets. The concept of superior performance refers to the "economic rents", or the higher-than-expected value generated by the resources, ensuing from the implementation of value creation strategies not imitated by its competitors (Barney and Arikan 2001).

The firm gains a competitive advantage as a result of its ability to generate more value than its competitors. According to (Barney and Arikan 2001), that ability depends on the physical assets owned, for instance, the hardware technologies used, plant and factory buildings, geographical location, access to raw materials, and intangibles like intellectual capital.

In turn, intellectual capital is made up of (Edvinsson and Malone 1997):

- Social capital, meaning the relational dimension of the company, also called "relational capital", which includes the quality of relations with clients, suppliers, partners, and so on
- Human capital, which includes the value of people and takes account of the level of training, the ability to judge, intelligence, motivation, and the personal intuitive ability of the managers and employees generally
- Organizational capital, which covers the organizational structure, intellectual property, the formal reporting structure, formal and informal planning, the control and coordination structure, basically, what is known as the management model

But not all the resources have the same ranking, so it is vital to specify the conditions in which the firm's resources turn into a sustainable competitive advantage.

Barney distinguishes the simple and sustainable concept of competitive advantage. An advantage is sustainable until the competitors cease their attempts to imitate it and the company finds its balance in the competitive arena.

Like all theories, the Resource-Based Theory (RBT) is based on several assumptions (or arguments), many of which are similar to those that underpin other theories on persistent superior performance; one example is the trait that defines all the firms that seek to maximize their profit, and where the managers have their own bounded rationality.

The resource-based logic goes beyond the accepted theories by adding two assumptions that set it apart from the other strategic management theories:

- The heterogeneity of the resources: the competing firms can have different "bundles of resources"
- The immobility of the resources: the distinctive trait of the resources can persist

The key difference in approach is that these two conditions can persist over time. Nevertheless, that does not mean that adopting a winning strategy makes all the companies unique but, according to the RBV, that some companies sometimes have the opportunity of owning resources that enable them to develop and implement strategies more efficaciously than their competitors and to retain this distinctive quality over time.

4.3.2 The Potential of the Resources and the Role of Dynamic Capabilities

Having established that the resources are at the heart of the competitive advantage, it is now necessary to discover what actually transforms those resources into a

sustainable competitive advantage. This led (Barney and Arikan 2001) to identify four empirical indicators to measure their potential (Barney and Arikan 2001):

- The **value** (or contribution) provided by the resource that enables the firm to achieve its strategic goal. The resources must be precious at the time they contribute to the competitive advantage and, that is, when the company formulates or implements strategies that improve the efficiency and effectiveness of its processes.
- The **rarity** of the resource, in that if a resource is owned by a large group of competitors it loses its distinctive role in any strategy. Indeed, the less accessible the resource, the greater the potential to generate value for the organization. If the resource or group of resources is unique it will lead to the creation of distinctive competences and can make the competitive advantage sustainable and enduring. Moreover, as long as the number of firms in possession of a specific precious resource is lower than the minimum number of companies needed to create a perfectly dynamic competitive market, those resources will have the potential to generate a competitive advantage.
- The **imperfect imitability** of the resource; the duration of the competitive advantage persists only until the companies that do not own the distinctive resources can obtain or produce them. This imperfect imitability is a result of one or a combination of the following factors:
  - Unique historical conditions: advantages of time and place, of economies of scale, and synergies
  - Causal ambiguity-complexity: the link between the resources owned and controlled and a long-term competitive advantage. The higher the level of ambiguity-complexity, the tougher it is for the competitors to duplicate the same distinctive competences
  - Social complexity: this type of phenomena can reduce the potential for the competitor to imitate the product or service in question regardless of its internal organizational capabilities (for example, the relational ability of the managers, the corporate culture, and the reputation enjoyed with suppliers and clients)
- The **imperfect substitutability** of the resource: a resource can originate a sustainable competitive advantage if there are no other strategically equivalent readily available or imitable resources. Equivalent is placed in relation to the ability to exploit two separate resources to implement the same strategy. Substitutability can have two diverse meanings: the resource in question cannot be imitated exactly but a similar resource can be used to enable the formulation and implementation of the same strategy. Further, highly diverse resources can be used to implement the same strategy.

The RBV concept of resource heterogeneity refers to the attributes of scarcity, that is, the demand for the resource (or group of resources) outstrips supply and its non-substitutability, meaning that no alternative resource can be harnessed by the corporate strategy to achieve the same level of efficiency and efficacy as the

original resource. Lastly, immobility can be likened to the concept of non-elastic procurement because, despite demand, the future acquisition of some resources can be hard, hence the lack of elasticity on the side of the supply chain.

The degree of scarcity, non-substitutability and inelasticity clearly can vary in terms of both internal resources and between similar resources owned by other players in the same market.

Some authors, taking the RBV as their point of departure, have developed new branches of study that tend to enrich the concept of resource and asset. Among them, "the relational view" is of particular significance here. The relational approach highlights how a firm's critical resources can be extended beyond firms boundaries (Dyer and Singh 1998). It tries to identify the theoretical basis to explain the sources of inter-organizational competitive advantage and emphasizes the concept that relationships among firms are an important unit of analysis to understand the super normal profit returns (Dyer and Singh 1998). The concept of network as a resource was investigated by Gulati and Westphal (1999) and was then taken up by Lavie (2006), who, starting with the concept of "relational view", developed the theme of the network as a resource, demonstrating how it was possible for an interconnected firm to obtain value "from resources that are not fully owned or controlled by its internal organization" (Lavie 2006, p. 639). Moreover, strung and trustful inter-organizational ties create resource stocks that are, by their very nature, strongly idiosyncratic and then hard to imitate and to substitute, and so may give decisive contribution to sustainable competitive advantage. In a nutshell, this new research path branches away from the classic RBV approach to highlight the key role that relations can play between firms and, in particular, the resource network, which becomes a true source of competitive advantage and higher returns.

Also the literature on dynamic capabilities (Helfat et al. 2009) is more and more focusing on the importance of inter-organizational networks to allow agility. This line of research is rooted in strategic management literature, like the RBV, but it concentrates on the goal of competitive survival, rather than competitive advantage. It states that firms survive if they are capable to remain agile and adaptive, by developing dynamic competences and by innovating their resource base. Alliancing is considered among the few key strategic activities, needing specific dynamic capabilities (Eisenhardt and Martin 2000). Since the continuous change of the entire resource base in order to adapt to the changing environment is unrealistic, some dynamic capability studies focus on the firm's ability to quickly orchestrate and reconfigure externally sourced competences while leveraging extant internal resources (Shuen and Sieber 2009). Thus, the line of research on dynamic capabilities is likely to yield numerous and interesting studies on inter-organizational relationships in the next years.

On the other hand, a line of research reverses the usual logic of social capital (Borgatti and Foster 2003) and suggests that social capital may have also negative consequences. Scholars sometimes label this as the "dark side" of relational networks, in which social ties imprison actors in maladaptive situations or facilitate undesirable behavior (Gargiulo and Benassi 1999; Gulati and Westphal 1999).

4.4 Knowledge Networks Theories and Social Network Analysis

4.4.1 Core Concepts: Ego Network, Network Boundaries, Social Network Analysis (SNA)

The core assumption of knowledge networks states that the capability to grasp, recombine and utilize knowledge is the most important strategic resource. This assumption is compatible with the Knowledge Based View of the firm implied by Intellectual Capital theories.

Thus, social networks can be seen as knowledge networks. Knowledge networks are conceptualized as consisting of nodes (e.g. organizations), which serve as both repositories of knowledge and places where knowledge is searched for, adopted, transmitted, and created. Nodes are linked by social relationships. "These relationships constitute a means by which nodes search for information and knowledge, a medium through which information and knowledge diffuse and flow, and a lens through which nodes evaluate each other" (Phelps et al. 2012). Social Network Analysis (SNA) and graph theory usually depict nodes as points, and ties as lines or arcs.

Research in this field is inherently multilevel, focusing on individual, intra-organizational and organizational nodes. For example, organizational behavior scholars have studied the influence of social networks on individual creativity (Burt 2004); Hansen (1999) has investigated how the strength of interdivisional ties influence knowledge transfer within firms; strategy researchers have studied how inter-organizational network structure affects firm performance (Schilling and Phelps 2007).

The typical research questions in this vast and viable stream of studies are synthesizable with the following: *how does a network maximizing knowledge transfer*, *creation and adoption look like*?

In order to address this type of questions, scholars often make use of two key frameworks: the ego network, and the whole network.

The ego network focuses on the relationships of a single, central node, called "ego". An ego network graph shows how many nodes interact with ego, and the extent to which these nodes are linked to each other (Fig. 4.1, left). When two of the ego's contact do not share a tie, a structural hole exists between them, putting ego in the favorable condition of being the information bridge between the two separated nodes (Burt 2001).

The whole network, instead, focuses on the ties linking an entire population of nodes; network boundaries are defined depending on the researcher's needs (Fig. 4.1, right).

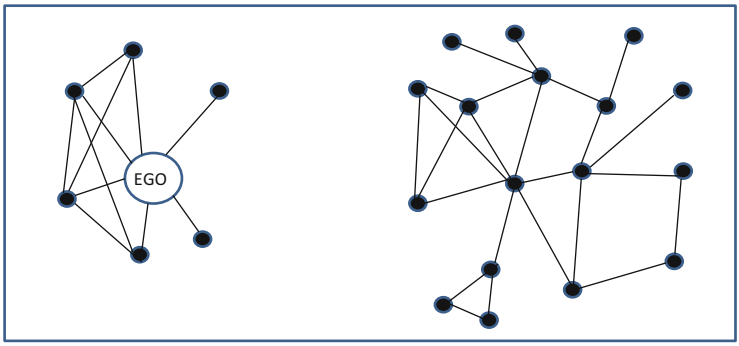

Fig. 4.1 The graph on the *left* represents an ego network, whilst the graph on the *right* represents a whole network structure

4.4.2 Topological Variables: Network Centrality, Structural Holes, Density, Clustering

The typical dependent variables in knowledge networks research are knowledge creation, knowledge transfer and knowledge adoption. Scholars seek to find and explain how network-related constructs influence (as independent variables or as mediators) these dependent variables (Phelps et al. 2012).

A first group of typical network-related constructs are those describing the structural features of the network, independently from the type of relationships and from the nature of the information created and exchanged through the relationships. These structural network features are collectively labelled as topological variables: a brief description of the most studied follows.

- *Network position*. Many studies have examined the influence of an actor's network position on its knowledge outcomes. Scholars usually focus on centrality, which is defined either in terms of number of direct contacts, or both direct and indirect contacts. Researches find that a central network position has a positive or inverted U-shaped influence on an actor's knowledge creation. This is usually explained by observing that whilst more numerous contacts provide richer and timelier information flows, too many contacts may become too costly and dispersive (Phelps et al. 2012).
- *Network closure/density*. Some studies suggest that structural holes in a firm's ego network enhance knowledge sharing and then knowledge creation (McEvily and Zaheer 1999), whilst other research suggests that network closure (i.e. the absence of structural holes, also called network density) improve ego's innovation performances (Schilling and Phelps 2007). Other variables may intervene to explain these conflicting results: for example, Ahuja (2000) argued that partners in horizontal networks will benefit more from network density since it deters opportunism. In other words, the type of tie (between competitors vs. supply chain partners) may be a relevant contingency variable influencing the impact of

network closure/structural holes. Moreover, the depth and diversity of the knowledge stocks possessed by network members is another possible contingency variable: the higher the depth and diversity of the knowledge possessed by network members, the stronger the possible positive impact of intense knowledge sharing made possible by dense networks.

- *Network clustering*. The clustering coefficient measures the extent to which nodes tend to cluster together, i.e. to create tightly groups characterized by high density of ties. Research tend to agree that clustering is positive in that it promotes social cohesion and knowledge sharing, but excessive clustering can create dysfunctional levels of cohesion and reduce the availability of diverse information within the cluster. The best performances are allowed by clusters that maintain some cross-cluster ties (Uzzi and Spiro 2005), thus reducing the network's average path length (relational distance between nodes).

4.4.3 Relational, Nodal and Knowledge Properties: Tie Strength; Members Diversity, Proximity, Absorptive Capacity; Codified and Tacit Knowledge

Other factors influencing the knowledge-related performances of organizations are some key relational feature of ties, along with some key characteristics of the network members and of the knowledge flowing through network ties. A synthetic overview follows.

- *Tie strength*. Strong ties are characterized by long relationship duration, frequent and intense collaboration, and repeated partnering: these ties encourage trust and reciprocity (Ruef 2000). Strong ties are likely to have positive influence on knowledge sharing and social cohesion; but sometimes they seem to have an inverted U-shaped effect on innovation. This is usually explained by arguing that increasing levels of trust between partners can lock them into relationships that hinder access to diverse knowledge sources from other potential contacts. Organizations that maintain a limited number of strong ties, and a larger number of strong ties, seem to display the best performances (Molina-Morales and Martinez-Fernandez 2009).
- *Members similarity/ proximity*. Geographical, cultural and industrial sector proximity between network partners influence their knowledge-related performances. The knowledge assets of partners should not be both too similar (otherwise partners would have little to learn from one another) and too diverse (otherwise partners would find it difficult to communicate and learn from each other (Simonin 1999; Sampson 2007). Moreover, if the partners' markets overlap, partners tend to be highly protective of their knowledge and this hinders knowledge sharing between potential market rivals (Baum et al. 2000).
- *Members absorptive capacities*. Absorptive capacity is the ability to recognize the value of new information, assimilate it, and apply it to the organization's

goals. It is a cumulative ability, since it depends on prior related knowledge and background diversity (Cohen and Levinthal 1990). Studies have confirmed that absorptive capacity is a strong predictor of knowledge-related performances for networked firms, because firms that are open to new ideas and approaches and are capable to adapt them to their own needs are more likely to leverage the diverse expertise and knowledge flows from their networks (Zhao and Anand 2009). Absorptive capabilities can be usefully complemented by collaborative routines, for example to optimize searching for new knowledge within existing partnerships (Zollo et al. 2002). On the other hand, also the partners' transmission and teaching capabilities are important (Zhao and Anand 2009).

- *Codified and tacit knowledge*. Research suggests that simple, discrete and codified knowledge is easier to transfer between organization; on the other hand, the transfer of complex and tacit knowledge between partners is enhanced by strong ties, which imply trust, frequent interaction, and cumulated experiences of joint problem solving (McEvily and Marcus 2005).

Conclusions

The three research streams we presented in this chapter stemmed from different levels of analysis and different assumptions, but they all claim that inter-organizational relationships play an essential role in the development of organizations' strategic capabilities.

This role is not necessarily positive. Also RBV scholars have often highlighted the so-called dark side of social capital. Inter-organizational networks emerge as double-bladed weapons, which can both facilitate and hinder strategic capabilities such as innovativeness and competitiveness. Both Organizational Ecology and Knowledge Network studies offer interesting explanations for these seemingly conflicting outcomes.

Organizational ecology theories, and the population ecology line especially, propose a somehow counter-intuitive claim: organizational selection processes, far from triggering adaptability and dynamic change, tend to encourage inertia during the long phases of equilibrium between two crises. These claims rely on long-term longitudinal studies, whilst Knowledge Network research focuses on cross-sectional analyses mainly. In any case, a sort of longitudinal view on inter-organizational phenomena indirectly emerges also from Knowledge Networks research, since many studies found an inverted U-shaped relationship between network features, such as for example tie strength, and knowledge-related performances.

An overall view on the theories presented in this chapter makes us see inter-organizational networks as dynamic environments where innovation waves are followed by waves of legitimation and conformism, before the system collapses and re-starts through new radical innovation.

(continued)

As the reader can see, there are several links between these theories and those presented in Chap. 3, but only rare attempts of cross-fertilization have been made so far (for example, Baum and Powell 1995).

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Part II
The Literature on Virtual Organizations, Electronic Mediators and e-Marketplaces

Chapter 5
Emerging Business Models in B2B Research: Virtual Organization and e-Intermediaries

Abstract This chapter takes a closer look at the electronic intermediaries and their role in the value chain. Because the electronic intermediary is considered a Virtual Organization (VO), the chapter first tracks the evolution of the VO and then investigates its new role as an electronic mediator or broker. The shift towards the market poses a substantial threat to the survival of these intermediaries, leading some authors to argue that traditional intermediaries are a species in extinction, no longer indispensable thanks to the market's ability to do a more efficient job (Fielt, E. J. (2006). Designing for acceptance: Exchange design for electronic intermediaries. Ph.D.-Thesis, Enschede, The Netherlands: Telematica Institute; Giaglis et al. Information Systems Journal 12(3):231–246, 2002). This highly controversial hypothesis has unleashed intense debate in the literature. In fact, these theories tend to frame the role of the electronic brokers purely in terms of the costs of the intermediation, neglecting to factor in the value or the potential economies these create (Heijden van der and Ribbers (1996). The changing value of travel agents in tourism networks: towards a network design perspective. In W. Shertler, B. Schmid, & A. M. Tjoa (Eds.), Information and Communications Technologies in Tourism (pp. 151–159). Wien: Springer). As a result, the disintermediation theory has been a target of criticism, backed by empirical observations showing that far from disappearing the brokers have been recast as lead players. This is true especially in those markets where the value created is the result of the focal company's ability to manage increasingly complex value chains in outsourcing mode.

The chapter concludes by arguing that, in practice, the traditional intermediaries will not all disappear. Rather, the virtualization-centric business sectors will simply transform their organizational structure to give life to new types of brokers, defined as electronic mediators, infomediators or cybermediators. Hence, the appearance of competely new markets for the electronic or cybermediators (Sarkar et al. Journal of Computer-Mediated Communication 1:35–47, 1995; Dai and Kauffman International Journal of Electronic Commerce 6:41–72, 2002; Giaglis et al. Information Systems Journal 12(3):231–246, 2002; Novak and Schwabe Electronic Markets 19:15–29, 2009; Rossignoli et al. Electronic Markets, 19:55–66, 2009).

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5.1 Introduction

Importantly, despite the detailed review conducted earlier in this book of the literature that adopts the main management theories to explain the impact of the Internet revolution on the Business to Business (B2B) markets and on inter-organizational relationships, a relevant part of the scholarship is *not* anchored to any specific management theory. In fact, these topics tend to be studied using a phenomenologically weighted approach, i.e., with few, if any, explicit theoretical underpinnings.

Viewed through the lenses of the traditional management theories, the new models proposed by the literature reviewed here could be interpreted as syncretistic, given that these studies often mix different explanations of inter-organizational phenomena, for instance, spontaneous collaboration (e.g., collaborative network theory) and opportunism (e.g., agency theory). The literature therefore can be trawled for general insights on how to integrate the different yet often contradictory management theories that seek to explain the subject of inter-organizational relationships addressed in Chap. 8.

However, we first need to survey some studies representative of the different currents of B2B market literature that have produced new business models not necessarily linked to specific management theories. These research currents can be split into three groups:

- Virtual organizations (VO)
- e-intermediaries
- e-marketplaces (EM) (which will be more thoroughly described in Chap. 6)

The three research groups share many aspects. Information and communication technologies (ICT) enable the firms to adopt new business models to manage relations both upstream and downstream of the production chain to improve the efficiency of the entire value chain.

The digital revolution has radically changed the management of the supply chain's product/service information flows, reshaping the conditions in which the firms interact. The value chain is reconfigured to favour the development of new internet-based organizational forms.

There is no question that the ICTs and, in particular, the internet, are the technological backbone on which to develop forms of networks across all relational levels. In market exchange relations, for example, e-commerce (both B2B and B2C) opens new windows of opportunity for the entire business universe.

5.2 The Virtual Organization

The concept of 'virtual organization' was coined roughly 15 years ago to describe the changes that were reshaping the organizational structures and the value created by ICT takeup (Riemer and Vehring 2012). The Information Systems community has since adopted this concept and applied it to a broad range of settings. Nevertheless, the literature has managed to paint only a sketchy conceptual picture that needs further clarification, given that today's interpretations of virtual organization bounce from one side of the conceptual spectrum to the other, sowing great seeds of confusion.

Riemer and Vehring's (2012) observation that different authors applied the term 'virtual organization' to different things led them to conduct an extensive, in-depth review of the literature with the aim of unraveling this tangled maze of meanings. In their quest to understand the true meaning of this concept, the authors examined and classified more than 60 articles according to the definition of virtual organization and the main descriptive traits used by each author. In fact, the outcome confirmed the authors' suspicion that 'virtual organization' was a term applied liberally to different organizational concepts. After coding and grouping the articles, the authors identified three types of VO, all three correct interpretations of the more general idea of virtual organization in that each one addresses structures that move away from the traditional view of the organizational form. Systematic research then led the two authors to identify 22 factors used by the literature to identify the term 'virtual organization'. These factors were then split into six clusters under the headings: *network structure*; *projects*; *distribution aspects*; *management*; *value creation*; *goals*. Each cluster corresponds to a distinct set of VO traits, more specifically:

1. Network structure: intra-organisational, inter-organisational, hierarchical network
2. Projects: short-term, resource pools
3. Distribution: de-centralization, ICT-enabled, co-marketing, and telework
4. Management: no hierarchy, coordinator, control, and trust
5. Value creation: core competencies, joint resources, e-commerce and
6. Goals: virtual size, market opportunities, customization, costs, risks, and knowledge

Each of the six clusters is described in detail below and summarized in Table 5.1.

Cluster 1—*Network structure*: the VO is typically described as a network with multiple features; the VO is often seen as a collaborative network of persons, all of whom usually reside in the organization. This notion underscores how the VOs tend to be seen as virtual group structures. Second, the VOs are rated more generally as inter-organizational networks of fairly independent firms or actors. Third, the VO can be described as a hierarchical network with a central actor responsible for managing relations with the other actors (e.g., suppliers, clients, etc.)

Table 5.1 VO classification criteria

Network	
Intra-organisational	Collaborative network of people residing inside one organization
Burkhard and Horan (2006)	
Inter-organisational	Collaborative inter-organisational network of independent firms or individuals
Travica (2005)	
Hierarchical network	Focal network of one company with its suppliers (or customers)
Burkhard and Horan (2006), Hans (2008)	
Projects	
Short-term nature	Short-term nature of VO, existence of specific projects
Breu and Hemingway (2004), Franke (2001), Gallivan (2001), Kasper-Fuehrer and Ashkanasy (2004), Orman (2009), Romero and Molina (2009), Riemer et al. (2001)	
Existences of pool	Existence of a pool (network) as the long-term element from which projects are formed
Breu and Hemingway (2004), Franke (2001), Romero and Molina (2009), Riemer et al. (2001)	
Distribution aspects	
De-centralisation	Geographical and temporal distribution of value creation
Breu and Hemingway (2004), Franke (2001), Gallivan (2001), Lin and Lu (2005)	
ICT as enabler	Linking of partners via ICT
Breu and Hemingway (2004), Franke (2001), Lin and Lu (2005), Travica (2005)	
Joint marketing	Joint market presentation of the partner—VO as a discrete entity
Kasper-Fuehrer and Ashkanasy (2004), Lin and Lu (2005), Travica (2005)	
Tele-work	Remote
Burkhard and Horan (2006)	
Management	
No hierarchy	Lack of institutionalized management mechanism and hierarchical structures
Breu and Hemingway (2004), Gallivan (2001), Kasper-Fuehrer and Ashkanasy (2004)	
Coordinator	Existence of a coordinator or dedicated coordination mechanism
Franke (2001), Gallivan (2001), Kasper-Fuehrer and Ashkanasy (2004)	
Control	Use of control mechanisms
Gallivan (2001), Romero and Molina (2009)	
Trust	Trust as enabler (importance of social relationship)
Burkhard and Horan (2006), Breu and Hemingway (2004), Lin and Lu (2005)	
Value creation	
Core competencies	Core competencies concentration (synergic combination of partner competencies)
Breu and Hemingway (2004), Franke (2001), Gallivan (2001), Kasper-Fuehrer and Ashkanasy (2004), Lin and Lu (2005), Romero and Molina (2009)	

(continued)

Table 5.1 (continued)

Joint resources	Resources are jointly built up and shared between partners
Breu and Hemingway (2004), Franke (2001), Gallivan (2001), Kasper-Fuehrer and Ashkanasy (2004), Lin and Lu (2005), Romero and Molina (2009)	
E-commerce	Offering of electronic services for end customers
Elliot (2006)	
Goals	
Virtual size	Achieve virtual size (collaboration of SMEs)
Franke (2001), Gallivan (2001), Kasper-Fuehrer and Ashkanasy (2004)	
Market opportunities	Jointly exploit market opportunities
Franke (2001), Kasper-Fuehrer and Ashkanasy (2004), Romero and Molina (2009), Travica (2005), Hans (2008)	
Customization	Individual customized products for customers
Franke (2001), Kasper-Fuehrer and Ashkanasy (2004), Travica (2005) Hans (2008)	
Costs	Cost sharing/Cost efficiencies
Franke (2001), Breu and Hemingway (2004), Elliot (2006)	
Risks	Sharing of risks
Elliot (2006)	
Knowledge	Sharing of knowledge, joint learning
Franke (2001), Kasper-Fuehrer and Ashkanasy (2004), Breu and Hemingway (2004), Burkhard and Horan (2006)	

Source Riemer and Vehring (2012)

Cluster 2—*Projects*. Often the VO is associated with an organization set up especially for a specific project, hence the emphasis on the VO's "short-term" nature. On the other hand, some authors claim that the VO features long-term elements and that it has a certain degree of stability, such as a pool of partners already primed and consolidated to pursue future short-term projects.

Cluster 3—*Distribution aspects*. This criterion refers to the geographical, organizational and temporal distribution of the value creation and, more generally, to the division of labour processes. Many authors describe this as a key trait of the virtual organization concept because ICT-enabled, with ICT used as the tool to communicate and, likewise, share information.

Cluster 4—*Management*. The managerial aspects highlight very well the different notions of VO held by the different authors. While some authors underscore the lack of institutionalized management mechanisms and the shift from hierarchical to flat and flexible organizational structures, others argue the need for a central

coordinator or, otherwise, for centralized coordination mechanisms. Moreover, even though many authors see trust as the stabilizer of a VO in the absence of other mechanisms, others deem it necessary to design explicit VO governance mechanisms.

Cluster 5—*Value creation*. The VOs are often discussed in terms of how the networks themselves generate value, which, in fact, is the main focus of the literature. This type of organization rigorously concentrates its competences so that the network takes on more the semblance of a portfolio of individual skills, with each partner contributing their own specific expertise. This approach enables the partners to co-create and share certain resources within the VO.

Cluster 6—*Goals*. This cluster is distinguished by a set of factors based on "purpose" that the authors believe lead to the setting up a VO. The most indicated are: uniting strengths to grow in virtual size; implementing new strategies to operate in the globally competitive markets; fast technological change and flexible production processes; customizable products; cost-sharing or cost efficiencies, risk spreading, knowledge sharing and joint learning.

Table 5.1, below, outlines the criteria used by the papers written since 2000 to classify the definitions of virtual organization as reviewed by Reimer and Vehring in their 2012 study.

The authors identified the first type of VO as an *Internal Virtual Organization* (IVO), a definition that stems from the fact that the organization is entirely built around internal virtual teams that use ICT to close geographical and temporal distribution gaps. As such, an IVO pursues virtualization by deploying ICT to bridge the geographical divide between the organization's own units. Basically, the key trait of this type of VO is the collaborative network of persons that belong to the organization and that creates value from geographical and temporal distribution, thanks also to the ICT that connects the different actors/partners. As a result, telework and mobile work are common factors based on the use of laptop computers, mobile phones and the various ICT connection options.

Unlike the other two types of VO described below, the IVO is based on virtualization within the firm's boundaries, as shown in Fig. 5.1. A typical example of an IVO is a multinational corporation that establishes offices over a large geographical area and that relies heavily on ICT to organize its value creation process.

The authors call the second type of virtual organization a *Network Virtual Organization* (NVO), precisely because it is, basically, a network, more often than not of small and medium-sized enterprises that bring their own particular expertise to the table, joining forces in order to respond more promptly through short-term projects to market opportunities. The type of virtualization implemented by an NVO aims to connect the small businesses that collaborate in the network and thus to achieve virtual size, but also indicates the absence of a formal legal entity. In fact, the network itself is the real business.

An NVO is a flexible inter-organizational collaborative network of small to medium size companies (or partners) that aims to achieve synergic combinations by the fact that each player places their core competences at the disposal of the

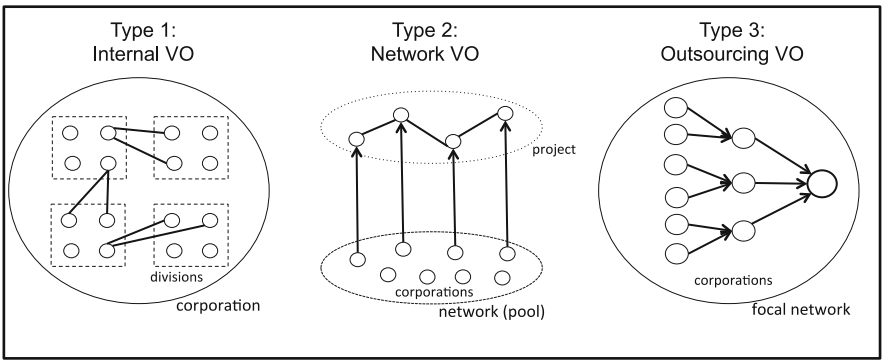

Fig. 5.1 IVO, NVO and OVO—main structural features [*Source* Riemer and Vehring (2012)]

network as a whole. This way of pitching in with individual strengths enables the entire group to seize market opportunities that otherwise would not be feasible. The work of such an organization takes the form of short-term projects based on geographical and temporal distribution. The partners are connected thanks to ICT and trust is the collaboration's key factor of success, attesting to the importance of the network's internal social relations.

Unlike an IVO, in which the business units of the same organization collaborate, an NVO calls for collaboration between the business units of different organizations. In essence, an NVO is a combination of activities that are not only geographically distributed, but also functionally and culturally diverse that share resources and competences to achive a common goal. The members of an NVO rely on ICT to coordinate their activities and thus bridge the geographical distance. Most authors underscore the short-term nature of the projects delivered by a VO, considered a temporary network of players that get together to manage and deliver one specific deal and then disperse once the target has been reached. Nevertheless, some authors point out the need for long-term elements to give the collaborative structures the time to emerge. An NVO is an open network that accepts prequalified partners, providing them with a fairly stable setting in which trust, responsibility and shared visions can flourish. Typical examples of such networks are those made up of small, independent firms that come together to achieve virtual might and to provide a joint service.

The third type of VO identified by Riemer and Vehring (2012) is the *Outsourcing Virtual Organization* (OVO), a virtual organization governed by a focal company that outsources a large part of its value-creation business to a supplier network. The decision to outsource a firm's specific commercial activities to an external partner creates a hierarchical network of external partners each of which contributes to the OVO's value creation endeavour according to the various ICT-coordinated processes. The focal company thus creates value from virtualized outsourcing processes, which means an OVO is basically made up of a network of suppliers in which most of the value creation is distributed to the external network, with the transactions managed in outsourcing. An OVO is governed by cutting-edge

ICT, while the key trait of the focal company is the concentration of competences; likewise the specialised partners that bring their experience to the network.

An OVO differs from an NVO in that it is defined by the actions of the major player that governs and controls the network; this gives it the power to make strategic decisions, while the contracts form the network governance mechanism.

Outsourcing separates temporal from geographical value creation, enabling the focal company to enhance the performance of its suppliers' logistics processes and, thanks to the deployment of leading-edge technologies, to ensure the efficiency of the supply chain.

Figure 5.1, below, illustrates the structural geometry of the three types of VO identified by Riemer and Vehring (2012).

The three types of VO described above imply that the the virtual concept is based on and should be interpreted according to a traditional form of organization, which would be like equating it with the archetypal notion of a company defined by a legal jurisdiction in terms of place and position, by an explicit (often hierarchical) structure and by proprietary knowledge and production processes. The "virtual" part of a virtual organization is therefore what distinguishes it from an archetypal organization (Riemer and Vehring 2012), as explained below.

Type 1: *the IVO* emphasises the role of ICT as the enabler of the communication and coordination activities, taking the concept of virtual from the human-computer interaction, where the virtual reality describes a kind of experience free from physical space and position. However, while it does retain the other aspects of a virtual organization (corporate culture and legal boundaries or shared practices and processes), this first type of VO is driven mainly by the ICT bridge constructed to leap the geographical distance and, hence, enable a virtual collaboration in which physical presence is no longer a hurdle to harnessing the effort and experience of people in shared work processes. The ICTs around which this first type of VO pivots can thus be classed as communication and coordination platforms.

Type 2: *the NVO* breaks with the idea that the company is at the centre of the value creation process, underscoring the importance of business networks. This concept is underpinned by the fact that "virtual" refers to the entity that provides products and services in the marketplace and wishes to appear as a bricks-and-mortar organization but is actually a virtual organization, i.e., set up ad hoc to offer services that are the result of the collaboration of a pool of partner organizations. These organizations use ICT in a support role and the focus is usually on inter-organizational systems that enable the coordination of joint value creation and the management of projects.

Type 3, *the OVO* retains the notion of a company as a legal entity that offers products in a marketplace. Nevertheless, the concept of virtual here underscores that the value creation process is not owned by a single key player because the focal company outsources most of the value-creation activities to a stable supplier network, making it responsible for the crucial aspects of the entire value creation process.

These three types of VO illustrate how the concept of virtual organization has evolved; how it has branched off to follow different paths and moved away from the archetypal view of a traditional organization (Riemer and Vehring 2012).

5.3 The Virtual Organization as Electronic Mediator

The model developed by Riemer and Vehring (2012) presented in Sect. 5.2 identifies the focal company basically as an outsourcer, i.e., the long-term client of the suppliers. In practice, however, the inter-organizational networks can create focal positions that stem, above all, from the relations that an organization has downstream of the value chain, i.e., with the clients, whether business or consumer. In fact, the internet-driven changes in how inter-organizational relations are managed have opened the door for companies to bypass the traditional intermediaries that served the market as wholesalers, retailers and agents to, instead, interact directly with the consumers. The IS literature has coined the term "disintermediation" to describe this change, which leads to shorter value chains that tend to exclude the intermediaries. The existence of several intermediaries adds more links to the value chain, which raises the overall cost of the good or service as each broker takes his cut on the product's extended journey to the consumer (Wigand and Benjamin 1995). This not only squeezes the producers' profit margins, but also is reflected in the higher prices that the consumer ends up paying.

However, the producers can internalize the activities previously performed by the traditional intermediaries by deploying latest-generation technologies and, thus, reduce transaction costs; this enables the producers to increase their profit margins and transfer part of that gain to the consumer through price reductions.

Nevertheless, that thesis tends to evaluate the impact solely in terms of the intermediation costs without taking account of the value created by the intermediaries and the economies of scale that these can achieve (van der Heijden and Ribbers 1996). Hence, the disintermediation hypothesis has been variously criticized, supported by empirical observations that demonstrate how, instead of disappearing, the intermediaries have made a resounding comeback, especially in those markets in which the focal company has the capabilities needed to manage the exchange relations, collaborative networks and hierarchies both up and downstream of increasingly complex value chains. One example is that of the retail groups (Adelaar 2000; Sarkar et al. 1995). Meantime, brand new markets are opening up for the electronic brokers or cybermediators (Sarkar et al. 1995; Dai and Kauffman 2002; Giaglis et al. 2002; Novak and Schwabe 2009; Rossignoli et al. 2009).

According to the classic view, well-covered by the literature (Bakos 1998), the electronic and the non-electronic markets each perform three key functions in an economic system by:

(a) bringing together buyers and sellers;

Table 5.2 Market Functions

Primary functions	Secondary functions
Matching of buyers and sellers	Vetting of offers
	Research
	Price discovery
Facilitating of transactions	Logistics
	Trust
	Regulation
Institutional infrastructure	Legal
	Regulatory

Source Bakos (1998)

(b) facilitating the exchange of information, goods, services and transaction-related payments; and
(c) providing an institutional, legal and regulatory framework to ensure the markets function efficiently.

In many cases, the intermediaries perform the first two functions with the State providing the institutional framework. The internet-based electronic markets can perform these functions far more efficiently than in the past and at lower transaction costs. The reward is more efficient markets without distorting elements.

Table 5.2, below, illustrates the results of the market functions analysis conducted by Bakos (1998).

The value created by the intermediaries in the traditional markets can be summed up as (Schmitz 2000):

- Market indicator tracking and transmisson to enable the sellers to prepare a product range more targeted to buyer demand
- Reducing the search costs for both the sellers and the buyers of a specifc good or service, giving these a single point of reference for the acquisition of information
- Generating the liquidity needed to make the market function properly and, in the case of auctions, delivering the mechanisms and infrastructure needed to determine the price
- Achieving transaction economies of scale far more easily than the producers can as individual players
- Safeguarding both the buyers and the sellers from the opportunistic behaviour of the other market players
- Facilitating, controlling and guaranteeing the regular implementation of contractual agreements
- Providing the basic legal framework for market functioning
- Establishing the mechanisms needed to ensure the markets comply with specific legal and ethical codes of conduct

The objective of the internet-based electronic markets is to perform the same functions as the traditional markets using advanced ICT to increase efficiency and lower costs.

According to Giaglis (Giaglis et al. 2002), the future of the intermediaries will depend not only on the market structures, but also on the value these can generate through the provision of services. It is unreasonable to assume the generalized disappearance of the traditional intermediaries.

Indeed, the impact of the electronic markets on intermediation could translate into an opportunity for the traditional intermediaries to prove their worth in terms of experience and competences and, thus, to demonstrate the important role these play in commercial transactions. Further, the advent of the digital markets has opened the door to the redesign of many traditional market functions, creating openings for those new operators with innovative business models.

According to Giaglis et al. (2002), the electronic markets will lead to:

- The implementation of direct marketing strategies that enable sellers to target individual consumers
- Opportunities for newcomers sparked by the aggregation of products
- A reduction in the cost of managing product mixes, giving the producers an incentive to keep more assorted inventories and to serve a more fragmented market
- A reduction in the cost of aggregating demand, strengthening the contractual power of the intermediaries to negotiate volume discounts
- A transformation of the intermediaries into buyer assistants that support clients in the selection and evaluation of the market offers
- The intermediaries reinterpretion of their market role as new actors arrive on stage
- Possibile direct sales strategies thanks to "electronic delivery"
- The arrival of new financial services players with the regulatory framework needed for payments
- The continuance of the government agencies to set the rules for the functioning of the electronic markets, working alongside the newcomers to ensure transaction transparency and traceability, security and reliability

Electonic commerce gives the intermediaries the chance to offer new services or to find new ways to deliver current services and, thus, the chance to reinvent the value creation process (Fielt et al. 2003). However, the traditional intermediaries must also deal with the threat inherent in the opportunities sparked by e-commerce, i.e., that it will spur the customers and suppliers to trade directly (Fielt et al. 2003).

Giaglis et al. (2002) point out that the creation of spaces on the internet provides fertile ground for the new brokers to seize the new business opportunities that arise, so, instead of fading away, these will likely exploit the internet to connect with their customers. In particular, the overall impact of the electronic markets on the act of intermediation could take several guises, for instance:

– **Disintermediation**: the reduction in the exchange transaction costs for both parties fuelled by the electronic markets with lead the markets to progressively eliminate the intermediaries. The traditional intermediaries will face growing external pressure and most will be forced to exit.

- **Reintermediation**: the traditional intermediaries will discover new opportunities to apply their experience, specific expertise and economies of scale (above all, in logistics), retaining their important role in commercial transactions and continuing to create value. Moreover, these could opt for a differentiation strategy (based on price, service, etc.), or concentrate on a specific niche market.
- **Cybermediation**. The advent of the digital markets has opened the door wide to the redesign of many traditional market functions, creating windows of opportunity that new operators with innovative business models can tap into.

Giaglis et al. agree with Bakos and Bailey (1997) and Chircu and Kauffman (1999) that the predominance of each of the envisaged scenarios (disintermediation, reintermediation, cybermediation) in different markets will depend on several factors.

One determining factor is the market's physical structure and the way in which the intermediary is able to create value. Concrete examples (Giaglis et al. 2002) show that market structure has a significant impact on the potential evolution of the intermediary's future role. For instance, as opposed to an oligopolistic market, a market made up of fragmented producers creates greater opportunities for the intermediaries to add value. In this latter case, the reins of power might be in the hands of the producers, which, armed with the information needed to interact directly with the buyers and, ultimately, with the consumers themselves, would hardly be inclined to share the information with an intermediary.

In short, the conclusion drawn by Giaglis et al. (2002) that it is unreasonable to presume the generalized disappearance of the traditional intermediaries is in direct opposition to the predictions of some studies (Palvia and Vemuri 2002). Therefore, while the intermediaries will still be needed, their role will change significantly (Anderson and Anderson 2002).

5.4 The Marketmaker as Electronic Mediator

The rapid advances in ICT have spurred the birth and growth of both the B2B and the B2C markets, which are now offering an increasingly diversified range of goods and services. Transactions that used to be performed using traditional relational exchanges now can be completed in the electronic markets (Grewal et al. 2010). The electronic markets have become so important that the research has mainly focused on the types of EM developed and on understanding the behaviour of the participants of each specific market (Bakos 1998; Kaplan and Sawhney 2000). The significant interest in the role of the marketmaker is spiked by its management approach to the electronic markets and the rules it sets and implements to govern the buyer/seller interactions. Table 5.3, below, summarizes the marketmaker's functions.

The marketmaker's job of facilitating buyer-seller interactions underscores the need for governance mechanisms that can ensure the participants receive fair

Table 5.3 Marketmakers and their functions

Function	Description
Create and manage content	Create original content
	Provide and summarize relevant third-party content
	Provide links to third-party content
Aggregate demand and match buyers and sellers	Engage in marketing strategies to attract potential exchange partners to the market
	Provide incentives to participating firms to make the market their regular and primary sales channel
	Facilitate buyers' search for sellers and sellers' search for buyers
	Provide security from hackers and viruses
	Facilitate buyers' search for sellers and sellers' search for buyers
	Develop and maintain a payment settlement system
Manage participant opportunism	Provide history of the transactions of participant firms
	Rate and evaluate participant firms
	Enforce rules
	Punish rogue participant firms
	Ensure that participant firms comply with legal aspects of contract law
Price-making process	Establish the rules for the price-making process
	Maintain and regularly upgrade the systems for real-time auctions and price discovery processes
Provide secondary services	Logistics
	Training to participant firms
	Provide credit
	Provide insurance against malpractice for participant firms

Source Grewal et al. (2010)

treatment. A well-managed electronic market has more potential to attract new participants and, thus, to enhance its own market performance (Grewal et al. 2010). The success of the electronic B2B markets is down to the governance mechanisms implemented by the marketmaker, i.e., the company that manages and administrates the electronic market. The role of this latter as a promoter of buyer-seller interactions makes it necessary to select governance mechanisms that ensure each participant receives fair and equal treatment. To develop this line of thinking, Grewal et al. (2010) posited two questions: which governance mechanisms can the marketmaker use to improve the electronic market's performance and how does behavioural and external uncertainty influence the efficacy of the governance mechanisms in the electronic market itself.

The marketmaker has three main governance mechanisms to choose from to manage and administer the electronic market. The first is to monitor participant behaviour, i.e., how the buyers and sellers that enter the market conduct their relations. The second is to instill a sense of belonging in the members of a

community, using business socialization processes to develop and spread a sense of mutual trust and respect. The third sees the marketmaker itself enter the market, either as buyer or seller, to demonstrate its confidence in the electronic market and its willingness to place its experience of market functioning at the disposal of the participants, enabling these to interact freely with each other. At the same time, however, self-participation could give an unfair advantage to the marketmaker, which is responsible for developing and implementing the rules that govern the electronic market and, therefore, for self-governance. This could lead to a potential conflict of interest between the company as marketmaker and the company as market participant.

Grewal et al. (2010) adopt the transaction cost analysis method (Williamson 1975, 1981, 1985) to study the efficacy of the three governance mechanisms (participant behaviour monitoring, sense of belonging, and marketmaker participation in the electronic B2B market), suggesting that the conditions of efficacy of these governance mechanisms depend on uncertainty. This uncertainty derives from the behaviour of the e-market operators and participants, but also from external factors. The authors use the marketmaker's reputation to assess its degree of uncertainty, according to which the higher the EM's reputation, the lower the behavioural uncertainty. To analyze the uncertainties linked to the behaviour of the participants, the authors used the price-setting mechanism (static or dynamic) adopted by the EM and found that the participants' behaviour is more uncertain in cases of dynamic as opposed to static price-setting.

On the other hand, the uncertainty caused by external factors reflects the inability of the firms to foresee future events (Milliken 1987), which is expressed in the form of uncertainty or variable market conditions.

Grewal et al. (2010) close their study with two important suggestions for the governance of electronic markets. First, given that the level of efficacy of the three governance mechanisms varies according to the different reasons for the uncertainty, the management forms adopted must be chosen based on the market conditions in which the marketmaker operates. Second, even though the sense of belonging created in a market is accepted by the general consensus, the impact on the electronic B2B markets could be limited. In fact, a sense of belonging is efficacious in EMs with static price-setting mechanisms, hence it is more suited to catalogue aggregation systems and those in a position of market dominance.

5.5 The Role of the Strategic Mediator

Rossignoli et al. (2009) seek to give a more specific and innovative interpretation of the evolutionary model of the EM operators. The authors assume that the development of marketplace services is influenced by the evolution of the intermediary figure, the role of which has grown from simple collaborative mediator and provider of transactional support to that of strategic mediator.

> The role of the strategic mediator is at odds with the original plan of the e-marketplace to become a mediator of transaction and collaboration, which would thrive on big numbers. The strategic mediator defines its purpose in actively shaping the structure of the collaborations rather than in accepting every member. The outcome is an improper market where the mediator designs and controls the access to the technological platform, which in turn becomes more and more a platform that designs the processes and structures of the members of the platform (Rossignoli et al. 2009).

The existence (and success) of strategic mediators shows that a network does not always thrive on the reduction of transaction costs. To the contrary, new intermediaries like the strategic mediator emerge to fill structural holes (Powell and Grodal 2005) with objectives other than price reduction. The strategic mediator does not produce an effect on prices but instead expands and expedites the purchase process, reducing information asymmetries and directing the focus to the service and not to the price. In other words, the strategic mediator improves the quality of the service connected with the business process and offers a larger variety of choices to all participants.

But, while online collaboration has attracted the research spotlight, the organizations/institutions that enter the game as controllers and owners of the technological platform, organizing, managing and governing the marketplace/network, have remained firmly in the shade, even though, interestingly, the emergent characteristics of these new players place them as the network's focal company.

Although the construct of focal firm is not new (Lorenzoni and Ornati 1988; Norman and Ramirez 1993), the new perspective casts it as the organization that manages the market and, hence, by definition, places it outside the traditional supply chain.

Historically, the focal company has always been seen as the lead firm responsible for forging special types of relationships with the suppliers and as a large hierarchically integrated enterprise. An analysis of marketplaces and online collaboration platforms indicates that the focal company is set to become an electronic mediator in modern online collaborations on the strength of (Rossignoli et al. 2012):

- **Position**: the focal company is the kernel of a network of producer and consumer relationships, where the kernel equates to a platform that connects the business partners selected by the company that owns it, which, in that sense, makes this latter a marketmaker (a figure we discuss later).
- **Technological dominium**: the focal company has the expertise and advanced skills needed, including use of the internet and internet-related technologies; provides the network partners with technical and organizational support and consulting services.
- **Rule-maker**: the focal company, or platform owner, defines the rules of admission to the network of relationships and the code of conduct, issuing the terms, conditions and standards the producers are obliged to comply with to operate as a member of the network, retaining the right to accept or refuse membership to newcomers.

- **Price regulator**: the focal company sets the price of the goods brokered, a key aspect that gave rise to the expression that the mediator "*makes*" the market. The marketmaker's knowledge of the consumer market enables it to judge whether the price is fitting for that specific business environment, giving it the power to decide whether a good can be sold at a certain price. Moreover, knowledge of the consumer market can also mean wielding influence over it.
- **Market coverage**: global; a platform that serves the world markets has more potential for success and is more likely to become an EM industry leader.
- **End-to-end service**: the focal company is a source of tangible goods (e.g., clothing), intangible goods (e.g., music) or services (consulting). The platform plays a significant role as part of the value chain in all these areas.
- **Leveller of market entry barriers**: the focal company facilitates access to small and medium-sized companies that might otherwise find it tough to tap into the global markets and so redresses the balance of power, spreading it more evenly between the heavy and the lightweights.

Conclusions

One of the intermediary's most important tasks is unquestionably that of reducing the information asymmetries between the producers and the consumers (Klein et al. 2011), although that is only one way of seeing the intermediaries. The terms cybermediator and electronic mediator are used frequently in many articles (Dai and Kauffman 2002; Fielt 2006; Giaglis et al. 2002; Novak and Schwabe 2009; Rensmann and Smits 2008; Rossignoli et al. 2009; Rensmann and Klein 2011). The concept of the cybermediator grabbed the spotlight thanks to the article of Sarkar et al. (1995), which defines the cybermediator as a mediator of the innovative electronic marketplaces and illustrates the model developed by the authors to evaluate the importance of the intermediary in the electronic markets. The article was a critical response to the "disintermediation" theory that first appeared in the 1980s, according to which the advent of IT would reduce transaction costs and make the intermediary redundant as the market participants used the internet to deal with each other directly. However, the thinking of the disintermediation theorists was focused solely on the reduction in the transaction costs of the electronic versus the traditional markets.

That ICT would lower transactions costs and enable the operators to conduct their transactions on the less expensive electronic markets instead of running up higher costs on the traditional markets is precisely what Malone et al. (Malone et al. 1987) predicted. However, in their article Malone et al. not only predict the so-called "electronic brokerage effect", but also illustrate the importance of the new mediator. In fact, this latter is responsible for performing exactly the same tasks as those carried out by the traditional intermediary in the physical market, such as matching buyers and sellers.

(continued)

Recently, Rensmann and Klein (2011) taking their cue from the model of Sarkar et al. (1995), which they deemed overly simple and incomplete, suggested a way of integrating the model to arrive at a better understanding of the complex issue of ICT-enabled intermediation.

This involved identifying the different traits of the market operators, with a clear definition of the roles played by the suppliers, the intermediaries and the customers. The authors underscore that the suppliers are significantly influenced by the market's structure when it comes to choosing the type (direct versus intermediated) of producer channel; that the key role of the intermediaries is to orient the needs of both the consumers and the producers; and that the customer's choice is influenced, on the one side, by the scale of complexity and, on the other, by how much it costs to search/assess whether it is better to to mediate their purchase using an electronic platform that hosts multiple producers or to take the shortcut and head directly to the producers, while market structure and personal expertise are other factors that influence the customer's decision.

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Chapter 6
Electronic Marketplaces

Abstract The newly coined buzzwords 'electronic marketplace' and 'e-Marketplace' (EM) define the virtual spaces of today that bring demand and supply together on the Web in order to exchange information on buy-sell processes and/or to make B2B and B2C transactions. However, that general definition masks many other meanings and the literature attributes some highly distinct definitions to the term e-Marketplace. Therefore this chapter will survey the scholarship that has explored this theme over the past 20 years and analyze the EM's evolution to identify its strengths and weaknesses, especially the latest research and the different EM classifications produced by the literature. The chapter closes with an analysis of the literature on EM performance measurement.

6.1 The Literature on Electronic Marketplaces

The literature defines the term e-marketplace (EM) in many ways, while e-Marketplace takes many guises. Some authors see EMs as intermediaries that manage online B2B buy/sell processes. Others apply the term to any intermediary involved in a commercial transaction, both B2B and B2C, even when these cannot be strictly called transactions. There is no doubt that the EM has attracted the attention of many scholars in the past 20 years and, as the chapter shows, many authors have enriched the body of literature in what is a continually evolving environment that has given birth to many new organizational phenomena of great interest to the international scientific community (Andal-Ancion et al. 2012; Damanpour and Damanpour 2001; Soto-Acosta and Meroño-Cerdan 2008).

The electronic markets can be studied from two basic perspectives: technological and organizational-strategic.

The technological approach to the EM comprises the application of Information Technology (IT) to support communication and the allocation of tasks to be performed by a large cast of actors in one or more value chains (e.g., EDI (Electronic Data Interchange) electronic catalogues and auctions). Along with the growing move to standardize, these technologies have an important economic impact on the costs of organizing business activities among organizations (Alt

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and Klein 2011). When looked at from the viewpoint of transaction costs and EMH (Electronic Market Hypothesis, see Chap. 5), these aspects of efficiency are clear and acceptable.

However, from the organizational and strategic viewpoint, the EMs are studied as new governance methods for managing organizational and end-client relations.

In other words, Organizational Studies (OS) and Information Systems (IS) investigate the strategic, organizational and social implications of IT-based transformations. This chapter will focus on the second approach in order to understand how an EM functions and its factors of success. Table 6.1, below, recaps the most significant definitions of EM found in the OS and IS literature.

6.2 The EM Evolution

The rapid growth in the number of EM started in the 1990s. On the other hand, the year 2000 saw the market enter a self-selection phase that led to a sharp downturn, reducing the total number of EM in operation to 758 in 2012 from practically twice that number in 2000 (Matook 2013).

The current electronic marketplaces are actually new, continually evolving business models. Their strengths are made up of a few elementary yet essential factors (Eng 2004, 2007, 2008): EM are simplifiers of complex business processes that generate efficiency gains; buyers and sellers meet at a single point of contact, enabling the participants to benefit from economies of scale and liquidity. In short, the EM levels the barriers to make buying and selling easy, fast and cost-effective.

The historical path travelled by the EMs means has earned them the tags of either first or second-generation (Rossignoli et al. 2009). The first-generation e-marketplaces operate an open electronic platform used exclusively to mediate transactions among multiple participants, hence the name "transaction mediators". This kind of service basically consists of an online trading catalogue.

On the other hand, the second-generation EMs go a step further and support the entire trading process—from the online search for information to order placement and logistics management (Philipps and Meeker 2000). This has spurred the development of new processes and tools and, as a result, new portals with enhanced services the cost of which would be prohibitive, meaning that these would not be able to survive unless they could attract a large number of participants. This has earned the second-generation marketplaces the name of "collaboration mediators", as coined by Christiaanse and Markus (2003).

Among the latest contributions published, Alt and Klein's (2011) is probably the most exhaustive. Indeed, the authors attempt to sum up 20 years of research produced five key studies that can help us to understand the true innovative contribution of the EM from the strategic and organizational perspective to the business and economics literature. Specifically:

Table 6.1 Definitions of electronic marketplaces

Authors	Definitions	Focus
McCoy and Sarhan (1988)	"An EM separates the negotiating function from the physical transfer of the product or commodity in which the market trades. It can manage buyers and sellers offers and bids, as well as move products directly from sellers to buyers. The system is open to all buyers and sellers, regardless of their location and can provide instant market information to all traders"	Open system, separation of negotiation function from physical transfer
Bakos (1991)	"EM is an inter-organisational information system that allows the participating buyer and sellers to exchange information about prices and product offerings"	Inter-organizational information system
Bradley and Peters (1997)	"EM is a public listing of products and their attributes from all suppliers in an industry segment, and available to all potential buyers"	Public listing
Bakos (1998)	"EM facilitates the exchange of information, goods, services, and payments. In this exchange process, EMs create economic value for buyers, sellers, market intermediaries, and for society at large"	Exchange facilitator
Crowley (1998)	"The marketplace is a virtual world of electronic commerce in which the main object of transaction is information"	Virtual world of eCommerce
Schmid and Lindemann (1998)	"EM is a media that fosters market-based exchanges between agents in all transaction phases"	Agent-based transaction
Segev et al. (1999)	"Compared to many other electronic procurement solutions, EMs represent a relatively neutral position between buyer and seller, providing services to both sides of a transaction. An EM represents a virtual place where buyers and sellers meet to exchange goods and services"	A neutral e-procurement solution
Dai and Kauffman (2000)	"EMs function as digital intermediaries that focus on industry verticals or specific business functions. They set up marketplaces where firms participate in buying and selling activities after they obtain membership"	Digital intermediaries
Mueller (2000)	"Electronic markets allow buyers and sellers to exchange information about product offerings and prices bid and asked"	Exchange information about products
Kaplan and Sawhney (2000)	"EM is a meeting-point where suppliers and buyers can interact online"	Meeting point

(continued)

Table 6.1 (continued)

Authors	Definitions	Focus
Ariba (2000)	"EMs are commerce sites on the public Internet that allow large communities of buyers and suppliers to "meet" and trade with each other. They present ideal structures for commercial exchange, achieving new levels of market efficiency by tightening and automating the relationship between supplier and buyer"	Commerce sites on Internet to meet buyers and suppliers as a community
Lipis et al. (2000)	"EM is an Internet-based solution that links businesses interested in buying and selling related goods or services from one another. It can be distinguished from a procurement or distribution system insofar as it must be neutral, taking into account the interests of both buyers and sellers in its governance"	Neutral, Internet-based solution
Graham and Hardaker (2000)	"The marketplace is part of the web-based relationships in the supply chain, which could be divided into three company perspectives, namely business-to-business, business-to-consumer and marketplace"	Part of Web-based relationships in the supply-chain
Sculley and Woods (2001)	"What distinguishes eMarketplaces is that these bring together buyers and sellers in a single virtual space for the sole purpose of conducting business exchanges"	Join together buyers and sellers to allow exchanges
IBM, i2 and Ariba (2000)	"A many-to-many, web-based trading and collaboration solution that enables companies to more efficiently buy, sell, and collaborate on a global scale"	Web-based efficient global Collaboration solution
Archer and Gebauer (2000)	"EM is a virtual marketplace where buyers and suppliers meet to exchange information about product and service offerings, and to negotiate and implement business transactions"	Virtual place for negotiation and transaction
Grieger (2003)	"The unique feature of an EM is that it brings multiple buyers and sellers together (in a "virtual" sense) in one central market space and implicitly involves trade financing organizations, logistics companies, taxation authorities and regulators"	Brings buyers and sellers together
Fortino and Russo (2004)	"EM is an eCommerce environment that offers new channels and business models for buyers and sellers to effectively and efficiently trade goods and services over the internet"	Effective and Efficient channel and business model

(continued)

Table 6.1 (continued)

Authors	Definitions	Focus
Hadaya (2004)	"EM is an intermediary that allows buyers and sellers to meet on an electronic platform that rests on the Internet infrastructure in order to exchange information about products/services, conduct transactions online, and adhere to other value-added services offered by the intermediary"	An intermediary based on electronic platform
Petersen et al. (2007)	"EM is a neutral, web-based location where businesses can conduct buying and selling transactions for goods or services"	Neutral, web-based location
Fu et al. (2008)	"Electronic-marketplace (EM) is an innovative model for between organization transactions undertaken via the Internet"	Model for between organization transactions
Kwon et al. (2009)	"EM is virtual marketplace on the internet where the organizations can conduct economic transactions"	Virtual marketplace for economic transactions
Rossignoli et al. (2009)	"Electronic Marketplaces entered the scene as the mediators of virtually any type of transaction. Electronic marketplaces aimed at reducing buyers' search and selection costs, at increasing transparency, and at increasing market efficiency to reduce prices. The main aim of e-marketplaces was to leverage the internet infrastructure to enable contacts between a large number of suppliers and buyers and become the channel of choice to support collaborative business processes for products, information, and money exchanges"	Mediator of transaction; Reducing search and selection costs, increasing transparency and increasing market efficiency to reduce price; business player
Markus et al. (2010)	"Electronic Marketplaces (EMs) are electronic platforms enabling buyers and sellers to conduct business"	Electronic platform to conduct business
Standing and Standing (2010)	**"**Electronic marketplaces are an important research theme on the information systems landscape. In its simplest form an e-marketplace (sometimes referred to as exchange, auction and catalogue aggregator) can be defined as an inter-organisational information system that allows the participating buyers and sellers in some market to exchange information about prices and product offerings. An e-marketplace should enable potential trading partners to be identified and a transaction executed"	Inter-organisational information system that allows the participating to exchange information
Lavassani et al. (2011)	"eMarketplaces are effective and efficient collaborative, Internet-based institutional infrastructures for inter-organizational and intra-organizational negotiation and transaction"	Collaborative, internet-based infrastructures

(continued)

Table 6.1 (continued)

Authors	Definitions	Focus
Ozer and Ozturan (2011)	"An electronic marketplace (e-marketplace) is an electronic exchange that brings buyers and sellers together providing necessary regulations and services for trading"	Electronic exchange
Matook and Vessey (2008) Matook (2013)	"Electronic marketplaces (EMPs) are one representation of an IT-centric business because of the role that technology plays in their foundation and continuing existence. EMPs are virtual, technology-enabled trading spaces that facilitate the exchange of information, goods, services, and payments among multiple buyers and sellers" "Electronic Marketplaces (EMPs) are virtual intermediaries that facilitate exchanges of information, products, services and payments, engage in continuous trading and have no physical or geographical boundaries between buying and selling organizations"	Virtual intermediaries that facilitate exchanges; IT-centric business; technology-enabled trading spaces

Source The authors, adapted from Grieger (2003) and Lavassani (2011)

1. The first key study develops the theme of hierarchical relations between organizations (Malone et al. 1987). For example, transactions between small and large firms can become the constellation of an EM's asymmetrical power, which is closer to the hierarchical coordination identified by the traditional literature as typical of intra-organizational relations. As a result, from the organizational viewpoint, the electronic integration effect that unfolds can be interpreted as a form of electronic hierarchy. Primarily, this has had an impact on the business-to-business (B2B) segment.
2. The second study sees the electronic markets as far from being a homogeneous class of systems. For instance, electronic market searches in the B2B area showed that these can support both spot and systematic relations (Kaplan and Sawhney 2000). While the systematic relations are based on long-term contracts and a small number of carefully selected suppliers, the spot relations have the sole objective of satisfying a single or immediate (i.e., spot) order starting with a set number of competing suppliers. In the former case (systematic relations), the EMs are restricted networks or even hierarchical relations. In the second (spot relations), the transactions are those of the market's traditional relations. Nevertheless, the respective ICT systems in both cases can be considered as EMs.
3. The third study focuses on the fact that the governance of the inter-organizational relations developed on an EM cannot be grasped based on solely transaction costs. The key concepts of TCE (see Chap. 2), such as the costs of production and coordination, specific activities and opportunism, do not explicitly include factors such as flexibility, adaptability, quality, trust and innovation,

which, however, are critical factors when a firm has to make decisions on its networking strategy. As soon as these non-contractual factors appear, the number of suppliers will be small and the respective commercial partners will have to make specific relational investments (Bakos and Brynjolfsson 1993). In addition, the frequency of the exchanges, the access to knowledge and the sector structure can influence the desired governance form (Glassberg and Merhout 2007). Obviously, rather than sticking rigidly to a single inter-organizational relations governance method, the firms exploit the possibility to configure complex mechanisms of coordination with several other organizations.

4. The fourth contribution addresses the limitations of the Electronic Market Hypothesis (see Chap. 5) in that it is strictly related to the contingencies of a business activity. Even though ICT may have shaved coordination and production costs, as well as extended the application/reach of the products that can be coordinated using market principles, the Move to the Middle Hypothesis seems more capable of explaining internal EM phenomena than the Electronic Market Hypothesis. In fact, the Move to the Middle Hypothesis underscores that factors such as market structure and transaction risk influence the success of the market mechanisms (Clemons et al. 1993). These contingencies range from the external environment (e.g., regulation of property rights) and the market structure (e.g., fragmentation, concentration, information asymmetry) to the product features (e.g., density of information, modularized offers) and business practices (e.g., accepted standards, regulatory frameworks) (Giaglis et al. 2002).
5. Finally, the fifth work examines the role of the economic crisis that has starkly revealed the vulnerability of the electronic markets and, not least, the entire economic system. The crisis has discredited the efficacy of the market mechanisms because the highly complex financial products used by the financial institutions to make their electronic trades across the global markets sparked unforeseeable, often critical situations, Indeed, the financial institutions had blithely stacked up far more debt and risks than they had financial assets, which ignited fears that they would default, provoking a snowball financial collapse effect and, not least, threatening the entire economy. Hence, understanding and regulating the electronic markets has become a major headache for governments worldwide (Alt and Klein 2011).

Taking into account the insights provided by these studies and the proliferation and diversity of the electronic markets, the authors (Alt and Klein 2011) identified three distinct perspectives that can help us to understand and analyze the phenomenon of the electronic markets (recapped in Table 6.2: *Electronic markets—perspectives and drivers*):

(a) Economic environment: is the broadest perspective, seeing the electronic market as a macro-economic environment and focusing on how the use of ICT has led to the transformation of both domestic and global markets
(b) Governance mode: this second perspective takes account of the decisions of the business actors on which method of governance and coordination to use to regulate their inter-organizational relations

Table 6.2 Electronic markets: perspectives and drivers

Perspectives / Drivers	Electronic market as economic environment	Electronic market as governance mode	Electronic market as business model
Technology push	IT has become a key social and business infrastructure	IT makes more products and services amenable to market coordination	IT-enabled transaction infrastructure and innovative value propositions
Market dynamics	New rules and levels of competition drive innovation and market development	Competition between governance models and between electronic markets drives innovation of coordination mechanisms	Competition among electronic marketplaces drives service innovation and yields complex configurations of governance models
Institutional design	Institutional settings shape technology development and its deployment	Electronic markets are social institutions	Marketplaces are institutionalized transaction environments
	Political support and regulation facilitate further development	Effective regulation reduces transaction costs, which implies regulatory competition	Governance and ownership structures are success factors of electronic marketplaces

Source The authors, adapted from Alt and Klein (2011)

(c) Business model: the third perspective studies the evolution, success, lack of success or failure of the relative business model adopted by the platforms that originally gave life to the electronic markets (Kambil and van Heck 2002; Kaplan and Sawhney 2000)

Further, the same authors (Alt and Klein 2011) identified three drivers vital to EM development: (1) technology push; (2) market dynamics; and (3) institutional design. Each of these drivers play a different role in the three perspectives described above, as shown in n, below.

Information Technology and the electronic markets have shaped new industries and transformed entire sectors (Eskelsen et al. 2009). The same goes for the e-business companies, (i.e., those that operate solely online, such as eBay and Amazon), the software developers (Microsoft, for instance) and the providers of IT services (the search engine Google, for example). Many of these information-driven companies are subject to the new rules of the net economy (Kelly 1998). Hence, if we want to gain traction on the transformations of the electronic markets, the entire mix of technological, competitive and normative changes must be scrutinized. First, the electronic markets have become the commercial face of the global communication infrastructure that, over the past 20 years, has created a new, closely connected world that spins around the tightly woven web that is the internet. The commercialization of ICT-mediated worldwide communication environments has permeated each aspect of business operations. Second, the competitive net economy has reshaped the competitive scenario of almost every economic sector. Information transparency has greatly increased, guided by the business owners and innovators that created the platforms for commercial comparison, product

evaluation and general content. Third, the governments have been determining factors and facilitators of EM creation in many areas.

The combination of technological progress and market entrepreneurship have fuelled the development of price-based coordination mechanisms in a scenario that spawns ever wider and more diversified domains that range from marketing to healthcare (Bapna et al. 2004; Neumann 2007).

Successful electronic markets, like eBay or Amazon, invest considerable resources to develop corporate rules to give users guarantees and general content and to reduce information asymmetries.

The business model, on the other hand, means that the electronic markets, thanks to their functionality, (Bakos 1998; Giaglis et al. 2002) can be considered as collectors that create value. In fact, the EMs can, for example, manage information flows, perform transactions, provide clients with decisional support, heighten price transparency, promote the sharing of information, and spread the word on product innovations (Dai and Kauffman 2002). Such an environment also triggers a form of competition between the EMs themselves (Weitzman 2010).

6.3 EMs and Their Many Classifications

The literature has found many ways to classify the e-Marketplaces based on an equally diverse range of criteria. Nevertheless, the most interesting for completeness and wealth of detail is the work of Grieger (2003), which not only covers the main scholarship on the subject, but also enriches it by interweaving the variables and attributes of each one. Other, more recent contributions are those of Wang and Archer (2007), Lavassani et al. (2011) and Movahedi et al. (2012), which propose an overall review of the literature and group the latest classifications that chime best with the current role of the EMs.

6.3.1 The Transactional Marketplaces

The first criterion used to classify an EM is the type of business it runs, i.e., whether the EM supports transaction-related functions or does not perform transactional activities. In the former case, the transactional EMs, also called market-oriented EMs, aim to manage the entire buy and/or sell transaction process from beginning to end. The transactional functionalities include the aggregation of buyers and suppliers and the relative 'match-making' activities. Numerous scholars have researched this type of e-marketplace, the most well-known being: Choudhury and Hartzel (1998), Bailey and Bakos (1997), Bakos (1998), Archer and Gebauer (2002), Thoung (2002), Wang et al. (2006), and Wang and Archer (2007). Among other things, these authors identify some of the typical services provided by the transactional marketplaces:

1. *e-catalogue*: the e-marketplace publishes standardized catalogues that display the suppliers' products; the e-catalogues are used by the buyers to place online orders using a virtual "shopping cart" tool; this is exactly the same method as that used by e-commerce websites that target the retail market.
2. *online request for an estimate or quotation*: either the buyer company asks one or more suppliers to send them an estimate (responds to the question: how much will it cost me to purchase your merchandise?) or a supplier asks one or more client companies to make an offer (responds to the question: how much are you willing to pay for my goods?).
3. *Auction*: the EMs can hold different types of online auctions, among which: English auctions, Dutch auctions, or first-price sealed-bid auctions, (Lavassani et al. 2011), with the goal of enabling a greater number of participating companies to compete in bidding for a certain order, using a mechanism that enables a priced-based comparison of the offers.
4. *Electronic exchange or bourse:* a trading system very similar to that used by the stock markets based on the continual streaming of the market demand and supply information on a specific good (usually a commodity, or highly standardized raw materials) for comparative purposes in order to determine the price and, consequently, the exchanges.

The strength of the most advanced transactional EMs is not only that they use the systems described above to support the products/services' buy and sell processes, but also offer the partner companies the option to integrate their own legacy information systems with the EM's technological platform. This produces automated, transaction-related information and administrative processes, such as the instant updating of the commercial offer (e.g., price), the exchange of administrative documents (orders, delivery notes, invoices) and their input to the corporate systems, stock inventory updates, and logistics management, etc.

6.3.2 The Non-transactional Marketplaces

There are two types of non-transactional marketplaces, i.e., those that do not support client/supplier transactions:

(a) Informational marketplaces
(b) Collaborative marketplaces

The informational marketplaces have the aim of putting the participating companies in contact with each other, giving them the chance to promote their product offering and to benefit from new business opportunities. The users can search for companies by sector or by other relevant information (geographical location, size, etc.) and can interact commercially with the other companies through web forms or via email.

The collaborative marketplaces go one step further than the informational marketplaces by providing additional services that appeal to many small and medium businesses, such as:

1. Application Service Provider (ASP), updated software that is strategically useful to the firm but managed in outsourcing so as to save it from having to invest heavily in technology or worry about keeping the applications bang up to date. The information systems are owned by a third party with the expertise needed to manage aspects such as administration, personnel and any other areas in which the firm does not want to invest in proprietary software
2. e-recruitment to assist the EM's partner firms in their search for qualified personnel, thus greatly reducing the time and cost of the process to the company
3. e-learning to accelerate the training, learning and professional growth of the employees of the EM's partner firms
4. Logistics and delivery information that enable the suppliers to manage their order shipment status directly from the EM
5. Various levels of supplier and vendor credentials/information to strengthen the assurance given to the EM members
6. Specialized advisory and consulting services on matters of particular interest to the firms, for instance, legal, fiscal and industry-specific
7. Other information-based services, such as standard letters, forms and agreements designed for general use, e.g., 'ready made' press agency contracts

Hence, the advantages of the collaborative EM solution are as clear as a bell because it enables:

– The suppliers/vendors to:

  (a) Expand their client base
  (b) 24/7 access to modify, add to or update their product catalogue (prices, discounts, stock levels)
  (c) Get targeted statistics and information useful to their business
  d) Tap into a new sales channel

– And the buyers to:

  (a) Make an easy comparison of the various market offers
  (b) Access a larger number of suppliers
  (c) Reduce procurement costs and timing
  (d) Get the latest market news at any time of the day or night

In essence, the collaborative marketplaces support the sharing of information and knowledge with the aim of enhancing the performance of certain inter-company activities, which could be supply chain management (forecasting—supply chain integration) and new product development (e.g., co-design), project management, Collaborative Planning Forecasting and Replenishment (CPFR), and Vendor Managed operations.

Among the many scholars to study non-transactional EMs are: Christiaanse and Markus (2002), Grieger (2003), Rudberg et al. (2002), Skjott-Larsen et al. (2003), Soh and Markus (2002), Wang and Archer (2007), and Rossignoli et al. (2009).

6.3.3 Other EM Classification Criteria

Recent studies (Lavassani 2011; Movahedi et al. 2012) classify the EMs according to a variety of analysis approaches, nine to be exact, as follows:

1. This approach analyzes the different parties to a transaction, such as the business, consumer and government users (Coppel 2000). These parties can pair up to produce nine types of exchange methods (B2B, B2C, B2G, etc.).
2. The second approach looks at the different types of product/service offered by an EM in terms of whether these are vertical or horizontal markets (Dai and Kauffman 2000; Kaplan and Sawhney 2000; Madanmohan et al. 2005; Kwon et al. 2009). A vertical EM, also defined as an industry-specific or sector-specific EM, has the objective of aggregating the supply and demand for the products/services that characterize a specific industry. The aim of a vertical EM is to optimize buyer/seller relations (Martina and Kia 2007; Yu and Tao 2007). On the other hand, the aim of a horizontal or functional EM is to optimize the transactions of the products/services used by several industries (Grieger 2003).
3. The third focuses on the use to which the products/services offered by the EM are potentially put, splitting them into two types of use: direct and indirect. Direct goods (Murtaza et al. 2004) are the products and services, such as raw materials, used to manufacture goods and are usually obtained from a vertical EM. The second type, indirect goods (Kaplan and Sawhney 2000; Kwon et al. 2009), known also as repair and operating inputs, are used to support the production processes and usually are delivered by a horizontal EM (Murtaza et al. 2004). An example of this product type is outsourced computer network maintenance services.
4. Analysis approach number four examines the type of horizontal relations developed between the firms and the EM. This criterion (Kaplan and Sawhney 2000; Murtaza 2004) is used to distinguish those EMs considered a long-term systematic sourcing solution from those seen as a short-term sourcing solution.
5. Number five is a particularly important approach that refers to the pricing mechanisms used by the EM, of which there are two types: EM fixed price mechanisms (EMFP) and EM variable price mechanisms (EMVP) (Kaplan and Sawhney 2000; Kambil and van Heck 2002; Grieger 2003, 2004; Shen and Su 2007; Muylle and Basu 2008). An EMFP sets fixed prices for the products/services with some leeway to vary the preset price based on the quantities exchanged. The most common form of EMFP is that of electronic catalogues (eCatalogues), especially in markets where supply and/or demand is fragmented, which the EM then aggregates (Kwon et al. 2009). On the other hand, an EMVP

buyer or seller does not set a fixed price. The most popular form of EMVP is electronic auctions (eAuctions), where no fixed price is given and the sellers and buyers must themselves decide the maximum and minimum price limits. The EMP either keeps the parties updated or enables them to deal with each other directly, e.g., via email.

6. The sixth analysis perspective looks at Marketplace Bias. The aim of EM participants is to get the maximum value from the marketplace, seeking to identify the sell/buy bias they can expect to come up against trading on a platform (Barratt and Rosdahl 2002; Wilson and Abel 2002). A market-bias approach is how to distinguish whether an EM is hierarchy or market-driven. The former is a market maker that trades as either a buyer or a seller. The latter indicates an impartial EM in which the market maker is a third party and does not lead-manage the transaction (Eng 2004).
7. The seventh option is to focus on the type of market orientation favoured by the EM, comprising three different angles: buyer-oriented, seller-oriented and neutral. A buyer-oriented EM hosts one or more sellers that get together to aggregate a defragmented demand. Vice versa, a vendor-oriented EM is where one or more buyers get together to aggregate a defragmented supply. On the other hand, a market is neutral when it is operated by a third party that acts as an unbiased intermediary (Gebauer 1996; Weller 2000).
8. Market Ownership is the analysis approach taken by perspective number eight, in which the EMs can by divided into three subsets: (1) buyer-side or seller-side, in which the major market player owns and manages the EMP; (2) neutral, in which an independent third party sets up and manages the EM; and (3) consortia, where a group of major players join forces to set up and manage the EM (Turban et al. 2002; Murtaza et al. 2004).
9. The ninth, and last, perspective defines the EM as either closed or open. An open EM is a virtual space where any buyer and/or seller that meet the requirements laid down by the market operator can take part in the market transactions. Information sharing and collaboration on an open EM is at a low level; eBay.com is a typical, and probably the most famous example of an open EM. Conversely, access to a closed EM is reserved exclusively to the website's registered members. This method enables the members to select safe and reliable commercial partners. The members know each other and security is assured by belonging to the network. These EM spur a high level of information sharing and collaboration.

6.4 Measuring EM Performance

Based on an earlier study by Bailey and Bakos dated 1997; O'Reilly and Finnegan (2010) attribute the electronic intermediaries mainly with the job of aggregating and introducing sellers and consumers. This means that the intermediaries are still responsible for establishing trust and for supporting the exchange of market

information by the organizations. Indeed, a key factor is that the intermediaries, i.e., the third parties that manage the business transactions between the various subjects, better orchestrate the knowledge of these latter to enable them to manage their business transactions as efficiently as possible.

O'Reilly and Finnegan (2010) define an electronic market as an organized intermediary that provides value-added communication, mediation and integration services to buyers and sellers of direct or indirect goods and/or services in specific horizontal or vertical markets, supporting the elementary functions of the market by meeting the information and process support needs of the management and/or managing the required IS/IT infrastructure.

During their research into electronic markets, the two authors observed a significant gap, in that few studies explored the markets own potential to enhance their performance.

The authors propose a definition of performance based on how efficiently the EM does its job and achieves its objectives while still driving forward innovation and expansion.

Hence, to develop an EM performance model O'Reilly and Finnegan asked themselves four questions:

- How can the EMs measure their performance?
- What factors have a negative drag on EM performance?
- What impact do these factors have on EM performance?
- Is the interaction between these factors useful to explain the performance of an electronic marketplace?

To design their research, O'Reilly and Finnegan (2010) explored the literature and came up with seven key factors that impact the performance of an electronic market, of which three slot into the strategic factor group and four into the contextual factor group.

The strategic factors are defined as the whole of the organizational behaviours used by the company to position itself in the environment for a set period of time. The contextual factors relate to the specific environment, the scenario or the situation that the organization needs to deal with.

The strategic factors are:

(a) EM design and planning: an e-marketplace delivers services that support at least one of the communication, intermediation or integration functions. The literature suggests that each electronic market must be designed for the maximum benefit of the clients and the sellers (Kambil and van Heck 2002; Dai and Kauffman 2002)

(b) Information technology: the information technology products offered by the EM to its participants. Some studies claim that by improving their IT capabilities, the EMs can both increase the information available to participants and reduce communication, research and negotiation costs (Bakos 1991; Soh and Markus 2002)

(c) Ownership: the subjects that control the EM and decide who is given access (Kambil and van Heck 2002; Grieger 2003; Yoo et al. 2007)

The main contextual factors indicated by the authors are:

(a) The power of the market and the competition: a concept intended as the provision of readily available alternatives by the participants of a certain marketplace and what it costs to switch from one alternative to another. Some studies argue that a number of factors in the EMs own environment influence its competitiveness. For example, the possible alternatives to the EM and the ability of a subject to transit from one Internetwork Operating System to another (Choudhury and Hartzel 1998; Kambil and van Heck 2002; Bakos 1991)
(b) Trading culture: in this case meaning all the participants' social interactions and the individual roles these play in the supply of products. The trading culture influences the degree to which participants use an EM (Kambil and van Heck 2002; Son and Benbasat 2007)
(c) Atmospherics: this intangible yet significant factor relates to the ability of the participants to read the atmosphere and the reputation of the EM they belong to. The mid- to long-term success of an EM depends on end-consume appreciation and purchasing behaviour (Lennstrand et al. 2001)
(d) Trust: indicates the degree of market risk perceived by the participant. The EM's role is that of ensuring the smooth processing of the transactions and that both parties, the seller and the buyer, refrain from opportunistic behaviour (Smith et al. 1999; Ba and Pavlou 2002; Pavlou and Gefen 2004; Pavlou et al. 2007)

Conclusions

As we can see from the analysis developed in this chapter, the literature has widely studied the different viewpoints that enable the classification of EM organizational forms. Hence, while it is easy to understand how Information Technology (IT) has helped to reshape the business landscape, it is also intuitable that this change is only the start of things to come. The intermediaries are set to play a major role, their future hanging on the type of market (traditional or electronic) served. Nevertheless, the past few years have shown that the future of the intermediaries will not depend on that alone, but primarily on the function and the role they perform within the individual markets. In other words, it will depend on the value these can create. However, when it comes to the future of the EM, Malone is of the opinion (Wigand 2011 p: 13) that: "*That exact transition, the three stages I just listed, is exactly analogous to the three stages of business development. Small companies, big corporations, networked organizations*".

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Part III
A Single Theory Is Not Enough: Understanding the Dynamism of Inter-Organizational Relationships

Chapter 7
The Yoox Group Case

Abstract This chapter illustrates a case study that shows how the new internet-based information technologies can quickly make traditional business models a thing of the past, giving rise to new business models in which the consumer influences the organizational relations of the companies in the value chain.

In fact, the advent of online and mobile technology has levelled the playing field for the smaller businesses, enabling them to leap the traditional barriers to achieve the economies-of-scale usually the sole domain of larger companies. Further, the pervasiveness of ICT has not just changed communication and purchasing processes, but also has led many businesses, particularly the retailers, to redesign their competitive strategies. One such player is Yoox, an e-commerce intermediary that serves the designer fashion market in 100 countries from a position of leadership.

This chapter retraces the historical journey of Yoox Group and conducts an in-depth analysis of its business model. The discussion shows that Yoox Group can be defined as an "e-commerce intermediary" from the organizational perspective and that "e-intermediation" can be a form of extra and inter-organizational support for e-commerce processes.

E-commerce processes are highly complex because they imply the fashion producers' externalization of the entire internet marketing and sales process, from the outsourcing of Web marketing activities and price-setting to billing and logistics. Hence, we will investigate Yoox's role as its own network's market maker and mediator and its business network governance mechanisms. The chapter concludes by demonstrating that not one of the theories on inter-organizational relations outlined in Chaps. 2, 3 and 4 can, in isolation, frame the success achieved by Yoox.

7.1 Introduction

Internet-based information technologies have led the retailers to develop new business models that extend their reach to a growing number of consumers and increase the value of online transactions. As more advanced communication tools come on the market, such as the social networks, mobile phone technologies and, more generally, Web 2.0 apps, consumers are spurred to interact not only with each

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other, but also with the sellers. These internet-based technologies often make the traditional business models obsolete, giving more power to the consumers (Varadarajan 2010). Online and mobile technologies can help small firms to achieve the economies-of-scale that, traditionally, i.e., pre-ICT, were the domain of only large companies. In fact, the pervasiveness of the new technologies has sparked a sea change in communication and purchasing processes with major repercussions on the retailer's competitive strategy options (Hoffman et al. 1996; Yadav and Varadarajan 2005). This makes the retailers an extremely interesting object of study to deepen our understanding of how ICTs affect inter-organizational relations. Moreover, the significant interest raised by this group of business players prompts us to analyze the case study of an internet-based business network that has become an Italian benchmark, Yoox Group.

This global e-tail partner to the world's top designer fashion and design brands has carved itself a role as an electronic intermediary in the Italian e-commerce landscape, where it is one of a kind. Nevertheless, despite the strong roots that anchor it to Italy, the Group generates most (84 %) of its sales in the foreign markets, i.e., from non-Italian customers located in 100 countries across the globe. Yoox Group commands a position of leadership in the global online fashion market, fuelling most of its sales in the United States of America, its primary market, followed by Japan, Italy and the rest of Europe.

7.2 Research Method

The case study research method (Yin 2003) was adopted to respond to two research questions: *What is the role of ICT in giving Yoox Group a competitive advantage?* And, from the organizational perspective: *How do the ICTs influence the nature and evolution of Yoox's inter-organizational network?*

The study involved several field trips to Yoox's base of operations as well as to those of various fashion producers that sell their goods on the Yoox websites and the analysis of official documents, such as the Consolidated Financial Statements at 31 December 2012, the Yoox SpA Information Memorandum, the Social Responsibility Report, and other documents furnished by management. A series of semi-structured interviews were held with several Yoox managers and buyers and with several external producers/suppliers members of the Yoox business network. The Yoox website was an abundant source of information,[1] with press releases, investor relations reports, videos of interviews with top Yoox managers and information on the entrepreneurs and managers of its business partners. In addition, an interview with Yoox Chief Executive Officer (CEO) and a detailed analysis of the website texts and documentation enabled us to reconstruct Yoox's core network structure.

[1] www.yooxgroup.com

Yoox Group manages an inter-organizational network of roughly 1,000 actors, ranging from fashion brands to producers to designers and everyone in between. Semi-structured interviews were held with the delegates of a small sample of representative companies, from small, mid-sized and large companies to top designer and luxury companies. The study and the interviews were conducted according to a research plan designed beforehand to ensure coverage of all the key aspects the authors wanted to explore, such as the kind of relations Yoox enjoys with its partners and how these evolved; the factors of success that have marked Yoox's journey from internet start-up to full-fledged e-tailer; its outlook and potential; the competitive advantages won as a first mover over the followers; any weaknesses and criticalities; and any threats to its present success story. The review and considerations that follow are the result of the analysis of the interviews recorded and transcribed and the analysis of the documents furnished by the respondents and the Yoox corporate website.

7.3 Yoox Group History

Yoox was founded in 2000 (Fig. 7.1) by Federico Marchetti, a young Italian businessman from Bologna, as an 'e-tailer' of the clothing and accessory collections of the world's top designer fashion brands.

After the launch of its multi-brand fashion store website *yoox.com*, Yoox Group[2] quickly expanded its sales reach to three continents, offering consumers outside Italy designer fashion items, carefully selected by the Yoox buyers, from earlier seasons at discounted prices.

Despite a fashion market that had long been considered mature, the founder's innovative approach was a hit. Several famous designer fashion brands agreed to supply merchandise to the new Yoox website after Mr. Marchetti impressed on them the advantages and strengths of selling the past season's unsold stock through a specialized internet portal, instead of through brick-and-mortar discount outlets. In fact, "efficiency" is what sold Mr. Marchetti's idea to the individual producers,

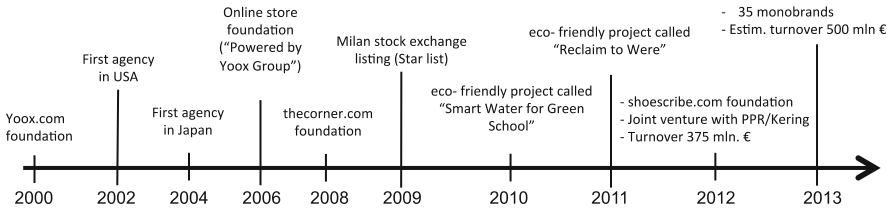

Fig. 7.1 Yoox group timeline

[2] Yoox Group refers to the parent company Yoox SpA and its subsidiaries.

who explained to the brands how *yoox.com* was a simpler, more cost-effective way to exploit the internet than investing in their own e-commerce website and all it would entail, underscoring the fact that no single mono-brand website would be able to either achieve the same economies of scale or provide the expertise in skills and technologies that the Yoox entourage could deliver.

Two years later (2002) Yoox entered the American market and then expanded eastwards into Japan.

In 2006 Yoox started to broaden the range of services, offering its virtual platform to the world's leading fashion houses as a sales channel also for the current season's collections as a complement to their traditional stores. This move enabled Yoox to open a new line of business in the design and management of online mono-brand stores[3] for some of the international fashion industry's top labels.

In 2008 the Group further expanded the business by launching *thecorner.com*, a multi-brand web store with its own distinct style to flank *yoox.com*. In fact, *thecorner.com* is a luxury online boutique made up of menswear and womenswear 'mini-stores' through which Yoox e-tails the latest fashion collections at the full retail price.

In 2009 Yoox SpA[4] shares were listed on the Italian stock exchange with the ticker symbol Yoox.mi. That same year the Group announced the Apple Store launch of its free app the *yoox.com Style Gift Guide* to coincide with the Christmas festivities. The app enables the consumer to enjoy the online shopping experience directly from their smartphone at any time of the day or night from wherever they may be. Another milestone achieved by the Group in 2009 was the launch of its first fashion, design, jewellery and music EcoFriendly project. This was followed by a new eco-sustainable initiative called YooxYgen the aim of which is to chart a progressive course to a sustainable environment to adopt as future corporate policy for the entire Group. Yoox then enriched the *yoox.com* website with a section on eco-friendly consumer products, the fruit of different designers who co-create exclusive limited edition collections.

Yoox unveiled a series of eco-friendly initiatives in 2010 to celebrate its first 10 years in business, of which the most important was "Smart Water for Green Schools" with its dual mission to set up rainwater collection systems and to promote environment awareness in schools.

In 2011 Yoox announced its "Reclaim to Wear" campaign to promote fashion items created by a team of designers, producers and distributors put together by the Group from recycled products and unsold fabric sourced from cloth manufacturers.

The Group then followed a similar path to enter the Chinese market, launching first its online mono-brand business in 2010 and then *thecorner.com*, its online multi-brand boutique in 2011. On 8 October 2012, it launched *yoox.cn*, the multi-brand Chinese website, the result of a 2-year investment plan aimed at positioning

[3] "Online stores" indicates the mono-brand online stores managed by Yoox Group on behalf of some of the world's leading designer fashion brands.

[4] http://www.yooxgroup.com/it/company_profile/the_group.asp

Yoox as the official authorized internet retail partner of the leading fashion brands and at setting up a local base of operations and resources managed by an e-commerce team tasked with serving exclusively the Chinese market.

Meanwhile Yoox had successfully built up a lucrative line in footwear sales and, to leverage its earnings potential and further expand its online multi-brand store line-up, launched a new multi-brand women's footwear e-boutique, *shoescribe.com*, on 7 March 2012, giving *yoox.com* and *thecorner.com* a third sibling. The Group's decision to take the next logical step of providing the consumer with an online platform dedicated exclusively to footwear was based on its extensive experience as a fashion e-commerce player that had shown it that shoes are the undisputed bestselling item the world over.

On 3 August 2012, Kering (formerly part of PPR Group) and Yoox SpA announced they had signed a joint venture agreement to form a new company called E-lite, 51 % owned by Kering and 49 % by Yoox SpA. E-lite has the sole purpose of managing the mono-brand online stores of the several luxury companies owned by Kering Group: Bottega Veneta, Saint Laurent, Alexander McQueen, Balenciaga, Sergio Rossi and Stella McCartney.

Yoox Group has thus developed a new business model that has enabled it to become one of the most blazoned and successful fashion e-commerce platforms in the world.

The Group has a network of logistics centres and business technology offices located in various parts of the world (Italy and other European countries, the United States, China, Japan and Hong Kong), e-tails in more than 100 countries worldwide, has a website that 'speaks' 10 languages and, in 2012, processed more than 2 million orders to deliver around 4.5 million products. The sales forecast provided by Yoox in its Corporate Governance and Group Ownership Structure Report 2012[5] indicates FY2013 sales of Euro 500 million.

The Group's 2013 outlook points to further growth in the number of Internet users, online purchasers and average annual spend per user, in itself evidence of an increasingly *digitally native* generation. In addition, a growing number of companies in the fashion, design and luxury markets are catching on to the strategic importance of the internet for promoting and heightening global visibility, expanding the global reach of their product range and engaging directly with customers. This trend has led more and more companies to invest in giving customers a better shopping experience, appealing online content and alternative sales channels, such as social and mobile commerce, to support the longer term growth of online sales.

Therefore, several key factors are fuelling the expectations of fast growth in the global online retail market, including:

- The greater choice of products offered on the web
- The simplicity and ease of searching for items

[5] "Relazione Sul Governo Societario e gli Assetti Proprietari Gruppo Yoox al 31/12/2012"

- The possibility to compare products and prices
- More available information
- Search options to find the best deal
- Time-savings
- Enhanced perception of online payment security

7.4 Yoox Business Lines and E-lite Joint Venture

Yoox Group is organized in two core business lines: the multi-brand division, which manages the activities related to the Group's proprietary online stores of *yoox.com*, *thecorner.com* and *shoescribe.com*; and the mono-brand division, which manages the online mono-brand stores. The Group's business technology offices and logistics hubs in Europe, the United States, Japan, China and Hong Kong service customers located in 100 different countries. The E-lite joint venture formed by Yoox with Kering, which manages the mono-brand online stores of the several luxury companies owned by Kering Group, is its third and latest business line. Figure 7.2, below, frames the Yoox Group organizational structure.

7.4.1 Yoox Multi-brand Business Line

7.4.1.1 yoox.com

The first business line launched by Yoox Group was *yoox.com*, the springboard to its success in the fashion sector. The *yoox.com* website is a fashion and design virtual store where the consumer can browse a vast range of clothing, accessories

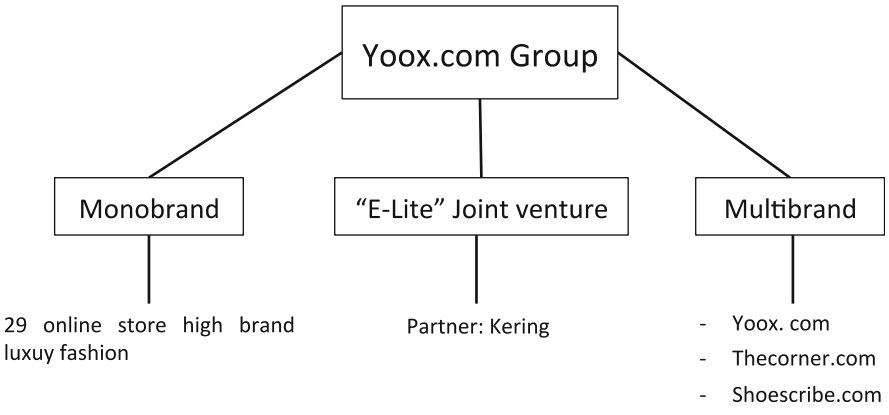

Fig. 7.2 Yoox group organizational structure

and footwear items produced by top international designer fashion brands; the goods come from the corresponding collections of the year-ago season and are sold at discounted prices. In addition, the *yoox.com* website offers a selection of special edition vintage designer clothing and some collections made exclusively for *yoox.com*. In addition, it sells a selection of *objets d'art* produced by recherché designers and an original selection of books.[6]

7.4.1.2 thecorner.com

Yoox Group's second multi-brand business line is *thecorner.com*, the online boutique launched in 2008 that hosts mini mono-brand stores, which are basically 'corners' where the consumer can find the current season's designer clothing and accessory collections. This platform showcases designers that have been carefully selected for their creative flair and innovative approach, including emerging designers considered highly talented by the Group, attesting its desire to encourage new ideas. What distinguishes *thecorner.com* from *yoox.com* is its recherché approach, as can be seen clearly from the website design, created to appeal to a more exclusive category of customer.[7]

7.4.1.3 shoescribe.com

Launched in 2012, *shoescribe.com* is an online multi-brand women's footwear store that expands the footwear concept to embrace also products inspired by shoes, such as books, jewellery and design objects, all carefully selected, as well as exclusive services, for instance, tips on style and shoe care. The whole studied down to the finest detail. In fact, Yoox Group's founder told us that even the shoe boxes come with a photo and a label stating the brand and season of the model to satisfy even the most demanding of collectors. The personal touch then, which means understanding and satisfying the customer's needs, not just numbers is what makes Yoox stand out from the rest of the e-commerce crowd.

[6] http://www.yooxgroup.com

[7] http://www.yooxgroup.com

7.4.2 *Mono-brand Business Line*

7.4.2.1 Online Stores

The Group's second business line, which scales the expertise and success of *yoox.com*, centres on the design and management of mono-brand online stores. In 2006 Yoox Group started to coordinate the virtual e-commerce platforms of the top fashion brands that use the Yoox Web sales channel to complement their physical retail stores, and now manages 30 mono-brand online stores (2013 data). Yoox puts the extensive operational experience gained from *yoox.com* at the disposal of the leading fashion brands, offering the design, implementation and management of the entire e-tail process and providing direct support to the brands' commercial personnel.

This role makes Yoox Group the brands' strategic partner, responsible for the business of the online sales channel. On the other hand, these commercial partners are the ones who choose the product range for the online store, define the pricing policies (prices are usually aligned with those of the physical stores) and perform the marketing and communication activities. The supply contracts signed with these companies are based on estimative contract principles[8] and are of 5-year duration. Specifically, each contract defines a set-up fee indexed to the amount of the investment needed to create the online store. The economic conditions set out by the estimative contract relative to the products sold in the online store can be subject to variations according to the average value of the orders and the geographical market. In essence, this type of business sees Yoox as the 'stage manager' of the web platform, i.e., it remains behind the scenes to concentrate on providing its proprietary infrastructure and on managing its operations and functioning, leaving the brand partners to deal with image and customer communication. Yoox, however, is responsible for the direct sale and billing of the products marketed by the online stores to the consumer. The "powered by Yoox[9]" tagline displayed on each online store is there to guarantee the quality and reliability of the service. The common denominator is the special attention paid by each of the Group's managed platforms to the service inherent in each phase of the customer's shopping experience. The Group's overarching strategic approach is to raise the perception of quality: all Yoox websites are the fruit of emotive communication, from the design of the website to product display, from the packaging to after-sales service.

The mono-brand channel sells the designer collections of:[10]

- *marni.com*
- *emporioarmani.com*

[8] Estimative contract based on Art. 1556 of the Italian Civil Code, according to which the products remain the property of the Strategic Partner until the consumer completes their purchase on the online store even though the products are held at the Yoox logistics centres.

[9] Marchetti F., CEO and author of the information memorandum.

[10] http://www.yooxgroup.com/it/online_stores/online_stores_yooxgroup.asp

- *diesel.com*
- *stoneisland.com*
- *valentino.com*
- *emiliopucci.com*
- *moschino.com*
- *bally.com*
- *dsquared2.com*
- *jilsander.com*
- *robertocavalli.com*
- *coccinelle.com*
- *giuseppezanottidesign.com*
- *napapijri.com*
- *albertaferretti.com*
- *maisonmartinmargiela.com*
- *zegna.com*
- *y-3store.com*
- *brunellocucinelli.com*
- *bikkembergs.com*
- *dolcegabbana.com*
- *moncler.com*
- *armani.com*
- *trussardi.com*
- *barbarabui.com*
- *pringlescotland.com*
- *pomellato.com*
- *alexanderwang.com*
- *missoni.com*
- *dodo.it*

7.4.3 Kering-Yoox Joint Venture

Yoox became a partner of Kering (formerly part of PPR) in 2012, when it formed the E-lite joint venture for the management of the mono-brand online stores of a number of Kering Group's luxury brands: Bottega Veneta, Saint Laurent, Alexander McQueen, Balenciaga, Sergio Rossi and Stella McCartney.

In his letter to the shareholders of Yoox SpA, the Chairman of the Board of Directors, Federico Marchetti, said:

> The year saw us continue to work alongside our partners of the mono-brand business line with an unerring eye on providing excellence of service. In 2012 we launched a joint venture with Kering, the ultimate goal of which is to empower the current e-commerce websites of six of PPR's luxury brands and thus accelerate the development of their global digital presence.

The joint venture currently manages the online stores of the following brands:[11]

- *sergiorossi.com*
- *bottegaveneta.com*
- *stellamccartney.com*
- *alexandermcqueen.com*
- *balenciaga.com*
- *ysl.com*

7.5 Yoox Business Model: Key Activities

The value created by Yoox Group is reliant on the competitive advantage achieved thanks to its distinctive skills and expertise, which, in turn, translates into the need to design an optimal organizational structure to get the most from the value chain (Fig. 7.3).

Each phase of the Yoox Group business model is described below.

7.5.1 Commercial Planning and Procurement

Multi-brand business line: the first phase of activity is the buying campaign, in which historical data and current trends are analyzed to identify market demand. The products thus identified through market research are then checked for availability with the commercial brands. The procurement phase is planned in great detail to make the Group's offering—usually made up of a large number of brands and a high number of models although quantities tend to be low—more effective. Each item is selected by a specialist who matches the items to the results of the market research and controls the quality of each product to ensure it meets Group standards. The Group renegotiates the supply contract adopted for this business line

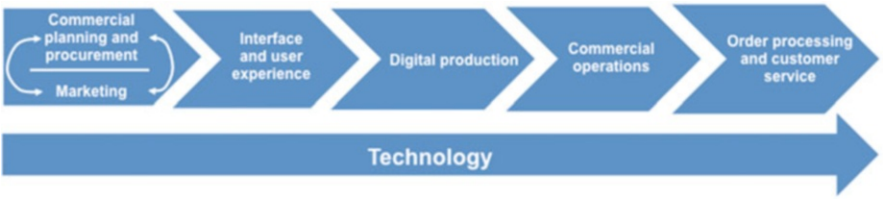

Fig. 7.3 Yoox group value chain (*Source* Yoox SpA Information Memorandum)

[11] http://www.yooxgroup.com/it/online_stores/online_stores_yooxgroup.asp

each season, without setting specific limitations such as minimum order quantity. Usually, the Group implements sale-or-return agreements, most of which are based on estimative contract principles (see Article 1556 of the Italian civil code), which calls for the partners to agree a specific price strategy for each season.

Mono-brand business line: the commercial strategic partners are responsible for deciding product range, price and communication policies and retain ownership of the products even when these have already been delivered to the Yoox logistics centres. In fact, the relations with the brands of this business line are governed by estimative contracts, usually of 5-year duration.[12]

7.5.2 Marketing

The marketing phase has the aim of attracting and retaining the fidelity of the Group's online store customers. Yoox uses the web marketing channels to assess the efficacy of the different websites.

Multi-brand line: marketing here is focused on Web campaigns (sponsored links, price comparison websites, fashion websites, advertising windows, banners, etc.). Yoox tends to create special communication campaigns that it launches to enhance the visibility, image and credibility of *yoox.com*, for instance *The Wild Bunch* (young designers selected to present their creations); *Yoox-for-Love* (ethical projects with profits donated to non-profit organizations); and *The New Yooxer* (multimedia content, fashion and design news, interviews and exclusive videos).

Mono-brand line: the Yoox Agency is the vehicle set up by the Group to manage Web marketing activities based on the contractual agreements. Alternatively, the commercial/brand partner may decided to use an agency contract to outsource the marketing activities, in which case Yoox receives a commission on the investment.[13]

7.5.3 Interface and User Experiences

The Interactive Services Department is responsible for the interface and other processes that impact on the user experience. Here the Group uses an integrated approach for both the multi- and the mono-brand business lines. This phase consists of the design, development and improvement of website interface quality, i.e., visuals, graphic content, information and textual information. Yoox continuously monitors customer behaviour to ensure the interfaces are updated in a timely manner and to increase navigational efficiency; it also tests small samples of users to get feedback on the impact of the changes made.[14]

[12] Marchetti F., CEO and author of the information memorandum.

[13] Marchetti F., CEO and author of the information memorandum.

[14] Marchetti F., CEO and author of the information memorandum.

7.5.4 Digital Production

Digital production revolves around the logistics, registration and cataloguing of the incoming merchandise. Again, Yoox uses an integrated system for both lines of business. Usually, the suppliers are responsible for shipping the goods, hence, the incoming logistics process starts with the delivery and logging of the goods to the Group's warehouses. Each multi-brand product is quality checked (quality control system) and a random sample check is run on the mono-brand items. This is followed by the labelling process in which each product is given an identification code and a full product description compiled. Then it is the turn of cataloguing, when the products are photographed for the online store and the images retouched to ensure that the perceived quality of the video chimes with the effective quality of the products. Once the goods have been allocated to the logistics hubs, the product information and images are uploaded for sale in the online stores.

Some of these activities are handled in-house while others are outsourced according to the efficiency and strategic evaluations of the work phase.[15]

7.5.5 Commercial Operations

Yoox Group performs three types of analysis to obtain user and customer data:

1. Individual user traits
2. The user's behaviour as they navigate the online store and
3. Surveys, albeit carried out sparingly so as not to influence the user response models

The information thus gathered is then examined in order to better understand customer preferences and to better respond to the user's inclination to purchase. Yoox has organized its commercial activities into two core business units:

The activities of the *multi-brand line* centre on the definition and management of the commercial plan for *thecorner.com* and *yoox.com* and are split into the "phase in" and the "phase out" stages, i.e., the publication of products on and their withdrawal from the online store. The key element of this activity is the continuous monitoring of the different brand sales, price groups and product categories and the demand trends of the different geo-markets throughout the entire season (fashion collections have two seasons: spring/summer and autumn/winter). Product prices are defined and managed progressively as the Group aligns the initial price to the promotional and discount dynamics. The final activity is that of visual merchandising, for example, preparing the digital photograph and displaying the product.

[15] Marchetti F., CEO and author of the information memorandum.

The commercial activity *of* the *mono-brand line* is managed directly by the employees of the mono-brand sales and marketing division. These Yoox Group employees are the strategic and commercial partners' internal points of contact and work closely with the brands to develop the sales and marketing plan, aligning it with the strategy of the traditional sales channel, at the start of each season. The plan indicates, for instance, the decisions made on the publication of the products, on discounts and on the promotions to launch in each market.[16]

7.5.6 Order Processing and Customer Service

The first thing Yoox does when it receives an order is to check for credit card fraud using an automatic filter to process suspect orders; other elements of the order are then checked manually by the Group's specialized personnel. The Group's policy is to reject an order rather than risk fraud. Authenticated orders are then transmitted to the logistics hubs where the products are wrapped and packaged using the materials and specifications determined for each website or gift packaging when customers who buy items for special occasions specifically request the service.[17] Shipment of the goods is outsourced to a specialized carrier firm selected for quality of service, while a pre- and post-purchase customer care team is ready to assist the customer at any time during their shopping experience.[18] Yoox Group creates value also in the logistics phase by outsourcing the transportation of the goods. Great care is taken in each of the preceding processes; from the arrival of the merchandise at the warehouse to its digitization and uploading to the e-commerce website, from its shipment to the various Yoox warehouse locations to pre- and post-sale customer care. The Group's logistics structure is organized so that any product stocked in the Italian logistics centres can be sold worldwide, while products held in the warehouses located in the US and Japan can be sold and delivered exclusively to those markets. In fact, Yoox derives several advantages from its US and Japanese logistics operations, including:

- Shipment cost-savings for items from the Italian warehouses
- Better condition of parcel delivered to the customer as the final wrapping and packaging service is dealt with by the local operations
- Time-savings on deliveries to local customers, dependent on product availability
- Makes product returns easier and faster to manage locally

The fact that Yoox keeps most stock at the Italian logistics hub enables the Group to maximize product sell-through. Customer returns from the Italian market

[16] Marchetti F., CEO and author of the information memorandum.
[17] Marchetti F., CEO and author of the information memorandum.
[18] http://www.docstoc.com/docs/120919713/Presentazione-Yoox

are sent here, while returns from US and Japanese customers are dealt with locally; the logistics hubs of these countries can then resell the goods exclusively in these markets.

Yoox uses mainly UPS for product delivery in the US and Japan and both UPS and DHL for European customer shipments. Yoox initially entered the US and Japanese markets to provide e-commerce and logistics services to local partners but then developed its business to achieve its primary objective of selling "Made in Italy" products in the global markets.

7.6 Discussion: Yoox Group as Strategic Mediator

The business of e-commerce translates into technical, logistic and communication challenges that deter many firms from developing the internal capabilities needed to manage an online sales channel. This has spurred the demand for e-commerce intermediation and outsourcing to phenomenal levels (Bakos 2001). Indeed, very few players, to wit, Amazon, Opodo and eBay, have succeeded in achieving lead status as e-commerce intermediaries in their specific industry or niche market.

Analyzing the Yoox case study from the organizational perspective shows that the Group can be defined as an "e-commerce intermediary" and that "e-intermediation" can be a form of extra and inter-organizational support for e-commerce processes.

These e-commerce processes are highly complex because the first step is to externalize the front-end operations, i.e., to outsource the management of the e-commerce website, the e-marketplace, and then to outsource the marketing and sales of the goods retailed online, including price-setting, billing and logistics.

The ability to move dynamically in a business environment is increasingly a critical factor, given the current, complex economic scenario in which inter-organizational relations rapidly change from one form to another (Gulati 1998). The Yoox group (e-intermediary) inter-organizational network has the following key attributes:

- The electronic mediator is perceived as a benchmark and an industry-specific leader, in Yoox's case, of the designer fashion market
- The electronic mediator is a full outsourcer with the capabilities to support its business-partner organizations throughout the entire e-commerce process, including marketing and logistics (Rossignoli et al. 2012)
- The e-intermediary's inter-organizational network is made up of different types of relations (e.g., from strictly collaborative partnerships based on formally structured agreements, such as the joint venture, to market relations based on the buy/sale of products, such as those fostered by the multi-brand website, and collaborative innovation relations based on trust, like those enjoyed with the top designers that have been with Marchetti from the outset)

In fact, Marchetti's idea was to develop an efficacious e-commerce platform from which to sell unsold, high-quality stock from earlier fashion seasons at discounted prices. The e-commerce activities were planned in accordance with the suggestions and needs of a select group of fashion brands, such as D&G, Diesel, Bottega Veneta, Armani, Cavalli. These iconic names were quick to express their interest in the development of the electronic market in the realization that its success would enable them to sell off the articles that remained from the earlier season without compromising their brand image or cannibalizing store sales.

Yoox Group has proven its ability to attract online customers and to effectively manage the multifaceted back-end process, which entails everything from product selection, product pricing, marketing and logistics to warehousing, online billing/payments and customer care. As a result, the Yoox e-marketplace has built a powerful network of cooperation.

The designer brands consider Yoox a first mover in both technological and relational terms, hence, irreplaceable. The brands believe no other company has the same distinctive expertise as Yoox Group and, therefore, that no other company could do the same job so well.

Yoox Group's CEO is well aware of being a first mover in this domain: *"We make a great effort to capitalize on the fact that Yoox was a first mover in a highly complex market, in terms of both the e-commerce aspect and the huge challenge that this type of e-commerce poses in terms of the energy needed to satisfy everyone's rightful expectations. This is an important entry barrier as we have created a structure with global reach in terms of geo-markets but are focused exclusively on one sector alone, that is, designer fashion, which is helping us to retain our competitive edge even beyond start-up.*"

But Yoox Group also considers the iconic designer fashion brands irreplaceable, thanks to the significant relational effect of these brands' presence on *yoox.com*, which has made its relations its main asset. This reveals how the relationship between the designer fashion brands and Yoox is mostly based on trust and cooperation.

Around 2006 the Yoox business network started to diversify and became more complex. Its excellent image had attracted many smaller fashion labels that, however, wanted to rent space inside the global virtual store to sell their current collections as opposed to selling stock from earlier seasons. Yoox established a selection and quality control procedure and gave network access to roughly 1,000 producers, further strengthening its brand reputation and identity. Many of these producers consider Yoox an irreplaceable business partner, too, precisely because they do not have a strong retail channel of their own.

Yoox is associated with famous names like Armani and Bottega Veneta and is a valid solution to entering large markets otherwise beyond the reach of small companies, such as Russia, China, the US and Japan.

According to the marketing manager of one of the small producers: "O*ur market share increased after we joined Yoox. It was a nice business card to introduce us to foreign customers in Russia, USA, Japan, for example. What makes me curious is*

that we sell around the world with a working structure that is lean and fragile yet well-organized; we should invest more capital".

In theory, the multi-brand relations could be short-lived but, in reality, the network is far more solid.

The CEO is emphatic on this point: *"We are the ones who select the products for the multi-brand store. The fact that most of our relations have endured is also because we live on a fortunate retail channel that is growing fast, which helps to stabilize the business relations between the parties. The multi-brand players don't really feel a loss of decisional power because we are just one of their many multi-brand retailers. As such, they are used to the fact that the retailer is the buyer that pays for the products, ergo, the buyer makes the decisions, an aspect is already embedded in the logic"*.

This explains why the producers are ready to cede a significant part of their decisional power and leave Yoox to manage all aspects of their e-commerce collections.

Analyzing the relations between Yoox the electronic mediator and the smaller fashion companies confirms that these are shaped by mechanisms more similar to those of the traditional market, i.e., price, efficiency and a less personal, less trust-based approach. When it comes to deciding models and quantities of items to sell, Yoox has full control over the 1,000 or so small to mid-sized brands and thus exercises full control over the marketing, logistics, packaging and other related aspects.

Relations with the brands managed by the E-lite JV are quite different, however. The JV benefits from the market-specific leadership positions of both Kering and Yoox to drive the current e-commerce websites of the Kering luxury brands. The endgame is to accelerate the development of these brands' global digital presence as much as possible and deliver an exclusive online shopping experience. Kering's contribution to the partnership is the strong appeal of its brands and its well-established tradition as a luxury player. Yoox Group brings 12 years of fashion e-commerce experience and its consolidated expertise in the management of global online mono-brand stores and the development of e-tailing strategies for the top designer fashion labels. A key aspect of the E-lite strategy is to give full reign to the brands in the management of their online stores, leaving them free to decide product assortment, editorial content, art direction and digital communication.

Having E-lite as their exclusive, single point of reference enables Kering Group's luxury brands to share their best practices in the e-commerce environment, from web design and user experience to digital production, customer care and web marketing.

E-lite gives the brands access to Yoox Group's highly automated, global techno-logistics platform, enabling them to benefit from its international presence, knowledge of local markets and experience of entering new e-luxury markets, such as China. In a nutshell, Yoox enables the brands to extend the sales reach of their collections to more than 100 countries worldwide.

Kering pays for the services and the activities carried out by Yoox Group according to the terms and conditions set out in the relative revenue-sharing

agreements. After a period of 7 years as a going concern, Kering and Yoox Group have the right to exercise their respective call and put options on Yoox's stake in the JV.

But now, back to the research questions posed at the start of this chapter: *What part does ICT play in giving Yoox Group a competitive advantage?* And, from the organizational perspective: *How do the ICTs influence the nature and evolution of Yoox's inter-organizational network?*

The Yoox case study shows how a technological first mover can forge stable relations. In fact, Kering saw not only Yoox's value as a technology outsourcer, but also that it could play a highly strategic role beyond that of mere supplier and thus sealed the relationship by incorporating E-lite.

Hence, we can say that the formalized, long-term agreement forged with a major partner has given first mover Yoox a stable and enduring competitive advantage in the new technologies arena.

While the ICT competitive advantage is considered short-term, given that technological innovation can be imitated in a relatively short period of time, the rule does not apply if the first mover is able to build stable relations that lead to more enduring, consolidated forms of collaboration in protected environments where less-imitable innovation can be pursued.

Yoox enjoys very solid relations also with the mono-brand producers. In fact, during our interviews the Group's CEO revealed that: *"The [mono-brand] contract is very complex and regulates our obligations in terms of the technology, logistics and customer care services provided. The contract is a legal document with legal obligations and is pretty much a joint venture agreement (. . .). Actually, it's like managing another 29 joint ventures but, fortunately, without the need for 29 boards of directors and managing directors, or any other corporate requirements. Just like a JV but without the need to set up a company. The contracts are really very similar because they are of 5-year duration, which is very long for this type of retail channel. The roles and responsibilities of the parties are highly formalized and the remuneration principle is based entirely on the results, hence, in logic it equates to a JV"*.

The relationships that tie the mono-brands to Yoox therefore are based on mutual trust. E-lite was the natural evolution of the relationship of trust built by the first mover with Kering.

As confirmed by Yoox's CEO: *"The agreement with Kering was a little like the natural next step of a contract that already defined in great detail the roles and the responsibilities of both parties, the long-term duration and the division of earnings. These are the three pillars that define an actual JV"*.

Therefore, as an electronic mediator, Yoox Group has not implemented a single coordination strategy but has exploited a broad spectrum of interaction approaches: from the most efficient impersonal relations to those based more on trust and cooperation; from relations aimed at the innovation and creation of new competitive advantages to those aimed at maximizing the skills and expertise already acquired. The business network of fashion companies that use the services of Yoox today encompasses:

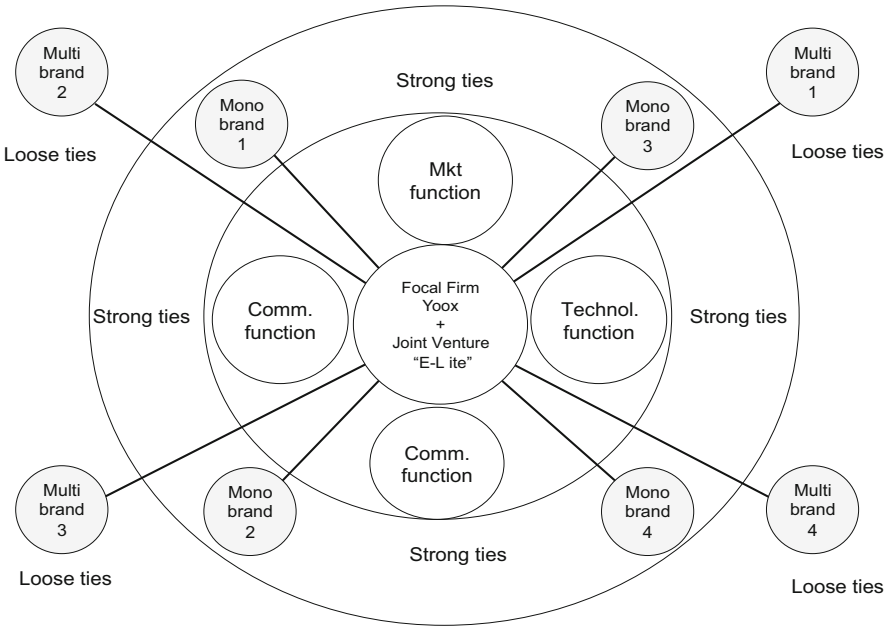

Fig. 7.4 Yoox group inter-organizational network

- Approximately 1,000 companies on the multibrand channels, with which Yoox mainly has market relations that are not privileged or reciprocally based that can be defined as 'loose ties' (Fig. 6.4)
- About 10 companies on the mono-brand channel and, albeit more rarely, the multibrand channels with which it has developed privileged cooperative relations based significantly on trust and/or interdependence, which can be called 'strong ties' (Fig. 7.4)
- Kering and its brands, which are serviced exclusively by the E-lite joint-venture

Yoox Group is the network's focal company. However, although the focal company is seen historically as a large company, usually a major, hierarchically integrated producer that establishes specific types of relations with the subcontractors, in this case the focal company is the organization that manages the multiple relations of collaboration and cooperation. In fact, our analysis of Yoox Group shows that the focal company is an electronic mediator (Giaglis et al. 2002) with the following attributes (Rossignoli et al. 2012):

- It is the epicentre of a network of relations that includes both producers and consumers. The network is enabled by a platform used by the partners to interconnect and thus carry out their business
- It makes the decisions on who can enter the relational network and sets the governance rules. The owner of the platform has the power to decide what

credentials the producers/suppliers/customers need to have and what standards these must comply with to access the network
- It possesses distinctive competences and know-how, is well-versed in how to use the internet and the relative technologies
- Its success is thanks to the international Web platform used to service the global market
- It facilitates access to the global marketplace for small and mid-sized companies that otherwise would not have the means to retail their products worldwide. In this sense, the strategic mediator redresses the balance of power between the large and the mid-small companies
- It is a first mover. Yoox was the first to seize the opportunities of the designer fashion and luxury market for an electronic mediator

This clearly makes Yoox a strategic mediator (Rossignoli et al. 2009). In fact, the CEO underscored that: *"Yoox is a closed network because we are the ones that choose the producers, who decide why and who is given space on the two lines. This is a simple matter for Yoox because whoever buys the goods and takes the material risk,* i.e.*, Yoox, must necessarily make the selection."*

The concept of the strategic mediator was developed in 2009 (Rossignoli et al. 2009) in the attempt to explain how the market maker assumes the role of arbitrator, deciding who stays in and who stays out of the inter-organizational collaborative network.

Malone et al. (1987) developed the concept of the three famous communication, integration and mediation effects. In 1997 Wigand re-examined Malone et al's arguments from a strategic perspective, incorporating their theory with what the author himself calls the "strategic electronic network effect", helping to extend the explicative reach of the initial theory. According to this perspective, ICTs enable the market's innate limitations to be surpassed and the shift to hybrid market forms, such as clans or networks. The use of ICT tends to lower the transaction costs, facilitating the creation of hybrid forms that use pricing, contractual or hierarchical mechanisms to govern the transactions (Wigand et al. 1997). These collaborative arrangements that fall somewhere between the market and the hierarchy enable the companies to benefit from the low prices of the market and the stability of hierarchical forms (Wigand 1997).

Subsequent studies (Rossignoli et al. 2009) demonstrated the existence of a fifth effect that the authors dub the "arbiter effect" in their 2009 contribution, which further develops the concept of electronic hierarchy to highlight:

- The formation of networks composed of a select number of members, thus hypothesizing a return to hierarchical transaction governance forms
- The formation of closed networks
- The formation of networks that aim not solely to reduce transaction costs but to enable new intermediaries, such as the "strategic mediator", to emerge to meet the needs of the marketplace participants, with objectives that go beyond the mere reduction of prices

By reducing asymmetries and focusing on service delivery, the strategic mediator has an impact not so much on the prices but more on the expansion of the purchasing process.

In other words, the strategic mediator improves the quality of the services connected to the business process and offers each participant a broader choice. The authors consider a closed network to be a special type of hierarchy due to the fact that the entry of new participants is regulated and that the transactions are partly based on the market maker's relations of power (Rossignoli et al. 2009).

7.7 Yoox Group, Business Network Governance Mechanisms, and the Role of ICT

Going back to theory proposed by Grewal in 2010, this section seeks to develop the theme of the market maker's governance mechanisms, taking into account the elements to emerge from the Yoox Group case study.

Grewal et al. (2010) seek to respond to the two questions: "What governance mechanisms can be used by the market maker to enhance the performance of the electronic market and how do behavioural uncertainty and external uncertainty influence the efficacy of the market's own governance mechanisms?" According to the authors, the market maker can use three main governance mechanisms to administrate and manage an electronic market.

Above all, Grewal et al. (2010) claim that a market maker can *monitor* the behaviour of the participants, i.e., the actions of the buyers and sellers in the market. In reality, however, the Yoox case study shows that the role of the market maker is far more incisive than the simple control or monitoring of user behaviour, given that it has the power to determine 'who is in and who is out' of the e-marketplace, which casts the strategic mediator in another role, that of the "bouncer" (Rossignoli et al. 2009). The market maker is the owner of the focal company and has absolute power of decision over what happens in their competitive arena. Clearly, the market maker seeks to expand the network by identifying companies that meet its specific quality standards, but this does not change the fact that we are looking at a closed network.

The second aspect underlined by Grewal et al. (2010) is the participants' sense of *belonging to a community*, i.e., the capacity to develop and diffuse a sense of mutual trust and respect through participant socialization processes. Certainly, the Yoox case study supports this line of thinking, given that whoever joins this 'exclusive club' is looking for a high quality designer fashion item, which drives Yoox to pay almost manic attention to the customer in order to reinforce this principle and to encourage the customer to return to the website for more purchases, thus winning client loyalty.

A final matter addressed by Grewal et al. (2010) is that each market maker can *take part in the market* as either a buyer or a seller. When this happens, it is a sign

that the market maker believes in that particular electronic market and that it brings into play its expertise in market functioning to develop direct interactions with the participants. On the other hand, self-participation could give the market maker an unfair advantage, seeing that this latter is responsible for implementing the rules that govern the electronic market and that, as a result, it would have to supervise its own actions. This creates a conflict between the market maker's role and the participant's role in the market (Grewal et al. 2010). This has not yet happened in Yoox's case but at a certain point on its growth curve Yoox might decide to become a fashion producer itself and, therefore, enter its own electronic market in the capacity of supplier.

The future challenges that await Yoox are related to the disappearance of price information asymmetries, which would affect both its possible role as producer and its role as 'mere' market maker of the products furnished by its suppliers. The question of price transparency is both a threat and a major challenge that the market maker must be able to manage with maximum flexibility and acumen. This is another setting in which ICT plays a strategic role. The market maker must be able to use sophisticated business intelligence and data mining systems, know how to carefully manage database knowledge discovery processes, develop search engines connected to intelligent agents that can supervise or monitor the databases of both itself and its competitors, and dynamically manage the prices of its electronic market.

To be competitive, the first mover must manage the critical issue of price transparency. The future thus belongs to those electronic intermediaries with the capabilities needed to deploy increasingly sophisticated technologies, advanced search engines that enable the first mover to retain his lead position. On the organizational side, the tendency to use hierarchical or quasi-hierarchical forms makes the first mover robust.

By this last point, we mean robust to external uncertainty, which derives from the inability of the companies to predict future events (Milliken 1987) and can be manifested in either forms of uncertainty or variability in demand conditions. This is another area in which business analytics can be very usefully applied to demand forecasting phases. The most significant studies on this subject are Negash 2004; Seufert and Schiefer 2005; Berendt et al. 2008; Sahay and Ranjan 2008; Trkman et al. 2010; Chen et al. 2012.

Conclusions

The analysis performed in this chapter shows how Yoox Group started life as an e-commerce platform for the purchase of designer fashion items from earlier seasons at discounted prices. It then added the design and management of online mono-brand stores for leading fashion brands that want to make their current collections available to consumers over the internet as well as their physical stores. Yoox Group is therefore the strategic partner for the

(continued)

online sales channel of the premiere fashion brands. In Chap. 4, we developed the electronic mediator theme, defining Yoox as a strategic mediator rather than just a simple e-intermediary given that it is Yoox that decides who can enter the network, and who cannot. Hence, the Group's strategic role comes from the competitive advantage that it gives the network's commercial partners.

According to the analysis conducted in Chap. 4, Yoox Group can be considered an "Outsourcing Virtual Organization" (Riemer and Vering 2012) because it represents a network of small and medium-sized enterprises each of which contributes its own expertise and seeks to exploit the potential business opportunities created by the electronic mediator Yoox.

Yoox is the Outsourcing Virtual Organization network's focal company that identifies reliable, qualified partners/suppliers. These partners form a group that creates value from the mechanisms of coordination based on the adoption of information and communication technologies (ICT).

The focal company is thus governed by the application of sophisticated ICTs and one of its main behavioural traits is the concentration of skills and know-how; likewise the specialized partners that bring their experience to the network they are part of.

Yoox Group is the partner of Kering, with which it formed the E-lite joint venture to manage the online mono-brand stores of several of Kering's luxury brands. The JV leverages the industry-specific leadership positions of Kering and Yoox Group and the founding of E-lite a key step in both group's plans for strategic growth. Indeed, Yoox's CEO confirms that *"The collaboration with Kering Group developed along the same trajectory of the mono-brand contracts. It was complex because it took a year to close the contract instead of the usual 4 months, but this is a true joint venture*".

Kering brings the great appeal of its brands and impressive tradition of luxury to the partnership. Yoox Group contributes the experience amassed in 12 years of operating as a fashion e-tailer and the consolidated global expertise gained from managing online mono-brand stores and developing e-commerce strategies for the fashion industry's leading designer labels. An integral part of the brand strategies is to have full control over their online stores in terms of phases such as product assortment, editorial content, art direction and digital communications.

Information technology is the Company's strategic asset and all the core technology that supports the Yoox platform is developed by an in-house team.[19] The platform is the beating heart of the Yoox system and supports not only the *yoox.com*, *thecorner.com* and *shoescribe.com* websites, but also

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[19] Chief Technology Officer's statement on www.yoox.com

the many mono-brand online flagship stores. ICT enables Yoox to manage the entire technical-logistics process, the customer care service and online transactions and payments. The milestones achieved by Yoox Group thanks to technology can be summed up as follows:

- Development of a new business model that goes beyond "pure retail"
- Streamlining of the network and communication infrastructure
- Large warehouse with a high level of computerization designed to not interfere with the use of RFID devices
- Maximum precision tracking of product movements and the relative data
- Tracking of the product's journey from supplier to final customer
- Guarantee of safe transactions and secure payments as well as punctual, accurate deliveries
- Synchronized information flows
- Fully integrated internal and external processes
- Management of complex applications that need to support the progressive growth of the business and the work peaks that happen at specific times of the year
- Implementation of a telecommunications infrastructure and expandable switch board
- Use of tools capable of supporting any future implementations
- Integration of a customer contact system to deal with the requests of customers worldwide
- Management of more than two million page visits per day
- Reliable and able to ensure business continuity; a glitch in the system would block access to the website and, as a consequence, interrupt commercial and administrative activities
- Entire infrastructure centralized in a unified communication system to facilitate the maintenance and inspection of all the communication devices
- Use of videoconference and telepresence technologies to communicate internally using a single communication network

The producers interviewed stressed the importance of the technology:

> The technology is everything for this kind of setup, the development and take-up of the internet has made it possible to give life to these websites; they are founded on the pillars of the internet and e-commerce and the existence of Yoox or similar ventures would not exist without these technologies. (Producer 1)
>
> ICT is vital to e-commerce, we cannot do without it even though its use in the fashion industry is less developed, especially in Italy, because people haven't grasped how easy and simple it is to use. Its strength is that it enables direct business. (Producer 2)

Yoox's CEO confirmed the key role played by ICT.

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> Clearly, to all effects, the role of technology is greatest from the consumer's perspective. If the computer were to disappear tomorrow, it would not unduly faze the sector companies, which would probably be able to continue operating because they never made it the centre of the organization. For us at Yoox, however, we'd all be left empty handed even if the internet remained and just the IT disappeared, given that the structure is designed completely around and totally driven by technology: from how we decide to manage procurement, the customer, the parcels and customer care to how we identify fraud and process payments, basically, all the phases of the value chain.

The in-depth analysis made here highlights the key role of the strategic mediator as a new internet-based organizational form that tends to create increasingly complex and articulated inter-organizational relations, the whole of which cannot be understood by using just one of the theories illustrated in Chaps. 2, 3 and 4.

This is one of those cases that pose organization scholarship with the challenge of identifying a meta-theoretical framework that can render several theories simultaneously usable to explain the range and scope of the inter-organizational relations of a company immersed in a complex Business-to-Business (B2B) setting.

This is the challenge addressed in the next chapter.

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Chapter 8
Bringing Different Theories Together: The Inter-Organizational Triple Dynamism Model

Abstract The case study presented in Chap. 7 has shown that none of the theories described in Chaps. 2, 3 and 4, if taken in isolation, is sufficient to explain the Yoox inter-organizational network: the different relationships developed by Yoox since 2000 need at least nine theories on inter-organizational relationships to be explained. This chapter builds upon the literature on ambidexterity and dynamic equilibrium to identify three pairs of opposing strategies in inter-organizational relationships: conformism-breach, exploitation-exploration, and cooperation-competition. These three pairs result in eight possible combinations, corresponding to eight basic types of inter-organizational relationships. We show that most theories described in Chaps. 2, 3 and 4 tend to be specialized in one or few types of inter-organizational relationships. We then propose a framework linking each possible type of inter-organizational relationship with the theories that are best suitable to explain it. We also suggest that such a meta-theoretical framework opens new paths to investigate the impact of inter-organizational relationships on performances.

8.1 Introduction

The theories on inter-organizational relationships described in Chaps. 2, 3 and 4 build upon very different anthropological assumptions. For example, the Resource Based View sees managerial action as driven by strategic thought, whilst the Transaction Costs Economics theory sees managerial action as driven by tactical considerations. Agency theory sees human beings as opportunist, indolent and indifferent to ethics, whilst Neo-Institutional theory sees them as strongly committed to meet expectations and comply with rules, in order to yield good reputation and social legitimation.

The academic debate, for its very nature, often polarizes the scholarly community into separated and competing approaches. Scholars who are used to study inter-organizational relationships through a Knowledge Network lens are unlikely to incorporate, say, also Organizational Ecology predictions as possible rival or complementary explanations of the phenomena they observe. When a scholar

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studying inter-organizational settings finds that the theory he or she is using fails in explaining the observed phenomena, he or she usually either just admits it, stating that further research is needed, or seeks to extend the same theory being used: the idea to make comparisons showing how *different* theories would explain the same phenomenon is not common in management research.

For example, when the Transaction Costs Economics (TCE) theory failed in predicting the impact of booming ICT solutions on inter-organizational relations, TCE scholars sought to extend the original TCE framework by incorporating many further "hybrid" coordination forms between market and hierarchy; they also incorporated a further need (minimizing risks) beyond the original assumption that minimizing transaction costs is the only key driver of inter-organizational behavior. In our opinion, this risks to make the TCE theory less clear and less elegant, without making it really comprehensive: for example, the TCE is completely incapable to explain the exchange of favors between firms belonging to the same lobby. We think it would be more appropriate, from a scientific point of view, to clearly identify the boundaries of the TCE theory, i.e. the conditions under which it works (or not). This would make the TCE theory also more reliable for practitioners, and then more relevant.

As a matter of fact, the existence of theories with limited scope, building upon different assumptions and making different predictions, is not unusual in science. For example, two logically incompatible theoretical frameworks co-exist in physics: the theory of relativity and the quantum theory. Scientists have been struggling for decades in order to unify these two approaches into a one, comprehensive testable theory, but this goal has not been achieved yet. Nevertheless, both the theory of relativity and the quantum theory are being successfully used by practitioners, since their boundaries have been made clear and scientists have identified the conditions under which both the former and the latter theory works, or not.

Of course, there are important differences between physical and social sciences, and the epistemological solutions adopted in one field cannot just be borrowed from the other. One important point we want to stress here is that in social sciences, differently from what happens in physical sciences, theories directly influence phenomena, because they generate beliefs, behaviors and attitudes that can be adopted by the people being studied. In management studies, then, the co-existence of opposite theories usually mirrors the existence of complementary capabilities on the part of managers and organizations. Understand these complementarities, overcoming theoretical parochialism, is then even more important. We propose that the differences between the theories explaining inter-organizational relations be addressed with two complementary goals: struggling to build a unified theory or meta-theory, in the longer run; and defining the conditions for the applicability of each extant theory, in the shorter run.

We think that the theories we presented in Chaps. 2, 3 and 4 have achieved a level of maturity that allows debate on the applicability conditions of each theory. Moreover, structured comparisons between the extant theories may be useful to discuss possible path towards a unified theory or meta-theory of inter-

organizational relationships—a very stimulating and challenging purpose for management scholars.

The Yoox case, presented in Chap. 7, showed that indeed a single theory is not enough, even to understand the inter-organizational network of a single organization. In fact:

- The Yoox business model emerged as a successful organizational variation within a niche, consistently with the Organizational Ecology theories.
- It rapidly acquired thousands of customers among the best fashion firms, because it offers very efficient outsourcing services, consistently with the TCE theory.
- The relationships between Yoox and its top customers, i.e. the fashion firms utilizing Yoox's mono-brand services, tend to be based on trust and personal bonds, consistently with the Collaboration Network theory.
- Many small and young fashion firms accept even low margins to enter the Yoox network, because each Yoox portal has become a medium that legitimates also new brands as high-quality made-in-Italy: these decisions, driven by prestige considerations, are consistent with the Neo-Institutional theory.
- The relationships between Yoox and small fashion firms, on the other hand, are governed by strict contracts, consistently with the Agency theory, and display some traits of inter-organizational bullying, consistently with the Resource Dependence theory.
- Yoox is using its wide network to collect impressive amount of information about the evolving needs and desires of fashion consumers, thus allowing, for example, ever growing expertise in merchandise assortment, consistently with the Knowledge Network theory.
- Yoox's network has become an asset per se, hardly imitable and substitutable, consistently with the Resource Based View.
- The joint-venture between Yoox and Kering, on the other hand, is explainable in terms of both Collaborative networks and Resource Dependence theory, and is also consistent with the trend towards constraints accumulation predicted by Organizational Ecology theories.
- The Yoox B2B network is extended worldwide, especially in those countries where the institutional environment facilitates the building of transactional integrity, which is a critical factor to the development of e-business, as predicted by the Institutional Systems theory.

As the reader can see, we need as many as *nine* theories on inter-organizational relationships to explain the multi-faceted case of the Yoox inter-organizational network. Each theory, in fact, focuses on aspects that may be overlooked by the other theories, and then a comprehensive theoretical overview is very useful to describe the whole horizon of possible inter-organizational dynamics.

This chapter is aimed to contribute to such a theoretical overview and to build a basis for further research steps, involving the definition of each theory's boundaries and the possible development of a comprehensive meta-theory. In order to compare so many different and even incompatible theories, we will make use of concepts

that have been developed exactly to describe the co-existence of contradictory and diverging attitudes: paradox, ambidexterity and vacillation.

8.2 Ambidexterity, Dynamism and Vacillation at the Inter-Organizational Level: The Accept-and-Fight Paradox

There is growing interest among management scholars in how organizations deal with contrasting and conflicting goals (Martini et al. 2013). In fact, organizational life raises multiple tensions, such as, for example, those between collaboration and control (Sundaramurthy and Lewis 2003), between profit and social responsibility (Margolis and Walsh 2003), between flexibility and efficiency (Adler et al. 1999).

Smith and Lewis (2011) identify three different scholarly approaches to understand contrasting goals in organizations.

A first approach has the ambition to find the "one best way to organize". In this case, scholars seek to articulate generalizable principles to explain why a certain choice is more beneficial than the opposite one (e.g., hierarchical versus flat structure).

In reaction to this perspective, the contingency approach emerged in the 1960s, claiming that either a certain choice or the opposite one can be the most beneficial, depending on contingent circumstances: then, scholars and managers should split tensions and choose the pole that best aligns strategies with the specific organizational structure and environmental situation they are dealing with.

The third approach is the paradox perspective. In this case, scholars assume that tensions persist within complex and dynamic systems, and, if harnessed, can be beneficial and powerful. "The juxtaposition of coexisting opposites intensifies experiences of tension, challenging actors' cognitive limits, demanding creative sensemaking, and seeking more fluid, reflexive, and sustainable management strategies" (Smith and Lewis 2011, p. 395). Moreover, opposing capabilities work as respective antidotes: when a strategy proves or becomes harmful, it is important to be already in the condition to master the possible alternatives.

In other words, early organizational theories ask "Is A or B more effective?"; contingency approaches ask "Under what conditions is A or B more effective?"; whilst a paradox perspective asks "how can both A and B be simultaneously engaged, so to get out the most from the paradoxical tension between A and B?"

Contingency and paradox approaches should be seen as complementary. Longer time and wider context perspectives imply the acceptance of inconsistencies and paradoxical tensions, especially when the pace of technological, market and institutional changes is high; whilst contingency theory may be most valuable when solving more focused problems in a shorter time horizon. For example, the exploration-exploitation alternative, which is perhaps the most frequently mentioned pair of contradictory strategies, has been studied both from a contingency (Benner and Tushman 2003) and a paradox (Martini et al. 2013) perspective.

Smith and Lewis (2011) invite to develop paradoxical thinking not only in management, but also in research processes. In other words, they propose that also *conflicting theories* be considered as a source of possible paradoxical benefits. Not only are managers invited to consider the positive potential of tension between opposite managerial choices: also scholars are invited to consider the positive potential of tension between opposite organizational theories. "Such an assumption introduces the possibility of seeking opposing views of even our most well-established organizational theories. (...) Paradox theory not only proposes that contradictory theories exist but offers a process for academics to start enriching and renewing our stock of organizational theories" (Smith and Lewis 2011, p. 398).

In this chapter, we take up this challenge, and seek to understand the contradictions between the theories presented in Chaps. 2, 3 and 4 in terms of potentially beneficial paradoxical tensions.

To do so, we build upon Lewis's (2000) review, which identifies three categories of organizational paradoxes: paradoxes of belonging, paradoxes of learning, and paradoxes of organizing.

In order to adapt these categories to theories on inter-organizational relationships, we seek to focus on what we perceive as the core of each organizational tension: *the struggle between build-upon and destroy*, *between accept and fight attitudes*. How do these opposing attitudes unfold in inter-organizational settings? We propose that the core accept-fight dichotomy translates into threefold paradoxes governing inter-organizational relationships:

1. *Paradox of belonging*, i.e. *the conformism-breach tension*. The inter-organizational relationship can be used to accept or fight the organization's extant identity, i.e. to comply with established rules and expectations or to pursue new ones. For example, long-term inter-organizational relationships allowing smooth, standardized supply chain processes are conformism-oriented; whilst inter-organizational relationships aimed to develop a new business model or to make political pressures to change the rules of the game are breach-oriented.
2. *Paradox of learning*, i.e. *the exploitation-exploration tension*. The inter-organizational relationship can be used to accept or fight the organization's knowledge base. Exploitation-oriented learning is aimed at efficiency and is characterized by self-imitation and training processes, with small, incremental changes in the knowledge base. Exploration-oriented learning is aimed at adaptability and is characterized by trial-and-error and possibly dispersive processes in which alternatives are discovered and mapped; as a consequence, many energies may be wasted before effective revolutions in the knowledge base occur (Ricciardi 2013). Inter-organizational relationships are exploitation-oriented when they tend to stabilize the knowledge base, whilst are exploration-oriented when they encourage or facilitate access to alternative learning.
3. *Paradox of interacting*, i.e. *the cooperation-competition tension*. The inter-organizational relationship can be used to accept or fight the other actor's

needs and desires. Cooperation-oriented (inter-organizational) interaction is based on fairness, help and sharing, whilst competition-oriented (inter-organizational) interaction is based on opportunism, greed and control (Ricciardi 2013). For example, an inter-firm partnership for new product co-design usually implies knowledge sharing and mutual help in case of difficulties; but other partnerships are opportunistic and stem from the need of mutual control. On the other hand, as shown in Chap. 3, the same relationship can rapidly shift from cooperative to competitive and vice versa, depending on phenomena of reciprocity, invasion of cheaters, change in the institutional environment, etc.

The three categories of tension identified above are defined as paradoxical in that they imply contradictory forces: the organizational elements that deliver one capability (e.g. exploitation) tend to generate negative externalities for those delivering the opposite capability (e.g. exploration) (Boumgarden et al. 2012).

The three pairs of tensions generate eight possible combinations of polarized choices characterizing inter-organizational relationships, ranging from the "all-accept combination" (conformism–exploitation–cooperation) characterizing for example trustful, long-term supply chain relationships, to the "all-fight combination" (breach-exploration-competition) characterizing for example the opportunist, short-term relationships of start-ups that rapidly hoard competences and experiences from the environment to build their business role and identity.

Managers govern inter-organizational relationships by choosing between such alternatives. They may display repetitive, long-term preferences: in fact, some firms tend to replicate the same combination (for example, conformism–exploitation–competition) in all their long-term inter-firm relationships. Conversely, managers may differentiate strategies across different relationships: for example, they may stabilize the conformism–exploitation–competition combination when interacting with certain actors, whilst developing, say, the breach-exploration-cooperation combination when interacting with other more trusted actors. In these cases, managers display the split-and-specialize approach often described in ambidexterity literature (O'Reilly and Tushman 2008; Raisch and Birkinshaw 2008). Finally, managers may also oscillate between opposite approaches when interacting with the same external actor throughout time, thus displaying the purposeful iterations between alternatives advocated by vacillation theory (Boumgarden et al. 2012) and dynamic equilibrium models (Smith and Lewis 2011).

Similarly, also theories on inter-organizational relations deal with the triple paradox identified above. In the following paragraph, the theories described in Chaps. 2, 3 and 4 will be classified into a model including the three pairs of opposite alternatives characterizing inter-organizational relations: conformism-breach, exploitation-exploration, and cooperation-competition.

8.3 A Synoptic View of Theories on Inter-Organizational Relationships

The triple paradox model presented in the previous paragraph implies that eight possible combinations of the three pairs of attitudes (conformism-breach, exploitation-exploration, and cooperation-competition) are possible in inter-organizational relationships.

Some of the theories presented in Chaps. 2, 3 and 4 are specialized in explaining one or few among these possible combinations, whilst other theories are more comprehensive and focus on many possible combinations. Table 8.1 synthesizes the theoretical scenario and offers an overview of each theory's scope.

The Transaction Costs Economics theory usually focuses on the Conformism–Exploitation–Cooperation triad, but, in the extended version of this theory, the so-called Market-C is based on the Conformism–Exploitation–Cooperation triad.

The Agency theory is fully focused on how organizations manage the classical economics triad: Conformism–Exploitation–Cooperation, through contracts that control each party's opportunism, risk aversion and greed.

The Resource Dependence theory identifies three basic types of inter-organizational relations: the collaborative one, which results in alliances and joint-ventures, and is based on the Conformism–Exploitation–Cooperation triad; the aggressive one, which results in power conflicts and inter-organizational conflicts or even bullying, and is based on the Conformism–Exploitation–Cooperation triad; and finally the relationship aimed at first-hand information, prestige and political power, which results in associative activities or lobbying.

The Collaborative Networks theory considers two types of business networks: the innovative and the conservative ones. The former is described as based on the Conformism–Exploitation–Cooperation triad, whilst the latter is described as based on the Conformism–Exploitation–Cooperation triad.

The Old Institutionalism perspective needs as many as four different combinations to be described. In fact, if the Old Institutionalism analysis focuses on an organization that feels advantaged by the institutional status quo, its inter-organizational relationships will be either of the Conformism–Exploitation–Cooperation type (when interacting with allies) or of the Conformism–Exploitation–Cooperation type (when interacting with rivals/opponents). Conversely, if the Old Institutionalism analysis focuses on an organization that feels disadvantaged by the institutional status quo and wants to change it, its inter-organizational relationships will be either of the Breach–Exploitation–Cooperation type (when the other actors are allied) or of the Breach–Exploitation–Competition type (when the other actors are rivals/opponents).

On the other side, New Institutionalism concentrates on only one possible choice for each dichotomy, thus providing in-depth insights on the Conformism–Exploitation–Cooperation combination.

The Institutional Systems approach plays a peculiar role in our list; in fact, this theory does not focus on how and why organizations choose a specific combination

Table 8.1 Overview of the explanatory power of the theories described in Chaps. 2, 3 and 4, as for the triple paradoxical tensions identified in inter-organizational relations

THEORIES	Belonging Tensions		Learning Tensions		Interacting Tensions		Combin. Code
	Conformism	Breach	Exploitation	Exploration	Cooperation	Competition	
Transaction Costs Econ.-Classical	X		X			X	*8*
Transact. Costs—Market C	X		X		X		*7*
Agency Theory	X		X			X	*8*
Resource Dep.—Alliances	X		X		X		*7*
Resource Dep.- Bullying	X		X			X	*6*
Resource Dep. – Politics		X	X		X		*5*
Collabor.Networks Th.-innovative	X			X	X		*3*
Collabor.Networks Th.-conservative	X		X		X		*7*
Old Institution. (adv + allied actor)	X		X		X		*7*
Old Institution. (adv + rival actor)	X		X			X	*8*
Old Institution. (disad. + allied act.)		X	X		X		*5*
Old Institution. (disad. + rival act.)		X	X			X	*6*
New Institutionalism	X		X		X		*7*
Institutional Systems	X	X	X	X	X	X	*all*
Org. Ecology –open.phase symb.		X		X	X		*1*
Org. Ecology –open.phase com.		X		X		X	*2*
Org. Ecology –closure phase	X		X			X	*8*
Org. Ecology—maturity phase	X		X		X		*7*
Resource Based View- Leaders		X		X	X		*1*
Res.Based View- Imitators	X			X		X	*4*
Knowledge Networks- open		X		X	X		*1*
Knowledge Networks- closed	X		X		X		*7*

Source Authors

of belonging, learning and interacting alternatives, but on how the institutional environment where the inter-organizational relationships unfold influences the organizations' attitudes and behaviors in terms of conformism-breach, exploration-exploitation, cooperation-competition, thus influencing the whole system's sustainability, robustness and adaptability. For this reason, the Institutional Systems approach was classified as explaining all the possible combinations of the tree pairs of inter-organizational styles.

The Organizational Ecology theories, on the other hand, leverage long-term, longitudinal analyses to identify four typical inter-organizational relationships, corresponding to four different triads. In the first phase of environmental openness, new niches are created and novel, dynamic organizations build symbiotic relationships with extant partners; this symbiotic role protects the first phases of organizational life, even when the organization is quite unconventional and breaks previous rules and expectations. This is described by the Breach–Exploration–Cooperation triad. The newborn organization also confronts competitors and learns from these experiences, since it is still young enough to build a brand new identity thanks to competitive imprinting. This is described by the Breach–Exploration–Competition triad. Then, the closure phase follows, where the niches are saturated, inertia processes emerge and selection stabilizes organizational forms consistently with the expectations created in the first, more creative phases. This is described by the Conformism–Exploitation–Cooperation triad. In the last phase, when maturity and obsolescence-senescence characterize the organizational community, competitive struggle fades and most interactions are conducted on the basis of a conservative, highly inertial Conformism–Exploitation–Cooperation triad.

The Resource Based View considers two main possible strategic reasons for inter-organizational relationships: building and protecting the most rare and valuable strategic resources, on the one side; and imitating or substituting the rare and valuable resources that triggered a competitor's success, on the other side. The first strategy is typical of leading firms, while the second is the typical strategy of imitators and last movers. The former generates inter-organizational relations that can be described by the Breach–Exploration–Cooperation triad, whilst the latter generates inter-organizational relations that can be described by the Conformism–Exploitation–Cooperation triad.

The theories of Knowledge Networks identify a wide range of inter-organizational relationships; a core distinction can be made between those translating into open and well-connected networks, and those translating into closed and inward-looking networks. The former type can be described by the Breach–Exploration–Cooperation triad, whilst the latter by the Conformism–Exploitation–Cooperation triad.

8.4 The Triple Dynamism Model

Table 8.2 synthesizes the eight possible types of inter-organizational relationships, corresponding to the eight possible combinations of the tree pairs of concepts described above. The table indicates the nature and meaning of each combination (expressed by a label) and lists the theories explaining it.

The first two combinations describe highly innovative inter-organizational relationships. In fact, relationships falling in these categories are aimed both at breach (i.e. the relational activity is used to build a novel identity or role for the organization) and exploration (i.e. the relational activity results in the creation of new, possibly disruptive knowledge).

In the first case (code 1) the relationship is cooperative, i.e. the interacting organizations behave fairly, help each other and share resources. This situation is described and explained by four distinct theories (see also Table 8.1) and namely: the Organizational Ecology theories (symbiotic market niches in periods of environmental openness); the Resource Based View, especially when successful first-movers' strategic choices are investigated by the Relational Based view and Dynamic Capabilities streams of studies; the Knowledge Networks theory, especially when it investigates organizations leveraging network centrality, network openness and strategic network position as for weak ties and structural holes; and Institutional Systems studies, which investigate the institutional conditions, at the system level, for any type of relationship to result in either beneficial or harmful outcomes. To express the nature of this type of inter-organizational relationship or network, the label "Innovation Niche" has been chosen.

In the second case (code 2) the relationship is competitive, i.e. the interacting organizations behave opportunistically and greedily with each other, and seek to maintain control on resources instead of sharing them. This is a "red ocean situation" in which organizations use competition to build their identity and to learn from competitors: like for the Innovation niche (code 1), this relational strategy is typical of start-ups and highly dynamic firms. It is described and explained by two distinct theories (see also Table 8.1) and namely: the Institutional Systems theory (like for all the triads) and Organizational Ecology (highly competitive selection phases after periods of environmental openness, that encourage the formation of new organizations and new organizational forms). To express the nature of this type of inter-organizational relationship or network, the label "New Business Model Market" has been chosen.

After the combinations identified by codes 1 and 2, two other types inter-organizational relationships follow, in which an explorative learning strategy is accompanied with a conformist attitude: this means that the organization uses the relationship not to build a new identity or role, but on the contrary to confirm expectations as for its identity or role.

The type of relationship identified by code 3 occurs when the organization cooperates with one or more partners in order to learn something new, whilst the reciprocal expectations and rules are taken for granted. This triad is described and

Table 8.2 Overview of the eight possible combinations (triads) of inter-organizational attitudes and behaviors, corresponding to eight different types of inter-organizational relationships

Code	Type of inter-organiz. relation	Belonging Strategy	Learning Strategy	Interaction Strategy	Theories explaining
1	*Innovation Niche*	Breach	Exploration	Cooperation	Org. Ecology—openness phase—symbiotic relations
					Resource Based View-Leaders
					Knowledge Networks—open
					Institutional Systems
2	*New Business Model Market*	Breach	Exploration	Competition	Organizational Ecology—openness phase—competitors relations
					Institutional Systems
3	*Innovators Network*	Conformism	Exploration	Cooperation	Collaboration Networks Theory—Innovative
					Institutional Systems
4	*Benchmarking Environment*	Conformism	Exploration	Competition	Resource Based View-Imitators
					Institutional Systems
5	*Interest Group*	Breach	Exploitation	Cooperation	Resource Dependence—Politics
					Old Institutionalism (disadvantaged + allied actors)
					Institutional Systems
6	*Power Conflict Environment*	Breach	Exploitation	Competition	Resource Dependence—Bullying
					Old Institutionalism (disadvantaged + rival actors)
					Institutional Systems
7	*Locked-In Network*	Conformism	Exploitation	Cooperation	Transaction Costs Economics—Market-C
					Resource Dependence—Alliances
					Collaboration Networks Theory—conservative
					Old Institutionalism (advantaged + allied actors)
					Organizational Ecology—maturity phase
					Knowledge Networks-closed
					Institutional Systems

(continued)

Table 8.2 (continued)

Code	Type of inter-organiz. relation	Belonging Strategy	Learning Strategy	Interaction Strategy	Theories explaining
8	*Classical B2B Market*	Conformism	Exploitation	Competition	Transaction Costs Economics—Classical version and Market-B
					Agency Theory
					Old Institutionalism (advantaged + rival actors)
					Organizational Ecology—closure phase
					Institutional Systems

Source Authors

explained by two distinct theories: the Institutional Systems theory (like for all the triads) and the Collaboration Networks Theory (which is devoted mainly to collaborative inter-organizational innovation). To express the nature of this type of inter-organizational relationship or network, the label "Innovators Network" has been chosen.

The type of relationship identified by code 4 occurs when an organization seeks to learn from its competitors, usually by imitating or replicating the market leaders' choices. Since organizations in this case do not use the competitive relationship to change their identity, but just to explore (and even steal) alternatives, the triad describing this situation is Conformism–Exploitation–Cooperation. This triad is described and explained by two distinct theories: the Institutional Systems theory (like for all the triads) and the Resource Based View. In fact, since the RBV focuses on how leading firms should protect their strategic resources from imitation and seizure, it implies that many firms surf the competitive eco-system to learn from competitors: this is the typical strategy of challengers and last movers. To express the nature of this type of inter-organizational relationship or network, the label "Benchmarking Environment" has been chosen.

The following pair of inter-organizational relationships, labeled with codes 5 and 6, have to do with power. They are both based on the breach–exploitation combination: in these inter-organizational settings, the organization uses its relationships to build a new identity or role for itself, or to modify the rules it is expected to comply with.

The type of relationship identified by code 5 occurs when an organization builds cooperative relationships (for example, it enters lobbies, associations or clubs) in order to re-define its role (e.g. for enhancing its prestige) or to make pressures to change the rules of its environment. This triad is described and explained by three distinct theories: the Institutional Systems theory (like for all the triads); the Resource Dependence theory (when dealing with firms' political and associative activities); and Old Institutionalism (when studying how the firms that feel

disadvantaged in a certain institutional environment form alliances to change the rules of the game). To express the nature of this type of inter-organizational relationship or network, the label "Interest Group" has been chosen.

The type of relationship identified by code 6 occurs when an organization fights other organizations in order to re-define its own role or to influence the rules of its environment. This triad is described and explained by three distinct theories: the Institutional Systems theory (like for all the triads); the Resource Dependence theory (when dealing with phenomena of inter-organizational bullying); and Old Institutionalism (when studying how organizations that feel disadvantaged in a certain institutional environment fight other organizations to change the rules of the game for their own interest). To express the nature of this type of inter-organizational relationship or network, the label "Power Conflict Environment" has been chosen.

The last pair of inter-organizational relations, labeled with codes 7 and 8, identify the most conservative types of relationships: those based on the conformism–exploitation combination. In these inter-organizational settings, the organization uses its relationships to confirm its extant role and to better exploit the knowledge it already owns.

The type of relationship identified by code 7 occurs when an organization builds cooperative relationships (for example, integrated supply chains) in order to optimize the exploitation of its own role and knowledge. This triad is described and explained by as many as seven distinct theories: the Institutional Systems theory (like for all the triads); the Transaction Costs Economics (when describing the so-called Market-C environments); the Collaborative Networks Theory (which admits that collaborative networks may result in inward-looking culture and conservatism); the Resource Dependence theory (when dealing with inter-firm alliances and joint-ventures); Old Institutionalism (when studying how the firms that feel advantaged in a certain institutional environment form alliances to maintain the rules of the game unchanged); the Organizational Ecology theories (when studying mature phases of organizational ecosystems, characterized by high levels of inertia); and Knowledge Networks theory (when studying closed, inward-looking networks). To express the nature of this type of inter-organizational relationship or network, the label "Locked-In Network" has been chosen.

The type of relationship identified by code 8 occurs when an organization faces competitors without using these competitive relationships to change its own role or to access new knowledge. In other words, the organization seeks to exploit its current role and knowledge in its competitive relationships. This triad is described and explained by five distinct theories: the Institutional Systems theory (like for all the triads); the Transaction Costs Economics (classical version); the Agency Theory; Old Institutionalism (when studying how the firms that feel advantaged in a certain institutional environment fight their rivals to maintain the rules of the game unchanged); the Organizational Ecology theories (when studying the closure phases of organizational ecosystems, in which competition progressively closes the niche and inertia spreads); and Knowledge Networks theory (when studying closed,

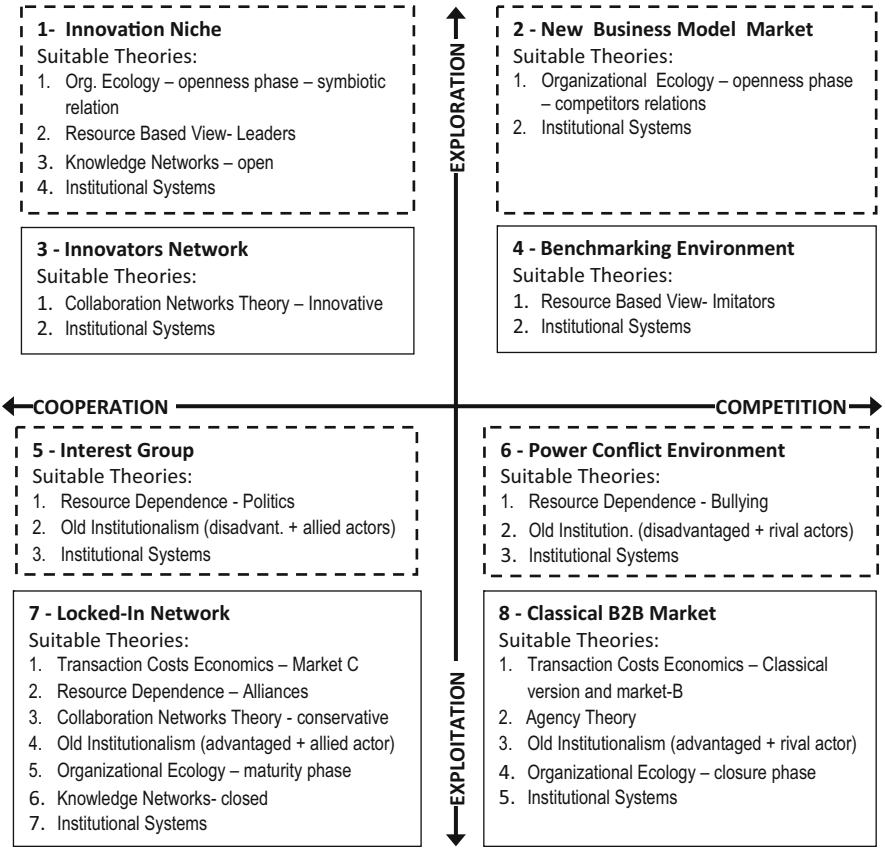

Fig. 8.1 Representation of the eight basic types of inter-organizational relationships resulting from the triple dynamism model. The two Cartesian axes represent the key paradoxical strategies for learning (exploitation–exploration) and interacting (cooperation–competition). The third dimension, i.e. the belonging axe (conformism-breach) is represented by the *box graphics*: inter-organizational relations enclosed in *dotted line boxes* are breach-oriented, whilst inter-organizational relations enclosed in *solid line boxes* are conformism-oriented

inward-looking networks). To express the nature of this type of inter-organizational relationship or network, the label "Classical B2B Market" has been chosen.

Figure 8.1 offers a graphic representation of the eight basic types of inter-organizational relationships, resulting from the eight possible combinations of breach-conformism, exploitation-exploration and cooperation-competition.

This is a synthetic picture of the Triple Dynamism model, which we present here as a tool to drive research on inter-organizational relationships. A brief example of how this model may be used is provided in the following Paragraph.

8.5 Guidelines for Conducting Research on the Basis of the Triple Dynamism Model

The triple dynamism model provides tools to systematically consider and compare the suitable theories that may provide explanations for the specific inter-organizational relationship under study.

The level of analysis of the triple dynamism model is the organization.

It is possible to use the triple dynamism model to investigate the inter-organizational relationships between the organization under study and: (1) another single organization; or (2) a selected group of organizations; or (3) its whole inter-organizational network.

The triple dynamism model can be used to draw a cross-sectional map of the inter-organizational relationships of the organization under study, but also to draw time series and longitudinal analyses of the inter-organizational phenomena under study.

The key steps to utilize the triple dynamism model are outlined below.

1. The first step, once the organization to be studied has been identified, is to decide about the temporal coverage of the research. Are we interested in a cross-sectional analysis or do we want to conduct a longitudinal analysis? We may decide, for example, that we want to conduct a retrospective analysis on the Yoox case (see Chap. 7), and that we distinguish three periods: the startup phase (2000–2005), the growth phase (2006–2011), and the consolidation phase (2012–today).
2. Then, we should identify the inter-organizational relationship or relationships that we want to focus on for each period. For example, let us suppose that we want to longitudinally investigate the relationship between Yoox and Diesel (an important Italian fashion firm). We may also decide to study many inter-organizational relationships: in this case, we could classify them into groups including relationships that are perceived as similar.
3. For each relationship or group of similar relationships in each period, we should identify the driving strategies in terms of identity (conformism-breach), learning (exploitation-exploration) and interaction (cooperation-competition). For example, Diesel was among the fashion firms that trusted Marchetti's idea since the beginning and "incubated" the new business model launched by Yoox. The Yoox-Diesel relationship can then be described by the *breach-exploration-cooperation triad* in the startup phase (2000–2005). In the growth phase (2006–2011), Yoox launched the online mono-brand services also for Diesel, in order to sell also current season's collections: this was an important change with respect to Yoox's initial identity, and then the triad *breach-exploration-cooperation* can be confirmed. On the other hand, also the triad *conformism–exploration–cooperation* was emerging in this phase, since the relationship was

more and more oriented to innovate by building on the identity and prestige accumulated during the startup phase. In the consolidation phase (2012–today), although some breach and exploration strategies are still present in the relationship between Yoox and Diesel, the relationship seems more aimed to confirm Yoox's identity and to fully exploit the expertise it has gained: then, the triad that best describes this relationship in this period is *conformism–exploitation–cooperation*.

4. Once the types of inter-organizational relations have been identified thanks to the triads, it is possible to associate the relationship(s) under study with the most appropriate theories available to study them, according to Table 8.2 and Fig. 8.1. For example, the relationships between Yoox and Diesel can be classified and then studied as follows:

   – Startup phase (2000–2005): the relationships are of the "Innovation Niche" type (breach-exploration-cooperation), and then can be better explained by Organizational Ecology, Resource Based View, Knowledge networks, and Institutional Systems studies.
   – Growth phase (2006–2011): while the "Innovation Niche" relationship remains for the new multi-brand initiative, the relation starts to be characterized also by a "Innovators Network" strategy, to further improve the processes of the multi-brand portal. This type of relationship can be better explained by the theories included in box 3 (Fig. 8.1): Collaboration Networks and Institutional Systems. On the other hand, a growing focus on idiosyncratic efficiency can be observed, so that more and more inter-organizational processes can be described also by the "Locked-In Network" triad, which will become the most important in the following phase.
   – Consolidation phase (2012–today): almost all the relationships between Yoox and Diesel can be described by the triad of the Locked-In Network: conformism–exploitation–cooperation. These relationships can be better explained through the seven theories included in Box 7 (Fig. 8.1).

5. Once the relationships under study have been classified and investigated through the best suitable theories, the evolution of these relationships and the overall relational dynamism of the organization under study can be linked to performances. For example, we can hypothesize that the great dynamism of Yoox's inter-organizational network is an important factor for its success.

Conclusions

With this chapter, we sought to demonstrate that the great number of extant theories explaining inter-organizational relationships from many different points of view is a valuable resource, and should not be used to foster unproductive parochialism.

We proposed a model that may be used as a tool to identify the most suitable theories, depending on some key specific characteristics of the relationship under study. We sought to demonstrate that organizations usually develop relationships of many types throughout time, and then a meta-theoretical franework aimed to leverage the complementarities of the different theories may be very useful in this field.

Our model is based on ideas rooted in the ambidexterity and dynamic equilibrium literatures. We identified three pairs of opposing strategies in inter-organizational relationships: conformism-breach, exploitation-exploration, and cooperation-competition. We sought to classify the explanatory potential of the theories described in Chaps. 2, 3 and 4 on the basis of the eight possible combinations of these three pairs of concepts. Although we strove to include many important theories on inter-organizational relations in our model, our work is far from being exhaustive. Other theories explaining inter-organizational phenomena may be usefully added to our survey.

Our model is conceived to be fine-tuned through further qualitative research. It may generate several hypotheses on the possible relationships between inter-organizational dynamism and performances: it has then an interesting potential to generate also quantitative research. We hope that our work encourages further research in this field.

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