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# Coordination within the Network contract

**Supervisor**

Ch. Prof. Anna Comacchio

**Assistant supervisor**

Ch. Prof. Elena Bruni

**Graduand**

Gloria Giardina

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# Introduction

The Network contract is an instrument introduced in the Italian law since 2009 and is a contract that the companies undertake to jointly realize a common purpose, a project of consolidation or growth that concerns sale and distribution, purchases, production, innovation, internationalization, access to credit, the use of common functional services, etc. Each member of the network, maintaining its autonomy, collaborates regularly and flexibly with other companies on the activities agreed in the network contract. The network contract is a unique organizational form, it differs from the consortium and the district because of its particular characteristics, of which flexibility is a typical one.

This is an instrument designed to revitalize the competitiveness of Italian small and medium-sized enterprises - or, in any case, having an operational headquarters in Italy – that are heavily affected by the impact of the economic crisis and externalities associated with globalization. It is also an instrument in continuous evolution, whose value resides within the internal *praxis* of each network.

Furthermore, in a network, participating companies retain their autonomy, but are tied together to undertake a project that is greater than their individual capabilities. From here arise the organizational issues and the need of coordination between the actors involved, for example how to distribute power, how to distribute labor, how to coordinate it.

The purpose of this thesis is to study the adaptable coordination mechanisms within the network contract. Starting from the literature, a sample of Italian networks will be analysed to individuate the coordination mechanisms within the network. In order to understand how the networks are coordinated, to frame the kind of internal organization within the network, the relevant dimensions will be detected in order to identify the prevailing type of coordination. Map the world of networks to find dimensions that act as drivers, leading to the choice of more appropriate coordination. It will be also understood how it is possible to talk about drivers that lead to coordination, rather than predefined organizational configurations, as the network is an organization characterized by many variables that are the typical nature of the network contract.



# 1. The Network Contract

## 1. 1 The network organization

### 1.1.1 Definition and characteristics

There are several definitions for the corporate network. The one that can be most generically given is: "An Organized Business Activity that involves a series of nodes linked by a series of relationships" (Granovetter, 1973). However not all business economy scholars agree with this definition and in fact, in specialized literature others can be found:

- Thorelli in 1986 defined it as "the set of two or more organizations engaged in a long-term relationship".
- In the context of transactional theory, with the term network, "all those forms of coordination between enterprises are designated, which make a given aggregate of economic units an intermediate system between the market form and the hierarchical form of economic organization" (Arcari, 1996), thus defining it as a hybrid model.
- Industrial economists, especially neo-evolutionists, define it as "The whole of alliances and agreements, more generally of all non-competitive relationships (technological, productive, and commercial), tied up by independent companies and aiming at exploiting the benefits of mutual complementarity "(Arcari, 1996).

As the various definitions show, the characterizing feature of the network is cooperation, or rather the relationships that exist between network companies, which however do not necessarily inhibit the competition between them. In fact, the network is set up as the union of skills and knowledge, to support the creation of projects that are useful to the implementation of the industry in which it operates.

According to Comacchio and Bonesso (Isotta, 2011), the network comprises nodes and arches. Nodes are the "participating autonomous companies" that match with the top of the network, and the arches are the relationships or ties that link these nodes. The relationships between two nodes may be directional or nondirectional: the former departs from a node and arrives directly to another node, while in the latter case, the direction of the relationship cannot be defined because the exchange is reciprocal, therefore lacking orientation. Graphically, the directional relationship is indicated by an arrow, while the non-directional relationship is indicated by a line. There is also a further difference to be introduced: the one between adjacency and path. Two nodes are defined as adjacent if they are directly connected by an arch while there is a relationship, and defined as path if the two nodes are indirectly connected. The shorter distance needed to reach a node is called "Geodetic distance".

Figure 1.1 provides a graphic example in order to better understand the shape of a network, where nodes are represented by circles and arcs are represented by lines and arrows. The lines symbolize non-directional relationships while the arrow between E and F corresponds to a directional relationship in which F receives information from E. The relationship between A and C is adjacent, straight and defined by an arc, while the indirect relation between A and E is defined as path. The geodetic distance between A and E is two, while the geodetic distance between A and C equals one.

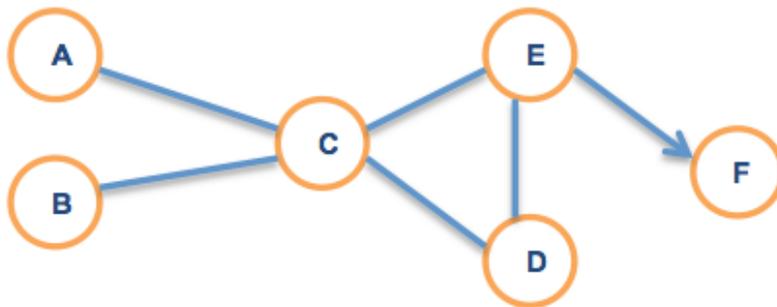


Figure 1 "Nodes, arches and relationships" Source: Author's elaboration

Referring to the "Social Network Analysis"<sup>1</sup>, the levels of analysis of a network are the "dyad" and the "ego network" (Halgin and Borgatti, 2012). A dyad is the basic unit analyzed, in which two or more firms decide to start a relationship. The second level, on the other hand, is the ego network, a concept that analyzes both relationships and individual nodes, where there is a focal node, or the "ego" which is connected to the other smaller nodes, or "alter", through relationships. It is also possible to analyze a third level, broader than the ego network, which consists in the overall analysis of all the relationships between the nodes in the network, called "Full Network Analysis".

Depending on the types of nodes, different resources are obtained (Borgotti and Cross, 2003). Granovetter (1974) dividing according to levels of effectiveness, recognized strong and weak ties. In his analysis, strong ties are divided according to four criteria: Duration, Emotional intensity, Confidence and Frequency. Trust (Confidence) between members is an essential element for sharing resources and skills, and is positively associated with previous interactions with partners (Brass et al., 2004).

Regarding weak ties, in his article "The Strength of Weak Ties" Granovetter (1973) pointed out how weak relationships can create relationships between groups and can be considered social bridges. Often the weak ties are characterized as "bridging ties" and therefore the advantage obtained by this

<sup>1</sup> Social network analysis is a methodology developed from the contributions of Jacob Levi Moreno, founder of sociometry,

connection, if it is not the exclusive link, is a substantial gain in knowledge. The distinction and complementarity of the two types of ties leads to the idea that, if they both exist within a network, they could gain higher-level benefits through coexistence, namely of opportunities for exploitation and exploration (Capaldo, 2007). Exploration is defined by weak ties and exploitation is achieved through strong ties. Exploration and exploitation together allow innovation. This division of ties also leads to the distinction of different forms of network structure: dense or scattered and closed or open. The dense structures according to Coleman (1988) are more suitable for coordinating businesses.

This classification is the result of studies conducted by Granovetter, who is considered as the father of the "New Economic Sociology". The theory of the so-called Social Capital is probably the most developed area in matter of network organization research, defined as " the sum of the potential and real resources available and embedded within the network resulting from relationships owned by an individual or a social unit of the network" (Nahapiet & Goshal, 1998).

According to his studies, economies are "embedded" in social relationships, characterized by trust and a rich information exchange, beyond organizational boundaries. This research has led to the birth of a social perspective that focuses on interpersonal relationships by highlighting the resources flowing within the network. (Stinchcombe, 1990; Gulati 1999)

Network relationships, moreover, are conditioned by two forms of embeddedness; the mere dyadic relationship between the actors, which takes the name of relational embeddedness and lends itself to promoting trust among actors (Coleman, 1988; Granovetter, 1973; Gulati 1998), and the structure of the overall network or structural embeddedness (Lipparini 2002).

In the interpretation given by Tunisini, Capuano, et al. (2013), networks are connoted by the plurality and variety of interactive relationship processes. Such interactive processes are projected on different time horizons and, depending on the nature and intensity of the exchanges that characterize them (information, technological, social etc. exchanges), can generate different levels of involvement among the various parties, provide for a different intensity of investment devoted to the report, various processes of mutual adaptation and interdependence between the parties, and, in general, generating a greater or lesser institutionalization of the relationship; therefore generating relationships of high complexity or low complexity.

Each "relational" process is influenced by the characteristics of the actors involved and, in particular, by their size and strategy, their past goals and experiences, their technology systems, organizational structures, and people involved.

Furthermore, each relational process qualifies and differs from others depending on the importance assumed by some variables such as:

- The intensity of the link between the actors;
- Degree of trust and opportunistic orientation;
- Cooperation and conflict;
- Power / dependency relationships

**The intensity of the link between the actors** is given by the combination of time, mutual trust, mutual adaptation, investment and mutual services that characterize the tie. A low intensity tie between the actors gives the opportunity to each company of having easier access to other relational alternatives; also implies a limited investment of time, resources and skills and does not create strong dependence on the counterparty. At the same time, low intensity ties reduce the learning opportunities that would result from a closer interaction with the partner and limit the possibility of increased efficiency, as they relate to the process of coordinating the organizational, administrative and management processes of the enterprise with those of the other actors.

Constant interaction can instead give rise to mutually adapted processes, and specific investments in the relationship that strengthen the bond between the actors and create interdependence. It is important to consider that sometimes constant interaction, hence the high intensity of the bond, does not always create benefits as it may generate interdependencies that constrain the freedom of action of the individual.

The intensity of the ties and the idiosyncratic investment in the relationship fuel **the mutual trust between the enterprise and the counterparty and reduce the risks of opportunistic behavior.**

Each relationship is characterized by different degree of mutual trust between the parties and a different degree of risk of opportunistic behavior.

Here the key element is confidence, and if there is mutual trust there is greater certainty in action by the single actor. Confidence also fosters the willingness and the interest of the parties to further invest in the relationship, with the consequent growth of an interdependence relationship.

**The level of cooperation and conflict between the parties.** In the relational context it is possible to find various types of collaborations that generate synergies, innovation processes and competitive growth opportunities. However, in the same context, conflictual situations can arise, which in some cases can be resolved through negotiation and mutual adaptation processes. In other cases, though, there are stronger and more difficult conflicts, for example when one party has a greater contractual power over the other, and in such cases the situation is resolved through the employing of power by the strongest actor or with a negotiation that leads to a search for new power balances and mutual adaptation.

The fourth aspect that characterizes the relational process is **the power and the reciprocal dependency between the parties of a relationship**. The gap in power / dependency relation affects the realistic dynamics of one of the actors. This is the case, for example, when an actor has a high level of dependence on the counterparty's resources, with very limited alternatives available. This leads one of the parties to assume a dominant position, exerting a greater power to manage and give direction to the relational process.

From the analysis of these characteristics, it emerges that common business and divergence of interests coexist within business networks, since the same companies cooperate on some markets and compete on others (Cafaggi 2009). Nonetheless, within a business network, there is a combination of co-operation and competition that is different from what is encountered in market or group relationships. And it is not possible to emphasize the difference between these models simply by configuring the market as a model of competition and the hierarchy, such as cooperation, or a network as a mixed model (Grandori 1999). In the market there are hypotheses of cooperation as well as in the group there can be found competition phenomena, even accentuated (Zoppini 2007, p. 355). However, the difference is smaller and more qualitative. It is not possible to define the network as a kind of hybrid organizational model between market and hierarchy, as it is to be considered as a form of organization of economic activities through collaboration and coordination between companies, in accordance with the "market-as-a-network approach" (Tunisini, Capuano, Arrigo, Bertani 2013).

The business network is therefore composed of a wide variety of relational situations depending on the variables described above. Due to their different combination and interconnection, the network can be defined as a strongly heterogeneous and dynamic context. Interdependence is what makes a stable reticular structure. The relative stability of the mesh pattern is associated with its intrinsic dynamism. Another element that distinguishes the network context in which the enterprise operates is its genuine uncertainty, as each relationship evolves due to an interactive process whose outcome is largely undetermined. The main problem with the operation of a company in a network of relationships and interdependencies is that these are both a facilitation and a constraint to the business or the freedom of action of the company. Secondly, as businesses are required to share their know-how and skills in the network processes, they can see their strengths and positions of power weakened. It turns out that in the network there is a delicate balance between collective and individual interests.

### 1.1.2 Network classification

There are many reasons why businesses choose to network, and regardless of their nature it is crucial to understand the underlying strategical reasoning that produces economic effects, in turn affecting production costs, transaction costs and control costs, thus influencing organizational design both internally and externally (Isotta, 2011).

The reasons behind the network creation choices are many. Taking into consideration the various features described in the previous paragraph, while it is possible to make distinctions and classifications of network forms, it is not possible to draw a definitive conclusion. A network between companies does not therefore simply mean cooperation agreements, but it represents more complex and variegated phenomena.

Grandori and Soda (1995) distinguish between social network, bureaucratic network and owner network, according to:

- The coordination mechanism;
- Grade of centrality;
- Level of formalization.

**A social network** is guided by group and control standards, interchange mechanisms and interdependencies related to the business convergence of the parties involved.

**A bureaucratic network** is governed by formal rules and is intended to protect the rights of the parties, both in symmetrical relationships (e.g a consortium) and asymmetric relations (a e.g franchising).

**An Owner network** is based mainly on the rights of property exchange (e.g a Joint Venture).

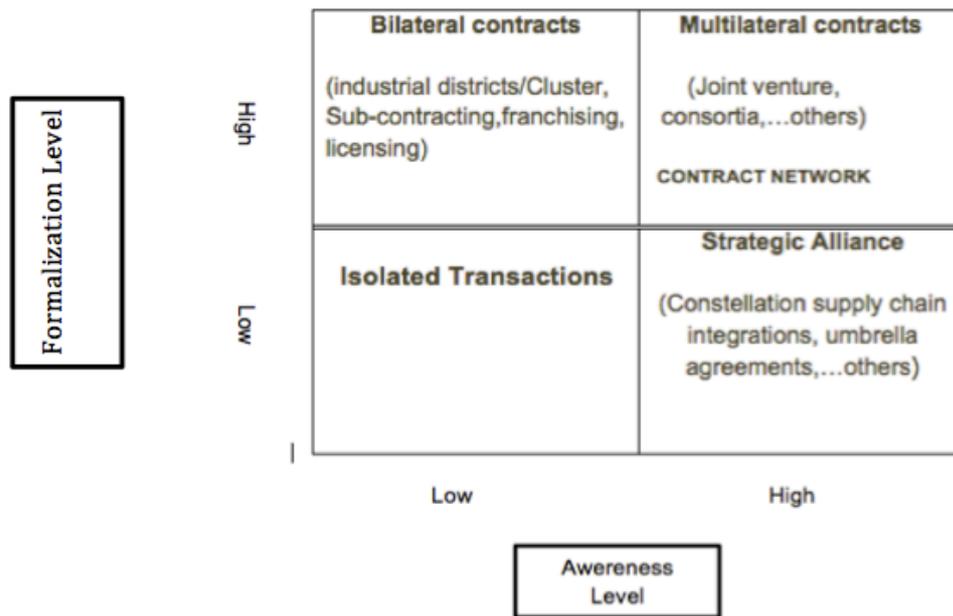


Figure 2: "Interpretative matrix" (Tunisini , Capuano et aliis, 2013) Source : Author's elaboration.

Another type of classification has been proposed by D'Amico and Cimbrini (2010), who identified four classes:

- The direction of the vertical or horizontal links;
- The presence of central actors;
- The degree of formalization of the agreement;
- The presence of ownership mechanisms.

According to the first class, the direction of the bond, it is possible to distinguish between vertical and horizontal networks.

Vertical networks are groups of aggregated companies along the supply chain and therefore the result of those strategic choices that aim to create value by not internalizing all activities. Relationships between the enterprise and the nodes are characterized by activities such as (Peruzzetto, 2016):

- Resource transferring: the continuous transfer of goods and services;
- Resource pooling: when information and knowledge are exchanged.

Among the vertical shapes (chain networks), all the actors and the functions they perform contribute to the product creation, transferring to the final state of use: from the purchase and processing of raw materials to the final product, as well as the marketing activities of the same product and after-sales service.

Horizontal forms, however, relate to relationships between companies of the same type which belong to the same production cycle, sometimes in competition with each other. They decide to get in touch to expand their offer to customers and to improve their organization and visibility.

Horizontal (sharing) networks are business networks based on sharing a common goal with differentiated inputs and roles (Retimpresa 2013) such as:

- Research and innovation network (product / service, process)
- Co-purchase network
- Co-production network
- Co-market network
- Sub-supply networks
- networks for the acquisition and delivery of commonly used instrumental goods and services

Regarding the **classification according to the presence of central actors**, we can in turn distinguish between:

- Acentric (not centered) network
- Centered network
- Governed network

In the acentric network we find nodes that are interdependent, but there is no direct relationship to a focal business, and therefore no co-ordination entity. In the centered network, however, there is a node with a coordinating function but without systemic function, thus differentiating the centered network from the governed enterprise, since the latter, besides having a coordinating node, also has a governance role across the network.

In regard to the **degree of formalization of the agreement**, depending on whether business agreements are legal contracts<sup>2</sup> or that they are merely legally established but often verbal agreements; Lombardi (2015) proposes a distinction between informal networks, formal networks and de facto networks.

- De facto network: this category includes non-equity agreements, as they do not change the ownership structure of the partners. This category is based on sharing values and mission. An example of this category is the so-called "Inter-locking Directorates", which is based on the presence of a company's board of directors in another company that could be direct or indirect. This "aggregation category" allows to create forms of coordination between companies

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<sup>2</sup> contracts signed by the parties

operating in the same industry but also between different organizations, thus opening access to new resources.

- **Formal Networks:** those networks to which the equity agreements belong, since they modify in a partial or complete way the property structure of the enterprises. These enterprises put in common their own resources, founding them on mechanisms regulated by rights of ownership.
- **Informal networks:** also defined as networks of a formal nature, they are formed on the basis of a contract signed by two or more enterprises, also belonging to the whole of non-equity agreements. They differ from the previous category as in this case the network develops through formalized institutional mechanisms, giving the same greater certainty and stability, and the freedom to the parties to sign or not the contract.

Among formal networks we can find:

- *Franchising:* a collaboration between entrepreneurs for the production of goods and / or services, often adopted by those who want to start a new business. Affiliating it to a well-known brand limits for example the risks of launching a new brand.
- *Licensing:* a contract by which the author or the holder of the rights assigns them to another party so that he can use them for generating economic benefits after the payment of a fee.
- *Consortia:* they are a voluntary aggregation between entrepreneurs for carrying out certain business activities, both between private and public bodies.
- *The European Economic Interest Group, also known as GEIE:* is a community-based institute to foster European business co-ordination (Presti e Rescigno, 2015). It is governed by regulation 2.137/85 and Legislative Decree 240/1991. It is distinguished from the other forms by the fact that non-entrepreneurs can also participate in the GEIE, provided that the activity is carried out in at least two EU Member States. The consortium does not have a lucrative goal, but it aims to facilitate economic activities by pooling resources, information and experiences to achieve a better result than what would be achieved individually.
- *Subcontracting contracts:* a contractual relationship between a contracting undertaking which, after having entered into a contract with a third party for the supply of a given product, requires another producer, the subcontractor, to produce it.

- *Cartels*: agreement between several independent producers of goods or services in which parameters are established, with the aim of restricting competition in their market.
- *Industrial district*: It is an informal aggregation of predominantly small and medium sized businesses, specialized in an activity or product located in a specific area, which is subject to a measure by a public body, as is often the case with the Region (Di Pace, 2013).
- *(Contractual) Business Network*, as will be further discussed in the second paragraph, is an innovative tool introduced in 2009 which is based on a contract with the aim of strengthening the competitiveness of businesses by sharing one or more economic activities within the business sector and corporate purpose.
- *ATI: The Temporary Business Association*: is a form of aggregation created to avoid a complex structure such as consortia or companies. It is a temporary grouping for a specific activity, developed especially for the participation in tenders such as bidding, thus allowing companies to come to third parties in a unified way: individually, they would not be able to participate. ATIs form a special collective mandate to a parent company, which also has representation power to act on behalf of the other participating companies ( Camera di Commercio 2017).

On the other hand, formal agreements may include equity agreements as they partially or totally modify the ownership structure of companies:

- *Joint venture*: a cooperation agreement between two or more legally independent companies.
- *Corporate group*: Several companies legally independent but subject to joint control are carried out by a single natural / legal person as a result of their holding of venture capital shares of these companies.

Finally, according to **the presence of ownership mechanisms** they are distinguished by:

- Equity-based form, e.g. Capital venture, joint venture
- Non-equity-based form of contract-outs

In equity networks, the fundamental coordination mechanism is the incentive system. In the incentive system a controlling company has a stake in another, the subsidiary, with the objective of aligning the goals between nodes and focal enterprises. On the contrary, in the non-equity network there is no incentive system, but in order to coordinate and control another firm, other mechanisms such as lateral ones or non-formal standards are used.

Another type of classification is the one proposed by Cafaggi (2009), who states that business networks can take on different legal forms and thus can be defined as :organizational networks, contract networks and mixed networks.

1) **Organizational networks.** They can take the form of corporate networks, in particular associations and foundations, using a non-profit organizational model. The corporate network can be formed with the cooperative or consortium lucrative society. The conduct of the co-ordination function across phases is often carried out through the consortium (see differences between the lucrative and consortium companies).

2) **Contractual networks** Within the contractual networks, two macro models have been distinguished: multi-lateral contracts, and bilateral contracts (Cafaggi 2007). In the first case there is a network of companies, in the second a network of related contracts. From a formal point of view, the distinction between these two lies in the unity of the legal transaction (Nuzzo 2007), and only when take place the unity, there is a multilateral network contract, otherwise it will be bilateral or possibly linked plurilateral. From an empirical point of view, the use of related bilateral contracts is more frequent than the use of plurilateral contracts, the first model being used when the network structure involves the presence of a leading subject, with the role of coordinating activities implemented through bilateral agreements. The second model can be usually identified as a parallel model in respect to the previous one (Cafaggi, Iamicelli 2009). In addition, plurilateral contracts are poorly associated with a strongly asymmetric power structure of the contractual relationship, precisely because they provide for a uniform decision-making and management system that sees the possibility of delegating to common organs. And this is probably why there are no supply chains or distributions organized in the form of a plurilateral contract, since the buyer wants to be able to choose subcontractors, and a plurilateral contract, annual and renewable, would produce an undesirable lock-in effect.

3) **Mixed networks:** here organizational and contractual tools are used at the same time. For example, a subcontracting network might be accompanied by a lucrative company for the environmental certification of final product components, or by a consortium for research and technological development, whose goal is to produce one or more patents concerning the production process (Cafaggi, Iamicelli 2007).

Enterprise networks are often subject to evolutionary processes that involve moving from a contractual network to a mixed-form one and, in some cases, to network companies or real groups. It goes without saying that the characteristics of the network are different from those of the business group; the network is characterized by the presence of a collective interest that differs from the interest of the group, which is identified instead with that of the parent company. In the network the interest of the individual participants is sometimes opposed to the collective interest (Teubner 2008). Such interest is sometimes pursued at the expense of individual interests, assuming that in the long run it would prove even more beneficial for individuals. Collective interest may materialize in a collective brand, that is, in a brand that is licensed to all participants and thus shared (Cafaggi 2009).

### 1.1.3 Inter-firms network and agreement

Of all the types of networks and aggregations that have been described in the last paragraphs, we intend to introduce and examine in depth the "network contract" as an inter-company network, focusing specifically on the study of this relatively new form of network introduced in Italy in 2009 and highlighting the origins, characteristics and problems arising from its use.

By comparing the structural and procedural features of business networks discussed in the first paragraph, some preliminary considerations can be made as to how the contract can enhance or limit, the effectiveness of the networks. From the point of view of how the contract can enhance the value of networks, we discuss how formalization can support the overcoming of some issues that the business in the network (non-contractual) encounters by operating in interconnection and interdependence with other companies.

Tunisini, Capuano, Arrigo and Bertani (2013) identify four issues that contractual formalization can overcome.

The *first problem* is that the network is, to some extent, an indefinite context for the enterprise. It is characterized by a concatenated set of seemingly unbounded relations that might also be imposing unwanted relationships due to interdependencies.

The *second problem* concerns the genuine uncertainty permeating the action of the single actor in the network and, in particular, the difficulties that it encounters in predicting and scheduling the results of the network process, which emerges from the wider relational process and is consequently only partially controllable by the single actor.

The *third problem* concerns the difficulty of protecting the know-how and strengths of the individual company in the process of implementing collective strategies, since the sharing of knowledge and skills is necessary for the effectiveness of the network process even when it is exclusive between the parties.

The *fourth problem* concerns, finally, the problem of network management difficulties by the single actor. Since even the most formal coordinating mechanisms are associated with spontaneous individual action, which however necessarily takes shape in the network, the relationships of power between the different actors emerge from the nature of the results of the interaction.

The network contract can to some extent help address these issues and, therefore, play a valuable role for the companies that adopt it. Since strategically created networks can be established between operators in different locations, sectors, and functions (indeed, it is this diversity which is the main source of innovation), it must be possible to artificially and consciously build the glue that holds them together. Hence the need for the formalization of the network, with the objective of providing stability and legal certainty to relations and giving space to governance mechanisms capable of managing more effectively any conflicts between the partners (Massaroni, Ricotta 2009).

As we will see in the next paragraph, the contractual nature defines the scope and purpose of the network.

## 1.2 Network contract and Italian SME's

### 1.2.1 Definition and Overview

"The network contract is an innovative institute in our production system and achieves a model of business collaboration that allows, while maintaining its independence, autonomy and specialty, to realize shared projects and goals, enhancing innovative capacity and competitiveness on the market " (Italian Chamber of Commerce).

The network contract was introduced in Italian law by art. 3, paragraphs 4-ter, quater and quinquies, of d.l. February 10, 2009 n. 5, converted into l. n. 33/2009. In the course of a three-year period it has been subjected to several changes in response to the immediately notified request to make those adjustments that the first applications of the neo-introduced contractual instrument already needed (Abatangelo, 2016).

Since 2009, therefore, the Italian system provides the network contract instrument, which allows business combinations to establish an organized and lasting collaboration, maintaining their autonomy and allowing the use of incentives and tax incentives (Reti Impresa et al, 2011) This is an instrument designed to revitalize the competitiveness of Italian small and medium-sized enterprises - or, in any case, having an operational headquarters in Italy - which is heavily affected by the impact of the economic crisis and externalities associated with globalization.

The protection and support of Small Medium sized Enterprises (SME's) is one of the main objectives of European economic policy. Since 2000, the EU has recognized the importance of small and medium - sized enterprises through the adoption of the "European Small Business Charter" by the General Affairs Council with the aim of encouraging supportive policies for businesses that prove themselves development-oriented and innovative. In 2008, a communication was made by the committee to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions, which included the so-called "Small Business Act for Europe". Italy was among the first countries to implement European-wide communication, and the 2011 Small Business Act (SBA) review considered the network contract law adopted by Italy as an example of "good practice" in the implementation of the SBA. Moreover, the importance of Italian law on network contracts is even more appreciated if we consider that there is not yet a pattern of reticulated, but exclusively bilaterally aggregated businesses, the very pattern that could serve as a starting point for the construction of a European contract law on plurilateral contracts. It is interesting to note how the network contract is a tool that is particularly interesting in relation to SME's because it allows to aggregate without the need to create a new legal entity (and therefore without some bureaucratic costs

and burdens). Thanks to the regulatory action taken following the entry into force (enforcement) of the 2009 framework, the parties have been allowed to opt for the creation of a new legal entity (network-subject) and a type of aggregation that merely relates to mutual recourse to the parties of the rights and obligations that are precisely defined in the contractual drafting (network-contract).

It is true, however, that network contract discipline is particularly interesting because it does not envisage a unitary model of collaboration, but allows the parties to modulate aggregation, creating more or less "heavy" networks not only with respect to the elements of an organization whose retinues decide to equip themselves but also with respect to the content of the bonds they decide to employ. The advantages and theoretical features as outlined above find significant feedback in practice (Abatangelo 2016).

The chart below shows how the network contract has been a time-honored tool for businesses with exponential growth.

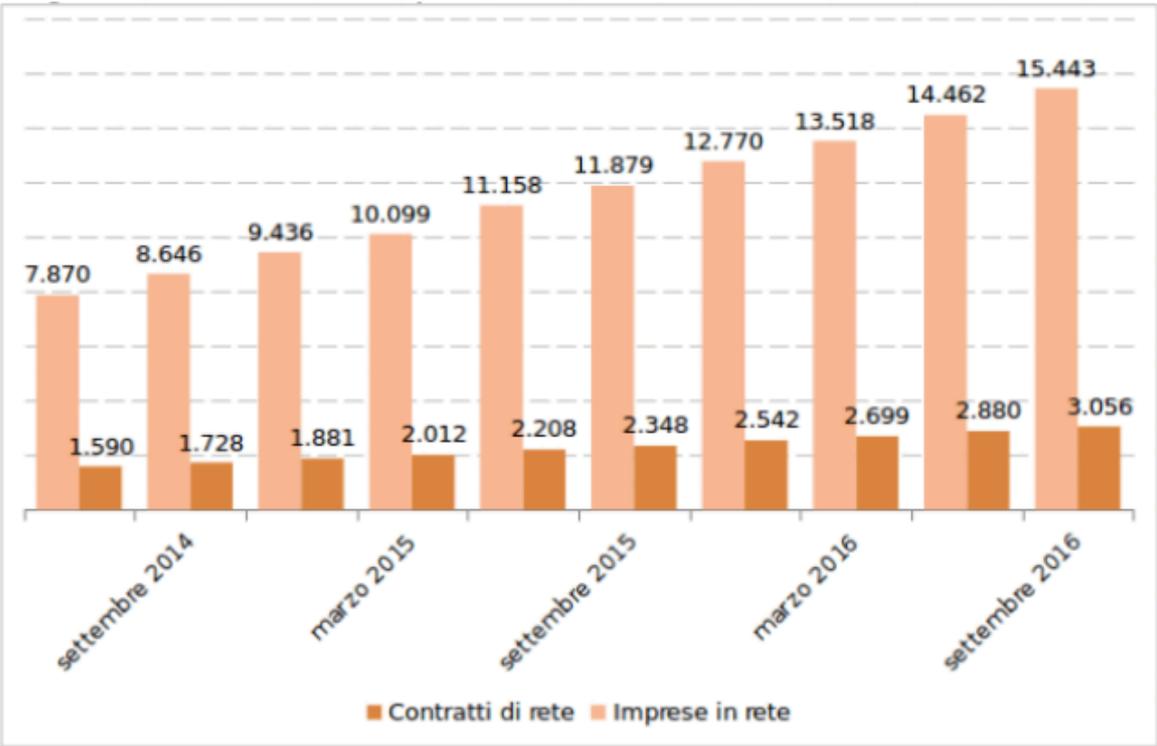


Figure 3: Progressive increase of network agreements (Abatangelo, 2016)

The number of participating companies must be at least two and they may be located in different parts of the Italian territory, including foreign companies operating in Italy. With the establishment of a network contract, information exchange activities are set up, services of any kind, such as those of industrial, commercial, technical and technological nature are exchanged. The companies collaborate

in areas related to the exercise of their individual businesses or the joint realization of a business, or in even more activities falling within the object of their respective businesses.

Networked business synergy allows a company to grow enough to (better address the market, including abroad), expand the offer, split costs, access funds and grants, enjoy tax incentives, rely on public contracts, employ personnel between the companies: the interest of the releasable party automatically arises through the network operation, assuming the employee's code in accordance with the rules of the engagement set out in the network contract.

Once a network contract has been concluded, the duration will be determined, along with the terms of entry of other entrepreneurs, the reasons for early withdrawal and the conditions for exercising the relevant right; the participating companies will have a common fund and a common body. The decision criteria for the management of common interests will be established, and those may include a simple, qualified majority or unanimity.

Business networks can carry out different tasks depending on their size. Small and medium-sized companies are models of economic growth complementary to the group, and those that come from large companies often have a regulatory function and are subject to stringent restrictions by competition law (Cafaggi, 2009).

In regard to the characteristics of the network contract, the causal link refers to the joint exercise of economic activity aimed at enhancing each other's innovative capacity and competitiveness on the market (Article 3, 4-ter). Compared to some existing models such as consortium, ATI or GEIE, it expands network utilization possibilities. In fact, in the consortium, at least in theory, the activity of the companies must be instrumental to that of the consortium, and they must maintain their economic and legal dependence. With reference to the consortium, the network contract can be considered as an auxiliary form or evolution of the consortiums. The network contract allows the joint exercise of activities not only instrumental but of strategic importance for the participating companies, so as to allow an alternative to the use of the corporate model. This is a different perspective than that of many existing network contracts that emphasize network ancillary to nodes. The common exercise of the activity concerns the implementation phase of the contract and the arrangements are determined both during the programming and implementation by the joint body. This is a cause of collaboration but the term is to be understood differently from the scope of the company contract, referring to the assumption of a common business risk, associated to the levels of interdependence between the activities of the individual enterprises involved in the network contract.

The network contract therefore provides a causal basis for various combinations:

- from pure coordination of independent activities carried out by the individual participating companies
- forms of collaboration characterized by the development of instrumental activities directly carried out by the network for the provision of services to participating companies,

- activities in which the relationship between business activities may be less stringent because the network carries out activities which are complementary to those of the participating companies.

For the joint exercise of the activities, reference should be made to the letter b, art 3, co. 4-ter, where it is required to specify common tasks set at the base of the network. With a subsequent intervention on the legislative text, reference was made to the strategic nature of the goals pursued by network activity. The strategy serves to discriminate between different forms of collaboration. Not all common activities can generate a network but only those with strategic goals, and therefore the network contract can only be used to achieve these goals (Cafaggi, 2009).

To this end, the coordination of actors and network processes, which will be discussed in Chapter 2, plays a crucial role. And we will analyse how coordination is the element that creates value within the network, provided that it is not overly rigid.

### 1.2.2 Forms and contents

The law states that the network contract may be concluded by "more entrepreneurs", in spite of their respective entrepreneurial, social and commercial nature. Therefore, public entities may also be part of the network contract, which have as their sole or principal object a business activity that is not necessarily commercial. The contract is also open to non-profit companies, as the creation of mixed network is allowed: in this case there can be entities with or without a lucrative purpose. There is no obstacle to the conclusion of a network contract between participative enterprises or ones that are connected to each other.

Regarding participation in the network, the contract has an open structure, characterized by the possibility for new companies to join the network even in a second moment, provided that they meet both the subjective requirements and the criteria for membership, which could in turn, require the members to decide by majority or even unanimity. The contract must be entered in the form of a public document or private document, authenticated as provided for in paragraph 4-quater for advertising, which must be given for the purposes of the validity of the network contract. Otherwise, it would have no effect not only in relationships with third parties, but also in the internal relationships with the network.

Regarding the Network contract form, it is possible to distinguish, from a contractual point of view, between the Network-Subject and Network-Contract. ( Camera commercio 2014)

The fundamental difference is that the contract-subject possesses a legal subjectivity. That means it has not just a contractual nature, but autonomy. When the parties want to create a network-subject, a

common equity fund and a common body must be instituted, as mandatory elements. Instead in the network-contract these elements are optional.

The common body, unless otherwise provided for in the contract, has the power to represent the entrepreneurs participating in the network for:

- planning negotiated with the Public Administrations;
- guarantee interventions for access to credit;
- development of the entrepreneurial system in the internationalization and innovation processes envisaged by the law;
- use of tools for the promotion and protection of quality products and brands or whose genuine origin is adequately guaranteed;
- further representation powers conferred by the contractors;

Moreover the network-subject is a “tax” subject, therefore it is amenable to the bankruptcy procedure and responsible for the other entities. The network-subject sees denied the possibility of obtaining tax relief. Furthermore, it must:

- Request an independent number of VAT number
- Fulfil all tax obligations (tax return, VAT, Tax payments, application of special schemes such as for example that on company of convenience, etc.)
- Keep the accounting records (journal, inventories, records of warehouse, inventory, register of depreciable assets, balance sheet)

The companies participating in the subject network, are "members" of the network as their contribution is treated as a capital contribution, their participation has a "tax value" can detect in the dissolution of the bond hypothesis, and neither them can benefit from the tax relief.

The common equity fund consists of contributions from participating enterprises and the assets purchased with these contributions. To this end, the provisions on the consortium fund as per articles 2614 and 2615, second paragraph, of the Italian Civil Code apply as compatible. Vige a system of financial liability limited to the common fund for the obligations of the Common Unit in relation to the network program.

The common body is made up of a single person in monocratic composition or a plurality of members in a collegiate composition and has sent for the execution of the contract or of one or more parts of it. It can be assisted by:

- External professionalists;
- individual participating companies for specific activities;
- specific work groups composed ad hoc by both the participants and by third parties for the execution of individual projects;

As outlined in the law, changes to the original contractual text or the identity of the joint body (such as contractor's agent and new adherents to the network contract) are subject to the obligation to proceed with a private written authentication or a public act, as well as an advertising onus of communication to the "*Agenzia delle imprese*". It is however necessary to specify in the contract how to act in the event of a withdrawal, so that the reduction of the contractors is subject to the advertising obligations as discussed, in order to ensure that those in contact with and within the network have always an exact knowledge of its composition.

The legislative text already cited above, in Article 3, paragraph 4-ter, of Law no. 33 as well as the subsequent amendments, converted into law no. 122, expressly provides a three-sectional view of the object which can be summarized as follows:

- collaboration in pre-defined forms and areas, related to the exercise of their own businesses;
- exchange of information or services of an industrial, commercial, technical or technological nature;
- sharing of one or more activities within the scope of their business.

It can be noted that the legislative text puts a lot of emphasis on the concept of business collaboration, while the individual dependence of counterbalancing companies remains intangible.

As a consequence, the activities just described may also individually constitute the object of the network contract and therefore, in practice, the collaboration may take different forms depending on the subject matter of the contract itself.

The most intensive network, the collaborative form, accentuates the diversity of balance between the interests of individual network participants and their common interest.

It is possible to divide between:

- Coordination activities: to get better conditions in external relations;
- Instrumental activities: to achieve better management results;

- Complementary activities: to do what individual companies would not otherwise be able to do. (Participation in bidding for example), (Reti Impresa 2011).

The subject of the contract is its content (Cafaggi 2009). At this point, the law prescribes in detail the content of the network contract, distinguishing between necessary content and optional content.

With reference to mandatory content (in the absence of which the contract is not valid), the network contract must specify:

**(a)** The generalities of entrepreneurial subjects, at least two (name, firm, legal reason or denomination), taking into account the size, legal form or activity of the participating enterprises. This obligation concerns both the original subscribers as well as all the successive members.

**(b)** An indication of the strategic innovation objectives and the development of competitive capacity on the market, taking due account of possible assessments of the legitimacy of the contract with respect to the protection of competition. By virtue of the fact that the network contract constitutes a potential obstacle to competition rules, since the relevant legislation refers to activities which, in the absence of a network contract, would be carried out individually by each of the participating companies, the Competition Authority has ruled that it is necessary "that the agreement is effectively intended to increase the innovative capacity and competitiveness of the affiliated companies and does not constitute undue advantage positions, in violation of the antitrust rules but also of the same ratio institute."

**(c)** The determination of agreed arrangements between the parties to measure progress, individual and collective, towards strategic goals.

**(d)** The definition of the network program, which contains the statement of the rights and obligations assumed by each participant and the means of achieving the common purpose. The network program contains the set of activities that will be carried out and the means to achieve the objectives of the contract. The "objects" in it - the term is understood in legal terms as elements of the contract - must be determined, or also determined by recourse to arbitration forms under Article 1349 EC. The "validity" of the network program reverberates its effects on assimilation, for example for access to tax benefits.

**(e)** The duration of the contract (as for all associative contracts): If the contract provides for restrictions on competition, the duration of the contract is specified in the contract itself, usually until the common

purpose is achieved (or not); the decision of the enterprises' members constitutes a part of the contract (for those post contracts, the limits are set out in Article 2596 c.c.).

**f)** The ways for other entrepreneurs to join the network contract, as it is a mandatory "open" contract which therefore provides for the possibility of further contractors becoming involved after the contract has been concluded.

**g)** The rules for the decision-taking process by the participants on any matter or aspect of common interest, which does not fall within the powers of the joint body established.

As far as optional elements are concerned, the network contract may include:

**a)** The establishment of a common fund, which must be referred to as "the measurement and criteria for initial contribution recognition and any subsequent contributions that each participant undertakes to pay to the fund and the management rules of the fund".

**b)** The creation of a common legal text, in which the contract specifies the name, firm, reason or corporate name of the chosen person whose task is to represent the joint enterprises for the finalization of the contract or one or more parts or phases thereof; the powers of management and representation conferred on this common agent, as well as the rules for his/her possible replacement during the term of the contract.

**c)** Where provided, the optional withdrawal clauses from the network and the terms of operation of the relevant right.

**d)** If the contract provides for the modification by a majority of the network program, the rules and modalities by which the contract can be altered must be included in the contract itself.

The network program assumes an essential role within the contract, as it represents the document in which some of the most important aspects of the aggregation function are found, which translates into the determination of the "common network program" (Reti Impresa, 2011).

As stated in Art. 3 pt. 4-ter, of Law no. 33 Establishment of the Network Agreement: "The definition of a network program, containing the rights and obligations assumed by each participant, the means of achieving a common purpose and, where appropriate, the establishment of a fund, measure and criteria for assessment of initial contributions and any subsequent contributions that each participant is required to pay, as well as the management rules of the fund itself."

The network contract is comprised of two phases: the program definition and the implementation of the contract. The first, as mentioned above, is accomplished by the parties at the conclusion of the contract, the second being implemented, mainly by the joint body, later when the parties can specify or adapt the programming. This separation is the reflection of the so-called contractual incompleteness, which is the main characteristic of the network contract. The execution of the network contract is carried out by the joint body, which has a discretionary power whose scope depends on the precision of the contractual rules. The more open the contract wording, the greater the discretion in executives, increasing the importance of the contractors' discipline on the operation of the common organ.

The execution takes place through both the coordination of the activities carried out by the individual companies or by the joint body with the completion of legal and material acts, and direct to the parties and those activities that are carried out with third parties (Cafaggi e Iamicelli, 2009).

The issue of coordination will be better discussed in the second chapter.

### **1.2.3 Development and regulation**

All of the concepts and the characteristics described above, as a result of practice, have been regulated by the law by adding new specific amendments and changes to the main text.

Such repeated actions on the text of Article 3, co. 4-ter ss. and more generally in favour of business networks on one hand, testify the clear intentions of the legislator to improve the contractual model, with great favour and interest from the business world, and on the other the result of a difficult synthesis of the entire debate on the subject. For example, the perplexities raised by the part of the doctrine that complains about the absence of a pre-eminent social "type" of the network contract. It was felt that it was not possible to talk about an "abnormal typing", since the legislator had only to define and not to regulate a new type of contract. Moreover, the legal framework of business networks up to the emanation of art. 3 co. 4-ter ss. consisted of three main models: companies (particularly consortia), plurilateral contracts (joint ventures, consortia, and ATI) and related bilateral contracts (subcontracting and franchising). This has led a part of the doctrine, for a long time engaged in the study of the reticular model, to believe that with l. 33/09, a mere variant of existing models or a fourth model of business network, characterized by a trans-typical nature that has been introduced to synthesize the contractual aspects of some of the organizational models designed above with other organizational models with associative nature (Cafaggi, 2009). The ultimate choice, in fact, has fallen on a new model of cooperation, characterized by the communion of purpose and intense fiduciary

relationship, without compromising the autonomy and independence of the affiliated companies (Guzzardi, 2014). The main normative and following changes in matter of contractual networks, starting from its introduction in the Italian law, are summarized in the following table.

Table 1: Scheme of the evolution of contract network's law. Source: Author's elaboration.

REGULATORY FRAMEWORK	OBJECT OF REGULATION
Law 33/2009	Introduction of the network contract in the Italian law.
Decree-Law no. 78/2010, converted into law n. 122/2010	Tax, administrative and financial benefits, reserved to the enterprises within the network, as well as the possibility of entering into agreements with ABI *
MEF Decree February 2011	Identification of the requirements of organizations that have to take over the common network program to benefit from tax incentives.
MEF decree April 2011	Gives definitive start to fiscal and financial relief measures.
Law n. 180/2011 (Statute of Companies):	Reservation for the Micro PMI's and for the networks of a minimum of 60% of incentives, of which at least 25% for micro and small enterprises. In addition, the Statute of Companies includes in Article 13 business networks among the parties involved in tenders.
Interministerial Decree Guarantee Fund June 26, 2012	It requires that the MPMI subscribing to a network contract should not subscribe to any additional fee to access the fund.
Decree-law no. 83/2012, converted into law no. 134/2012	<ol style="list-style-type: none"> <li>1) Recognizes the possibility of acquiring juridical subjectivity in the network contract, in the case of the establishment of the fund and the joint body. Chamber advertising is intended to be fulfilled by writing the contract in the business register of the place where the network is located.</li> <li>2) Allows for further simplification of the enrolment rules of the network contract firms, which can now be signed by digital signature.</li> <li>3) Possibility to modify the contract even in a second moment, by the registration of all the changes to the "Enterprises Register" by producing an integrative document.</li> </ol>
L. n. 221/2012 (converted law, with modification, by D.L. n.179/2012).	<ol style="list-style-type: none"> <li>1) Specifies that in order to acquire the juridical subjectivity a public act or authenticated private agreement are required.</li> <li>2) Possibility for the Network contracts to participate in public tenders (recalling the inter ministerial Decree).</li> <li>3) Regime of limited responsibility to the common property fund.</li> <li>4) Representative nature of the common organ for the network with or without juridical subjectivity.</li> </ol>

#### 1.2.4 PMI Internationalization and innovation

In this section we aim to highlight the reasons for the birth of business networks in Italy, such as inter-organizational networks, and therefore the determination of the network contract.

As Zeitlin (2008) states, "Business networks have a long history". They pre-exist the emerging of the vertically integrated enterprise and have played an important role in the globalization processes followed by geographical discoveries and the first and second industrial revolution (Deakin, 2009).

However, from a Fordist production system, characterized by exasperated leadership and constant research of the business size and productivity, which in the 1970s underwent a crisis caused by events of various kinds (the so-called three shocks: market saturation, increased competitive pressure and evolution of consumer tastes) has shifted to redesigned entrepreneurial strategies, increasingly characterized by greater organizational flexibility, thus contributing to a diversification of organizations and goods, to address new consumer demands and the rise in the cost of labor and raw materials. (Guzzardi 2014). Following the divergence of the production chain, the system reacted differently with the implementation of new organizational models characterized by a flexible accumulation of wealth and competences and the sharing of time and production modes between them (Cafaggi 2009).

Therefore in recent decades, if large industrial companies have been characterized by an intense relocation plan, Italian SMEs have tried to maintain their quality standards through a process in some respects characterized by their organization in production districts<sup>3</sup>, in an attempt to take advantage from the benefits of spatial interconnection and proximity and the valorisation of the excellence of every single territory (Guzzardi, 2014).

The district organizes itself as an "informal network", within which small and medium-sized businesses operate in the same sector. Moreover, it is characterized by production specialization and a high number of participants who do not, however, have special collaborative obligations: these are defined from time to time on the basis of a flexible and informal ex ante model. (Martiniello, Tiscini 2014)

In recent years, the reported geographical changes of the companies, increasingly fragmented and delocalised, has also involved small and medium-sized Italian ones, despite their development being strongly linked to a land capitalism. To optimize the opportunities and benefits of the peculiarities of "Made in Italy", namely tradition, creativity, experience, and high quality of labour and materials, and to offset the cost disadvantage of emerging countries, Italian companies would have to introduce significant structured investments; however, the undercapitalization and the dimensional

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<sup>3</sup> Industrial district: according to the Marshallian conception, a production district is considered as the socio-economic entity constituted by a group of enterprises, which are generally part of the same productive sector, located in a limited area, including collaboration but also competition.

deficit of the current Italian business fabric not only does not allow such investments but also prevents businesses from being competitive in the challenges posed by the new economy, characterized by internationalization, innovation and market globalization.

This can prove interesting, as the industrial district can be considered the concentrated source of value for the Italian small businesses.

The district model that allowed Italian SMEs to overcome the crisis of the 1970s today faces great difficulties in supporting the weight of international competition and responding to the increasingly complex and articulated demands of the market, caused by a closed and self-maintaining structure that is no longer able to provide effective and efficient solutions in terms of innovation and competitiveness. (Capaldo, 2007).

The greatest difficulties arise from the need to safeguard “Made in Italy” and its peculiarities while at the same time combining them with the new market features, colonized by low-cost firms from emerging countries that are able to intercept demand and trends more quickly, due to exasperated flexibility and an improved adaptation capability. Therefore, in the face of structural difficulties such as severe undercapitalization, difficulties in access to raw materials and energy sources, and the sharing of costs, a network of inadequate services and infrastructures, the market power of the Italian small businesses is only able to support creativity and to stimulate demand with investments aimed at improving the materials used and developing and introducing new designs and product lines.

However, at a time of scarce monetary liquidity, the only plausible remedy to maintain the same levels of investment in research and development and to bridge the gap with the main foreign competitors, appears to be the establishment of new forms of cooperation and synergies. They can enhance the peculiarities and excellence used in a relational communication and analysis system that is integrated and shared to protect the prerogatives of each participant and maximize available resources (Guzzardi 2014).

In order to achieve this, it is necessary to consider the relevance of the form of cooperation and the synergies that could spread all over the world the value that resides in the district and enhance it. Firstly the consortium can be recognized as the form of aggregation that can be found within the district and between its enterprises. The consortium, introduced above, is characterized by having as its common object of discipline the development of certain specific phases. This means that this form of aggregation can be, to some extent, not a fully operating instrument in terms of efficiency and effectiveness. That makes it necessary to formalize an instrument that is more useful and complete, almost “surgical”, the network contract.

The illustration below shows a conceptual interpretation of the industrial district, the consortium and the network contract.

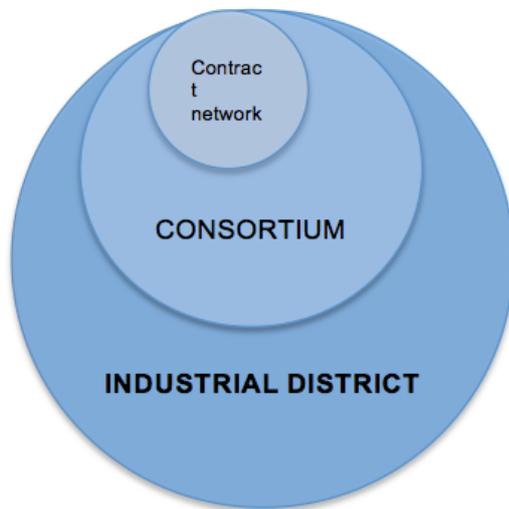


Figure 4: the contract network context. Source: Author's interpretation

### 1.2.5 Emerging of organizational issues

In a network, participating companies retain their autonomy, but are tied together to undertake a project that is superior to their individual capabilities.

The coordination between the different actors enhances the contribution that each actor brings through his own resources, skills and technological assets (Powell et al., 1996; Gulati, 1999; Gulati et al., 2000). A network, leveraging complementarity, can provide an added value that is greater than the simple sum of its members' value. It is this extra product value that can allow a network to move to a higher segment by leveraging the typical features of the industrial fabric (Mele, 2009).

In the network, there are companies that collaborate in the realization of some products or services while competing on other markets with other products. The interests of network participants may therefore be in part conflictual, also because of the different market position occupied by each network company. However, it may be assumed that there is a duty of loyalty: this is only a partial response to the conflict of interest and often it is necessary to have network governance structures and rules that define decision-making so as to reduce the risks of conflict. (Cafaggi 2004b, 2005; Teubner 2008).

The coexistence of cooperation and competition in the relationship between companies participating in the network reflects the possibility of divergent common interests, recalling the need

for key figures capable of hosting this reality, thus reducing the dichotomy of communion / conflict of interest (Teubner 2009a).

From this general overview, it emerges that the guidance and management of business networks are activities of obvious complexity and this, among other things, because the networks are also characterized by (Bingham, O'Leary, 2007) :

- Missions and interests pursued by each company that may not be fully realized in the network, or may conflict (among themselves or with the interests of the network), putting its survival at risk.
- Diversity of organizational cultures within the network, which can give rise to conflicts between the parties that need to be managed.
- Diversity in terms of operating modes, distribution of power, nature of the control systems, within each organization, which can influence the effectiveness of the network.
- Different stakeholders and financiers of each company within the network.
- Differentiated power of companies, regardless of the rules of operation of the network, which can give equal voting power to members (Meneguzzo, Cepiku, 2008).

The role of coordination within a network, in particular the case of the network contract, has a crucial importance. In the light of the management issues that exist within a network that needs coordination, it is clear that this is not always easy and “not discretionary”, since this control power usually lies in the hands of a common organ, which normally has power only to achieve the common goal for the network. It is clear that this is not always enough and that it would not be possible to define and foresee all the contractual clauses safeguarding the individual participating companies, even though the contractual form itself could be considered as a first form of organization. From the statements above it follows that the contract defines the guidelines, but it is a static form of organization and it is necessary to put in practice its contents through a dynamic kind of coordination.

The only coordination form present in the network contract is the contractual form itself, defined by the members with a common agreement, but in the light of the previous considerations, can it be sufficient?

What emerges from the organizational issues are managerial questions such as: how the work coordination will be managed, how the work will be divided between the parties and how to achieve the best results in the shortest possible time, moreover, if it is better have in internal coordination figure or an external one. The next chapter will address the problem of coordination and therefore of the organizational management of network contracts by seeking possible and adequate organizational solutions and coordination mechanisms.

## **Chapter 1 conclusion**

In this chapter the Network contract has been introduced, starting from the definition of a network, its main classifications and the categories that can be individuated within the existing literature. The origin of the network contract has been explained as a new form of organization, along with the evolution of its subject within the Italian Law. The possible forms of the network contract have been shown with their own peculiar elements. Moreover, the network contract has been compared to other similar kinds of networks, and the differences and the advantages have been explained, along with the reason why it has been created. What emerges by analyzing some of its characteristics are some organizational issues and the necessity of coordination in order to better achieve the network goals effectively and efficiently, that the purely contractual nature of this instrument does not satisfy.

# Chapter 2. Coordination

## 2.1. Organisational design and coordination mechanisms

It is clear from the first chapter that we can consider the network contract as a kind of organization in itself. It is also clear that the contractual form for coordination is not enough to cope with the many organizational issues that arise from this form: it becomes essential to define an adequate organizational design. In this chapter the organizational approach to the Network contract will be analysed.

Design takes on a fundamental role in the network form. Project decisions concern work-sharing choices between organizational actors (nodes of a network) made up of autonomous companies holding resources and specialized activities, and choices regarding the ways of managing relationships (arches) that are established between the nodes of the network (coordination).

It is thus necessary to consider the evaluation criteria of design choices.

Since, as mentioned in the previous chapter, the organizational features of the network are subject to analysis and design according to the (limited) rationality of a particular decision-maker, the choice of a design solution for the network form (e.g. adoption of a contract of franchising to regulate relationships with a distributor) will depend on the evaluation of this choice based on effectiveness, efficiency, and fairness parameters for a central decision maker:

- The effectiveness of the network form means the ability of the design solution to ensure the division of labour and coordination between the company and other partners, necessary for the achievement of the focal business objectives;
- Efficiency is measured on the ability of a network to minimize the production and transaction costs of the focal business;
- The fairness criterion corresponds to the degree of achievement of the specific interests of each of the actors involved in the cooperation process governed by the network.

Organizations are groups of people who work in an interdependent way in order to achieve goals. Organizations are not buildings or physical structures, but they are people who work together to reach a set of results. The members of the organization follow specific interaction paths, which means that they expect to wait for each other to conclude specific tasks in a coordinated manner, more precisely in an organized manner (McShane, Von Glinow 2000). An organization can be defined as such if the activities are configured in non-randomly (Grandori, 1995) and a definition of Organisational design might be that “The Organizational design is mostly ordered research...” (Turati 1998). Design organization is also the activity of labour division and coordination that takes place at two levels: macro and micro.

At the macro level, the organization's activities are divided and coordinated among the various organizational units. The macro design, with the realization of the macrostructure, is responsible for determining the coordination mechanisms between organizational units, that is to say the way positions and hierarchical levels of the organization are aggregated.

At the micro level, the design of the organizational structure deals with dividing and coordinating work within individual groups or organizational units. In particular, the focus is on the level of specialization, qualification, motivation and empowerment of the employees (Scarozza, Decastri 1997)

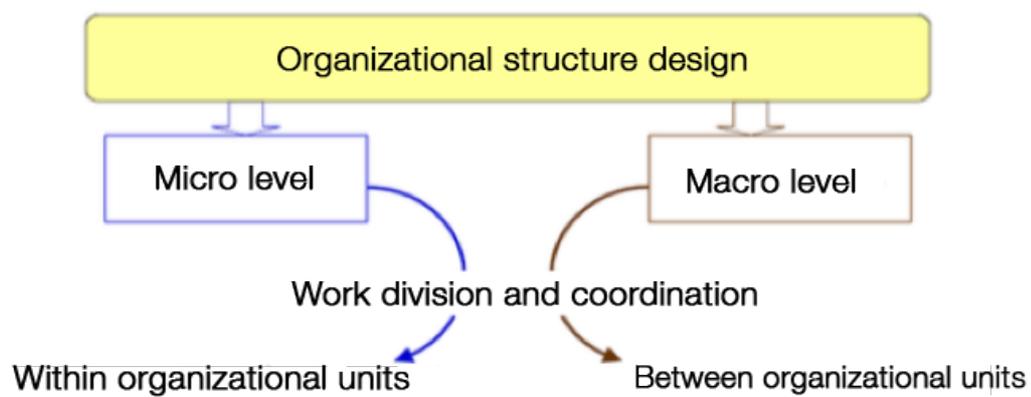


Figure 5 organizational design levels Source: Author's elaboration from D. Scarozza and M. Decastri, 2011

Furthermore, organizational design refers to the definition of organizational variables in order to create the conditions so that the organization can pursue the objectives it has set for itself (Mintzberg, 1985).

The variables that must be defined can be divided in hard and soft variables.

**"Hard"** organizational variables are:

- Direction style
- Organizational structure
- Informative system
- Coordination and control system, Staff Management System.

**"Soft"** organizational variables:

- Corporate culture
- Organizational climate

The organization must maintain over time **efficacy** and **efficiency**, or the ability to ensure that the collective result is achieved with the best use of the resources available. To achieve an efficient organizational design it is possible to define the following four building blocks:

- The strategy
- The boundaries of the organization
- The internal structure
- The governance of the organization.

In order to keep incentives for value-creating investments and the distribution of power, cohesion between the different building blocks is necessary. Only a consistent mix of the building blocks of organizational design with their different instruments allows the resulting organization to fulfil its function efficiently and to create the most value. The existence of complementarities leads to distinct configuration and successful business models among which a choice can be made, considering the cost of complexity and the returns from super modularity (Weiss, 2007).

When a group of people comes together to carry out an activity, the mission and the goals of the organization are defined first, followed by the strategy to achieve them and with which resources. After that, the first decision to take is to define “who does what”: that is to say, labour organization. The organization is therefore also the process of subdividing the work into individual tasks or groups of tasks related to each other. The fact that specialization increases productivity is a well-known fact and the first historical source in this regard is the construction of the pyramids in Egypt.

Moreover, even if it does not represent informal relationships, the organization chart is an accurate representation of the division of labour, showing immediately what positions exist in the organization, the ways of grouping these positions into units, as well as how formal authority flows among them.

The microstructure refers, in particular, to the organization of executive work. The first step concerns the design of individual positions. Here three design parameters come into play:

1. Job specialization,
2. Formalization of behaviour in the execution of the task,
3. Training and indoctrination required by the task.

Tasks can be specialized along two dimensions:

**Width:** defined by the number of different sub-tasks assigned to each task and by the extent to which each of these tasks is large or limited. At one end of the spectrum there is the so-called “handyman” (many small, differentiated tasks) and at the other the highly specialized professional.

**Depth:** that is, control on the task done. At one extreme of the range the worker performs the work without making any intervention on how and why, while at the other, in addition to performing the task, he or she controls every aspect of it.

The first dimension is defined as horizontal specialization of tasks, and its opposite horizontal enlargement of tasks, while the second dimension is defined as vertical specialization of tasks and its opposite vertical enlargement of tasks.

The specialization of horizontal tasks, which is the predominant form of work, is a component of every organized activity. In fact, organizations divide work or, in other words, specialize tasks to increase productivity. According to Smith, the division of labour causes this increase in productivity for three reasons:

- The person performing the task acquires greater workmanship by specializing in a "specific operation";
- Time is saved by not assigning many different task to the same person;
- Specialization allows the development of new methods and machines.

These factors converge in repetitiveness, which is the key factor that binds specialization to productivity. The vertical specialization of tasks separates work execution from direction. Organizations specialize in tasks in the vertical dimension in the belief that a different perspective is required to determine how the work is performed. The specialization of tasks directly causes some problems, in particular of communication and coordination.

As a result, the success of any project planning or task redesign clearly depends on the tasks at stake and their degree of specialization.

Job expansion is convenient to the extent that the benefits of having more motivated workers for a particular job exceed the losses resulting from sub-optimal technical specialization.

Regarding the formalization of behaviour, this is the way in which the organization eliminates the discretionary power of its members, essentially standardizing the work processes. Behaviour can be standardized in three basic ways:

1. Through the task (for example through the job description);
2. Through the workflow;
3. Through the rules.

Regardless of the means of formalization employed, the effect on the person performing the work is the same: his behaviour is regulated. The power over how to carry out the task shifts from the person who executes it to the person who defines the specifications. Consequently, formalization determines a vertical specialization of tasks. (Mintzberg, 1985)

It is also important to mention the importance of training, understood as the identification of a process through which skills and knowledge related to the task are taught, and indoctrination as a process

through which the organizational rules and corporate culture are acquired. Both processes lead to the internalization of accepted behaviour patterns.

It is through the grouping process in units that the hierarchy system is introduced. The organization chart is the graphical representation of this hierarchy. The grouping can be seen as a process of successive aggregations: individual positions are grouped into first-degree aggregations; these aggregations are, in turn, grouped into aggregations of a higher degree and so on until the whole organization is contained in the aggregation of the last degree.

Given the needs of the organization as a whole (objectives, missions, technical system to achieve them) the designer identifies all the tasks that must be performed: it is a "descending" procedure (top-down), from general needs to elementary tasks or activities. The designer then combines these tasks in positions, depending on the degree of specialization desired, and determines both the extent to which each position should be formalized, and the type of formalization and indoctrination required.

The next step is to construct the macrostructure: first by determining which types and how many positions should be grouped in the first degree units and, subsequently, which types and how many units should be grouped in the higher degree units until the hierarchy is completely constructed. This phase naturally corresponds to an ascending (bottom-up) procedure, from specific tasks to the overall hierarchy.

Finally, the macrostructure is completed and the decision-making power is allocated. This is described in the design procedure in theory, while in practice who runs it uses many shortcuts. When goals and missions change, structural redesign follows a top-down course; when, on the other hand, the technical system of the operational core changes, the redesign follows a bottom-up process. The grouping of positions and units is a fundamental way to coordinate the work of the organization (H. Mintzberg, 1985). In fact:

- it introduces a common supervision system between positions and organizational units. A single manager is responsible for all the activities of the unit.
- It leads to sharing common resources, both budget and physical (plant and equipment)
- allows to define common performance indices. The different positions of a "unit contribute to obtaining the same products / services.
- promotes mutual adaptation through the sharing of physical spaces and the birth of informal relationships.

However, as a result of the grouping, problems may arise in the coordination between the units. Indeed:

- Communications tend to remain within the individual units;
- The units focus exclusively on their own problems;
- The various units develop different orientations.

The bases for creating the most commonly used organizational units are six:

- the knowledge and specialized skills that people use in their tasks;
- work processes and functions. Units can be based on the process used or on the activity carried out by the worker (e.g. fusion department, welding department ...);
- Time: organizational units are set up according to the timeframe in which the activity is carried out (e.g. shifts in an establishment);
- The outputs. Organizational units are established on the basis of the products they obtain or the services they provide.
- According to the clientele. Organizational units are set up to deal with different types of clients (e.g. in the hospitals lanes for paid patients and for patients assisted by the public service).
- Based on the geographical location in which the company operates.

However, these bases can be further reduced to two fundamental ones:

- The market, which includes the bases consisting of outputs, customers and locations;
- Functional grouping which includes the bases consisting of knowledge, skills, work processes and functions.

Time-based grouping falls into both categories.

The selection criteria depend on the type of interrelations that prevail within the organization. In order to better identify them, it is necessary to identify the interdependencies that develop within it. In particular, by interdependencies we mean "exchanges or sharing of material resources and information among the actors of the organizational units or between different internal or external organizational units, in order to realize the operational activities"(Costa, Giubitta 2018).

Different types of interdependencies can be identified (Costa, Giubitta 2018): generic, sequential, reciprocal.

**General interdependencies:** individuals carry out their activities in a completely independent manner, contributing, in this way, to the realization of the common purpose of the organization. In this case, there are no specific relations of exchange and direct sharing of the activity of individuals.

Interdependencies can be managed with procedures and rules that individuals can draw to contribute, each with their own activity to achieve the common goal of the organization. Coordination takes place by standardization.

**Sequential interdependencies:** in this case, the output of an upstream organizational unit becomes the input of the downstream organizational unit. The activities of individuals thus become independent of each other (e.g. assembly line). The relationships that are established can be symmetrical or bidirectional: in this sense, the output of A is the output of B and vice versa but the activities remain programmable. The management of these interdependencies is carried out by means of programs designed to organize the timing to ensure a smooth flow of activities.

**Mutual interdependencies:** they concern highly correlated activities. Every activity carried out by an individual directly influences those performed by others. The high level of information and communication complexity characterizes the relationships that are formed. Coordination takes place through tacit interactions.

Interdependency type	Definition	Coordination mechanisms
<b>GENERIC</b>	Relationship between two parts of the organization for the fact that the collective performance of the organization depends solely on their activity and contribution	Rules and operational procedures
<b>SEQUENTIAL</b>	Interchange relationship between two parts of the organization so that one's output becomes the other's input and vice-versa	Programs
<b>RECIPROCAL</b>	Relationship between co-acting parts, that define autonomously the actions to put in place, mutually adjusting them in order to reach a common action.	Mutual adaptation, values and conventions

Table 2: "interdependencies" Source: Author's elaboration from Costa, Gubitta, "Organizzazione aziendale", 2008

If at micro level there is a division of labour that concerns the design of individual positions, at macro level there will be a division of directional work, or directional design, that means the distribution of power.

When all the decisional power is concentrated in a single point of the organization the structure is centralized; when this power is distributed between many people, the structure is decentralized. The relationships between the design parameters are reciprocal and not sequential. The

design parameters constitute an integrated system in which each one is connected to all the others: if one parameter changes, all the others must also be modified.

Centralization is the most binding way to coordinate decision-making: all decisions are taken by one person and then implemented through direct supervision. On the other hand, a company adopts a decentralized structure simply because all decisions cannot be taken by a single center. Sometimes the necessary information cannot simply be transmitted to that center, perhaps because they are too qualitative and therefore difficult to communicate. Sometimes information can be transmitted but the only decision-making center cannot understand it. The most common mistake that is perhaps committed in organizational planning is the complete centralization of decisions despite the limits described above.

People at the lower levels of the hierarchy who possess the necessary knowledge must defer the decision to the higher levels that are not in contact with the reality of the situation. In fact, decentralization is adopted because it allows the company to respond promptly to local conditions. Decentralization is finally adopted for its ability to motivate. Creative and intelligent people require a great deal of freedom of action and the company can attract and retain them, even using the initiative, only if it gives them considerable decision-making power. Thus, there appear to be five distinct types of vertical and horizontal shift that can be placed on a single continuum defined at one end by centralization in both dimensions and at the other extreme by decentralization in both dimensions.

**Vertical and horizontal centralization:** this type is defined by the centralization of decision-making power in the hands of one person, the manager at the top of the hierarchical line (the general manager). This figure retains both formal and informal power, assuming all important decisions on his own and coordinating their execution through direct supervision;

**Horizontal decentralization (selective):** This type of decentralization characterizes the bureaucratic organizations with unskilled tasks that are based, for purposes of coordination, on the standardization of work processes. Standardization decreases the importance of direct supervision as a coordination mechanism, thereby also reducing the power of mid-line managers, particularly those at lower levels. The structure is therefore vertically centralized: formal power is concentrated at the higher levels of the hierarchy, particularly at the strategic top. Given their role in the formalization of behavior, analysts gain some informal power, which involves limited horizontal decentralization. Since analysts are few compared to other non-managers and because their intervention reduces the power of other non-managers, particularly operators, the one we have just seen is a very limited and in any case selective horizontal decentralization because analysts are only involved in decisions concerning the formalization of work;

**Limited vertical decentralization (parallel):** In this kind of decentralization we find organizations that are divided into market-based units or divisions, to whose managers a large part of the formal power is delegated on the decisions concerning the markets assigned to them. Since this power does

not necessarily need to be delegated to even lower levels in the hierarchy of authority, this vertical decentralization is inherently limited. Similarly, since divisional managers do not necessarily have to share their power with staff or operators, the structure is centralized in the horizontal dimension. naturally the strategic chief retains the ultimate formal power over the divisions.

**Horizontal and vertical selective decentralization:** In this type of decentralization the characteristics of selective decentralization in the two dimensions are combined. In the vertical dimension, the power over different types of decisions is delegated to constellations of work at various levels of the hierarchy; in the horizontal dimension these constellations operate a selective use of the staff experts, based on the technical content of the decisions they must take.

Coordination within and between constellations is achieved primarily through mutual adaptation;

**Vertical and horizontal shifting:** In this type of decentralization, decision-making power is largely concentrated in the operational core, as it is made up of professionals whose activities are mainly coordinated through the standardization of skills. The organization is very decentralized, on the one hand, vertically, since power is placed at the base of the hierarchy and, on the other, horizontally, since the power is held by a large number of non-managers, ie the operators. (Mintzberg, 1985)

However, there are also contingent or situational factors that influence the design of the organizational structure. These factors can be traced back to four groups:

1. The age and size of the company;
2. The technical system that employs in the operational core;
3. Various aspects of the environment
4. Some power relations.

Mintzberg emphasizes environmental component, understood as the context to be taken into account when designing the organization. The environment essentially includes everything that is external to the company, paying particular attention to two dimensions:

1. **stability:** the environment of a company can vary along a continuum whose extremes are constituted by a stable environment and a dynamic environment. Dynamic is taken to mean unpredictable rather than variable.
2. **complexity:** the environment of a "company" (in this case its "technology") can vary along a continuum whose extremes are constituted by a simple environment and a complex environment. the markets of a company may vary along a continuum whose extremes are constituted by integrated markets and diversified markets. The diversity of the markets can derive from the wide range of customers served, the products and services provided or the geographical areas in which the outputs are sold.

According to Henry Mintzberg, an organization's structure is largely determined by the variety one finds in its environment. For Mintzberg, both environmental complexity and the pace of change determine environmental variety. He identifies four types of organizational form, which are associated with four combinations of complexity and change.

**Environmental Determinants  
of Organizational Structure**

**Environmental Variety = Complexity x Pace of Change**

	<b>Simple</b>	<b>Complex</b>
<b>Stable</b>	<p><b>Machine Bureaucracy</b></p> <p>Standardized Work Processes and Outputs</p>	<p><b>Professional Organization</b></p> <p>Standardized Skills and Norms</p>
<b>Dynamic</b>	<p><b>Entrepreneurial Startup</b></p> <p>Direct Supervision</p>	<p><b>Adhocracy</b></p> <p>Mutual Adjustment</p>

Figure 6 environmental determinants of organizational structure. Source: Mintzberg,

### 2.1.3 Coordination's Mechanism

Once the strategy and the boundaries of the organization are defined, as well as its goals and mission, the following step is the internal organization in terms of division of labour. The decisions taken in this regard mean the creation of interdependencies, which can be classified as: generic, sequential, reciprocal. These interdependencies characterize the organization: once they are set, the need for coordination emerges.

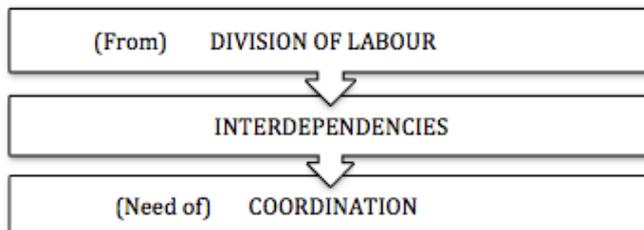


Figure 7 Overview scheme. Source: author's realization from Thompson (1967)

Following the previous definition, the organization represents the set of ways in which to identify and implement the division of labour into tasks, and in which to achieve their coordination. Therefore, it is necessary to choose the organizational variables in a timely and accurate manner, in order to ensure a certain coherence between the different elements involved.

What is coordination? Beyond the eye but a major reference to the integration of partial objectives and activities (Stoner and Freeman 1989) or the collaboration to reach a unit of effort (Lawrence and Lorsch 1967b). It is important to emphasize that coordination is linked to the need to preserve the various dimensions or critical variables of a company (Galbraith 2002; Rockart and Short 1989), with respect to which the integration or the unity of effort just mentioned is to be realized. In other words, the environment and strategy determine the critical management variables needed to aggregate resources and develop attention and guidelines (Galbraith, 1994).

The multidimensional needs, that is, the presence of a multiplicity of critical dimensions, although to a different extent, cannot be satisfied only with the creation of organizational units; from here, precisely, the problem of coordination (Airoldi, 1980). In other words, the creation of organizational units and their location are a "strong" way to meet the needs. On the other hand, it is not possible and convenient to respond to all the needs by creating organizational units.

Problems or coordination solutions are closely tied to control and integration issues. How can the coordination problem be resolved? The usable mechanisms are numerous and so are also the types that have been formulated (Isotta, 2009).

According to Mintzberg (Management Myth and Reality, 1991) “Every organized human activity, from the manufacture of an object to the sending of man to the moon, requires two fundamental and at the same time opposite operations: the division of work and the coordination of the functions for carrying out these activities.”

The internal structure of an organization can be defined as the overall system of subdividing work into distinct functions and the subsequent coordination of these functions. The most important procedures that organizations use to coordinate work are represented by some characteristic mechanisms (see figure 8). As already anticipated above, they are:

- Informal agreement (“Adhocrazia”)
- Direct supervision
- Standardization of work processes, knowledge and rules.

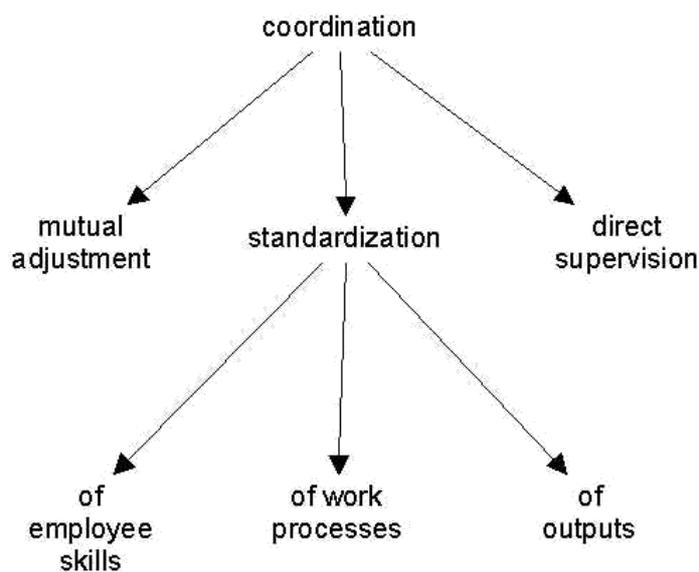


Figure 8 Mintzberg's coordination modes. Source: Author's elaboration from “Mintzberg's Structure in Fives: Designing Effective Organizations”

The informal agreement (“adhocrazia”) consists in achieving coordination through informal transmission of data from one unit of work to another. Direct supervision consists in achieving coordination through the transmission of orders or instructions from one person to many, connected to each other by reason of their functions. The typical example is the case of a boss who instructs employees on what they have to do and in what progressive order.

The standardization as a coordination procedure can concern work, processes, production, specializations and standards.

The **standardization of the work processes** of employees who perform tasks connected to each other mean that labour standards are usually set up at the techno-structure level and implemented

by the core operational unit. Typical is the case of the instructions that derive from the analysis of times and movements.

The **standardization of production** consists in achieving coordination by specifying in detail the expected results of different activities. Also in this case the data are processed at the techno-structure level. Typical examples are the financial plans that set the performance targets of the various production units or the rules that prescribe the dimensions of a product being processed.

The **standardization of specializations**, or of knowledge, consists in obtaining the coordination of different activities through the appropriate training of personnel. For example, it is the case of doctors who have achieved a specialization and who collaborate with each other automatically according to a standardized practice.

**Standardization of rules** instead consists in achieving the coordination by checking the procedures that regulate the performance of a given work, and generally of all the activities of an organization, so that each procedure respects the principles (as it happens for example in religious orders).

Moreover, all the organizational actors involved in the decision-making processes of the organization itself must use these coordination mechanisms.

Mintzberg states that the based components of an organization, within which there are organizational actors with specific related roles, such as:

- Operating Core
- Strategic Apex
- Middle Line
- Techno-structure
- Support Staff

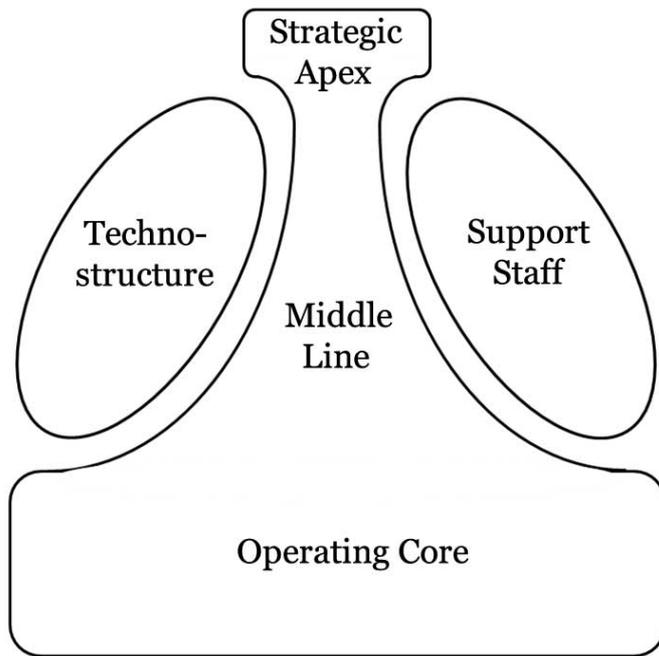


Figure 9 “The five fundamental parts of an organization”. Source “Mintzberg, the structuring of organizations, 1979”

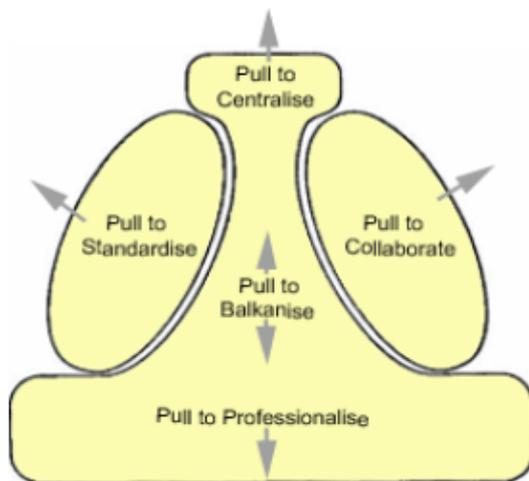
In figure 9, a small strategic apex is connected, through an agile intermediate management group, to a wide and extended operating core. These three parts form a continuous whole to indicate that they communicate directly with each other as rings of a single hierarchical chain of authority. The techno-structure and support personnel, on the other hand, are located on the two sides of the central area to show that they are independent of direct linear authority and only indirectly affect the Operating Core. Ideology must be considered as a sort of “halo” that surrounds the whole system.

At the base of every organization there are the operators, people who perform the fundamental activities directly linked to obtaining the products and services, and that perform four main functions such as procuring inputs for production, transforming inputs into outputs, distributing the outputs and providing direct support for input, transformation and output functions. They belong to the “*Operating Core*”.

According to Mintzberg (1991), every organization, even the simplest, should have a manager who belongs to the “*Strategic Apex*”, the main office that controls all the system. It has global responsibility for the organization. The strategic apex must ensure that the company performs the tasks effectively and responds to the needs of those who control or otherwise have power over the company. As the organization grows, just one manager will not be enough anymore, so it will be necessary to have more managers not just in order to manage the operators but also to control the other managers. Because of that the “*group of the intermediate managers*” in the Middle Line exists, placed in the

internal hierarchy between the “strategic Apex” and the “Operating Core”. Moreover, if the organization grows further both in size and complexity, more collaborators will be needed, that are called analysts. They will also have “administrative tasks”, by setting and controlling formally the work of the others but their job has another nature. They belong to the specialized staff and constitute what is defined “*Techno-structure*” . Furthermore it is possible to deal with another kind of staff, purely with a supporting role that we identify as “*Support Staff*”. Finally, we could also talk about a sixth subunit considering that every organization that operate actively on the market requires its own culture, or a mix of various ones, that is defined the “*Ideology*”.

Each of these five parts has a tendency to pull the organisation in a particular direction favourable to them.



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The coordination mechanisms cited above, that will be described more in detail in the following paragraph along with the design organization’s parameters and the situational factors, all seem to be divided into five configurations. In each configuration is dominating a specific kind of coordination mechanism that characterizes the whole configuration that is often identified also as “five coordination mechanisms”. Moreover every configuration has different kind of decentralization and a part of the organization will perform an important role.

Here the five generic organisation structures, which can be described according to the prevalent Coordination Mechanism:

There are five generic organisation structures which can be described in terms of the five-part theory:

- Simple structure,
- Machine bureaucracy,
- Professional bureaucracy,
- Divisionalised form,
- Adhocracy.

The simple structure, typically, has little or no techno-structure, few support staffers, a loose division of labour, minimal differentiation among its units, and a small managerial hierarchy. The behaviour of simple structure is not formalised and planning, training, and liaison devices are minimally used in such structures.

Coordination in the simple structure is controlled largely by direct supervision. Especially, power over all-important decisions tends to be centralized in the hands of the chief executive officer. Thus, the simple structure has as its key part the strategic apex. Indeed, the structure often consists of little more than a one-person strategic apex and an organic operating core. The environments of the simple structures are usually simple and dynamic. A simple environment can be comprehended by a single individual, and so enables decision making to be controlled by that individual. A dynamic environment means organic structure: because its future state cannot be predicted, the organization cannot effect coordination by standardization. Because the typical organization is small, coordination is informal and maintained through direct supervision. Moreover, this organization can adapt to environmental changes rapidly (Sherwin, 2016).

The design of a machine bureaucracy tends to be as follows:

- highly specialised, routine operating tasks;
- very formalised procedures in the operating core;
- a proliferation of rules, regulations and formalized communication;
- large-sized units at the operating level;
- reliance on the functional basis for grouping tasks;
- relatively centralized power for decision making;
- an elaborate administrative structure with sharp distinctions between line and staff.

As the machine bureaucracy depends primarily on the standardization of its operating work processes for coordination, the technostructure is the key part: it uses standardization of work processes as its prime coordinating mechanism, and employs limited horizontal decentralization.

Machine bureaucratic work is found in environments that are simple and stable. Machine bureaucracy is not common in complex and dynamic environments because the work of complex environments can

not be rationalized into simple tasks and the processes of dynamic environments can not be predicted, made repetitive, and standardized, and the goal is to achieve internal efficiency. The machine bureaucracies are typically found in the mature organizations, large enough to have the volume of operating work needed for repetition and standardization, and old enough to have been able to settle on the standards they wish to use. The managers at the strategic apex of these organizations are mainly concerned with the fine-tuning of their bureaucratic machines. Machine bureaucracy type structures are "performance organizations" not "problem solving" ones (Sherwin, 2016).

The professional bureaucracy relies for coordination on the standardization of skills and its associated parameters such as design, training and indoctrination. In professional bureaucracy-type structures duly trained and indoctrinated specialists –professionals - are hired for the operating core, and then considerable control over their work is given to them. Most of the necessary coordination between the operating professionals is handled by the standardization of skills and knowledge – especially by what they have learned to expect from their colleagues.

Whereas the machine bureaucracy generates its own standards, the standards of the professional bureaucracy originate largely outside its own structure (especially in the self-governing association its operators join with their colleagues from other professional bureaucracies). The professional bureaucracy emphasizes authority of a professional nature or in other words "the power of expertise".

The strategies of the professional bureaucracy are mainly developed by the individual professionals within the organization as well as by communicating with the professional associations on the outside.

Professional bureaucracy has the operating core as its key part, uses standardization of skills as its prime coordinating mechanism, and employs vertical and horizontal decentralization. The organization is relatively formalized but decentralized to provide autonomy to professionals. Highly trained professionals provide no routine services to clients. Top management is small; there are few middle managers; and the techno-structure is generally small. However, the support staff is typically large to provide clerical and maintenance support for the professional operating core. The goals of professional bureaucracies are to innovate and provide high-quality services. Existing in complex but stable environments, they are generally moderate to large in size. Coordination' problems are common.

Divisionalized form type organizations are composed of semi-autonomous units - the divisions. The divisionalized form is probably a structural derivative of a Machine Bureaucracy - an operational solution to co-ordinate and controls a large conglomerate delivering horizontally diversified products or services in a straight-forward, stable environment where large economies of scale need not apply. If large economies of scale were possible the costs and benefits of divisionalisation would need careful examination. The modern, large holding company or conglomerate typically has this form.

Like the Professional Bureaucracy, the Divisional Form is not so much an integrated organization as a set of quasi-autonomous entities coupled together by a central administrative structure. There is little coordination among the separate divisions. But whereas those "loosely coupled" entities in the Professional Bureaucracy are individuals—professionals in the operating core—in the Divisionalised Form they are units in the middle line. These units are generally called divisions, and the central administration, the headquarters. The Divisionalised Form differs from the other four structural configurations in one important respect. It is not a complete structure from the strategic apex to the operating core, but rather a structure superimposed on others. That is, each division has its own structure. Most important, the Divisionalised Form relies on the market basis for grouping units at the top of the middle line. Divisions are created according to markets served and they are then given control over the operating functions required to serve these markets.

Adhocracy includes a highly organic structure, with:

- little formalization of behaviour;
- job specialization based on formal training;
- a tendency to group the specialists in functional units for housekeeping purposes but to deploy them in small, market-based project teams to do their work;
- a reliance on liaison devices to encourage mutual adjustment, the key coordinating mechanism, within and between these teams

The innovative organization cannot rely on any form of standardization for coordination. Consequently, the adhocracy might be considered as the most suitable structure for innovative organizations which hire and give power to experts - professionals whose knowledge and skills have been highly developed in training programs.

Managers (such as functional managers, integrating managers, project managers etc.) abound in the adhocracy type structures. Project managers are particularly numerous, since the project teams must be small to encourage mutual adjustment among their members, and each team needs a designated leader, a "manager." Managers are also functioning members of project teams, with special responsibility to effect coordination between them. To the extent that direct supervision and formal authority diminish in importance, the distinction between line and staff disappears. (Sherwin, 2016)

Structural Configuration	Prime Coordinating Mechanism	Key Part of Organization	Type of Decentralization
Simple structure	Direct supervision	Strategic apex	Vertical and horizontal centralization
Machine bureaucracy	Standardization of work processes	Technostructure	Limited horizontal decentralization
Professional bureaucracy	Standardization of skills	Operating core	Vertical and horizontal decentralization
Divisionalized form	Standardization of outputs	Middle line	Limited vertical decentralization
Adhocracy	Mutual adjustment	Support staff	Selective decentralization

Figure 10 Various structural configurations. Source: Author's elaboration

The explained configurations help to understand the role of coordination within the organizations according to their characteristics and internal and external factors.

## 2.2.2 The mechanism choices

According to the nature of the activities carried out within the organization, different coordination mechanisms can put in place, which we can distinguish in coordination mechanisms based on feedback (for tacit interaction activities) and those based on standardization (for transformation activities that require rules and operating procedures). In particular, feedback-based coordination mechanisms pertain to the exchange of information and knowledge in a direct way (both horizontally and vertically). According to Mintzberg, this type of coordination is achieved through direct supervision and mute adaptation. In the first case, which we can identify in the hierarchy in the strict sense, coordination is achieved through orders and directives aimed at addressing the behavior of individuals. It is a vertical type of coordination, which can only take place when the actor who orders and issues directives is formally vested with the authority necessary to carry out such actions

(legitimation) and who has the knowledge and skills to take such decisions, and to solve the problems that emerge from the realization of the activities of the individual actors.

Mutual adaptation, on the other hand, is a horizontal type of coordination, which takes the form of collaboration and interaction between the organizational actors in the search for solutions to the problems that emerge from the activities they carry out. In particular, each individual has a certain autonomy that allows him to identify the best solution to the problem identified. This last type of coordination allows a faster solution to the problem and, often it is more effective, because it is closer to the source from which the problem originated. The coordination mechanisms based on standardization, on the other hand, consist of standardization of processes or standardization of knowledge. In the first case, they are defined by an organizational actor with specific skills, standard procedures and rules that must be followed in case certain problems occur (which are then coded). If it is impossible to standardize the procedures, it is possible to resort to the standardization of the results of the processes (output), leaving autonomy to the organizational actors on the rules and procedures to be followed. Moreover, when it is not possible to resort to the standardization of outputs, knowledge is standardized by defining the information and knowledge necessary to carry out the activities that the organization requires. This knowledge can be codified (example: a certification attesting possession of the knowledge in question) or tacit (i.e. not codifiable and distinguishable, for example through the number of years of experience in a given sector / activity).

Standardization consists in identifying routine activities that allow individuals to react in the same way in the presence of a specific range of events.

As previously seen, the choice of the different coordination mechanisms depends on a large number of factors, which can be found both within the organization and in the external environment (since, as previously analysed, the organization is an open system). Therefore, the choice of the organizational configuration must aim at minimizing coordination costs by maximizing the interdependencies within each organizational unit and minimizing the interdependencies between the different organizational units. In each organization, therefore, different coordination mechanisms will be present at different levels.

Decastri (1997) also defines that the choice of coordination mechanisms depends on the level of complexity of the organization (which depends in turn on the variability and predictability of the reference environment), and also on the degree of interdependence relationships and pressure on the organization's results.

Coordination mechanisms can be categorized using a number of criteria. Particularly important is the "power" of the mechanism, and therefore the degree of difficulty of the coordinating situation that it is capable of solving, and the cost that its use implies. Since coordination implies the processing of information, it can be evaluated by referring to the ability to process information of the mechanism under consideration. The cost concerns the burdens generated by the use of a certain mechanism: in addition to the entity, the nature of such fixed or variable costs is also important.

Another important criterion relates to the way in which the different mechanisms pursue and seek coordination: on a program or previously estimated, whether coordination is pursued ex-ante, defining, for example, the behaviours to be held when certain circumstances occur (in the case of URPs establishing a procedure for receiving requests for information or answering a complaint); in real time or on feedback, if coordination is achieved by observing the effects of one's own behaviour and that of other relevant people, for example when the URP manager intervenes if he sees the established procedure is not respected, a possible delay in the completion time of a job and a meeting is convened to resolve the problem (Isotta, 2009).

Another important point to consider is the contribute of Galbraith's model as the necessary information is by nature extremely large, there are action of increasing complexity that can reduce uncertainty. This contribute highlights the importance of collective information and consequently of investment on informative systems within an organization.

J.R. Galbraith (1974), elaborates his model starting from his personal experience as a teacher and consultant of information systems. He introduces the concept of predictability of tasks to the integration of some variables and connection structures already analysed by his predecessors meaning, with this expression, "the degree of possible structuring of tasks" and identifies those that may be external influences on the organizational system. In this sense, we can define that:

- Organizational structure means those elements through which it is possible to perform different tasks (to which different degrees of predictability are associated);
- The volume of information to be collected and processed to efficiently perform a given activity is correlated to such levels of predictability;
- There is a certain degree of uncertainty, understood as the difference between the information necessary for the conduct of an activity and the information available before starting it;

The model can be summarized as follows:

$$P \rightarrow In = f(Ir - Id)$$

Where:

P: Predictability of tasks

In: Uncertainty

Ir: Amplitude of the information required for an effective performance of the task and, more generally, for an effective functioning of the organizational system

Id: Amplitude of the information already available for an effective performance of the task and, more generally, for an effective functioning of the organizational system.

The model proposed by Galbraith has been analysed and integrated since the end of the '70s by several Italian authors, who have integrated terms of uncertainty and predictability of tasks with that of information complexity.

Therefore, given the amount of information that the organizational actors have, the uncertainty is given by the information complexity (quality and quantity of information theoretically necessary for the effective performance of the tasks), which is a function of combining:

of the number (n): understood as the quantity of tasks to be performed

- Inhomogeneity (d): understood as the number of heterogeneous and different events that a decision-making activity is called to govern;
- Variability (v): which expresses the possibility that the elements to be taken into account in the decision-making process present successive variations over time;
- The degree of connection / interdependence (c): i.e. the level of interactions between the organizational actors;
- External pressure on results (Pi): i.e. the level of efficiency that the competitive system in which the company operates can impose;
- Internal pressure (Pe): i.e. the level of efficiency that the economic entity imposes on the company.

The model can be summarized as follows:

Where C stands for informational complexity (which can be potential, if such complexity is intrinsic to the activity)

$$C = f(n, d, v, c) * (Pe + Pi)$$

Carried out by individual organizations, which becomes real through pressure on internal and external results)

Depending on the information required for the functioning of the system, it is possible to put in place organizational strategies with a different degree of complexity and based on it, specific actions.

In the first group of actions are operative mechanisms of communication and planning and the hierarchical structure. Communication procedures, even with some limitations, allow tasks to be more structured, thus reducing ambiguity or arbitrariness in their execution.

Hierarchy and planning have a similar function in that they reduce uncertainty by simplifying tasks, anticipating decisions thus avoiding individual initiatives. However, these tools show some limitations to their efficiency when the task (with its necessary information) reaches a certain degree of complexity: in many cases the communication and decision processes become too complex with the increase of variables n and c. In these cases it's necessary to implement more sophisticated tools:

- They should reduce the need for information, thus simplifying;
- They should increase the capacity for information processing, thus managing.

In the first case, an efficiency reduction is accepted as admissible, causing less productivity, delayed deadlines, stock accumulation, etc. Lowering performance in fact means lowering the decisional elements that the organizational units have to face. In order to achieve that there are many strategies: the environmental complexity can be reduced (for example reducing the number of services offered, the time pressure, or the necessity for prediction), slack resources can be created (inventory level or additional productive capacity), self-contained tasks can be defined (tasks managed by groups with internal resources that are sufficient for the execution of the whole operation).

From an organizational standpoint, this means going beyond the process-based functional organization, that is to say overcoming the diversity of each group's goals and reducing the type and quantity user-submitted instances. The solutions that can entail a duplication of resources, both technical and human, mean thus costs and loss of scale economy.

The tools that allow instead to increase the information-processing capacity can be located both in the vertical and horizontal dimensions of the structure. In the first case the response capability of the hierarchical line is reinforced through planning units and a strengthening of the automated information systems. In the second case, there are several linking mechanisms: direct relations, temporary work groups both continuous and discontinuous, etc. The most complex solution in this case is a matrix structure, which is the most advanced form of use of "lateral" relations in order to set up an organizational structure.

In the following paragraph each of the coordination mechanism cited above will be reviewed, in order to better evaluate the best coordination mechanism suitable for an organization such as that created in a network contract.

## **2.2 Standardization**

With standardization "the coordination of parts is incorporated into the program when it is formulated, and the need for continuous communication is correspondingly reduced" (March and Simon, 1958). In other words, coordination is achieved on the "drawing table", before the work is carried out, thus reducing the need for direct communication between the committed actors or by the head (Mintzberg, 1979). It is therefore a mechanism of coordination that operates on a preventive basis and not, like direct supervision, in real time.

Standardizing means tracing back to a standard, to a predefined model, thus reducing variety (in a synchronic sense) and variability (in a diachronic sense).

The possible types of standardization include (Mintzberg, 1989):

- Standardization of work processes;
- Standardization of outputs;
- Standardization of skills and knowledge;
- Standardization of cultural norms.

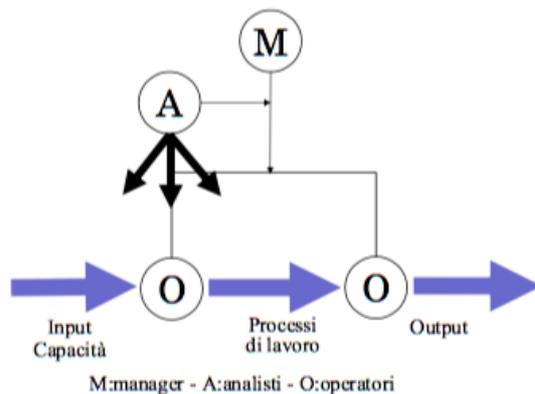


Figure 11 work processes Source: "E. Gentile Sistemi informativi 2004"

### 2.2.1 Standardization: work process

With the standardization of work processes "the specification concerns the work processes that must be followed by the people engaged in carrying out interdependent activities" (Mintzberg, 1989), for example, the execution of a purchase order and the work processes which must be carried out by the different offices and people involved. Coordination is achieved if all people recognize that they are in the same situation (for example, that this is an urgent order) and adopts the behaviours specified for each of them for that situation. Coordination through standardization of work processes therefore implies:

- Correct recognition of the situation / problem;
- The existence of a standard of behaviour for that situation / problem;
- The effective adoption by all the actors of the specified behaviour.

The standardization of work processes includes both the specification of actions to be undertaken, the setting of prohibitions and the obligation to seek authorization before undertaking a certain action (Merchant and Riccaboni, 2001). Therefore it includes the procedures, the job descriptions and the regulations. This is the coordination mechanism typical of bureaucratic solutions, where the behaviour (in input) is predetermined and made more predictable (Mintzberg, 1979).

As for direct supervision, the recourse to the standardization of work processes as a coordination mechanism can also take place to a different extent. In fact, and in particular, several can be:

- The range of behaviours that are standardized. For example, the multiplicity of actions that a worker performs in a day; standardization and formalization can extend to a more or less extensive part of these actions;
- The degree of detail in the specification of the behaviours that must be held. In the job description the tasks assigned can be indicated in a more or less analytical way, or the procedure to be followed to make a purchase can explain all the actions that must be performed (or limited) to indicate minimum requirements, for example the obligation on the part of the purchaser to request at least three offers.

As regards the effectiveness and efficiency of the use of this coordination mechanism, particular importance in determining the possibility and convenience of recourse to the standardization of work processes assume, on one hand, the simplicity of the activities to be carried out (difficulty and duration of the low learning cycle) and the high knowledge of the required input behaviours (knowledge of the cause-effect relationships), which affect the possibility of identifying and formalizing behaviour standards and, on the other hand, the limited variety and the low variability of the situations that may arise, which affect both the cost of using this mechanism and the possibility that different assessments of the situation can occur (Isotta, 2009).

### 2.2.2 Output standardization

The standardization of outputs achieves the coordination by specifying the characteristics of the result that must be reached. Coordination is achieved if the result achieved by all the interdependent actors satisfies the established characteristics. It is still a "preventive" coordination mechanism where, however, the standard does not concern the standardization of work processes, but the task itself, thus leaving margins of autonomy more or less large as to how it is performed. In fact, the standardization of outputs can be represented by the specification of the overall performance of an organizational unit or by a more analytical specification of the dimensions of the output, for example in terms of quantity, quality, cost, time and, again, other characteristics such as, for example, size and colour, etc. (Mintzberg 1979, 149-154).

In addition to the effects on autonomy (a more analytical specification reduces the margins of discretion because it requires the taking of specific decisions and the adoption of particular actions), the two types of standardization of the outputs involve a different capacity for coordination, in particular for regarding the type of interdependence. (Grandori 1992, 1072-1073, 1076-1079): the specification of the overall performance is able to face situations characterized by generic

interdependence (as is the case for the relations between the divisions of a company or between the agencies of a bank), while the more analytical specification of the dimensions of the output can achieve coordination even in the presence of sequential interdependence.

As for the other mechanisms, the ability to coordinate the standardization of the outputs depends on and therefore can be regulated by acting on numerous characteristics. The most important include, in addition to the degree of detail or articulation of the objectives (Airoldi 1980, 133-148):

- The extension, i.e. the number of organizational units that are coordinated through explicit and formalized programming and control processes. This is true, in particular, of the different levels of an organization: the use of standardization of outputs (for example the budget) can be limited to the first level units, i.e. units that depend directly on the top, or even invest the units of the second level, third level, and so on;
- Participation, that is the degree of involvement of the organizational actors in defining the objectives that they will then be called to achieve.
- Transparency, that is the degree of explanation and formalization of the process of determining the objectives and the extent to which there is mutual understanding of the objectives by the various organizational units and the different individual actors. Increasing transparency enhances the effectiveness of standardizing outputs as a coordination mechanism;
- The frequency of the programming and reprogramming cycle, i.e. the frequency with which the future objectives are reconsidered and their possible modification in the light of the new and different information available. Increasing the frequency improves the validity of the objectives, reducing the possibility of discrepancies or exceptions, in other words situations of non-coordination that would require the use of other coordination mechanisms, for example the hierarchy.
- With regard to the conditions in which this coordination mechanism is effective and efficient, the following circumstances are of particular importance (Merchant and Riccaboni 2001, 47-53): knowledge of the outputs, to be understood as the possibility to establish the type of objective and performance (the result areas) required and that is coherent with the strategic guidelines of the company and with its general objectives;
- Measurability, i.e. the ability to identify indicators or parameters to measure the results to be achieved that meet certain characteristics: accuracy, objectivity, timeliness and comprehensibility;
- The controllability, i.e. the fact that the achievement (or failure to achieve the objectives) depends on the behaviour of the person to whom these objectives have been assigned, which refers, as well as to the motivation, also to the available organizational levers and uncertainty.

### **2.2.3 standardization of the skills and knowledge**

With the standardization of skills and knowledge the reduction of variety and variability, common to all types of standardization, occurs by intervening on the individual actor, on the person through the specification of the characteristics (skills and knowledge) that they must possess and that are connected to a specific training and training path that develops both within the educational system and with the internship. "Skills and knowledge are standardized when the type of training and training required to do the job is specified" (Mintzberg, 1979).

Training not only gives rise to the internalization of work processes, but also contain elements that relate to coordination both within the profession to which they belong and with colleagues from other professions (Roth 1999, 53). Thus, the standardization of knowledge and skills indirectly achieves the coordination and control that the standardization of work processes and outputs achieve directly. Moreover, compared to the standardization of work processes, the standardization of knowledge and skills, on one hand, is carried out outside the company and before recruitment and, on the other hand, corresponds to a repertoire of behaviors (processes of work) that belong to a particular context, but free from a specific organizational context (the standardization of work processes has instead a specific character: it concerns a specific set of activities in a specific organization) (Roth 1999, 52).

### **2.2.5 Standardization and organisational culture**

There are numerous definitions of organizational culture. Hofstede (1984) reports a shared definition in the field of anthropology: "Culture is a systematic set of acquired ways of thinking, feeling and acting acquired and transmitted through symbols, which constitutes the distinctive elaboration of a group, including the their concretization in artefacts; the essential core of culture includes traditional ideas (historically derived and selected) and above all the values connected to them". For his part, Hofstede (1984, 21) defines culture as "the collective programming of the mind that distinguishes the members of a group of persons from the members of another group". According to another definition "Culture identifies the systems of meanings and norms internalized and operating for a group, even beyond their explicit and conscious individual acceptance" (Gagliardi 1992).

These definitions highlight two important aspects of culture:

- the action of culture as a mechanism of coordination is based on a system of rules internalized by people;
- different levels or layers can be identified in culture.

They are distinguished by their greater or lesser visibility - in this sense the most used metaphors are those of the iceberg or the tree – (Kotter and Heskett, 1992) as well as for the different degree of awareness (Schein, 1985) and they are relevant both for their different degree of modifiability (Kotter and Heskett, 1992) and because the composition of a culture in terms of the three components has different effects on coordination. An organizational culture with a notable or prevalent development of the most visible part (rules of action) expresses a strong preceptivity of cultural coordination and limited discretion for people in choosing behavior (Grandori, 1999c).

Organizational culture therefore implies a similar way of perceiving problems, of attributing meanings, of evaluating the positive and the negative, and of defining correct or incorrect behaviour. Therefore, to be "regulated" are the rules concerning an organization so that all operate on the basis of the same set of convictions, values and beliefs [Mintzberg 1989, 101].

An important function of culture concerns the solution of internal problems of integration (Schein 1984, 65-83).

The relevance of culture with respect to coordination can be appreciated with reference to three aspects:

- to the extent that coordination involves the transmission of information, culture, creating shared communication codes, facilitates communication processes and the transmission of information and therefore creates general conditions favourable to coordination;
- in relation to its contents, organizational culture can favour the functioning of specific coordination mechanisms:
- culture can represent in certain situations a particularly important mechanism for achieving coordination.

The a priori alignment of objectives and behaviour patterns through culture is, in fact, the necessary coordination mechanism when there is ambiguity as regards both the knowledge and measurability of the outputs, both the transformation processes, and the characteristics of the input to be used (Isotta, 2009).

## 2.3 Informal mechanism (Mutual adjustment )

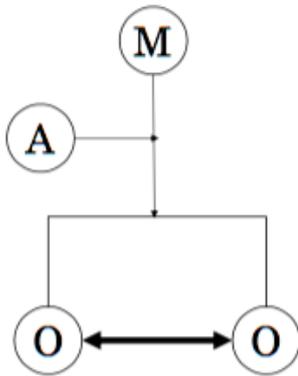


Figure 12 organization diagram. Source: E. Gentile, *Sistemi Informativi*, 2004

Key: A=analyst, M=manager O=operator

Informal coordination mechanisms are closely related to lateral mechanisms as well. The lateral coordination mechanisms try to achieve coordination between the organizational units avoiding or reducing the use of vertical communication processes and channels and instead activating processes of communication and joint decision-making involving people (belonging for example to different organizational units) directly interested in the coordination problem or in any case closer to it (Daft, 2001; Galbraith, 1977)

People or units can be at the same hierarchical level (horizontal mechanisms) or at different hierarchical levels (transversal mechanisms). The use of these mechanisms therefore seeks to improve the depth of the organization, that is to say, the interactions between the organizational units that disregard the hierarchical line and which are aimed at improving coordination (Perrone 1990, 373). By maintaining or moving down the decision-making process, the lateral relationships also involve a varying degree of decision-making decentralization (Galbraith 1977, Isotta, 2009)

The main criteria for distinguishing horizontal and crosscutting mechanisms include:

- The degree of **stability**, i.e. their persistence in the organization. We can then distinguish between temporary mechanisms and permanent mechanisms. Temporary mechanisms are activated ad hoc, in relation to particular problems, and therefore cease with their solution. These are therefore mechanisms with a specific time frame, usually established when they are activated or otherwise implicit in the (precisely temporary) nature of the coordination problem. The permanent mechanisms, on the other hand, have an indefinite temporal deadline and represent the answer to long-lasting coordination needs;
- The degree of **continuity** in the operation and therefore of time absorption of the people involved. We distinguish then continuous mechanisms, characterized by the presence of

people engaged full time in their operation, and discontinuous mechanisms, whose mode of operation are periodic and therefore involve only a part-time commitment of the people;

- The **composition**, which leads to distinguish between individual mechanisms, where the coordination activity is carried out by a single person, and collective mechanisms, which involve several people (belonging to the different organizational units) in a communication process and joint decision;
- The degree of **formalization**, which expresses the extent to which the activation of the coordination mechanisms is the result of an explicit decision by the management and their functioning is based on explicit and numerous rules (high degree of formalization) or, instead, they depend (the activation and the functioning) from the spontaneous behaviours of the actors involved (low degree of formalization). (Isotta, 2009)

Considering, therefore, only the activation of the mechanisms, the characteristics of the lateral mechanisms are synthesized in the following table.

Scheme: “Horizontal and cross-cutting characteristics of the coordination mechanism”

Voluntary Mechanisms	Stability	Continuity	Composition	Formality
	permanent/ temporary	discontinuous	collective	informal
Integrated roles	permanent	continuous/ discontinuous	individual	formal
Meetings	permanent/ temporary	discontinuous	collective	formal/informal
Task forces	temporary	continuous	collective	formal
Teams	permanent	discontinuous	collective	formal
Integrated buddies	permanent/ temporary	continuous	individual/ collective	formal

Source: Isotta, 2009

A first type of lateral coordination mechanism is represented by the relationships that are established between people in a voluntary way and that recall the informal organization. It includes both the "occasional" relationships (those that in the past were called direct contacts and which typically involved two people) and, this is the aspect on which more recently attention has been placed (Cross and Prusak 2002), models of relationships between people which repeat themselves and therefore assume a relative stability. In this case we speak of informal networks, whose composition may be different depending on the problem. These networks are activated voluntarily, i.e. without an

explicit request or indication from the management, and allow (for example in the face of an unforeseen event) to promote and implement the coordination in an informal way.

The importance for the coordination of this mechanism, in particular of the informal networks, has been underlined and found recently (Cross, Borgatti and Parker, 2002); moreover, often contrary to some convictions expressed by the managers (Cross, Nohria and Parker, 2002) the existence of informal networks and their characteristics can be detected and analysed. Interventions are also possible both to encourage the development of these networks and to strengthen the link between networks and organizational problems.

In other words, on one hand, networks do not depend only on personality characteristics that can not be changed (for example, only if people are extroverted networks will be effective) and, on the other, they are not only the expression of social relations linked to the social needs of people, so that their formation and their composition can be oriented to the particular problems that must be solved.

The rotation between organizational units, on one hand, makes it possible to know the various aspects of the company's activity (thus constituting a tool for training and development of personnel) and, on the other, allows to give life and to establish interpersonal relationships with people working in different organizational units (Galbraith, 2002). This is a very important intervention, of which the costs must not be neglected (for example, the reduced effectiveness of the people who rotate during the learning period, the time of the people involved in both the transfer of knowledge and the management of the process), which is also relevant with respect to the other horizontal coordination mechanisms (Galbraith, 2002).

Evaluation and reward systems can promote the alignment of objectives among the people who must coordinate, for example through the attribution not only of sectorial or functional objectives, but also of common or transversal objectives (Galbraith, 2002) as is often found in TQM systems (Mohrman, 1993). Another example is the setting of time-to-market targets (Galbraith, 1994) or delays in service time to customers (Gittel, 2000b).

The "mirror" organizational structures. In a company where the sales function is organized by geographical area, marketing by brand / product, production by plant and by process, engineering by technology and purchases by type of product supplied, inter-functional relationships required, for example, to verify an idea of modification of a product are problematic both for the difficulty of identifying the subjects involved, and for their number. The adoption instead of the same criterion of specialization (product or customer) in all the functions simplifies the problem (Galbraith, 1994 56-57).

The physical proximity between people is important, as it reduces distances and eliminates physical barriers that hinder communication between people (Galbraith, 2002).

Communities of practice represent a particular type of informal network as they are formed by people who have the same organizational interests (for example, because they perform the same function in different organizational units, even geographically distant, of the same company: lawyers

working in different divisions) and emerge as a result of the desire to carry out their work better by acquiring more expertise in their specialization or with respect to a certain problem (for example the affirmation of e-commerce) or activity (Wenger and Snyder, 2000; Sharp, 1997). They can also be promoted by the company but are based on voluntary participation, and use both IT and sometimes face-to-face meetings for communication. They allow people to learn and share knowledge, to avoid differences in the procedures followed, but also to promote mutual knowledge, facilitating the identification and localization of specific skills (Galbraith, Downey and Kates, 2002).

The importance of these mechanisms should be linked not only to their ability to solve the coordination problems (Goold and Campbell 2002, 24-25) but also to the fact that their effective functioning is the premise and the basis for an effective and efficient functioning also of the other lateral mechanisms ([Galbraith and Kates 2007). (Isotta, 2009)

Moreover, Grandori (1989), in order to offer a systematization of these contributions with two aims in mind: first, to understand the nature and variety of the mechanisms of coordination employed to sustain inter-firm cooperation; second, to understand the specificity of each discrete form of networking in terms of peculiar mix of coordination mechanism employed. He shall address the first task of drawing from the various approaches used in the literature, an overview of the full range of organizational coordination mechanisms that are employed in inter-firm relations, in addition to or in substitution for market-like-relationships (Or no relationship).

**Communication, decision and negotiation mechanism:** they are always present, to a greater or lesser intensity, both ex-ante and ex-post in all kinds of network.

**Social coordination and control:** All kind of stable systems of cooperation have a social side. We are going to consider here, social coordination and control in the sense of deep and stable relationship based on group norms, reputation, peer control (Ouchi, 1979)

**Integration and linking-pin Roles and units:** horizontal responsibilities and roles are key mechanisms for creating a network organization design (both internal and external to firms),

**Common staff:** when the scope of inter-firm cooperation is wide and/or the number of cooperating firms is high, coordination activity become quite significant and dedicated staff may be necessary. By contrast more limited-purpose cooperative relationships, may be effectively and directly the parties involved.

**Hierarchy and Authority Relations:** as much as firms are complex institutions which make an extensive, but not exclusive, use of hierarchy, networks as complex institutions can make use of hierarchical and authoritarian relations between firms in addition to other more parity based coordination mechanisms.

**Planning and control systems:** cooperation bring with it the problem of controlling the delivery of cooperative behaviors, it is known that control systems based on results, are more effective than

hierarchical supervision of behaviors in a wide range, involving uncertainty as to the correctness of the various possible behaviors.

**Incentive systems:** objectives realigning mechanisms become a core mode of coordination in informational complex activity context, in which performance is difficult to measure.

**Selection systems:** a meaningful distinction, that may be drawn among network forms, has to do with the specificity of access to the network (Grandori, 1989)

**Information systems:** information technology networks, deserve a place among inter firms coordination mechanisms, first because of the evident cost reduction in communication, an second because IT networks can be used as a stand alone coordination mechanism.

**Public support and Infrastructure:** In some cases network can take advantage by the government support

These vary coordination mechanism proposed by Grandori, are used in inter-firm networking in various combination and degrees. The mix of which give rise to organizational forms. However a further element, useful in order to characterize the forms of inter-firms networks, depending on the degree of formalization. (Grandori, 1989)

## 2.4 Direct Supervision

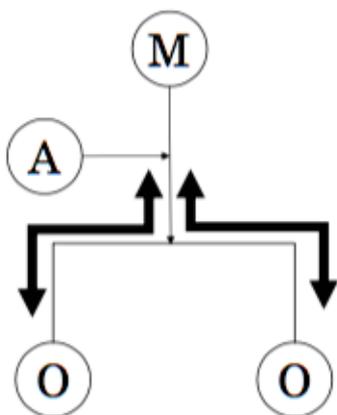


Figure 13 Direct supervision. Source: "E. Gentile Informative systems, 2004"

Key: A=Analyst M=Manager O=Operator

Direct supervision is the most typical coordination mechanism of the internal organization (Grandori, 1995). Coordination achieved through direct supervision implies that someone directs

others, communicates what needs to be done and controls their actions and behaviors while they are being implemented (Groth, 1999). "Direct supervision follows coordination through a person who takes responsibility for the work of others, issuing instructions and controlling their actions" (Mintzberg, 1979)

It is therefore a coordination mechanism that operates in real time or on feedback. The use of this mechanism can be regulated by acting mainly on two levels: the number of positions assigned direct supervision tasks and the areas of intervention of these positions. The first aspect refers to the size of the organizational units and the number of levels; the second refers, in particular, to the degree of centralization. We are talking about variables that we have examined analysing horizontal and vertical specialization: the extent of control and the number of levels also depend on the coordination and control tasks that are to be assigned to the hierarchy; centralization promotes coordination. Indeed, this coordination mechanism implies a vertical division of labour where the higher levels regulate and control the actions of the lower levels (Grandori, 1992).

The effectiveness and efficiency of this mechanism can be assessed by referring to the considerations made regarding the size of the organizational units and the number of levels. In particular, the use of direct supervision must be linked to its ability to resolve conflicts, in particular conflicts of interest, while it requires knowledge and observability of input behaviours (Isotta, 2009). Each of the coordination mechanisms proposed by the literature will be analysed in the next paragraph in respect to their functioning and their form within the network contract.

## **2.5 Coordination Mechanism applied to the Network Contract**

### **2.5.1 Coordination and governance in the network contract**

In light of the theoretical analysis, combined with the characteristics of the network contracts itself, but also of the specific kinds of network, it seems right to evaluate and define, during the contractual phase, the best way of achieving coordination. Some of the characteristics of each coordination mechanism that emerge within the network contract, and they take form, will be analysed.

The design of the network form can be delineated in the light of a classical problem of organizational theory: the relationship between organization and environment. It is defined as organizational set "the set of organizations with which a focal company has direct contacts" (Perrone, 1997; Aldrich and Whetten, 1981) and it represents the focus area of the focal point.

The networks and their governance are therefore characterized by the presence of conflicts of interest that require a careful contractual design in order to reconcile the needs of both the individual and the

network. It is now clear that the conflict of interests is therefore the basis of significant challenges that must be faced in defining the contractual design and the governance model. (Cafaggi ,2009 )

In simpler networks, in order to contain costs, governance could be directly attributed to members of the network jointly or singularly. This solution, on the one hand, makes it possible to streamline procedures and reduce costs; however, it could aggravate conflicts of interest and, consequently, the conflicts between individual participants in the network. Therefore it is good to always resort to the common body whenever the interests at stake and the network project take on relevant contours.

If the implementation phase of the network is entrusted to a common body, it will be called to perform the dual function of coordination between the participating companies and of an agent with or without representation in dealings with third parties. The common body would have as its sole objective the execution of the contract through the implementation of the shared network program: in this case it is clear that the most obvious problem that derives from the governance discipline is the management of conflicts of interest that necessarily underline a contract of this kind and that cannot be avoided but only regulated, taking care to build structures that do not create information asymmetries among the participants. From here, questioning the most appropriate internal organization, often the initiative of the network contract arises at a particularly delicate juncture such as the symmetrical or asymmetric distribution of power. In the first case, usually, the network is delineated with a leading company and other small satellite businesses in which the risk of a despotic leadership of the former is at the expense of the negotiating autonomy of the latter, with consequent imbalance of responsibilities to put the existence of the same network in doubt: at the opposite extreme, if there are companies with equivalent bargaining power within the network, a certain slowness in decision making would compromise the advantages of the network itself. The necessary presence of a predetermined arbitration body, recognized by everyone as a neutral subject could therefore represent an interesting solution. In the identification of two possible extremes of governance (i.e. the "hierarchical" on one side and the assembly on the other) there are therefore many intermediate hypotheses, modulable at will: the objective must always be to implement the program of the common body by making sure that the decisions respect the interests of all the contractors. This governance must combine efficiency and equity to ensure the continuity of incentives for cooperation over time and, regardless of its configuration, the relationship between the various components of the common body must be inspired by principles of cooperation and loyalty that will have as corollaries fulfilment of transparency, information and accountability obligations.

Therefore, as regards the definition of the governance model, it is easier to solve when participating in the network, subjects that have metabolized within themselves a model of shared governance. On the other hand, if participants participate in models of monocratic or family-based governance, the search for a shared solution seems difficult. In any case, with regard to governance models and potential conflicts of interest among network participants.

According to Francesco Cirianni one could even hypothesize the creation of two organs. A body that represents all the contracting parties and has the ability to decide on the most important strategic issues (also from a financial point of view). The latter body would take the form of a meeting of the members of the contract whose decisions could be taken either by a majority or by unanimity, depending on the contractual provision. The other organ, more properly executive, may be both unipersonal and collegial. Moreover, considering that there can be various degrees of complexity of the structure, from the simplest to the most complex depending on the number and the heterogeneity of the participants, it emerges the line of thought of Cafaggi which goes further and tries to find a feedback in reality and not stop to the mere theory. So Cafaggi raises the question if, in defining the governance structure, the activity plan should not be correlated with that of the network organization, imagining that “a specific organizational model can correspond to each cause and / or class of activity.” This correlation should not be interpreted as a constraint, but as a possible orientation that the parties involved can embrace, as the existing regulatory framework, although "reworked" on several occasions, continues to allow maximum freedom in the choice of organizational models. It is not by chance that in the network contract the presence of the common body is optional and, where envisaged, the only general regulatory reference is given by the mandate with representation managers. It seems appropriate that in the network contract organizational models of internal corporate type are equipped to modulate and distribute the various functions subtended to the network and the related management and decision-making powers with greater efficiency among the various powers (Ordine dei dottori commercialisti, 2014).

Consequently, in matters of coordination within a network, four types of network were identified in relation to two main strategic-organizational variables: strategic cohesion and degree of technical-economic integration.

Regarding strategic cohesion, it is possible to distinguish between convergent and divergent companies, depending on the degree of cohesion (high or low). On the other hand, depending on the degree of technical and economic integration, it is possible to distinguish between complementary and independent companies. The ideal scenario is, obviously, one in which there is a high degree of strategic cohesion and technical and economic integration. In this situation networks are defined as "complementary and convergent".

At the opposite extreme, in the presence of a low degree of strategic cohesion and technical and economic integration, we are dealing with networks defined as "independent and divergent", where greater criticality may arise due to the need for coordination of stakeholders interested in maintaining their autonomy and who are less focused than others on obtaining technical-economic or strategic synergies.

In the intermediate scenarios there are networks that can boast a high level in at least one of the identified strategic variables. The networks that have a high degree of strategic cohesion (even in

the presence of a reduced degree of integration) are called "independent and convergent", while those that have a high degree of integration (even in the presence of a reduced degree strategic cohesion) are called "complementary and divergent" (Unione Camere, 2013). Another important variable is tied to the openness/closure of the Network.

### **2.5.3 Mutal adjustment**

Many networks in Italy employ this type of coordination, usually the less numerous ones in which there are few interrelations. In reality, the instrument of the network contract, precisely because of its peculiarities of flexibility, erroneously leaves space in practice to an informal coordination mode that can work on a small scale but certainly not in a large network. And, above all, not in a context in which there is no strategic cohesion. Following this last point it could be possible to adopt this kind of coordination in a really mature phase of the network where, if it is not numerous, it is possible to follow consolidated routines and practices. In any case, in order to achieve effectiveness within the organization, it is fundamental to have an effective alignment.

### **2.5.4 Standardization in the network contract: the common body**

The standardization mechanism within the Network contract in some ways finds space in the same legal discipline of the contract itself. The contract, by providing information about the object, the common program, the members, the rules, that can be more or less specific, is itself a preliminary form of coordination mechanism, as shown in the first chapter.

The law, however, does not impose specific rules: as it can be inferred from the first understanding, we can hypothesize the prediction of the assumption of decisions with criteria that can provide for the simple majority of members, or qualified majorities (possibly only for some specific subjects) or the unanimity of the participants on all or even some decisions.

It is clear that the greater the recourse to particularly qualified or unanimity majorities, the greater will be the tightening of the network government. Therefore, it seems appropriate that in the drafting of the contract the various needs, on the one hand, of the individual participants and, on the other, the network itself, as well as its operation in order to achieve the intended purpose are taken into account. In addition to the general rules for managing the network, the contract may also provide for the establishment of a common body that can be either a single entity, or a plurality of members representing the members of the network.

The common body has a mandate for the management of the activities envisaged in the network contract. If the joint body is to be set up, it is certainly advisable for the network contract to provide that this body is also given the power to implement the resolutions adopted by the participants in the network. This choice is justified by the need to ensure that the network also operates on the

basis of efficiency criteria, without being bound by excesses of formalism or procedures that can make the pursuit of the common purpose more burdensome.

The common body is subject to the rules and general rules laid down for the mandate and in this case to the common representative. Therefore, in the hypothesis of establishment of the common body, a collective mandate will be conferred. It should also be noted that the application of the regulations on the mandate implies that the same can be extinguished both in the case in which the period eventually established at the time of conferment has expired (term within which the agent must perform the task), and in the case when the latter has performed and exhausted all the tasks which are the subject of the mandate before the expiry of the deadline. It therefore appears necessary that the institution and the revocation of the common body be coordinated with the general principles of the mandate. Otherwise, the hypothesis of an organ whose mandate is to be extinguished may be true, leaving it *de facto* without powers.

The mandate regulations also provide for the obligation of the agent to draw up a report on his work. In this case, too, it will be necessary to prepare a discipline for the functioning of the common body that takes into account this obligation and which will most likely have to be correlated with the rules that will be established for the management of the common heritage.

In order to carry out its activities, the common body can make use of subjects that are external to the network, to give itself to the single participating companies for carrying out specific activities, or rather to set up specific working groups composed specifically by both members of the network and third parties. for the execution of individual projects (Confindustria, 2011)

As for the networks that have acquired legal subjectivity, the so-called subject-networks, it should be clarified that according to the text of article 3, paragraph 4-ter, the common body acts on behalf of the network in specific cases, which appear to be strictly required, as specified: in the programming procedures negotiated with the public administrations, in the procedures related to guarantee interventions for access to credit and those related to the development of the business system in the internationalization and innovation processes envisaged by the law, as well as the use of tools for the promotion and protection of products and quality marks or whose genuineness of origin is adequately guaranteed.

In the event that the network has not acquired legal subjectivity, the joint body will nevertheless perform the activities mentioned above in representation of the entrepreneurs, even individual participants in the contract, unless otherwise provided for in the same.

Finally, it should be noted that the examination of the practice shows that there are three main activities that the companies participating in a network contract generally entrust to the common body (Sole24ore, 2014):

- 1) Coordination of network activities in terms of commercial development;
- 2) The presentation of an economic plan and of the activities of the common initiatives of the network, determining the annual management quota;

- 3) The management of the common equity fund, if it has been set up by the companies participating in the network, in accordance with the strategic objectives set by the network program. It remains firm that, in this case, the fund's assets are not of the common body but are only managed by it.

#### 2.5.4 Direct supervision: The Network Manager or Leader firm

With reference to governance, we can distinguish two categories of networks:

- Peer networks or joint networks,
- Networks with leaders

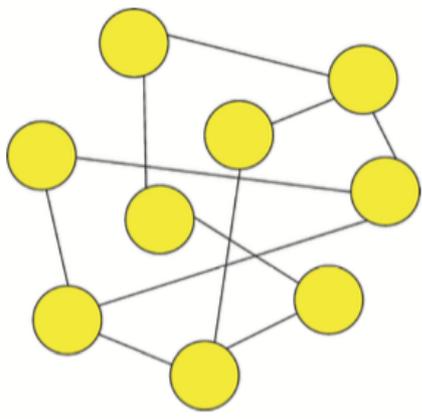
Peer networks are the networks defined in the literature as "symmetrical" that are characterized by the presence of intense relationships between all the nodes of the network.

The networks with a leader are defined in the organizational theory "centred" networks. In these networks, a leading company plays a coordinating role and assumes the function of concentrating exchanges, representing the barycentre of the network. This role can also be taken by several companies, all leaders. The networks with a leader firm could be both convergent, in the case of a good strategic cohesion of the leader with satellite companies, or divergent, when the leader firm is a subject that sets different objectives, even if coordinated, with those of satellite companies.

From this brief analysis, it emerges that a change in organizational models is in act and that must be accompanied by a change in the strategic project of member companies. On this point, several authors have noted the criticality of the relationship between strategy and structure, emphasizing how in the network it is necessary to "manage a high number of interdependencies of a reciprocal type with non-governable actors by means of authority lines" (Lomi).

The government of the planning and strategic pluralism of the network therefore requires an increasingly complex, flexible and decentralized coordination, which could be entrusted to the network manager, allowing the mutual convergence of strategic objectives and operational behaviours.

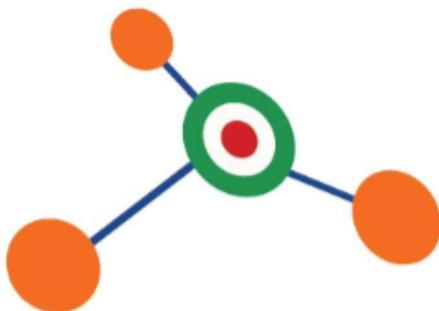
The peer networks are born from the aggregation of fairly homogeneous companies from the dimensional point of view, and generally small. These companies assume the organizational structure that is defined in the literature as "symmetric" and is characterized by intense relationships between all the nodes of the network.



*Figure 14 : symmetrical network.*

This type of network develops over time through successive phases. In the initial phases there may not be a clear perception of the process underway and, only at later times, of greater maturity, there is a greater awareness of how the network is developed. To ensure a more rapid evolution of this type of network, the presence of a "coordination agent" is useful with respect to the nodal enterprises. This role can be played by a leading company, which deals exclusively with structuring and governing relations between partners, or by a subject (which could also be the same leading company) that aims to stimulate the development of knowledge among partners by spreading the skills of each and effectively coordinating the individual contributions. In this second case it is a "planned constellation" that allows to achieve much more significant strategic objectives, combining different value chains of various companies.

The networks that assume the "centred" organizational structure are characterized, instead, by the coordination activity carried out by a central unit that develops mainly bi-directional relationships with the other companies. In this reticular model the relational system responds to specific strategic objectives of the leading company.



*Figure 15: centered network with a leading firm*

When the goal of the network is to achieve significant competitive advantages, and promote dimensional growth processes, the introduction of a managerial figure appears useful. The role of "coordination agent" can be carried out by the network manager in two forms:

- that of a "general manager" who deals both with structuring and governing relations between partners (internal coordination) and stimulating the development of knowledge and implementing strategies (external coordination);
- that of a "specialist manager" who is exclusively concerned with stimulating the development of knowledge and implementing strategies (external coordination).

In principle, in joint (Peer) networks, due to the greater need for internal and external coordination, there is a greater need for managerial figures able to govern both the relationships between the partners and the processes and projects directed to the outside world. In particular:

- in the joint networks, without a lead company, the need for internal and external coordination leads to the figure of a network manager defined, previously, as a "general manager";
- in the joint networks, with the lead company, the need for predominantly external coordination and on the objectives suggests for the figure of network manager defined, previously, as "specialist manager".

In network models with leaders the need for a managerial figure is less marked, especially in the presence of a company that plays a strong internal and external coordination role. It is however possible that a managerial figure can be called to carry out specialist support activities for the lead company for the realization of specific projects (internationalization, innovation, etc.). In this case the lead company will limit itself to managing internal relations.

The case is different when the lead company plays a very strong role, as in the case of subcontracting relationships, in which this company, centralizing the internal and external coordination role, does not need external managerial support, if not for the eventual realization of specific interventions or projects. (Unioncamere, 2013)

But in what consist the network manager figure?

In general, when we talk about managers, we refer to a professional figure who performs, in a company (public or private), the activity of defining and / or pursuing specific objectives, assuming, with autonomy, the resulting decisions. Sometimes the term "executive" is used when the managerial activity is typical of a higher level of (senior) management. The functionally higher position is that of the general manager, who is responsible for defining the company objectives to be pursued and guides the management of the company towards their goal, also taking decisions regarding the use of available resources, including human resources. The figure of the general manager is usually joined by that of the area manager (or functional manager), i.e. a subject called to oversee the performance of all those interrelated and interdependent tasks or tasks with respect to a goal. It is a manager with

specialized skills directly related to the task performed e.g. Project manager, sales manager, export manager, etc.

Considering the undoubtedly complex nature of the business network, it emerges that the managerial roles of a single company are not adequate mainly for two reasons: firstly because it would be preferable to have a figure outside the companies that make up the network, so that it has a "super partes" role to ensure some impartiality in carrying out the tasks of coordination and governance of the network; and secondly because the skills of a network manager are not related to the classic distinction between "top" and "middle management", and they become almost "chameleon-like" in a vision in which they are required to have all the skills of the functional managers mentioned above.

In other words, the manager who is called to lead a network must be able to intercept the multifaceted managerial problems to be faced and to resolve them personally (as far as possible), or possibly delegate the resolution to subjects selected by him for their mastery of the necessary skills for the resolution of specific problems. However, the manager will have to possess adaptive skills, i.e. he or she will have to be able to seize strategic opportunities and translate them into structural measures.

More in detail, the results of various surveys conducted by collecting both secondary data (study / analysis of the results of research already existing on the topic) and primary data (direct collection of data through interviews given to referents of some networks of companies - formalized with contract of network - operating for a long time in the national territory) and aimed at deepening the skills / functions of a network manager, lead to summarize the main activities that a network manager should perform as follows:

- management / administrative activities: including a variety of activities ranging from the management of documentation that will lead to the formalization of the agreement (in a network contract), to the monitoring of work, to the definition of policies and procedures for the management of the program network;
- representation activities: participation, in the official role of network representative, in meetings, meetings, seminars, ceremonies; liaison activities: identifiable in all those situations in which the network manager is acting as a "connecting link" within the network (among the members), but also outside the network (between the network and external stakeholders);
- information activities: concerning the monitoring and circulation of information, both internally and externally to the network.

The network manager does not take part in the choices of the companies on the network, rather he prospects the possible options analysing the positive and negative aspects to allow companies to make decisions more consciously, He must be able to create the conditions to combine the different needs of entrepreneurs and companies, using methodologies that favor the development and expansion of different points of view, protecting them but at the same time, trying to make them converge towards

shared conclusions, which will lead to the success of their respective businesses. This is how a truly innovative managerial figure emerges.

Since the behaviour of the members of an organization depends on how the organization has been set up and its structure, it is also essential that the figure of the network manager possesses qualities of partnership, psychological skills, anticipation of problems, and promoter skills. With the goal of being the first partner of the network and instilling friendship and mutual trust, managing the roles, being able to identify and anticipate the critical issues that could emerge naturally in the management of the network and promote the network in a multi-directional way (Tresca, 2015).

The critical variables to consider for a choice that pushes towards the figure of the network manager are (Retimpresa, 2017):

- The missing competence to be found outside the social structure of the Network;
- The professionalism and neutrality of the person, with a good professional level in terms of previous career and skills in the field of interest;
- A framework that is not too burdensome, proportionate to the value of the Network project (which often, at the beginning, is not very high), but without restricting the field to the recruitment of managers who do not have other alternatives;
- Participation in the risk of the project, carried out by providing a portion of the result pay (performance bonus);
- The manager's ability to dialogue and create connections;
- The ability of entrepreneurs to actually delegate the tasks assigned to the network project and to the manager who will carry it out.

The Network manager is not and probably will not be a widespread solution, but under certain circumstances it is what it takes to take off networks that need quality management skills (sometimes missing from the constituent companies) and at the same time a “strong” decision-maker who oversees the common interests of the Net, establishing a distance between what the Net does and thinks and what the individual members do and think. However, it is necessary to use the right instrumentation, because the dynamics of network conflicts risk being accelerated by the presence of another manager. Therefore absolute transparency of decision-making processes is needed, as well as commitment to a spirit of fairness (among members) that is not realized in the single decision but in the course of a long series of steps, in which those initially left behind are compensated subsequently, and finally courage in the role of mediation between the parties through dialogue, avoiding the downward compromise, but relying on ideas that summarize the basic interests of the Network. (Retimpresa, 2017)

## 2.6 Fast response organization and new ways of coordination

It is clear that each organization has certain characteristics and that each of those will require a specific mechanism of coordination. In order to better have an analysis of the best coordination mechanism for the Network contract, it is necessary to recap the characteristics of this kind of organization. Considering that the network contract is created with the aim of achieving a common goal between the member firms, in an uncertain environment, this kind of organization is characterized by the need of sharing knowledge and information, but at the same time by a deep competition. Moreover, the network contract is characterized by flexibility and requires a certain operative time delay.

For these reasons it is possible to identify the network contract organization as a Fast response- organization (FRO). In matters of coordination in the fast response organization, there are scholars who distinguish the latter from the coordination mechanisms of the traditional organizations, finding different solutions.

<sup>4</sup>In its essence, coordination concerns the integration of organizational work under conditions of task interdependence and uncertainty. Early theories of coordination focused on the need to balance differentiation among organizational units, with integration achieved through coordination mechanisms (Galbraith, 1977; Lawrence and Lorsh, 1967; Thompson, 1967).

Faraj and Xiao (2006) state that previous models have emphasized the mode of coordination based on the assumption that certain modes are richer or more interactive and can, therefore, provide higher information-processing capacity. As a result, research findings have emphasized the distinction between formal and informal modes of coordination, along with the need for the latter in uncertain environments. Accordingly, coordination has been measured along various modal continua, for example, by program or feedback (March and Simon 1958), impersonal versus mutual adjustment (Van de Ven et al., 1976), formal versus informal (Kraut and Streeter 1995), and programmed versus nonprogrammed (Argote 1982).

More recently, Malone and colleagues (Malone and Crowston 1994, Malone et al. 1999) developed a coordination theory that emphasizes the management of interdependencies among resources and activities. By characterizing various interdependencies and focusing on the process level, a variety of coordination mechanisms can be identified and applied. These mechanisms can be used as building blocks to solve coordination problems in organizations or to design novel organization processes. A strength of coordination theory is its recognition of the complexity of interdependencies in organizational work.

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<sup>4</sup> This part of the paragraph represents a resume of the work done by Samer Faraj, Yan Xiao, (2006)

In knowledge work, several related factors suggest the need to reconceptualize coordination. (Faraj and Xiao, 2006)

First, it may be just as important to focus on the content of coordination (what is being coordinated) as on the mode of coordination. Traditional coordination theory emphasizes the “how”, so the mode of coordination as opposed to the “what” in terms of content, and “when” referring to the circumstances of coordination. This distinction becomes increasingly important in complex knowledge work where there is less reliance on formal structure, interdependence is changing, and work is primarily performed in teams. In fact, complex knowledge work requires the application of specialized skills and knowledge in a timely manner, thus raising difficult coordination issues in dynamic and time-constrained environments (Faraj and Sproull, 2000, Gittell, 2002).

Secondly, the traditional concept of interdependence as a property of the links between organizational units is of limited use in work contexts already organized in teams, where individual cooperation is essential. Thompson's highly influential but simple interdependence typology (1967) may be useful for describing the necessary interfunctional or inter-organizational links. However, it presupposes that predetermined work patterns accurately reflect the interdependencies required and, therefore, is a less convincing framework for explicating the interdependent knowledge work carried out in interdisciplinary teams.

Thirdly, coordination theories have limited applicability in organizations that deal with a high-speed environment and must also operate essentially without error. Contrary to the principles of coordination theories, in these contexts the empirical documentation shows that the ways of formal coordination do not dissolve in favour of more improvised modes of coordination. On the contrary, the dilemma of coordination in these contexts is that, on one hand, there is a need for close structuring, formal coordination and hierarchical decision-making to ensure a clear division of responsibilities, timely decision-making processes and timely actions; but, on the other hand, due to the need for rapid action and an uncertain environment, there is a concurrent need to rely on flexible structures, on-site decision-making processes and informal coordination arrangements. Therefore, these organizations paradoxically emphasize both formal and improvised coordination mechanisms (eg Bigley and Roberts 2001, Brown and Eisenhardt 1997, Weick and Roberts 1993). Finally, the coordination of knowledge work may introduce contingencies and intersubjectivities that undermine the information-processing capacity of a coordination mode.

Faraj and Xiao (2006) propose a new reorientation of knowledge coordination away from preidentified interdependences and modes of coordination. This reframing is necessary and timely due to the growing recognition that routine coordination that in the sense of recognizable and repetitive patterns, cannot be specified in sufficient detail to be carried out and is, thus, insufficient to coordinate complex knowledge work (Brown and Duguid 2001, Feldman and Pentland 2003). They suggest that for environments where knowledge work is interdisciplinary and highly contextualized, the relevant lens is one of practice. Practices emerge from an ongoing stream of activities and are enacted through

the contextualized actions of individuals (Orlikowski 2000). These practices are driven by a practical logic, that is, a recognition of novel task demands, emergent situations, and the unpredictability of evolving action. Bourdieu (1990) defines practices as generative formulas reflecting the *modus operandi* (manner of working) in contrast to the *opus operatum* (finished work).

These practices are characterized by “an uncertainty and fuzziness resulting from the fact that they have as their principle not a set of conscious, constant rules, but practical schemes, opaque to their possessors, varying according to the logic of the situation.” Finally, a practice view breaks with perspectives that overemphasize the role of rules and structures at the expense of actors in explaining work activities. It emphasizes the contextualized engagement of actors and their capacity to make “practical and normative judgments among alternative possible trajectories of action” (Emirbayer and Mische, 1998).

Faraj and Xiao (2006) based on a practice view, define coordination as a “temporally unfolding and contextualized process of input regulation and interaction articulation to realize a collective performance”. This definition best fits the spirit of this recent wave of coordination research, reflecting scholars’ shared interest in the emergent nature of the process of coordination.

Two important points follow.

First, the definition emphasizes the temporal unfolding and contextually situated nature of work processes. It recognizes that coordinated actions are enacted within a specific context, among a specific set of actors, and following a history of previous actions and interactions that necessarily constrain future action.

Second, following Strauss (1993), the authors emphasize trajectories to describe sequences of actions to a goal with an emphasis on contingencies and interactions among actors. Trajectories differ from routines in their emphasis on progression toward a goal and attention to deviation from that goal. Routines merely emphasize sequences of steps and, thus, are difficult to specify in work situations characterized by innovation, unpredictability, and constantly-changing combinations of tasks, actors, and resources. Trajectories emphasize both the unfolding of action as well as the interactions that shape it. A trajectory-centric view of coordination recognizes the aleatory aspect of unfolding events and the possibility that combinations of inputs or interactions can lead to trajectories with dreadful outcomes—the Apollo 13 “Houston, we have a problem” scenario. In such moments, coordination is more about dealing with the “situation” than about formal organizational arrangements.

Faraj and Xiao (2009) based their findings by analysing a “Trauma center organization” and from an in-depth investigation of a fast-response organization as that, indicate that coordination practices are highly emergent and cannot necessarily be prespecified. Expertise coordination practices are needed to manage evolving skill and knowledge interdependencies during the single faced situation. Dialogic coordination practices are necessary because much of the coordination occurs at the boundary of epistemological communities and involves cross-boundary interventions, leading to contention and contestation. Farai and Xiao ‘s definition of coordination will start a new scholars’

wave, followed also by Okhuysen, who sees the coordination in another way and here we will analyze his findings and perspective.

<sup>5</sup>Coordination mechanisms are the organizational arrangements that allow individuals to realize a collective performance. Mintzberg (1989) suggests that coordination mechanisms are “the most basic elements of structure” in organizations and include both formal and emergent elements. In the literature, these organizational arrangements often involve tools, technologies, or interactions that bring interdependent elements together. For example, they include arrangements like assembly lines, which bring materials to workers in a defined sequence, and roles, which can define the responsibilities of interdependent parties. Here, we present five different types of mechanisms that encapsulate how emergent practices assist in coordination (Okhuysen, 2012) :

- plans and rules,
- objects and representations,
- roles,
- routines,
- proximity.

**Plans and rules**, conceptualized as purposeful elements of formal organizations, are deemed indispensable to organizing (March and Simon, 1958; Scott and Davis, 2007). In early conceptions of organizations, managers were seen as responsible for the creation of these plans, whether large-scale and strategic or smaller and tactical, after which they were handed down a hierarchy to be implemented by those lower in the organization. Rules are complementary, because they establish relationships between different parts of the organization and serve to guide choices between alternatives when conflicts appear. These perspectives on plans and rules are evident, in particular, in Taylor’s (1914) and Fayol’s (1949) work. Within the new literature on coordination, plans and rules are presented in a narrower way, with an emphasis on prospective preparation for task completion.

**Defining responsibility for tasks.** Perhaps the most straightforward way in which plans and rules coordinate is by explaining the actions that different parties have to take to complete a task.

**Resource allocation.** Plans and rules are also useful in coordination because they can ameliorate problems that stem from interdependence and be used to match scarce resources to the tasks that require completion (Crowston, 1997). For this purpose, schedules are often used. Schedules place activities on a temporal map, using prearranged points as timing references (Ballard and Seibold, 2003).

**Developing agreement.** Plans and rules can also be useful for coordination through the agreement that they engender among parties. As Pinto et al. (1993) note in project teams, these group-level plans and rules can increase the level of cooperation across individuals in the group.

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<sup>5</sup> This part is a resume of the article written by (Okhuysen, 2012)

**Objects and Representations:** Scholars studying the use of technologies, objects, and other representations show that they are useful for coordinating work activities. Rafaeli and Vilnai- Yafetz (2004) theorize that objects have three functions in organizations: instrumental, symbolic, and aesthetic. Because coordination is primarily an instrumental function in organizations, this property of objects is most often emphasized in the literature. Conceptually, the literature that explains how representations coordinate work draws on the idea of boundary objects from science studies (Star and Griesemer, 1989). Boundary objects “inhabit” several intersecting social worlds and satisfy the information requirement of each of them (Star and Griesemer, 1989). Boundary objects can be used across social worlds to convey both technical and social information and mobilize action (Henderson, 1999; Star and Griesemer, 1989) because knowledge and social dynamics are inherent in material objects (Winner, 1980; Latour, 1988, 1996). Objects and representations therefore coordinate by providing information. They also offer a common referent around which people interact, align their work, and create shared meaning.

**Direct information sharing.** Representation technologies enable direct information sharing across groups in a variety of settings, from advertising to medicine to engineering and navigation teams.

**Scaffolding.** Representations are sometimes created by groups to impose order by providing a scaffolding or structure for activities. People use this scaffolding as a reminder of which tasks still need to be done, and who needs to do them, in order to complete the work. For example, Kellogg et al. (2006) describe how advertising groups use a “discovery matrix” to represent elements of the task they are working on. This representation provides a common framework that reminds individuals of what they need to do as a part of the larger project.

**Acknowledging and aligning work.** As both Bechky (2003a, 2003b) and Carlile (2002) demonstrate, boundary objects are useful for solving problems that occur between groups in production organizations, because when people from those groups come together to interact about the work, such objects allow them to acknowledge their progress on the task.

**Creating a common perspective.** By facilitating learning across groups, objects and representations can assist in the creation of shared understandings of the work process across organizations. These shared understandings help coordinate the work.

**Roles.** Scholars have also identified roles as a useful means for coordinating work activity. Roles represent expectations associated with social positions, and therefore can facilitate continuity of behavior over time (Hughes, 1958; Biddle & Thomas, 1966). At the same time, roles can be loosely and dynamically structured, as expectations are negotiated in interaction (Turner, 1986). This conception of roles as both able to structure expectations and negotiated over time offers a way to understand how roles enable coordination. Understanding the relationship between roles in organizations, or the role structure, helps people acquire a general sense for who does what in the work process (Bechky, 2006). Also, knowing what tasks are associated with particular roles helps

coordinate across people, and negotiating behaviors in a role guides people in the organization so they can learn these expectations.

**Monitoring and updating.** Roles represent the relationships between people and structure individuals' interactions with one another. In organizational theory, the use of roles for coordinating behavior through monitoring and updating is one of the traditional functions of a formal hierarchy. When subordinates report their activities to their supervisors, or supervisors check in on their subordinates, they are coordinating the tasks of the group. There could be a risk of overlapping roles that Faraj and Xiao (2006) call "plug and play teaming".

**Substitution.** Roles help create shared understandings of the responsibilities for tasks. For example, when individuals understand the tasks linked to each others' roles, they can substitute for one another in task execution.

**Creating a common perspective.** Research also shows that particular inter- group roles are important for sharing information about the work process across the organization.

**Routines** can be defined as "repeated patterns of behaviour that are bound by rules and customs" (Feldman, 2000). Routines have been treated as stores of knowledge (Nelson & Winter, 1982) and as the outcome of habitual behavior (Gersick & Hackman, 1990). More recently, Feldman (2000, 2004) and her colleagues (Feldman & Pentland, 2003; Feldman & Rafaeli, 2002) have conducted research that moves away from simple conceptualizations of routines, focusing instead on the complex ways in which social meaning and social interaction are embedded within them. This interpretive and emergent conception of routines has expanded our understanding of the ways in which they coordinate. Routines coordinate by providing a template for task completion, by bringing people together, and by creating a common perspective across groups.

**Task completion/stability.** Routines help coordinate by making completion of the task visible. In the simplest manner, when they establish a sequence of activities to be performed, routines enact a way for interdependent parties to observe progress on the task.

**Hand-off work.** Another way in which routines operate as coordinating mechanisms is by establishing how work moves from one group to another to complete an interdependent task.

**Bringing groups together.** Routines work as coordination mechanisms, in part, by providing moments for interdependent parties to act jointly on a task. Feldman and Rafaeli (2002) argue that as routines create connections among interacting parties in organizations, the parties are guided through their mutual interdependence. The connections that are embodied in the routine, by facilitating interactions among individuals, make progress on the task possible.

**Creating a common perspective.** Routines can also function as coordinating mechanisms as they help establish a common perspective on the work to be done by a group.

**Proximity:** the final mechanism that supports coordination within organizations is people's physical proximity to one another. Distance has an influence on the amount of interaction and communication between people in organizations (Allen, 1977). For instance, early studies showed that

people's friendship, marriage choices, and general attraction to others were related to their distance in space (Festinger, Schacter, and Back, 1950; Festinger, 1951; Newcomb, 1956). Within organizations, proximity's influence on communication and liking is mediated by visibility and familiarity, which impact coordination.

**In terms of visibility,** Proximity, or physical colocation, is the primary means of creating visibility in). Through copresence (Mead, 1934; Goffman, 1963), organization members can see what others working on the task are doing, get immediate evidence of the progress of the work, and adjust their own work accordingly.

**Monitoring.** Visibility is created through formally established monitoring practices as well as informal, lateral noticing of others' behavior. This proximity allows experts to coordinate the work, intervene when necessary, and make sure that treatment progresses appropriately.

In other types of workplaces, physical proximity creates lateral visibility to coordinate the work.

**Updating.** Because visibility enables easy updating on task progress, in cases where colocation is difficult, people attempt to make the work visible by communicating the status of the work through other means. For instance, creating visibility is more difficult in large-scale, geographically distributed work such as software development (Metiu, 2006), and thus developers relied on written notes and e-mails to account for the progress of the work.

**Familiarity.** Proximity also leads to familiarity (Newcomb, 1956; Allport, 1954), which can enhance coordination. In the broader organizational literature, familiarity has been defined as the understanding that individuals have of others (Okhuysen, 2001). Familiarity has a cognitive element in the knowledge that individuals have of each other, an emotional element in the form of affect, and a behavioral element which is the action consequence of knowledge and affect (Rockett & Okhuysen, 2002 )

**Anticipating and responding.** Kraut, Fussell, Lerch and Espinosa (2008) found that coordination improves as members work with each other longer. In this case, improvements in coordination included the elimination of the timely transmission of accurate information. Kraut et al. (2008, p. 5) argue that familiarity improves coordination because it allows for "group members to anticipate the actions of others and to make adjustments in their own behavior in anticipation of others' reactions".

**Store of knowledge.** Familiarity helps with the development of a transactive memory system, where individuals learn what others know and can use the group as a store of information to perform the task (Hollingshead, 1998).

**Developing trust.** Familiarity can also help coordinate through the impact it has on the development of trust among individuals. The development of trust is important in several ways.

These mechanisms for coordination—plans and rules, objects and representations, roles, routines, and proximity—encapsulate how emergent action coordinates work in organizations.

In other studies, mechanisms are fully described and compared, but the means by which they work to coordinate is not explored. Okhuysen (2012), presents a framework in order to explain how coordination mechanisms function. He found that it would be necessary to create a framework because he noticed that many of the mechanisms that authors explained seemed to fulfil similar requirements.

Three integrating conditions have been identified for coordination: accountability, predictability, and common understanding. These integrating conditions for coordination are the means by which people collectively accomplish their interdependent tasks in the workplace. Each of these conditions addresses some of the demands that the integration of specialized work imposes on the individuals performing the work and resolves some of the uncertainties created by interdependence.

Accountability addresses the question of who is responsible for specific elements of the task. By creating accountability, organization members make clear where the responsibilities of interdependent parties lie. Traditionally, accountability has been thought of as a way to enact formal authority and organizational standards. However, the use of accountability as an integrating condition in the coordination literature is broader in both scope and means. By making responsibilities visible, parties become accountable for their own contribution while also making other parties accountable for theirs. Moreover, from this perspective accountability is not only attained through hierarchical authority, as in the traditional coordination literature, but can also be achieved in other ways, such as lateral interactions in meetings or through public status reports.

Accountability, because it makes responsibilities clear, contributes to “aligning actions” among interdependent parties (Ohrbuch, 1997, p. 463; Mills, 1940; Scott and Lyman, 1968). In the literature, coordination mechanisms accomplish accountability in different ways. Plans, rules, and objects create links between tasks and those responsible for them, by providing the scaffolding where the identity of those responsible is specified.

Accountability can also be enacted through roles, routines, and visibility. These mechanisms enable monitoring, updating, and hand-offs between the parties. For example, Symons et al. (1996) give one example of how routines, in the form of “procedure trajectories” for patient care, ensure accountability among parties by defining how and when handoffs between different responsible departments happen. These tools allow groups to post and share information, updating their progress and making their activities visible, creating accountability. Accountability is important because it enables integration by allowing interdependent parties to ascertain the part that everyone plays in the final production of the work.

Predictability, the second integrating condition, enables interdependent parties to anticipate subsequent task related activity by knowing what the elements of the task are and when they happen. In other words, predictability involves having a sense for what subtasks make up larger tasks and in what sequence tasks will be performed. As Simon (1945) notes, planning and organizing are useful not “merely to put each participant in the job he can best fill, but to permit each to form accurate

expectations as to what the others are going to do”. Predictability is built through familiarity because groups can organize their tasks with knowledge of the people participating, using their partners’ preferences to guide the performance of the task. The performance of the task can also be guided by plans and objects, mechanisms which help create predictability by defining the tasks that must be accomplished, as well as the timing or order in which they must happen. By specifying sequences of tasks that must take place, routines can also build predictability as an integrating condition for coordination.

As noted, predictability allows interdependent parties to anticipate subsequent task related activity. Predictability is achieved through plans and objects that define the tasks that must be completed; through familiarity that allows for an understanding of others’ preferences around the work on the task; and through routines that establish the tasks that must happen. When high levels of predictability exist, individuals and groups can count on the successful execution of the work of others and perform their own tasks accordingly, enhancing integrating activities.

Common understanding helps coordinate by providing a shared perspective on the whole task and how individuals’ work fits within the whole. Common understanding is high when participants in an interdependent activity share knowledge of the work that is to be done, how it is to take place, and the goals and objectives of the work. The literature considers common understanding of three different varieties. One is a common understanding of the task in terms of the specific “actions and strategies necessary to perform a task” (Cannon-Bowers and Salas, 2001). Knowledge of the different parties in an interdependent situation is also often described as having an effect on coordination with one’s interaction partners (Reagans et al., 2005). Lastly, knowledge about the broader context in which coordination activities take place, such as knowledge of organizational goals, can keep everyone oriented towards common task outcomes (Pinto et al., 1993).

Like accountability and predictability, common understanding can be created both through formal, planned mechanisms and by emergent interactions in an organization. For instance, common understanding can be embodied in assembly drawings, schedules, or other plans drawn up by the organization. Thus, common understanding can be developed when plans are created by senior managers and handed down a hierarchy to be implemented by those lower in the organization, as we noted earlier, and as Taylor (1914) and Fayol (1949) might recommend. However, more recent work suggests that common understanding can also be developed when plans are the result of a bottom-up approach, in a more emergent fashion.

Other mechanisms, such as objects and roles, are more closely linked to creating understandings of particular ways to complete tasks. Because they facilitate learning across groups, objects help groups translate their different understandings tasks to create a common perspective.

Common understanding coordinates through interdependent parties developing a shared conception of the activities they are performing. Plans, rules, routines and familiarity create common understanding at the level of the whole interdependent task or work process. In contrast, objects and

roles are conducive to the development of fine-grained shared understandings of how the work itself is performed. Common understanding is important as an integrating condition because it enables participants to apply their effort towards a jointly held conception of the work or of the process to complete the work. Providing this common ground allows individuals and groups to integrate their activities with those of other interdependent parties.

Coordination is enabled when the interdependence among parties, their responsibilities, and the progress on the task are all made visible through accountability. Additionally, coordination relies on the ability of interdependent parties to anticipate subsequent task related activity, that is, predictability. Finally, a shared conception of activities and how they are performed, or common understanding, also enables coordination. Through coordination mechanisms that produce these conditions, people succeed in integrating interdependent tasks in organizations. (Okhuysen, 2009)

**Table 10.2** Integrating Conditions for Coordination and their Relationship to Coordination Mechanisms

	<b>Accountability</b>	<b>Predictability</b>	<b>Common understanding</b>
<b>Plans and rules</b>	Defining responsibilities for tasks	Defining responsibilities for tasks Resource allocation	Developing agreement
<b>Objects and representations</b>	Scaffolding Acknowledging and aligning work	Scaffolding	Direct information sharing Creating a common perspective
<b>Roles</b>	Monitoring and updating		Substitution Creating a common perspective
<b>Routines</b>	Hand-off work	Task completion/stability	Bringing groups together Developing agreement
<b>Proximity</b>	Visibility: monitoring and updating Familiarity: developing trust	Familiarity: anticipating and responding	Familiarity: store of knowledge

*Figure 16. Coordination mechanisms and the integrated condition*

## Chapter 2 Conclusion

This chapter started with the identification of the network contract as an organization. Organizational Design takes on a fundamental role in the network form. Project decisions concern work-sharing choices between organizational actors (nodes of a network) made up of autonomous companies holding resources and specialized activities, and choices regarding the ways of managing relationships (arches) that are established between the nodes of the network (coordination). Starting from the literature, it has been considered the evaluation criteria of design choices: Efficiency and Effectiveness. To achieve the efficient organizational design, it is possible to define four building blocks, Strategy, boundaries, internal structure and governance, as well as by making a distinction between the micro and macro organizational structure.

Analyzing the micro structure, it emerges the importance of the division of labor and the related interdependencies. Given the needs of the organization as a whole (objectives, missions, technical system to achieve them) the designer identifies all the tasks that must be performed: it is a "descending" procedure (top-down), from general needs to activities / elementary tasks. The next step is to construct the macrostructure: first by determining which types and how many positions should be grouped in the first-degree units and, subsequently, which types and how many units should be grouped in the higher degree units until the hierarchy is completely constructed. This phase naturally corresponds to an ascending (bottom-up) procedure, from specific tasks to the overall hierarchy. The grouping of positions and units is a fundamental way to coordinate the work of the organization, and here the interdependencies play a crucial role, once they are set, the need for coordination emerges. As a consequent, it has been given a definition of coordination and displayed its mechanism following the classical framework of Mintzberg and how these have an impact on the organizational configuration. Furthermore, these coordination mechanisms have been applied to the network contract itself, and it has been individuated the correspondence and put on evidence the peculiarities of the network contract's choices of coordination and governance. What emerges from this correlation is the flexible nature of the network contract organization, that can be considered a fast-response organization. In that matter, there is an evolution of the coordination mechanisms' literature that tries to find some adaptable mechanisms within the fast-response organization that can be considered as sort of "*praxi*".

# Chapter 3.



### 3.1 Methodology

This chapter is based on the study of six business networks, starting from a database from which a data set has been extrapolated: the data contained information pertaining both the network as a whole and the single firms.

The available information concerning the network contained data such as network denomination, REA contract number, the possible presence of the tax code of the network, date of the common deed, region and province, reference number, deed number, contract subject, goal classification, duration, year, stipulation typology (online), ATECO 2007 code, possible presence of individual legal liability, populousness.

On the single firm, the data available gave information such as: firm REA number, tax code, firm denomination and reference firm, city, region and province, ATECO 2007 code, productive sector and section, activity, number of contracts per network, firm status, date of registration, productivity data from 2013 to 2015 and number of employees from 2014 to 2016.

The initial framework data have been verified and analyzed on Aida. A preliminary analysis has shown that four of the six networks were inactive, and some of the firms were near closure or non-existent. Further research has found other networks and the final case study focuses on five networks: Highlander, Menocarta.net, Cycling in the Venice Garden, NAT, Almax. The analysis is of a qualitative nature and data has been collected through interviews based on a questionnaire (see appendix).

The questions were posed in order to collect information on:

1. Interviewed Enterprises' profile,
2. Contract establishment in terms of expectations, pre-contractual organization, contract drafting and support.
3. Present state of the contract in terms of collaboration, issues to be resolved, relationship between the network entities, results, network operation, difficulties.
4. Coordination mechanism, with particular focus on accountability analysis (with various degrees of formality), predictability (it allows people to fit their own tasks into the whole through anticipation of when others will do their work), common understanding (shared perspective on the whole tasks and how individual work fits within the whole), and performance.

The reference literature supporting the questionnaire has been Isotta and Okhuysen (2012). The interviews are reported and followed the questionnaire.

Every paragraph is dedicated to Networks' case with a first Network overview, a presentation of each firm and a focus on the governance and coordination based on the interviews' results and putting on evidence some relevant elements.

## 3.2 Highlander Network

### 3.2.2 Network Presentation.

The Highlander network was a horizontal network composed of six member companies, two of which were Leader companies. The network companies were: Whirlpool Europe (Comerio, headquarters), Assoservizi srl, Galvano Plastica, Cassioli, Zapet srl, KW Scientific apparatus.

The goal of the network was joint production. The object of the network contract was, in this case, to set strategic objectives for the performance of activities, aimed at creating components for new types of horizontal freezers presenting improvements in terms of performance, innovation and promotion. The product in question is a freezer with particular technological and innovative features, thanks to the contribution of the skills of each member company.

The network contract was stipulated in 2012 and ended in 2016 following the achievement of the objectives set at the time of incorporation. They are all companies that work in the Industry / craft sector with a focus on manufacturing and component manufacturing, but with destinations that are different from one another. The only company not belonging to the industry / craft sector is the company Assoservizi srl, which belongs to the service sector and had a supporting role. Most of the companies in the network were all concentrated in the Tuscan region with the exclusion of Whirlpool with production facilities in Comerio.

### 3.2.3 KW Apparecchiature Scientifiche<sup>6</sup>



The company was founded in 1953; with a really strong focus on technologies and innovation. The two adjectives cold/hot (kalt/warm in german) resulted in the company's acronym KW. The founding members added "Officine Meccaniche" (Mechanical Workshop) to the acronym which means a workshop that constructs appliances for cold or hot, based on electromechanical technologies. In 1961 KW built the first  $-85^{\circ}\text{C}$  horizontal freezer, double stage, with expansion by means of a thermostatic valve, using R13 in the first stage. In 1970 KW built the first  $-85^{\circ}\text{C}$  horizontal freezer, double stage, with expansion by means of a capillary tube, using R503 in the second stage. At the end of the 70s, KW started the production of  $-85^{\circ}\text{C}$  vertical freezers, double stage, with expansion by means of evaporative plates, a solution characterized by high refrigerant efficiency and even used, successively, by other producers. In 1985 KW Apparecchi Scientifici S.r.l. was founded, and it progressively substituted the Officine Meccaniche (Mechanical Workshop), at the beginning in the commercialization of products with the KW trademark and then totally taking over all the production activities (1991). In 1990 KW built the first biological bank, an exclusive, until now, of KW, that was the safest solution for stocking at  $-85^{\circ}\text{C}$  of particularly valuable biological material. Brand "BANCA BIOLOGICA  $-85^{\circ}\text{C}^{\circledR}$ " is exclusive and registered by KW.

In 1995 there was an important change of ownership, and the company was acquired by Fabiani Family, that initiated an intense technological development process which has conveyed the company to its actual prestigious state. Thanks to this ownership change it more attention was dedicated to research and development, mostly in relation to the high quality of its products and to their energetic efficiency and to their environmental impact. In 1996 KW was the first European company to use the innovative HFC refrigerant, R508B, which substituted R23, with relevant advantages witnessed in reliability and performance in the  $-85^{\circ}\text{C}$  installations. Since almost twenty years, KW developed the Medical Project (proprietary brand) small biological refrigerators which were conceived and built for hospital and research laboratories, distribution pharmacies, hospitalization units and private nursing homes.

Moreover, In the last several years, KW's proprietors have strengthened the design, research and development functions, by producing new series of appliances, always trying to fulfill the scientific and technical needs of its clients and recently approaching the Industria 4.0. The intense engineering activity, in addition to the highest productive level, has permitted significant and continuous innovation of the product, and has also reinforced the capacity of the company to

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<sup>6</sup> Website: [www.kwkw.it](http://www.kwkw.it)

communicate with its clients. In this third millennium, KW produces and distributes thousands of appliances of different types and all with an added value each year, using procedures conforming to the ISO 9001:2000 standard and in full respect and safeguarding of the environment and safety of the user. In 2006, a new horizontal freezer was produced, -85°C, for speedily freezing plasma in transfusion centres. The freezer works by thermal transmission by contact between the bag and the cold wall. This solution allows for: easy manipulation of the bags during the loading and unloading operations of the bags; a complete graphic video registration of the freezing plane, via a graphic video recorder using a bar optical reader, with the possibility of writing using the on board keyboard. Interfacing the freezer with the network via an Ethernet card, or flash memory, etc. etc. Finally, several freezing sessions are possible per day, thanks to the power of the refrigerating installation that allows for short pull down and recovery times, an advantage to the quality of the frozen plasma. The headquarters in Monteriggioni (SI), where there is a functioning environmental simulation chamber, thanks to which was permitted the evaluation and experimentation of new technological solutions and carrying out of tests etc. Currently, KW Apparecchi Scientifici is a company that, in this sector, is a key player in the Italian and European markets. KW Mission: supplies appliances, installations, and services for cold chain and thermostation; used in the biomedical, scientific research and industrial sectors. The clients' needs and trends lead to innovation, proposal of new products and services. KPI's analysis of the firm, shows in the graph below the evolution of the Number of employers, As productivity ratio, and the ROS and ROI AS profitability ratio, within the period.

Aida - società report of KW APPARECCHI SCIENTIFICI SRL  
**KW APPARECCHI SCIENTIFICI SRL**

53035 Monteriggioni

Codice fiscale  
 Numero CCIAA

00660040528  
 S10082413

Società privata  
 L'A.R. Globale di questa società è MR STEFANO FABIANI

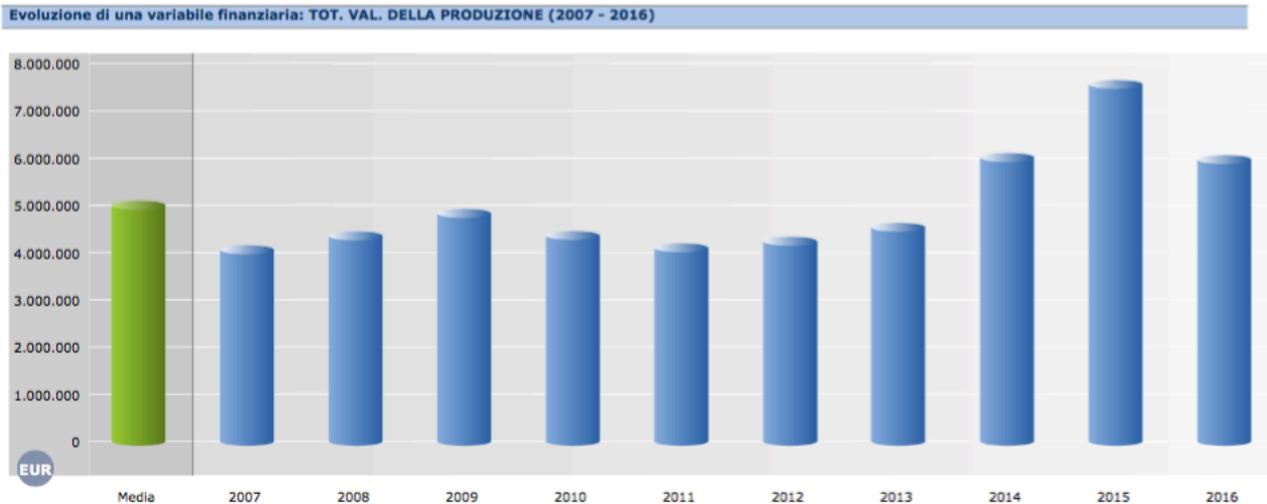


Figure 17 Evaluation of value production (2007-2016)

Evolution of KPI's (anno di riferimento : 2016)

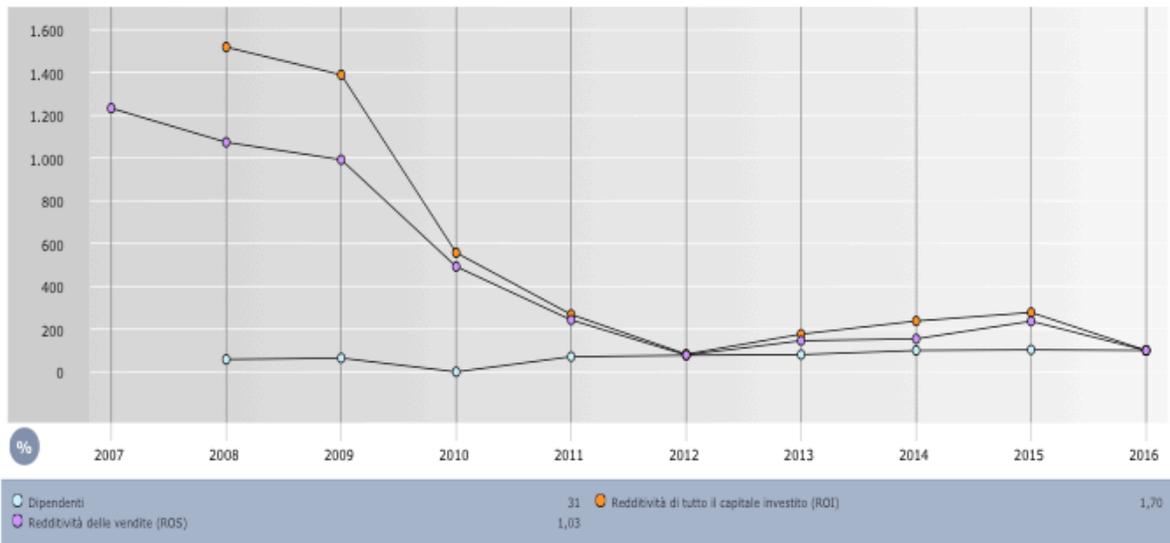


Figure 18 KPIs evolution. Source: AIDA

### 3.2.4 Cassioli Srl<sup>7</sup>



At the beginning, Cassioli Company was just a modest blacksmith's shop starting their activities in 1943. Today it is a company that is a market leader in the field of handling and industrial automation, designing ingenious mechatronic and IT-applications, with headquarters in Guardavalle (SI). Cassioli is a modern and efficient company in the distribution and production logistics sector, due to both the high-level technological value of its products and services and to its solid internal structure, where each department contributes proactively to achieving the company of full customer satisfaction. Cassioli offers a wide range of plant engineering solutions: the company produces automated warehouses, customized handling systems, laser and induction driven carts, assembly and serving lines, testing systems, picking systems and holding devices for anthropomorphic robots. Besides that, they also offer customized handling systems provided with roller, chain, slat and tape conveyors, depending on the features of the product to convey. Their product categories are: Automatic warehouse, Satellites, Automatic vehicles, Fast two-check, IT solution, Idle equipment, Robotized area, assembly line, Handling system, Baggage handling system.

They have a strong aptitude to innovation, to the ongoing search for simple and functional solutions, in such a dynamic sector as this, striving for the best possible solution using leading edge mechanical and electronic technologies, is an absolute must, and a tradition per the company. They are completely customer oriented, "The tailoring of "turnkey" solutions we offer our customers can rely on the in-house production of automatic systems for materials handling, storage of raw materials/semi-finished goods/finished goods, for manipulation of production process and for order preparation and shipment". Cassioli provides customized, integrated solutions for a wide variety of industrial sectors. As a Solution Provider for automated handling, Cassioli can effectively manage every stage of the design, installation, and post-sales service. Every activity is carried out in close collaboration with the customer, in order to fulfil and satisfy customer needs.

Moreover, they have strong partnership with Universities, research facilities and their own partners is an expression of their ongoing effort to stay up-to-date and their strong commitment to innovation. "This is the only way to fully respond to ever changing market needs and to provide integrated logistics solutions that effectively respond to specific requests".

During initial "what if" studies and cost-benefit analyses to search for alternative solutions, Cassioli experts work at creating solutions that can guide customers towards the best possible investment choice. To reach this goal, the study takes into account, in the greatest detail required for the purpose, all the factors that contribute to the investment size. The feasibility study is composed of several, inter-

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<sup>7</sup> website: [www.cassioli.it](http://www.cassioli.it)

connected parts, which lead to an overall plant project that defines the necessary technical and organizational choices. Their mission is: “to provide customized solutions for a wide variety of industrial sectors, offering products and services for integrated logistics solutions. As a System Integrator, to provide plants complete with electronic control systems for the management of different segments, at competitive prices and without compromising the quality they are famous for”.

Aida - società report of CASSIOLI S.R.L.  
**CASSIOLI S.R.L.**

53049 Torrita di Siena

**Codice fiscale**  
**Numero CCIAA**

00053160529  
 SI0057829

Società privata  
 Questa società è l'A.R. del Gruppo

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

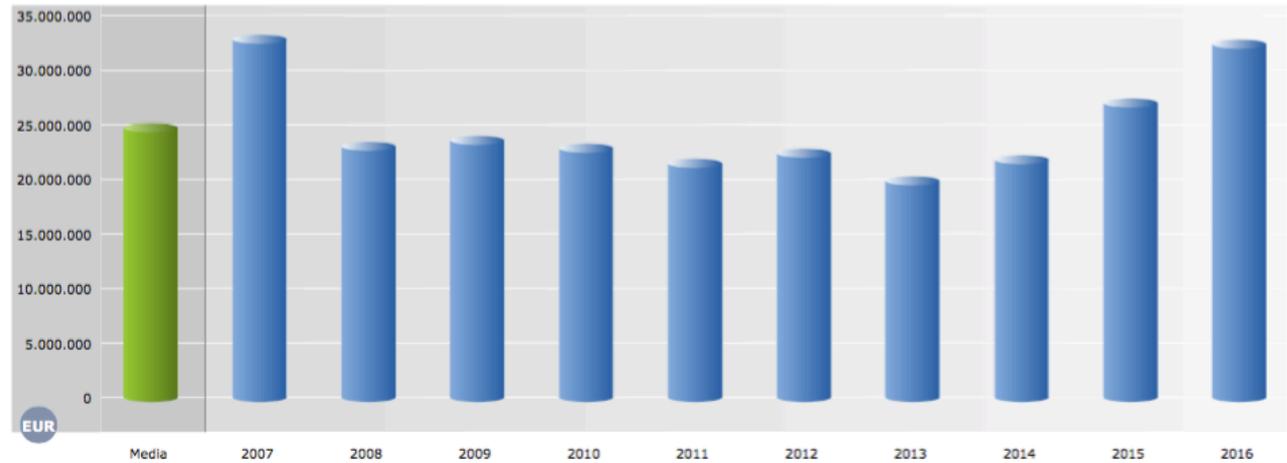


Figure 19 Evaluation of value production (2007-2016). Source: AIDA

**Evoluzione in indici di diverse variabili (anno di riferimento : 2013)**

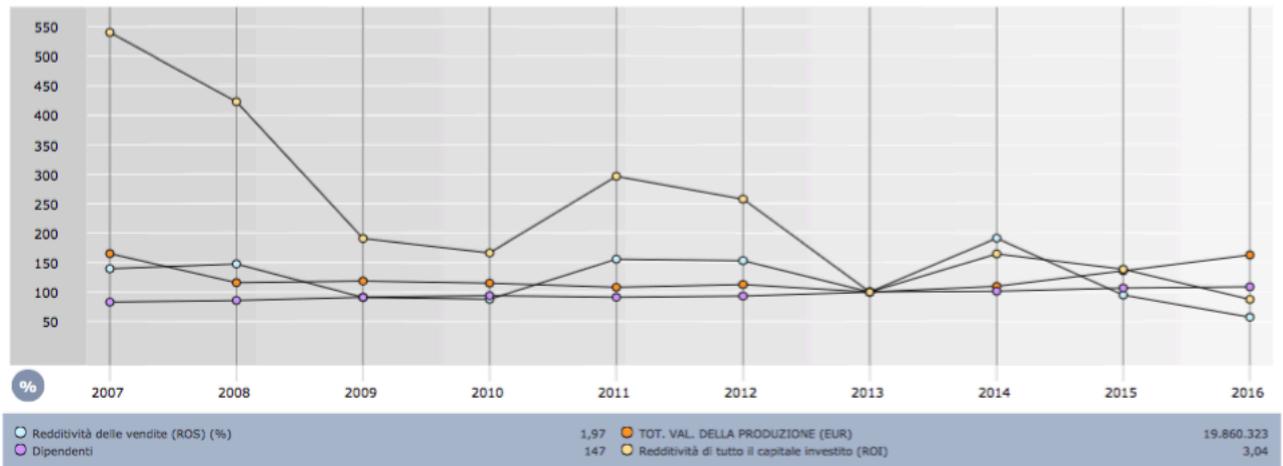


Figure 20 KPIs evaluation



**GALVANOPLASTICA SRL**

53036 Poggibonsi

Codice fiscale  
Numero CCIAA

00053590527  
S10049693

Società privata

L'A.R. Globale di questa società è MR MAURO GAGGELLI

**Evoluzione in Indici di diverse variabili (anno di riferimento : 2016)**



Figure 20 KPIs evolution

### 3.2.6 Assoservizi Siena Srl <sup>8</sup>

Assoservizi Srl Siena is a for enterprises service provider Network. The first case of a business network between service companies established in Italy. Assoservizi Toscana Sud Rete d'Impresa, was promoted in 2009 by the Confindustria of Arezzo, Grosseto and Siena. Among the strategic objectives is the management, research and development of initiatives and common projects among the service companies participating in the network. Assoservizi Siena offers business advisory on: business organization, environmental quality safety, security management system and also offers services on payroll and tax assistance, and training.



Assoservizi, as part of the Network Project, will take care of one of the central aims of Whirlpool's R & D project, namely the reduction of development and production costs of new products. This is to avoid that the new strategic plan of Whirlpool Europe foresees, in the event that short-term conditions for strong competitive growth are not established, the relocation of the production of horizontal freezers from the Sienese plant to a more efficient and cheaper factory in the Eastern Europe. Assoservizi will perform, in a first phase, training activities on Lean Product Development to all companies in the network, then, will start the real business in close collaboration with the companies concerned, where will be designed the various stages of development of new products . The application of Lean Thinking to the development of a new product will be a key element of the competitiveness of companies: at this stage, as we know, we define the majority of the costs that companies will incur in the following years during the entire life cycle of the company. products and their level of competitiveness. The application of these Lean principles will reduce waste in development processes (avoiding, for example, reworking) by focusing resources on exploring innovative solutions, drastically compressing time-to-market and bringing benefits in terms of: reduction costs and times of new products (NPI), reduction of development costs and "re-work loops" during the process, increase in product innovation. These benefits will lead to a maximization of competitiveness and marginality. The focus will be on the main waste that traditionally occurs during the development of a product: expectations, redundant activities, stop and go, transactions, lack of discipline, variability of processes and inputs, over-use of systems, batch size, activities simultaneous or concomitant not synchronized.

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<sup>8</sup> website: [www.assoservizi.eu](http://www.assoservizi.eu)

**ASSOSERVIZI SRL**

53100 Siena

**Codice fiscale  
Numero CCIAA**

00730220522  
SI0086941

Società privata

L'A.R. Globale di questa società è ASSOCIAZIONE DEGLI INDUSTRIALI DI AREZZO, GROSSETO E SIENA

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

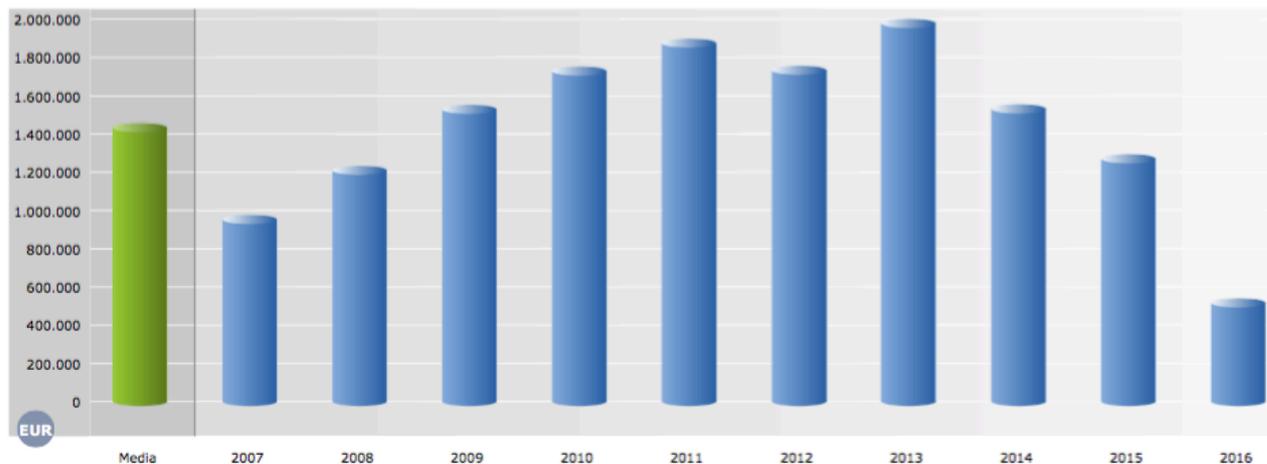


Figure 22 Evaluation of value production. Source:AIDA

**ASSOSERVIZI SRL**

53100 Siena

**Codice fiscale  
Numero CCIAA**

00730220522  
SI0086941

Società privata

L'A.R. Globale di questa società è CONFINDUSTRIA TOSCANA SUD

**Evoluzione in indici di diverse variabili (anno di riferimento : 2007)**

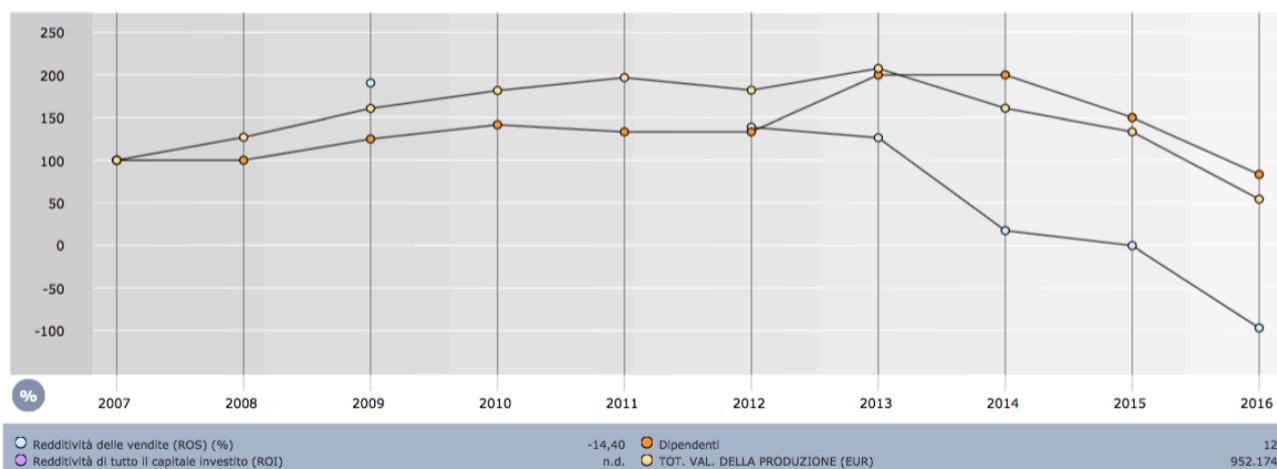


Figure 23 KPIs evolution

### 3.2.7 Whirlpool EMEA, Comerio<sup>9</sup>



Whirlpool EMEA, Comerio was one of the production centers of Whirlpool EMEA, relocated in 2017 in Pero (Milan). Whirlpool Corporation (NYSE: WHR) is the world's leading major home appliance company, with approximately \$21 billion in annual sales, 92,000 employees and 70 manufacturing and technology research centers in 2017. The company has more than 100 years of history, founding families' companies began in the US, Brazil, Italy, India, Germany and France. It has always been a company of innovators, from Benton Harbor, Michigan's Lou Upton and his uncle Emory teaming up to patent an electric-driven wringer washer, to Miguel Etchenique and sons, who created the Brastemp brand and gained such a strong reputation for premium performance that Brastemp is now synonymous for high quality in Brazil.

They were inspired by Louis Jenn, who rejected the status quo to create the first downdraft range and Vittorio Merloni who founded the premier European appliance brand, Indesit. It is through the energy of their entrepreneurial spirit that the company has become the world's leading manufacturer of major home appliances

The company markets Whirlpool, KitchenAid, Maytag, Consul, Brastemp, Amana, Bauknecht, Jenn-Air, Indesit and other major brand names in nearly every country throughout the world. Their mission is "To Create Demand and Earn Trust Every day" and their vision is : "The Best Branded Consumer Products ... in Every Home Around the World". They have a vast global business locations that drive innovation, create quality products and diverse brand portfolios based on differentiated consumer needs in the regions they serve. The Corporation is really innovation oriented, they don't do innovation for the sake of a new bell or whistle, but they make sure that their innovation is purposeful- in order to make consumer's life easier. they are always looking for new opportunities to grow. The company collaborates with purpose, delivering innovation that expands boundaries for new categories, services and businesses, continually adapting the latest consumer insights and technology to design and build innovative products that influence trends. The corporation has 70 manufacturing, research and design centers and 70 million products sold every year.

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<sup>9</sup> Website: [www.whirlpool.eu](http://www.whirlpool.eu)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

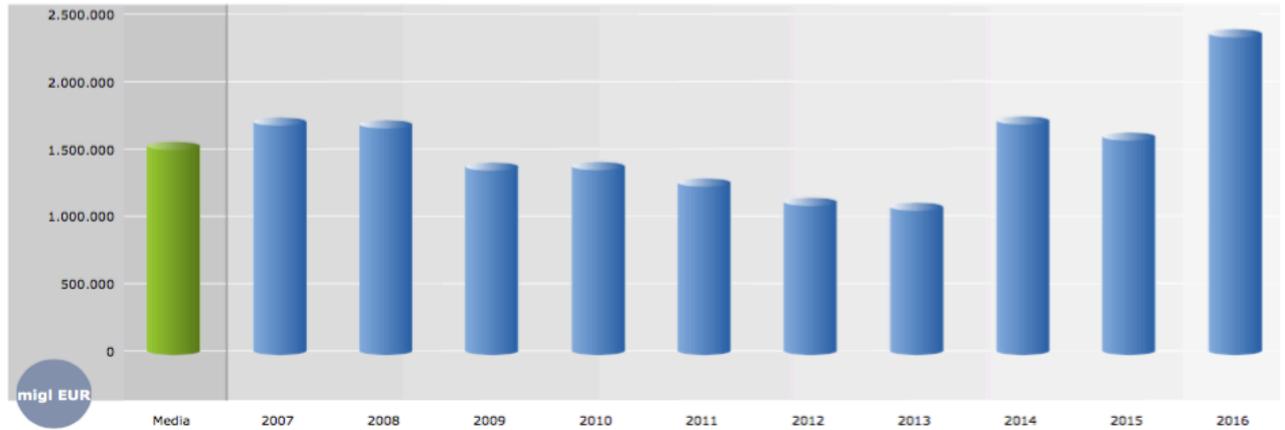


Figure 25: "Value of production evaluation"; source:AIDA

**WHIRLPOOL EMEA S.P.A.**

**Evoluzione in indici di diverse variabili (anno di riferimento : 2007)**

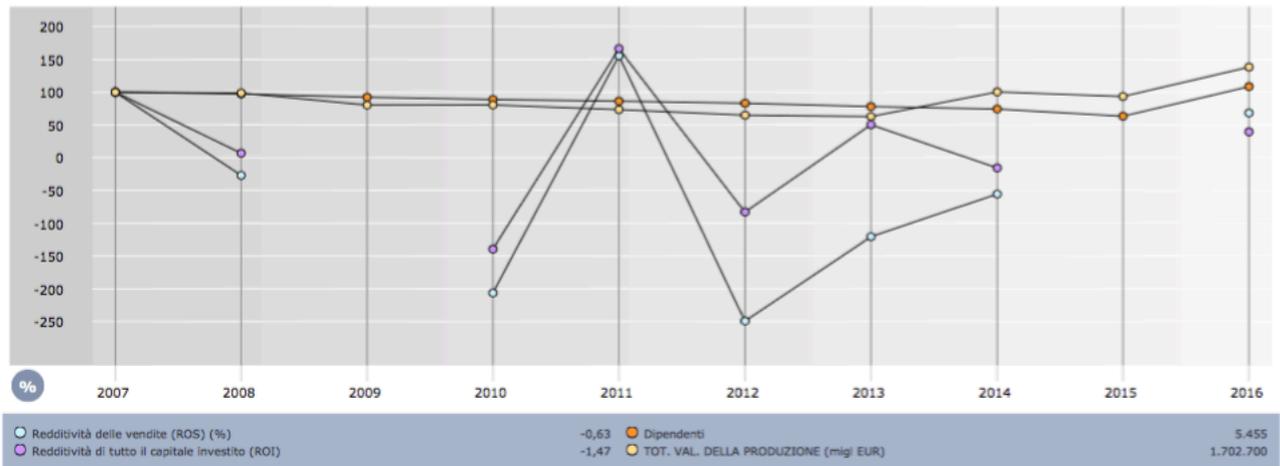


figure 26: "KPI's evaluation"

### 3.2.8 Zapet srl <sup>10</sup>



Founded in 1961 by the actual president Sig.

Liano Petri, thanks to his intuition and his entrepreneurial spirit, started to produce the first Plastic articles designed for furniture industry. In the 70's they produced the new "double slider" thanks to which the firm became famous and grew. In the 80's the company continued to grow, become more solid and start its expansion to the European market, but even to Hong Kong and Singapore. In the 90's were born the products that actually represent core business of the company: "damper system". In the 2000's born the "Garage solution system". The company is located in Torrita di Siena in the center of Italy, and since the beginning it is fully oriented to innovation.

Today, Zapet is one of the bigger producer of "Resin-Furniture" and plastic equipment in the Furniture industry. The total of production area is of 16000 mq. The production activity is divided into two different functions: Extrusion and Moulding. The extrusion division is also divided into three departments: granulation, extrusion, assembly. Within the granulation department, some PVC granules are made with some specifications and consequently sent to the extrusion department for the profile transformation. The department has a sophisticated system of colour formulation: "Color matching" that allowed the reproduction of whatever kind of colour in a really short time. Within the extrusion department operates 21 lines of extrusion with different production capabilities, with sophisticated control systems. The department is able to produce more than 5000 pounds yearly of production materials. In the assembly department, instead, additional processes and/or required moulding. Finally within the injection molding department is shaped the main goal of the company of creating partnership with their main clients such as Whirlpool in order to find greatest solutions. The company vision: "To do things that nobody ever did before".

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<sup>10</sup> website: [www.zapet.it](http://www.zapet.it)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

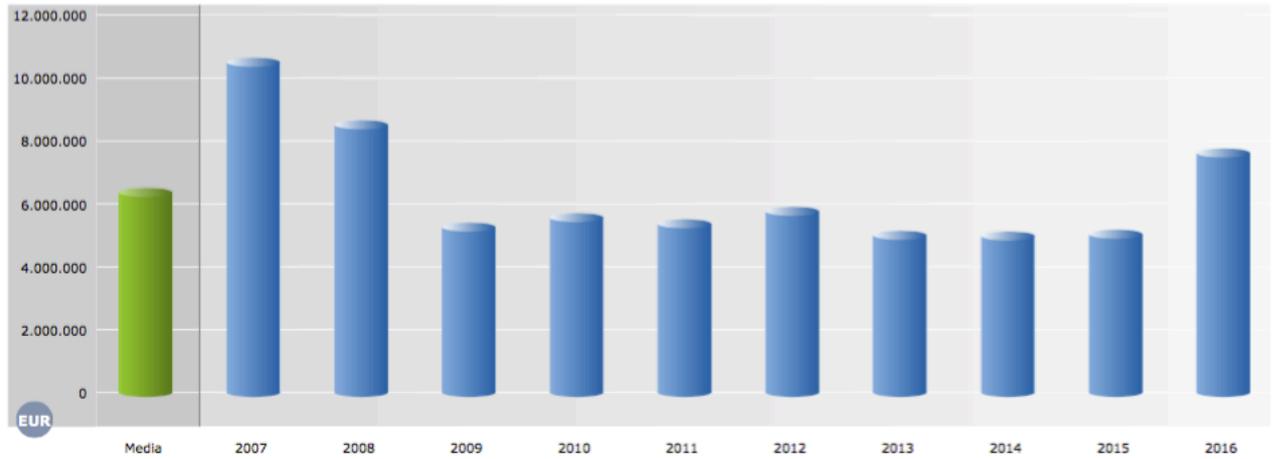


figure 27: "value of production"; source: AIDA

**ZAPET S.R.L.**

**Evoluzione in indici di diverse variabili (anno di riferimento : 2007)**

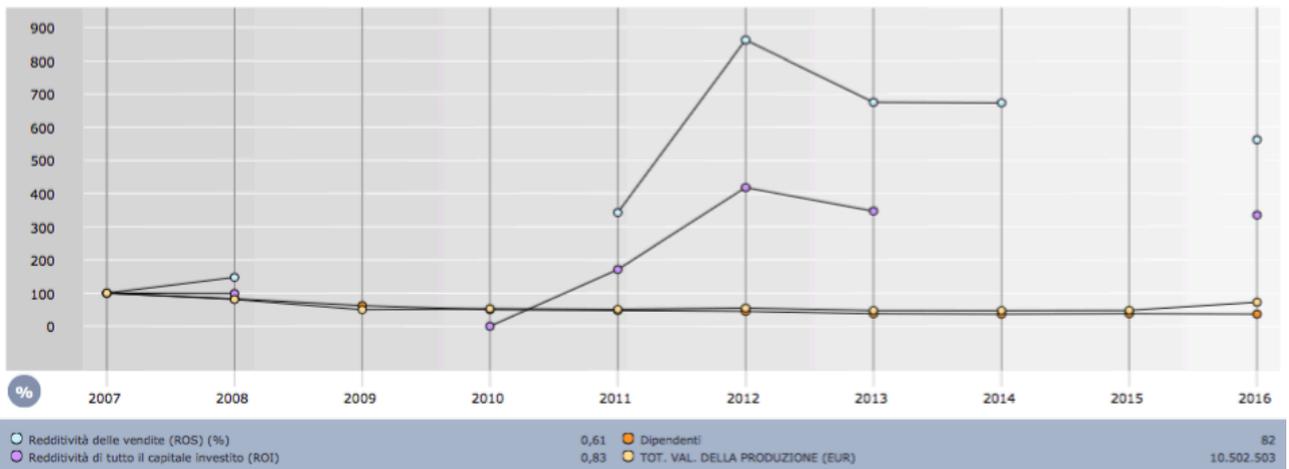


figura28 : "KPI's evolution"; source: AIDA

### 3.2.9 Governance and Coordination mechanisms

Coordination case with two leading companies and a network manager belonging to Whirlpool Europe. The division of work proceeded in parallel, because the companies in the network belong to the same sector from a production point of view but the intended use of the final product is different. This is indeed the typical case of aggregation to foster innovation and technological development by exploiting the core components of each company.

The consideration that emerge from the interview: The Network is currently closed, it does not exist anymore, thanks to the achievement of the goals. As a consequence, we can define this network with a short life cycle in a period of four years, where they have been able to achieve the expected results. This is the typical case of a horizontal network and of a fast-response organization. By following the networks' Objects, it is even possible to understand the reason why, from a contractual point of view, there is no legal subjectivity, and also the closeness of the network, in terms of membership.

The network can be considered as a sort of central one, with an Operative leader firm, role covered by Whirlpool. Moreover, Highlander can be defined also from a technical/operative point of view an Independent Network and from a strategical point of view, as a convergent.

In terms of accountability, there were two leading companies in the Highlander network, Whirlpool, and Assoservizi. Also present was the figure of a network manager who belonged to one of the two leading companies, Whirlpool. The choice of the letter as leader is due to the size of the companies in terms of turnover and structure: Whirlpool is the undisputed leader of the industry. The rule of the Manager was of coordination but, being part of Whirlpool, a leader as well.

The degree of collaboration was not very high, but for reasons related to the type of objectives to be achieved that did not require many interrelations. However, the coordination and alignment activity was fundamental, as each of the companies developed component parts, depending on their technological competences, having as final objective the realization of a single innovative final product resulting from the work of each member company. With bimonthly frequency meetings routine.

During the Interview issued by Fabiani, owner of KW Scientific Equipment, an absolutely positive feedback was released at the end of the project. The goal set by the network has indeed been more than achieved. KW was a member of the network. Fabiani defines the Highlander project as: "An insemination that has created positive contacts", as the benefits achieved have gone well beyond the objectives set in terms of advancement both in the field of scientific and innovative research within the company itself. In fact, advanced technologies have been developed and implemented within the company, getting closer and closer to the 4.0 industry. Moreover, the project has created very fruitful

collaborations, which are still underway, such as the research and development project in collaboration with the robotics department of the "Normale" University of Pisa.

In terms of predictability, the goals to be achieved have been specified since the beginning within the common body, with lots of rules, defined tasks and monitoring deadlines. The goals of the network were clear and shared by all the members moreover each member participated with the same grade of interest.

In the table below are shown the main variables of the coordination mechanism, current within the network.

Table: "Coordination Mechanisms"

<b>Network</b>	<b>Accountability</b>	<b>Predictability</b>	<b>Common Understanding</b>
<b>Highlander</b>	<b>Intermediate/High level</b>  No subjectivity Two leader firm Common Body Network Manager: operative Bimestral Meeting Numerous Routines	<b>High level</b>  (The common body Defined task and help to established rules and deadlines)	<b>High level.</b>  (Objects clearly shared among all the members).

Source: Authors' data elaboration

### 3.4 Menocarta.net

Menocarta.net was born at the end of 2012, by the aggregation of three companies from Veneto, three from Campania, one from Lazio and one from Lombardia: Si.ged, Ewitness Srl, Kart Consulting Srl, Winning technologies SPA Ipertrade Srl, Codex Srl, Vision Learning Srl, Menocartapro Srl.

It is an innovative supply-chain network of the industry “ICT per professional services” addressed to accountants and to companies and institutions supported by them, as technological and process partner for an operative support on business project of dematerialization and legal substitutive conservation. The network quickly gained the patronage of some important national Professional Orders, such as the Association of the “Tre Venezie” of Chartered Accountants and Accounting Experts.

It has undergone numerous changes including a change in the type of contract, from 2017 it became a network-subject contract, and a change in the internal composition from eight members to four. The current members of the network are: Si.ged, TeamSystem, DocuMi, who took over from the E-witness and Menocarta pro srl.

Menocarta.Net is a network that was born with the objectives of promotion, innovation development and research of solutions. Solutions that have to be found among the members of the network. The members of the network are all companies that belong to the digitization sector, and the operational function of the network is similar to a main-contractor.

The promoter of the network, dott. Andrea Cortellazzo, provides information about the reasons that led to the idea of the network, stating: “Imagining a metamorphosis of Three, four years, which now have become six, in which the whole system in Italy, as large companies, small medium and professionals would have had to abandon paper to manage the administrative, accounting and tax processes, hence the name "Menocarta". We decided to make a network contract, which is the most flexible tool, because we could not know what was needed to go on the planet "without paper", so we said, we start with a motivated group, someone who pulls and, if anything, we change as we go (...) The network contract was the only tool that allowed us to adapt and demonstrate continuity to the market, especially towards customers. “

Moreover, having started with 4 companies from the Veneto and 4 from Naples, the project is a project that spins around the role of accountants: they were companies in this professional sector, and in the important area of Italian accountants. Therefore, this was also an action from a marketing point of view, as a project that united Italy and somehow at the beginning of 2012 this was the philosophy.

An important feature of the network was the creation, after two years from the establishment of the contract, of a company, the Menocarta Pro Srl, that aimed to create continuity even after the closure of the network. It is an independent company, a commercial reality with already more than one

hundred members, with a homonymy that will also help in the future, “ In two years, when our customers will receive an invoice, there will be little or no difference between Menocarta network company or Menocarta pro Srl “.

The expected closing date of the contract is July 19, 2019. The network promoter also states that the results obtained are more than positive, even if at the time many investments were necessary that have not yet seen a return in real economic terms.

### 3.4.1 Si.Ged Srl<sup>11</sup>



SI.GED Srl, located in Padua in via Porcilia 14, established in 2010, is a company that performs computer consultancy activities, that support customers in the implementation and management of electronic invoicing processes between individuals (B2B), from the issuing of the invoice by the supplier to the receipt / collection by the customer, with the maximum operational efficiency up to integrate the billing dynamics with the banking system for the financial management of payments (supply chain finance). The Mission: “Able to provide simple and fast solutions ...”

The company acquired relevance from the experience of a business consulting group, merged into SI.GED, as a center of expertise in specific Information Technology services, able to provide SMEs with the most innovative IT solutions needed to guarantee processes efficient companies and effective control systems. SI.GED has identified the most suitable IT solutions to maximize the return on IT investment of SMEs in the areas of activity: System and process assurance, management control system, software selection, ERP Solutions, IT strategy and commerce, Security DPS, Documenti Management System (DMS), Electronic invoice Issuing, Substitutive Conservation.

The approach favors the use of pre-configured solutions in which best practice have been merged at national and international level, guaranteeing a simple and rapid implementation. Si.Ged offers consultancy aimed at supporting the SME in the identification of the reference model to be implemented, in analyzing the functionalities and the technical characteristics of the market software and in assessing its compatibility with the company's management needs. Below, to get an idea of the company's financial situation, a graphical representation of the production value trend and the evolution of some performance variables, ROI, ROS and Number of Employees respectively.

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<sup>11</sup> website: [www.si-ged.it](http://www.si-ged.it)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2011 - 2016)**

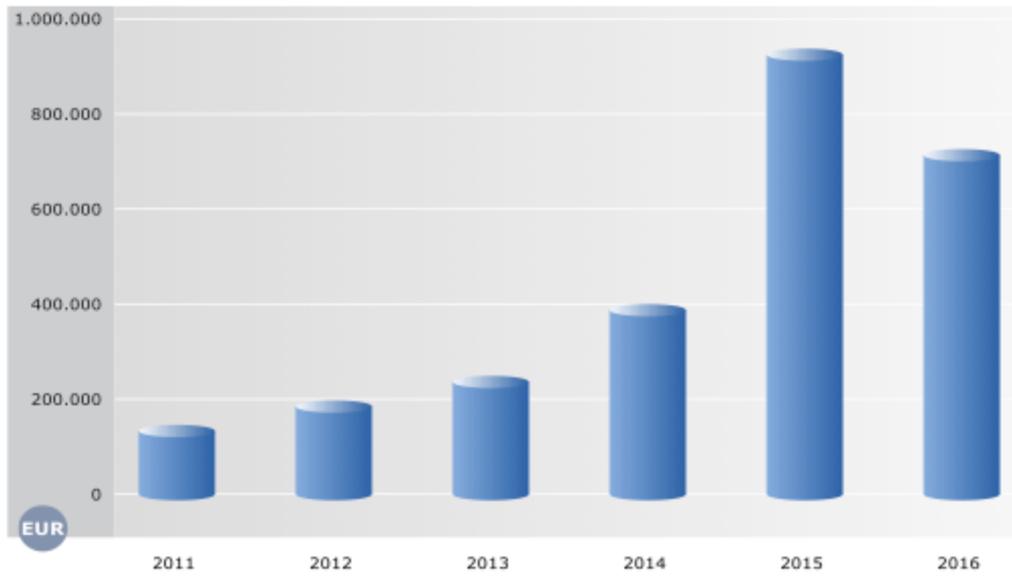


Figure 24. "Evaluation of the value of production variable" (2011-2016). Source: AIDA

**Evoluzione in indici di diverse variabili (anno di riferimento : 2013)**

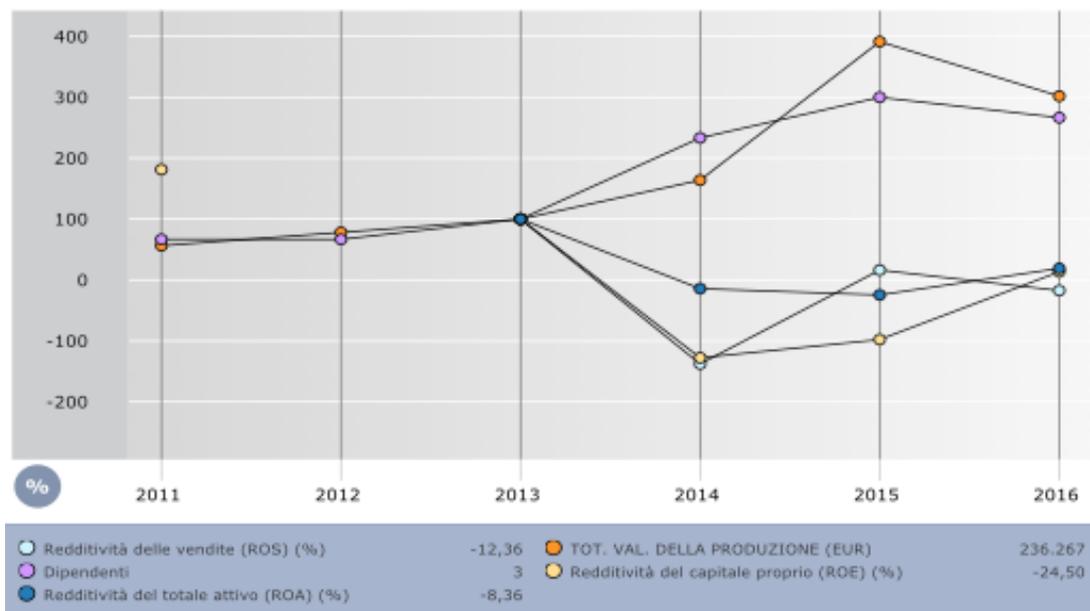


Figure 25. "Proxy evaluation of different variables". Source: AIDA

### 3.4.2 TeamSystem Spa <sup>12</sup>



TeamSystem group belongs to the business classification of “The design and manufacturing of software products as well as the provision of servicing and training and the selling of computers”.

It is a leader in Italy since 1987, in management software / ERP and in training services for companies, artisans and micro-enterprises, professionals. Since 2016, a subsidiary of the Helman-Fridman Capital Partners investment fund. By integrating the expertise of the different companies that make it up (TeamSystem, ACG, Danae Soft, Digita, Euroconference, H-umus, Inforyou, Lexteam, Metodo, Nuovamacut, TeamSystem Communication, TeamSystem Service, TSS), the group provides professionals and businesses a complete suite of products, services and contents, ranging from consulting to management software, training and education. The TeamSystem group recorded total revenues of € 290 million in 2016 and achieved a customer portfolio of over 250,000 active customers throughout the country. TeamSystem relies on a network of over 800 structures consisting of Software Partners and direct operations, as well as a workforce of about 2.000 people.

The strategy behind TeamSystem Group is based on a serious investment policy, aimed at supporting the constant improvement and growth of its offering both in terms of products and of service quality, with dedicated focus on the real needs of its clientele. Constant investments in research and development allow the Group to guarantee technologically evolved solutions that are constantly upgraded in function of changes in regulations and standards.

TeamSystem is the result of over 35 years of history, skills, innovation and passion for enterprises and professionals. Stemming from a corporate business idea of the early 1980's, it has followed an exponential growth curve thanks to various changes in ownership that have strongly propelled it towards the future and improved its competitiveness. Following the main important passage of its history.

In 2000 TeamSystem takes an important step forward when its capital is acquired by Palamon Capital Partners (a London-based private equity partnership specialised in European companies with high growth potential). The company's goal was the consolidation of Italy's highly fragmented management software market by pursuing a strategy of investment in products, sales network and service supply structure.

In 2001 The organisational structure of TeamSystem becomes entirely managerial: the aim is to create an institutional company capable of withstanding significant growth and of guaranteeing solid bases for its partners and for its clients. Gamma Enterprise, the ERP solution for Italian medium-sized companies, is launched. This product is highly innovative compared to other products available

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<sup>12</sup> website:[www.teamsystem.com](http://www.teamsystem.com)

on the Italian. TeamSystem obtains UNI EN ISO 9001 certification. The launch of Gamma Sprint in 2002, a management product for small-sized Italian companies that is completely scalable towards Gamma Enterprise as it stems from the experienced gained on the latter product. TeamSystem acquires Euroconference in 2004, a leader in vocational training in taxation, juridical/corporate, administration and labour law topics and mainly dedicated to accountants, chartered accountants, labour consultants and managers.

Bain Capital (an American private equity fund) acquires the company in 2005. TeamSystem, via the establishment of the company Lexteam, enters the law firms market with the Lextel program (now Legal System), the “The Software by Lawyers for Lawyers”, that provides the means for achieving complete law firm automation, for interaction with the Italian Courts and for the production and transmission of the proceedings of the Processo Civile Telematico (Online Civil Trial) system. TeamSystem acquires an 80% stake of Zeronove Group one year later, in 2006, specialised in SME management solutions. The operation’s goal is to reinforce TeamSystem’s position in the management software sector. The range of TeamSystem application products therefore acquires Euro09, a management solution that covers the corporate functions, including accounting, management control, material management and production.

TeamSystem acquires Metodo in 2007, specialised in management solutions for medium-sized companies. The operation is part of the development strategy of the TeamSystem Lince Group, a new enterprise that leads the sector of software and services for Italian enterprises and professionals, acquired by Bain Capital. It was dedicated to consolidating its leadership in Italy as regards management software and services.

TeamSystem acquires control of the Nuovamacut Group in 2008, a company that offers specialised solutions for manufacturing companies. Nuovamacut targets the medium-sized manufacturing sector with the offer of production and ERP software, CAD and CAM solutions, part program management and transmission, machine tools management. In 2010 TeamSystem acquires INFORYOU, a company specialised in the development of management software and access control systems for sport, wellness and leisure time applications.

The TeamSystem Group expands with the addition of two new companies. TeamSystem Service is the new structure of the Group that provides outsourcing services for the processing of payslips dedicated solely to labour advisors. The acquisition of Harpax, specialised in innovative solutions for the communications sector, gives rise to TeamSystem Communication, the division of the Group that offers advanced telephony solutions that are seamlessly integrated and integrateable with TeamSystem management software and dedicated to professional firms and to enterprises.

The TeamSystem Group reinforces in 2012 its position both on its core business market and on those adjacent to its current offering by acquiring:

- Danae Soft, the point of reference for management software for craftspeople, freelancers and micro-businesses;

- Digita, the Italian boutique specialised in the development of CRM software applications and services;
- H-umus that, thanks to Nuxie, the innovative platform designed by H-umus in support of marketing and sales force activities, brings new functions to TeamSystem clients.

In December 2013 TeamSystem acquires ACG, the IBM Italia division dedicated to the development and distribution of management software for medium- and medium/large-sized enterprises, while in 2014 TeamSystem acquires 24OreSoftware, the Sole 24Ore Group division specialised in designing software for professionals, enterprises and technicians of the building industry and for tax assistance centres. With this acquisition, TeamSystem reinforces its leadership in all of its current markets and extends its reach into other adjacent markets such as the building construction and the tax assistance centre markets. The TeamSystem Group laboratories produce in 2015 the new products for professionals and enterprises: LYNFA and ALYANTE on POLYEDRO platform, a technology that brings together simplicity of use, accessibility from any device, collaboration and workflow tools.

Hellman&Friedman, the American top ranking private equity fund, specialised in Business & Information Services, Internet & Media and software, acquires a controlling interest in the Group. TeamSystem, in the field of Digital Transformation, adds an increasing share of digital solutions to the traditional offering. These operations are in line with the TeamSystem Group strategy aimed at rapid growth in the cloud sector and at investing in the field of digitalisation of SME's and professional firms.

#### TEAMSYSTEM S.P.A.

61122 Pesaro

Codice fiscale  
Numero CCIAA

01035310414  
PS0103483

Società privata

L'A.R. Globale di questa società è HELLMAN & FRIEDMAN CAPITAL PARTNERS VII, L.P.

#### Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)

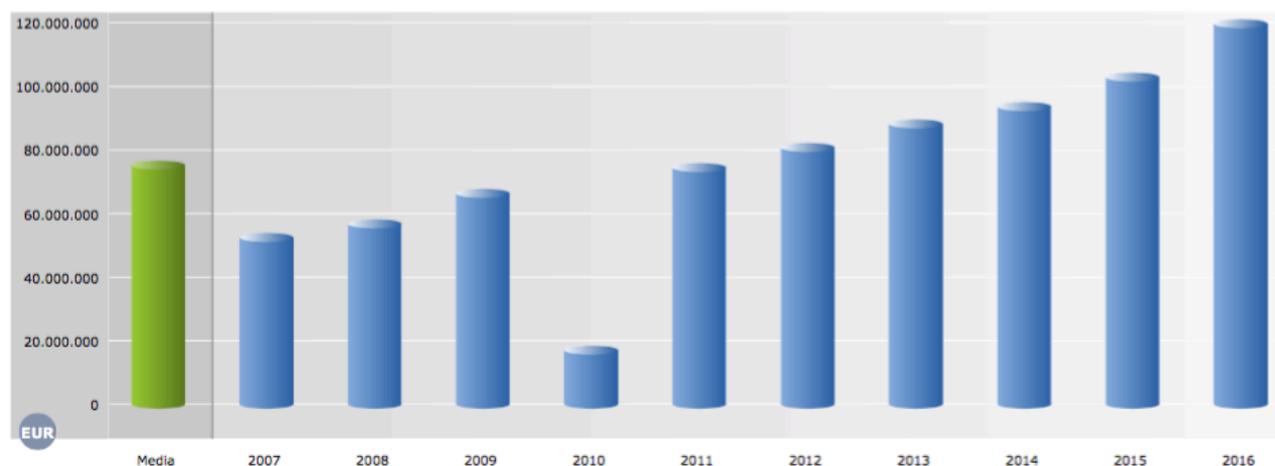


figure: "value of production! Source:AIDA

**TEAMSYSTEM S.P.A.**

61122 Pesaro

**Codice fiscale  
Numero CCIAA**

01035310414  
PS0103483

Società privata

L'A.R. Globale di questa società è HELLMAN & FRIEDMAN CAPITAL PARTNERS VII, L.P.

**Evoluzione in indici di diverse variabili (anno di riferimento : 2015)**

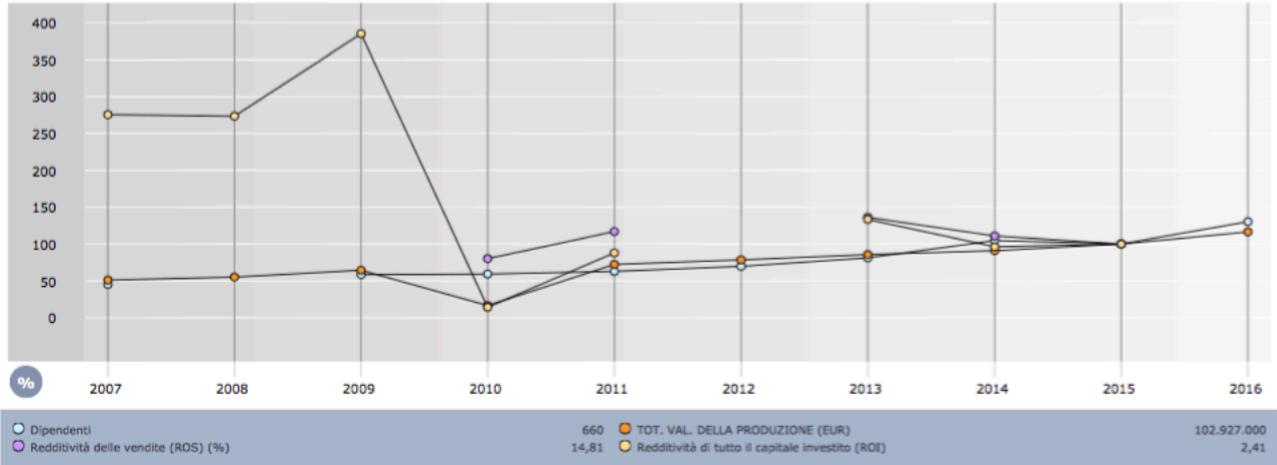


figure: "KPI'S Evaluation" source: AIDA

### 3.4.3 DocuMi srl<sup>13</sup>



DocuMi srl constituted in 1997, formerly “Serik International srl”, based in Milan in via Emanuele Filiberto IV with the activity description of “other electronic data processing”. DocuMI is a digital service provider, and Among the services offered are: Digital archiving, electronic invoicing, digital office, dematerialization in document management, digital preservation, mailing. Over the years the company has cultivated experience in the following sectors: professionals, chemical pharmaceutical, banking and finance, food and beverage, automotive.

With YouDOX service, DocuMI provide the accountants with secure technological solutions, secure application solutions to centrally manage collaboratively with the own clients the active and passive electronic invoicing procedures as well as the more extensive and specific project of digital archiving and substitute storage, according to the different kind and dimension of the client.

The implementation of the specific workflow management system, designed ad hoc to optimize the standardization and efficiency degree of the work flow, lavorazione not only increases operational efficiency and information sharing within the company, but also allows flexible strategic processes to be adopted also towards the external market, with clear advantages in terms of verification and monitoring.

In a market increasingly oriented towards simplification of procedures and digitization, the need for optimization and streamlining of administrative practices (contract production activity, supervision of internal and external administrative documents, certain dating of contracts and warranty, etc.), mainly geared to reducing internal operating costs.

DocuMI provides outsourcing of specific services aimed at process automation and management of back office administrative activities that reduce the impact of costs and create process efficiency, while maintaining high data security. It also offers electronic invoicing solutions, PEC dispatching of invoices and management of return receipts of postal paper invoices, allowing not only to be sure of the delivery of invoices but also to facilitate the correct calculation of payment deadlines.

Thanks also to the legislative evolution in terms of dematerialization of certificates of conformity (COC), this context has favored the presence in the sector by DocuMI, with a consolidated experience in the field of document dematerialization, process certification and conservation digital.

With the ever more structured diffusion of document archiving and digital preservation, as well as representing a valid partner for the digitization of documents and procedures, DocuMI is able to provide solutions to the need for instruments of greater integration for research and exhibition of administrative and bureaucratic documents, in the form of web applications.

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<sup>13</sup> website: [www.documi.it](http://www.documi.it)

**DOCUMI SRL**

20149 Milano

**Codice fiscale  
Numero CCIAA**

12281740154  
MI1544986

Società privata

L'A.R. Globale di questa società è MR FEDERICO ROSTAGNO

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

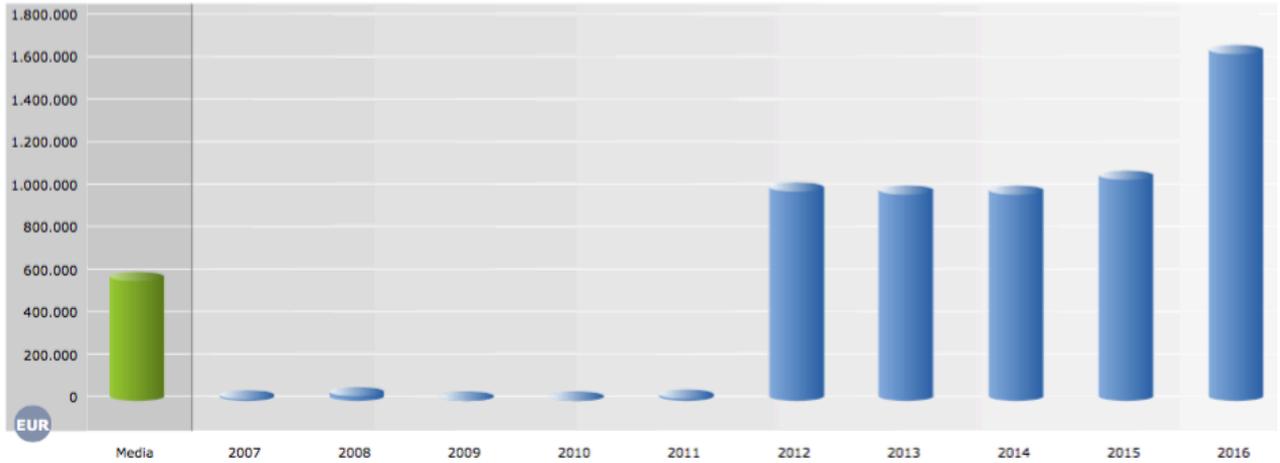


figure: "value of production" source: AIDA

Aida - società report of DOCUMI SRL

**DOCUMI SRL**

20149 Milano

**Codice fiscale  
Numero CCIAA**

12281740154  
MI1544986

Società privata

L'A.R. Globale di questa società è MR FEDERICO ROSTAGNO

**Evoluzione in indici di diverse variabili (anno di riferimento : 2016)**

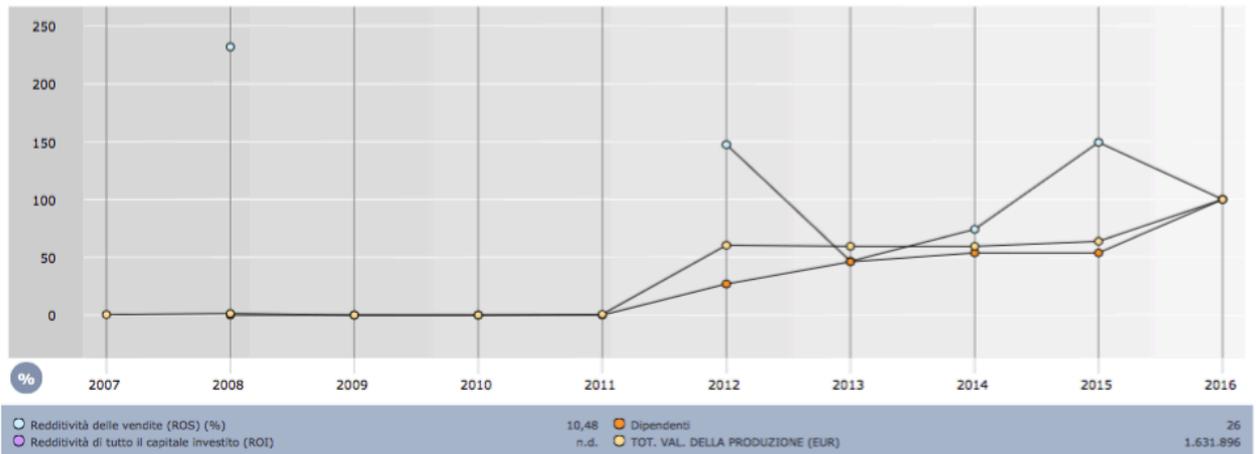


figure: "KPI'S evolution", source: AIDA

#### 3.4.4 MenoCarta Pro Srl<sup>14</sup>

Meno carta Pro is the shared service center of Menocarta.net, located in Padua, it starts out from Menocarta.net in 2014, with the idea of continuity after the the end of the network contract. Currently the company is a meber of the Mneocarta Network.

It works as a marketplace offering oportunities, by affiliatiating the consultant who wants digital services, to use an engagement platform and acquire new customers for B2B Electronic Invoicing, to Buy and Resell Electronic Invoicing and Substitutive Services, to manage current and future customers, through modern consoles for each and every service available; and to a direct client, which wants to benefit directly from all the digital services offered by the Shared Service Center (SSC) to buy all the services available in the SSC, to see evolved reports, to know at any time the consumption and the characteristic parameters, request and obtain specialist advice on the issues managed by our company.

Menocarta.pro also offers services and solutions such as: Electronic invoicing, substitute storage, new spesometro 2017, digital passive cycle. Its experience is based on the competencies of commercialist and notai, who had shared the vision of the digital renewing as growth strategical element. Menocarta pro is a network of expert commercialist specialized on digital field. With the aim of giving value to the figure of the qualified professionist to help enterprises and institutions. Through qualified training, Menocarta.pro help professionist to become “Storage responsible”, a mandatory central figure in the “storage system”.

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<sup>14</sup> [www.menocarta.pro](http://www.menocarta.pro)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2014 - 2016)**

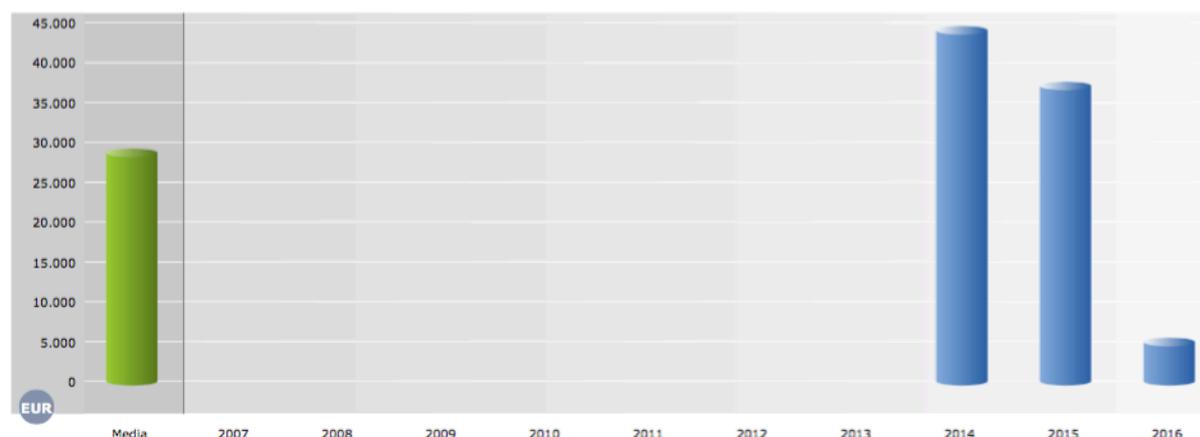


figure: "value of production" source: AIDA

### 3.4.5 Governance and coordination mechanisms

As previously stated, Menocarta was born as network-contract and now it is a network-subject. The reason of this change is due to the need of giving to the clients an idea of unity; moreover, in the previous contractual form, administration and the issuing of invoices were up to the firm leader. With the acquisition of legal subjectivity, it is up to the network itself effectively working as a firm, so that the network does not need a leader firm anymore. Indeed, in a first phase there was a leader firm that had the guiding role, just from an administrative point of view. In this network, the choice of the leading firm was not due to the dimension of the billing, but just because the Si.ged was the one who had the more or less clear vision at the beginning, so that it would have been within the network for sure. Moreover, even though after the acquisition of the subjectivity there is no leader firm anymore, the founders of the network retain the prerogative of choosing which firm to let in.

Instead, once the network became "subject" a Common Body was instituted with the role of CDA, formed by three people: two within the network, and one outside the network. The latter, dott. De Vivo, actually the president and in charge of coordination has been in the common body since the beginning. The reason for choosing a person outside of the network is related with the idea of super-partes, in case of misunderstanding or conflicts. This Common body governs the network and there is no Network manager because the Network does not need it, as the CDA is already formed by managers and professionals, furthermore, the members have clear strategic goals and all the network

parties have the same vision. It is not served, but according to the interviewed Dott. Cortellazzo, the Network promoter, “ It has been possible because of the first impact given by the Leading firm.” The object of the firm is really specialistic and the contract is elaborated with its rule of procedures. Rarely they present the project to the CDA, within the network there is harmony and cooperation, basically the network is managed directly by the same members following their rules. Currently the Network is a veritable enterprise, and in terms of division of labour, there is an allocation of the work. If the company is able to do all the work by its own, or if he needs the help of another one, so depending on the prevailing work the company puts in place the project management: the joint body intervenes only if there are problems. The network accrues a 10% of fee on all orders. When an order is taken, the 10% is of the Network, the other 90% of the firm who took the work.

The Network assimilates the business as a main contractor, that has invested a lot of resources in marketing by affirming the brand, affirming successful cases and everything else. Once the marketing has managed to give visibility to those who belong to the network, we say that, thanks to the relationship of the common body, opportunities are brought to the table and given to member companies. Moreover, the frequency of communication between the firms is on weekly basis with a CDA meeting per month, by call conference or skype call. Being distributed in Milan, Padua and Pesaro, the network had an employer, a commercial manager, but he was not considered as a network manager, working just for one year remunerated with union wages.

As regards performance, Menocarta.net before the subjectivity had a really meaningful performance in terms of turnover with a billing of one million. At the moment instead, it is in a mature/terminal phase in which is facing a sensible period due to the exit of an important member, E-witness. Otherwise the Network is fully aware that the enter/exit is part of the “game”, but there is no denying it was a relevant part of the network. The reason of the exit of E-witness is due in part to the fact that the relationships, even among the member companies, are no longer those of the past. Because the philosophy of the so-called conservation under the law, has moved the axis of interests from one side to the other, “but it is physiological, we cannot get along better, as we do not get along better with that society, but that was an important founder so it is an event that is not negligible because its presence had a weight”. Always according to Cortellazzo, “the most common difficulty is only one, especially when you put patron companies in the middle, or puts too different companies in the middle, if the strategic vision is not common to the members, being on the network is difficult or there is a company, a line leader who trolling or it is really difficult”.

Nevertheless, overall the performance is positive, but the performance evaluation is not measure in invoicing but more on positioning, market penetration and brand awareness, until now the members have really invested on it and, even though they have not yet any return on investment, they trust it will come really soon. Budgets have been drawn up more than business plans because the network is only in volume and we say that everything is related to the discussion of electronic invoicing now

slowly, in fact it should have other numbers in the future, because with the obligatory nature of these things, be recognized, crossing fingers should bring us added value.

The advantage of the networking is that “if you want to go on the moon you cannot alone, but if we are ten, we can try to go there.” (Cortellazzo, 2018)

To recap some relevant elements, Menocarta.Net is a network-subject, alived for 5 years, so that recognized as in mature phase, with changing mood, to some extend can be also considered a semi-closed due to the previous approval by the common body. It is a network with a leader firm, until the subjectivity acquisition, starting from that, it has been established a common body. It cannot be considered with a determined action time, even though, from the contract , it is expected to close in 2019. The common body figure, is formed by three members one of those is an external one, with the aim of being a super partes. The coordination activity is designed by the president of the common body, that has a more operative role. From a strategic point of view, it is possible to identify the network as convergent with complementarity on members.

In the table below are shown the main variables of the coordination mechanism, current within the network.

<b>Network</b>	<b>Accountability</b>	<b>Predictability</b>	<b>Common understanding</b>
<b>Menocarta.Net</b>	<p><b>High Level</b></p> <p>No Network Manager            No Leader Firm            subjectivity            Common body            Routines: Weekly and Monthly            Object:conference call/skype call</p>	<p><b>High Level</b></p> <p>Internal rules            Regulation: tasks definition,            Monitoring, Deadlines            Budget            Shared goals:market penetration, positioning, visibility</p>	<p><b>High Level</b></p> <p>Cooperation,            Shared culture            Shared goals,            Shared rules: 10% Fee on each order</p>

Table: Menocarta coordinations’ mechanisms Source: “author’s realization”.

## 3.5 Network NAT

### 3.5.1 Network presentation and overview

The “Network Automotive Triveneto” (NAT) is a network of companies offers to the automotive industry an excellent Italian turn-key product, starting from prototyping and mould manufacture for plastic and metal products to component manufacture, finishing, coating , anodizing, assembling, and delivery to the customer. One single supplier and designed to simplify the complexity of manufacturing process, to optimize workflows, to save time and resources, and to ensure, at the same time, a customized and flexible product. NAT was born in 2013 by the aggregation of six companies of the Triveneto: Anodica Trevigiana s.p.a, CST Stampi, FMB Srl, Futura Società Cooperativa, Lucchese Industria Srl and R.I.C Srl. Currently five because CST is not a member of the network anymore.

Thanks to its competencies, synergy and innovation, NAT simplifies the manufacturing process. Optimizes the workflows, saves time and resources, and ensures, at the same time, a customized and flexible product.

### 3.5.2 Anodica Trevigiana<sup>15</sup>



Anodica Trevigiana is a company with 60 employees and it specializes in manufacturing prestigious products with high aesthetic value. Thanks to 50-year experience, this company can offer innovative and technological solutions to meet the most demanding expectations across all sectors: from household appliance to automotive, from medical devices to furniture, always keeping an eye on the luxury market. Its special competence focuses on the anodizing process, the aluminium working and all metalworking in general, including curvature, welding, polishing, gloss polishing, coating and surface treatments. Anodica should not be considered just as a supplier, but also as a partner for common product development.

“Our passion for our work is what pushes us to try and find the best aesthetic solutions for our customers”, says Engineer Giorgio Zanchetta, Managing Director. The services offered by Anodica Trevigiana are: Aesthetic solutions for metal components, customized finishing, competence in matching different materials, support in the planning phase. This company is not just focused on aesthetic components production but provide solutions designed, functional and exclusive.

Anodica Trevigiana started its activity in 1962, with more than 50 years of activity and continuous improvement, going from small-scale to industrial production; from s.r.l. to s.p.a in 1992, to an international company. It invests in technology, research and people, because those who believe in the future and ideas never stop growing, and seeks efficiency, beauty and excellence from the very first day. From its foundation, Anodica has always been a company based on a culture of doing. Starting from aluminium machining and anodizing, the company has continued to evolve by investing in new systems and expanding its skills. Thanks to its problem-solving approach and ability to establish a “technical relationship” with buyers and designers, Anodica has become an international reference point for the home appliance sector. Nevertheless, every day it shifts its level of specialization towards new areas and goals. In 2008, the company embraced the principles of Lean philosophy, giving a further boost to its growth.

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<sup>15</sup> [www.anodica.it](http://www.anodica.it)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

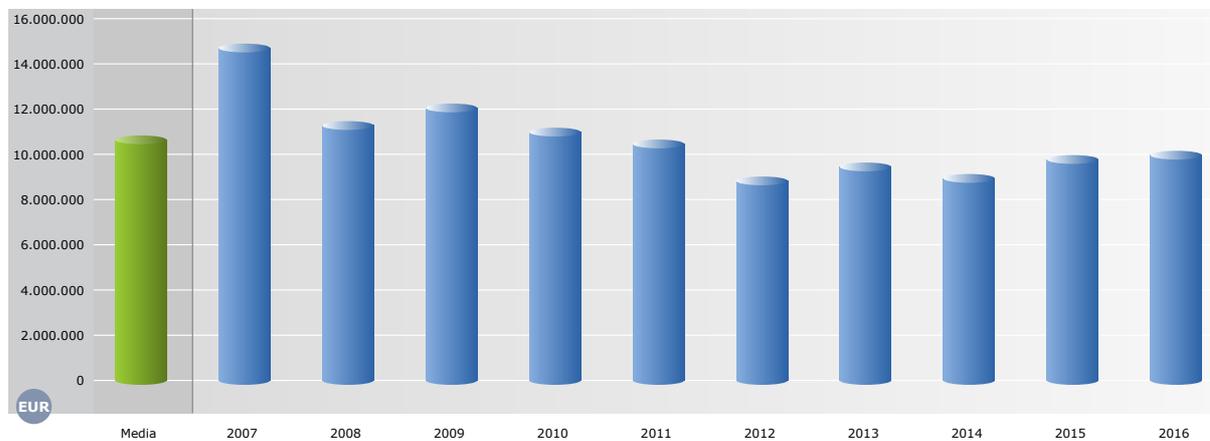


Figure: Value of production evolution; source: AIDA

**Evoluzione in indici di diverse variabili (anno di riferimento : 2013)**

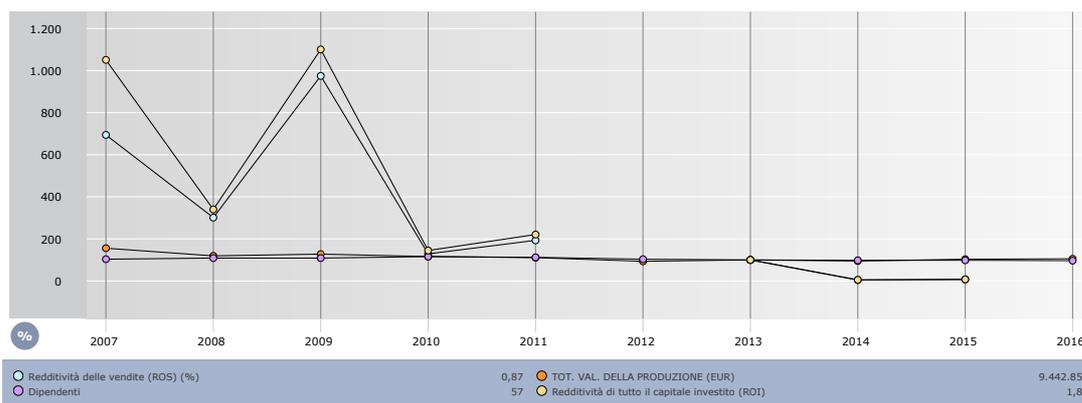


Figure: KPI's evaluation; source: AIDA

### 3.5.3 Lucchese industria srl <sup>16</sup>



Lucchese Industria is a company with more than ten years' experience acquired mainly in the automotive industry. It is a point of reference for product engineering, as well as in mould planning and manufacture, and in the manufacture of thermoplastic parts with bi- and tri- material components. Since 1985 the company has specialized in aesthetic detailed moulding with a wide range of customized products: from technical parts, such as tanks and grids, to aesthetic parts, such as door panel components, gear components, with mono-, bi- and tri-material components, coloured, transparent, chromed, coated and silk-screen printed, details with bi-, tri-material components with plastic, metal and/or carbon inserts, to be assembled with no need of glue.

All the technologies and systems employed are environmentally friendly: the special attention to the customer starts from here, from the respect of the world and of the environment we live in. Lucchese Industria offers research, competitiveness, technology, quality: solid roots that look to the future with a continuous focus on innovation.

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<sup>16</sup> [www.luccheseindustria.it](http://www.luccheseindustria.it)

**LUCCHESI INDUSTRIA SRL**

31020 San Polo di Piave

Codice fiscale  
Numero CCIAA

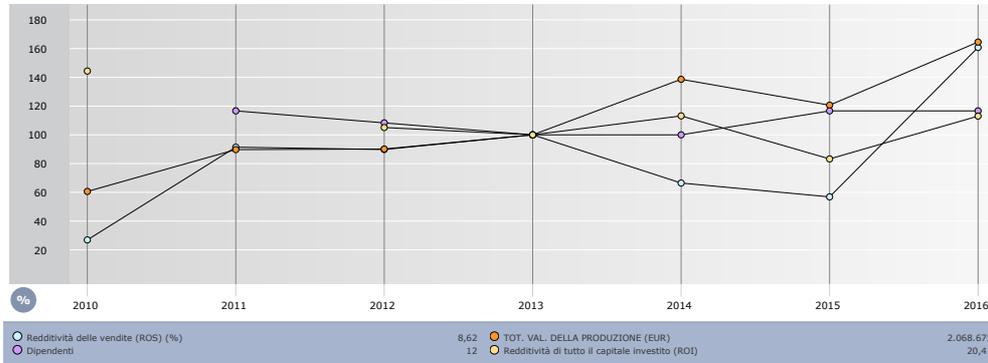
04361630264  
TV0343499

Società privata

Società artigiana

Questa società è indipendente (ma non è AR di un Gruppo)

**Evoluzione in indici di diverse variabili (anno di riferimento : 2013)**



**LUCCHESI INDUSTRIA SRL**

31020 San Polo di Piave

Codice fiscale  
Numero CCIAA

04361630264  
TV0343499

Società privata

Società artigiana

Questa società è indipendente (ma non è AR di un Gruppo)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2010 - 2016)**

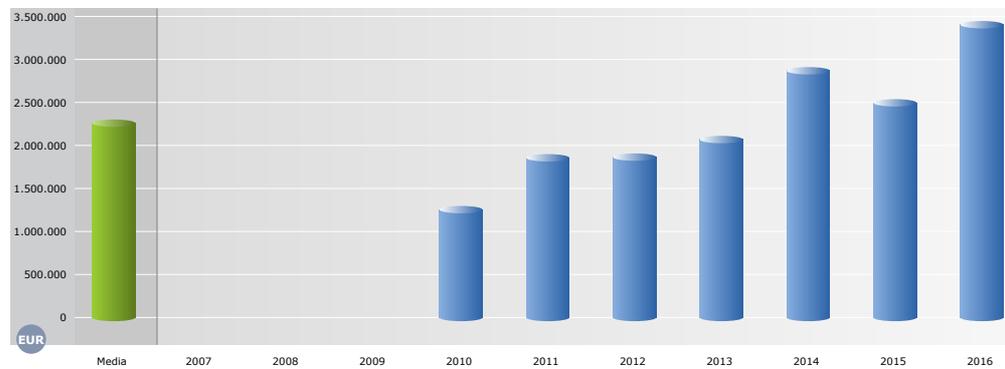


Figure: "KPI's evaluation"; Source: AIDA

Figure: "value of production" source: AIDA

### 3.5.4 FMB SRL<sup>17</sup>

FMB was born officially in 2009 from the merger of two companies specialized in the design and production of plastic injection moulds. In 2010, during the First phase of aggregation, the technical office meets in a single structure bringing the staff of the design area to 8 units. In 2011, the relocation of the entire production unit at the Cornuda site (around 1500 square meters of surface). FMB takes part in the establishment of a new business network to serve the Automotive sector in a complete and innovative way: NAT - Network Automotive Triveneto. 2013 registered a great expansion of the commercial area. In 2014, change and evolution in security with the UNI / INAIL "safe work" lines; innovation with a new Palletized Horizontal Working Center dedicated to the machining of OKUMA MB800 steel molds; collaboration, with a new supply chain contract with two partner companies: 321 is born - Experiences at your service.

In 2015 of some important figures were introduced in the planning and production area, reaching a total of 35 employees. In 2016 the company adopted the ISO 9001: 2015 standard. FMB has applied the Quality System in a complete and extremely structured manner with an important tension to improve processes and resources.

It has grown and continues to evolve, thanks above all to the careful listening to the needs of partners and customers: the services offered are prototyping, planning moulding, manufacture. "From the designing to turn-key solution" this is the motto of the FMB Srl.

FMB has been working in the mould planning and manufacturing sector since 2008 and is a high quality and reliable partner in this market. A team of four entrepreneurs leads this company, each member of the team has significant experience in the metalworking sector, and a competent and qualified middle management supports them. This company plans and manufactures steel and aluminium moulds for the following markets: footwear, sport accessories, automotive, motorcycle, furniture and agricultural machinery.

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<sup>17</sup> [www.fmb srl.eu](http://www.fmb srl.eu)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2008 - 2016)**

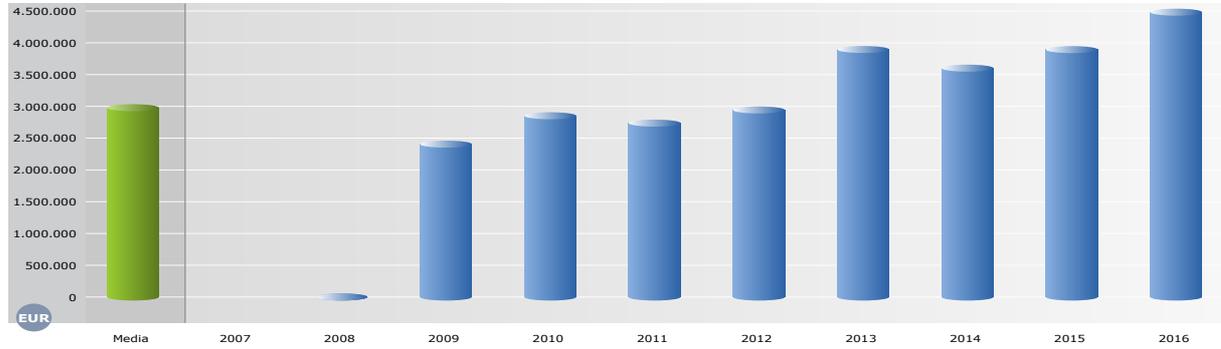


Figure: "value of production" source: AIDA

**Evoluzione in indici di diverse variabili (anno di riferimento : 2013)**

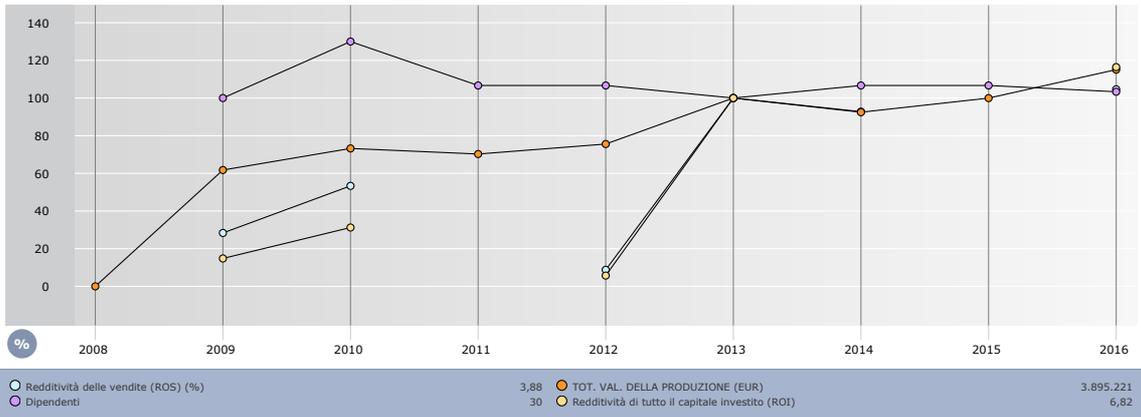


Figure: "KPI's evaluation"; Source: AIDA

### 3.5.5 Futura società cooperativa<sup>18</sup>



Futura has been processing components for the automotive, household appliance and furniture sectors since 1984. Its activity focuses mainly on plastic component coating for car interiors, but it also performs complementary processes such as: pad printing, hot stamping and assembly.

The coating processes, performed by means of three robotized plants, can use both water based and solvent based coating products. The working method adopted is suitable also to process small series.

The quality assurance system complies with the automotive standards in force and the coating processes have been homologated by VW, Opel – GM, BMW; it offers painting, finishing and assembly services and applications for car interiors, home appliances & electronics, and furniture & design

Futura has always placed the customer at the center of its activity by managing the work environment and production with a view to quality and sustainability.

Futura's values are: Customer orientation, Transparency and continuous improvement, Innovation and sustainable development. Currently the people in Futura are 75 between employees and members, within an area of 7000 m<sup>2</sup>, 4000 m<sup>2</sup> of warehouse 3000 m<sup>2</sup> of work area and a registered turnover of € 7,500,000 in 2014.

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<sup>18</sup> [www.futuracoopsociale.it](http://www.futuracoopsociale.it)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

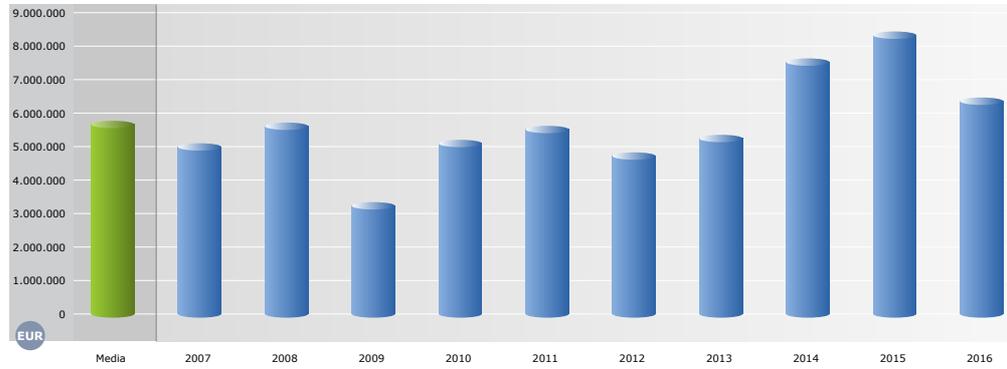


Figure: "value of production" source: AIDA

**FUTURA SOCIETA' COOPERATIVA**

**Evoluzione in indici di diverse variabili (anno di riferimento : 2013)**

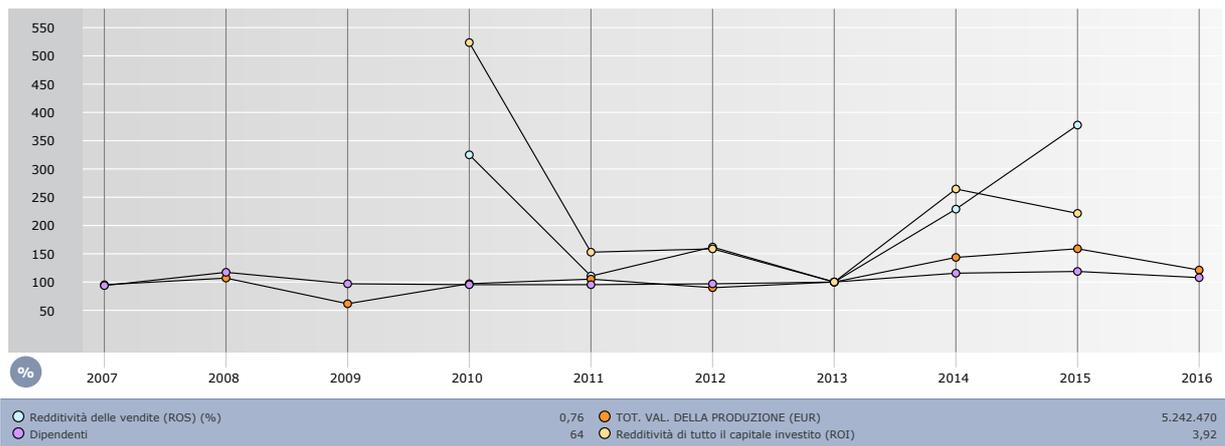


Figure: "KPI's evaluation"; Source: AIDA

### 3.5.6 R.I.C srl<sup>19</sup>



The R.I.C. company was established in 1999 and deals with the planning, development and manufacture of plastic, metal and composite material products. RIC manufactures mainly composite material products (thermoplastic and thermoset material) by means of techniques such as the Press-forming and the Compression Moulding, which allow a mass production. They are able to develop and produce products starting from zero up to a ready to sell turnkey end-product. They start from feasibility studies and more detailed engineering studies done in close collaboration with customers. And then proceed with the design and development of the molds and tools, make prototypes or preseries, test, validate and produce the product.

RIC has an internal quality management system helps them to guarantee a constant product quality and no delays in delivery. Giving much importance to quality, RIC has a ISO 9001 and ISO 13485 certification which allows them also to develop and produce medical components and tools up to class 2a. For some of these products are also FDA registered. Thanks to their high-quality standards and technology, the products made are suitable for different markets: sport, nautical sector, automotive, motorbike, bicycle, offshore, radio astronomy, medicine, automation, photography, leisure, defence and aeronautical sector. In addition to composite material components, also other components can be supplied, for example engineering polymers or long fiber components, aluminium components, MIM (metal injection moulding), technical ceramic and also several surface treatments.

Besides the manufacturing services, it also offers product development engineering services and consultancy for high-tech projects or research support in sectors such as: offshore, aerospace and radio astronomy.

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<sup>19</sup> [www.ric.it](http://www.ric.it)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

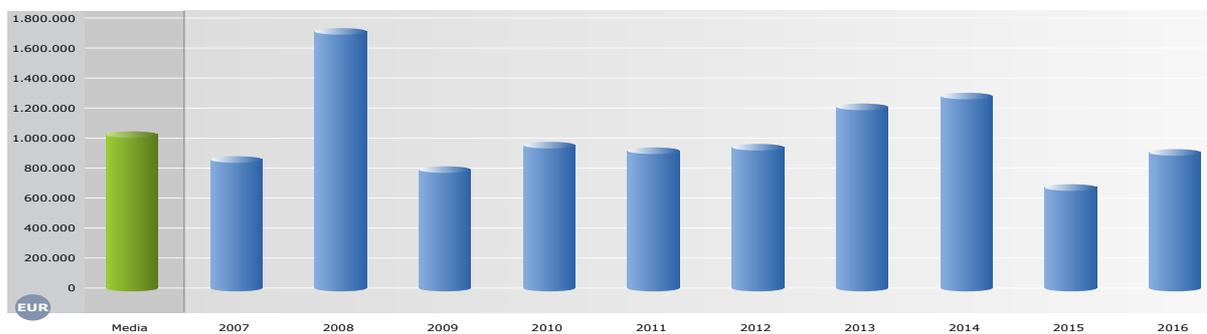
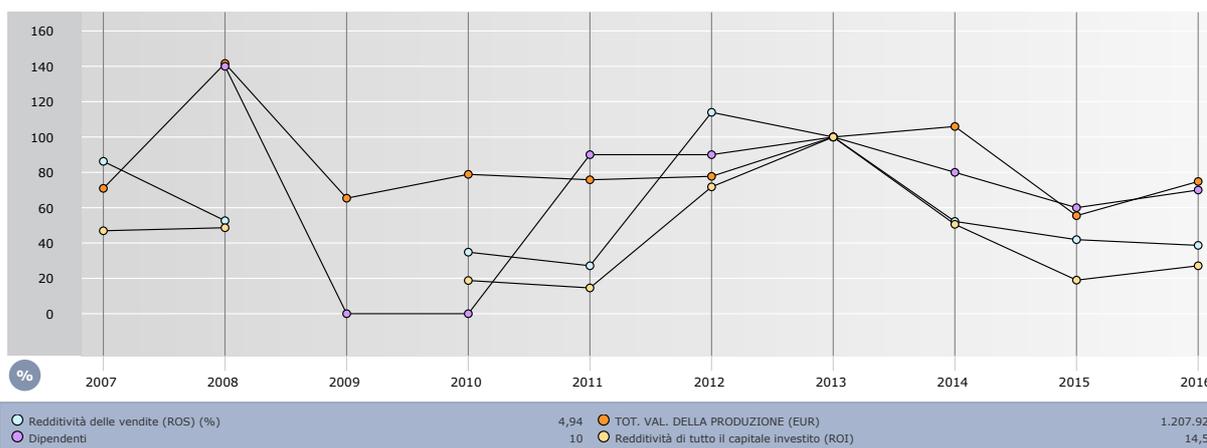


Figure: "value of production" source: AIDA

**Evoluzione in indici di diverse variabili (anno di riferimento : 2013)**



○ Redditività delle vendite (ROS) (%)  
● Dipendenti

● TOT. VAL. DELLA PRODUZIONE (EUR)  
● Redditività di tutto il capitale investito (ROI)

4,94  
10  
1.207.921  
14,53

Figure: "KPI's evaluation"; Source: AIDA

### 3.5.7 Governance and coordination

The president of the network, ing. Zanchetta, states that NAT has been active for more than five years and is now in a phase of transition. The shift is due to the change of the original collaboration object, going to limit the objectives that were too large to define in a narrower context. Initially it was of a commercial nature, suitable for the development of orders, now it has been completely redefined to a substantial collaboration of the development of the skills of the individual companies belonging to the network, compared to the typical functions that serve in a certain market, “ I give an example, with respect to the quality function, we have development paths for the quality managers of the individual companies in the network, aimed at the specific sector of the automotive outlet, therefore the individual managers have for years been following a common path of training and training on quality topics related to the automotive world. This has been going on for years, in fact, and soon updates will be officialised, we are in this collaborative direction, and now it has become involved in the commercial and development roles, for this year, and in the future also for further roles, an enlargement plan has been made, with a focus on developing these skills.”

At the beginning the companies on the network did not know each other, they are companies that have been put together by a "glue", the promoter of the network, a manager who is now out of it. The drafting of the contract was managed by an external support and before the constitution there were several preliminary meetings. The NAT network is an open type network and with particular reference to the network object, which has been limited to the joint development of competences, the constraints of access to competing companies have been reduced. From an organizational point of view, the NAT network has a common body comprised of business representatives. The common body, which decides on decisions, and also manages from an economic point of view, but also operational, in this case, taking charge of the organizational activities that emerge from the recent change.

There is also a Leader company, which has been chosen as a point of reference in the contract phase, but the decisions are taken unanimously by the representatives in the common body. The leading company is Anodica, of which, Zanchetta, is the president. The choice of Anordica as a leading company was in terms of turnover in comparison with the other companies, in fact Anordica was not among the founders. The Network has just a contractual form and no subjectivity and they do not have a common fund, because there are no specific investments, and no material assets as there is no necessity.

In addition, the network had Network Manager for about a year. Among the difficulties that a network manager has to deal with and his qualities:

“the biggest difficulty is that companies have different DNAs, and putting them together requires putting together the personalities of entrepreneurs who are different, difficulties that required soft skills. The second problem is the Leadership in the network, it could also be that the network manager acts as a leader but if dealing with entrepreneurs of small businesses or with companies of the same type, like ours, it is difficult to be the leader, also if the network is already formed will have to deal with existing leadership figures, that then will eventually follow and limit themselves to helping to communicate well and professionally so are required not only soft skills but also managerial skills, which entrepreneurs do not have and therefore are useful and fundamental; another difficulty, is of a different kind, and is linked to the economic situation of the company, which may be into the network to seek improvement situations, using the network as “a parachute” for some problems they have at that time. So they make the collaboration with the network to some extent difficult because maybe the entrepreneurs and managers are engaged on other fronts of survival, or it may be that the company is well and that in its areas ensures its collaboration with the network, these situations are that change over time and also in this sense the network manager, must have the sensitivity to understand and modulate 'in some ways, not only manage but also to gather and stimulate and with the ability to understand the moment where it is the company, from a relational point of view and good managerial skills, are important characteristics.”

The organizational routines are bimestrial, but from an operative point of view, more frequent. The Network has activated two functions, the commercial and the quality one, that work independently by following the goals determined by the common body; inside of each function has personalized routines because each function has an external managerial support under the network responsibility, and each team has an internal leader that establish consequently, the internal rules.

In terms of performance, it is possible to speak just on immaterial benefits, linked to the possibility of growth innovation that each company had. Thanks to this collaborative, the network allows to start training in term of quality and industrial improvement by working in common project with the aim of improve the project's results. Moreover, it was given to the companies not in the automotive industry, to easily have access to it.

Relevant Elements to underline are: the presence of a firm leader, No subjectivity, a common body established, and a hierarchical organization of function and task assimilated to a firm itself.

In the table below are shown the main variables of the coordination mechanism, current within the network.

Table: “Coordination Mechanisms”. Source: Authors’ data elaboration

<b>Network</b>	<b>Accountability</b>	<b>Predictability</b>	<b>Common Understanding</b>
<p style="text-align: center;"><b>Network Automotive Triveneto</b></p>	<p style="text-align: center;"><b>High Level</b></p> <p style="text-align: center;">Firm leader No subjectivity No Network Manager Common body Two operational teams Routines: Bimestral Meeting Two operational teams Team leader External operative manager</p>	<p style="text-align: center;"><b>High level</b></p> <p style="text-align: center;">(The common body Defined task and help to established rules and deadlines)</p>	<p style="text-align: center;"><b>High level.</b></p> <p style="text-align: center;">Objects clearly shared among all the members. Within the team</p>

## 3.6 Cycling in the Venice Garden

### 3.6.1 Network Presentation

Cycling in the Venice Garden is a young Network for bike tourism. It was constituted in may of 2017 by local enterprises within the Venetian Area. With the shared aim of tourism innovation (tourism 4.0) they cater both to cyclist-tourists and cycle-excursionists. Finding the key strategy with a continuous improvement of quality standards established by the network as well as international, which is flanked by new initiatives, proposals and original, integrated, experiential products with high added value.

The mission of the Network is: “Networking means engaging everyone to the maximum and achieving great results together!”

“Cycling in the Venice Garden” means cycling in Italy between Venice and the Dolomites, going to the discovery of Art, culture and food and wine excellence that characterize our territory. The project was promoted by the consortium Marca Trevigiana, and consequently the network as well.

Marca Trevigiana is a tourist promotion consortium born 20 years ago. It has reached and disseminated its offer on practically all 5 continents, to promote and commercialize the tourist offers of the companies belonging to the consortium, engaging with fairs, work shops, training, hosting journalists, maturing an experience on what are the needs of the tourist, taking into account what their offers are. This over time has made Marca Trevigiana successful in segmenting the demand of the tourist, who by now is no longer satisfied only with the attractiveness of the destination, but with what the territory of that destination offers, looking for an experience, “thus moving from a horizontal concept to a concept of verticality, with which we mean the specialization of the offer and in particular the territorial one, offering customized and tailor-made solution for the tourist.”

The territorial location of the intervention intercepts a rich series of itineraries and excursions, including:

- Venice-Monaco or "The Way of Friendship", which is divided into five themes, the last one called "The Gardens of Venice and the City of Art", which crosses the Venetian plain, crossing the cities of Vittorio Veneto, Conegliano and Treviso before reaching Venice. Hence the inspiration of the name given to the Net. This path is linked to the strong brand of Venice;
- Itinerary I4 "Dolomites-Venice", which is integrated into a regional strategy which identifies the main routes of tourist interest, including the one just mentioned;
- Itinerary I2 "Anello del Veneto", also included in the regional strategy;
- At Treviso, it also captures the Treviso-Ostiglia itinerary, attributable to the “Green Tour” project, which sees the involvement of numerous municipalities for the enhancement of waterways, the Veneto

parks and the recovery of the former Treviso Ostiglia railway, through an initiative that combines cyclo-tourism with the sustainability and quality of life of residents;

- The excursions named respectively: "Girasile", "Giralivenza", "Giramonticano", "the Ring of Montello and the Colli Asolani", "the Alta Via delle Prealpi Trevigiane", the "Pedemontana".

Seen in its vastness the project extends to the whole of Veneto, if we consider the concept of tourist in movement, hence the consideration of how much this network for its own location, is highly strategic for a product club dedicated to cycling tourism which, it should not be forgotten, it is located between two UNESCO sites of fundamental importance: Venice and its lagoon and the Dolomites.

Currently the Network is composed by: **Hotel "Al Fogher"** in Treviso, **Palazzo Brando**, historical residence with rent apartment in the city center of Treviso; **Hotel Fior**, with the homonime **Restaurant** at Castelfranco Veneto, leader of the same firm; **Hotel Continental**, in the city center of Treviso; **Hotel Terme**, in Vittorio Veneto; **Agriturismo "Il Cavaliere"** in Mareno di Piave; **Birorent**, rent bicycle enterprise, operating in all the venetian territory; **Freedom**, an event organization company, famous for the "Prosecco Cycling" event; **Consorzio Città d'Arte e Ville Venete "Il Giardino di Venezia" (GdV)** in Treviso, with the role of incubator, with function of ideation, promotion and market development. Each of them belong to an action-activity.

- 1) Reception and overnight stay offered to cyclists, respecting the Charter of services: thanks to the participating companies that are of good level (from 3 \* up), welcoming accommodation, equally divided between the center of Treviso and the Alta Marca Trevigiana. They are all structures that can boast a consolidated experience, and are distinguished by their comfort. They are the hotel "Al Fogher" in Treviso, near the center, Palazzo Brando, historical residence with apartments for rent in the center of Treviso, the hotel Fior, in Castelfranco Veneto, the hotel Continental, in the center of Treviso and the Terme hotel in Vittorio Veneto. Hotels are recommended by other network participants to those looking for accommodation, otherwise it is the T.O. that directly puts them inside the package. In the case of complete seats, each accommodation facility suggests the other facilities of the network.
- 2) Catering: restaurants belonging to the participants of the network that are positioned on the main route that goes to Venice and Treviso must comply with the Charter of services; chosen for their gastronomic culture that favors local products, they are reported both by the accommodation facilities and by the rental company, as a "good eating" stop. They are the Al Cavaliere farmhouse in the village of Soffratta, the Fior restaurant connected to the hotel, the Al Fogher restaurant also linked to the hotel of the same name.
- 3) Bike rental service: this activity is coordinated both with the accommodation facilities and with the restaurants which, in order to give a more comprehensive service to the tourist and signal it to those who need to rent bikes. The service also gives the possibility to rent the bike at one point and leave it at the end of the route, returning with an ad hoc transport service. For

this service, we refer to Birorent di Mestre and Vibe di Valdobbiadene (the latter being entered).

- 4) Organization of complementary services: each member establishes a series of relationships with the complementary companies of its territory, to be shared with the Network, to guarantee a whole series of additional services related to transport, manufacturing companies, crafts, manufacturing and much more, previously screened and selected by the member, to guarantee the completeness of the product club.

### 3.6.2 Governance and coordination

In the preliminary phase the consortium defined specific commercial and goals and the adherent firms decided to establish a contract – subject in order to be able to access European funds. They have an independent common fund managed internally, as a firm, with the main object of creating a complete product of integrated services act to completely satisfy the tourist.

The role of the consortium is essential by acting as incubator. Especially during the contractual phase, by managing all the bureaucracy. The initial composition of the network has been defined by the consortium so that the firms did not know each other beforehand. As specified in the object of the network, is easy to understand how in the network it is possible to find competitors but also firms that provide a completely different kind of services, and this is the strategical key of the network.

“Cycling in the Venice Garden” is an open network, and the firm that decide to enter has to complete an “Application form” that will be approved by the common Body. The entry on the network is possible by paying an entry-fee, currently higher than at the beginning, because of the high results expected, and the network is acquiring visibly within the industry.

The Network is designed with a view to growth, for which not only is the entry of other companies allowed, but its promotion is under THE responsibility of GdV. For these, forecasts have already been anticipated with respect to the types of companies that may enter, so that the Service Charter does not outline the characteristics and standards only of the activities currently present in the network, but also of the activities that may participate in the future.

In detail the various types of companies are as follows:

- a) Accommodation facilities, integrated into the network of companies with a fundamental role aimed at providing essential services for hosting and overnight accommodation for the type of target client and for the type of network of companies.
- b) Restorative facilities, fundamental activities to give refreshment to the cyclist, to discover the food and wine of the territory and the culture of the Treviso area in this sense;
- c) Dedicated tourist and bicycle tourism services, that is, the offer and partnership with sports equipment rental, luggage transport and equipment, transfer with bicycle transport, technical and medical assistance (if any) during the tours;
- d) Sports and cultural associations, necessary for the dissemination of itineraries and locations accessible by bicycle, provide information on operators and events related to both cycling and promotion of individual locations;
- e) Travel agencies, fundamental for proposing and organizing daily tours and cycling holidays;
- f) Tourism professionals, especially tourist guides, tourist guides and naturalistic-environmental guides for the accompaniment and guidance to the discovery of the various territories and itineraries, also with attention to the naturalistic and cultural aspects;
- g) Carriers and taxis, to and from airports, railway stations for the arrival and departure of tourists.

The choice of companies by type, allows the construction of a complete and competitive tourism product, on which the business plan is determined.

The network is in a starting phase, by being started in 2017, not completely operative yet the problem that is typical to face in this phase are of culture uniformity, and operations in order to realize the expected purpose. It has a common body formed by the representative of each firm-member, who choose as President Giulia Grande. There is also a Network Manager, Alessandro Martini, who was one of the promoters of the project. The first action realized once concluded the contract was to define this two figures.

The figure in charge for the coordination activity is the Network Manager, supported by the President, that in this specific case has not just a representative role but it is operative. There is a leader firm within the network because the idea is to create a “leader-network” by exploiting its own subjectivity, nonetheless it exists a team, the network manager leaders’ one, that is in charge to the development of the network, as said at the beginning the Network manager figure and its team have been chosen pre-contractual phase. The Network Manager is an external figure who belong to the consortium Marca Trevigiana. The role of coordination is played by Alessandro Martini, in accordance with the president.

What emerged in the interview to Alessandro Martini, is that the role of the manager is “being responsible for securing primary and secondary services to a network and this means making available to the members the administrative experience, and the market, of which we know the markets and know the profiling of the product we had”, and it is available for remuneration, then the network manager and its staff take part to fairs, guarantee a planning of both material action and on the web

and social networks, and not in the last administration, accounting, financial statements, relationships with banks, with institutions and all that concerns promotions and marketing. In this specific case it is a role that covers everything from the ideation to the realization of the object (product of the network).

One of the difficulties faced by the network manager was to create a network culture, not a simple goal, easy to define but difficult to implement, because in a very individualistic culture, not easy to unhook, the network has nothing of the individuality of the enterprise but enhances it by bringing together individualities, coming to generate a single coherent legal product and not the sum of multiple legal products. Another difficulty faced, always according to Alessandro Martini: “it is the product realization once the culture is generated, we need to create the network product, a product that generates emotions, that does not exist, and has a fair price that the promotion is able to guarantee. Furthermore, by being a goal that persists over time therefore it means long term planning, also because the customers and the market change. The network can take advantage by some calls that have been issued for financing from the European community that I really want to get to those levels that I was talking about. Contribution can amount to 200,000 euros if you realize a set of services, but also material actions, then acting on building renovations, e.g cycling redevelop areas to be used in the workshop mechanical area for bicycles, and even put wash-dryers or a biological and energetic diet enhancing the products of the territory, in order to give to the tourist a completeness of services much appreciated, are all instruments that the POR (regional operative plan) allows us to enhance, but with funding from the EU.”

The activity plan can be summarized as follows:

1) Prototyping of the tourism product: it is a very delicate phase which, especially in the initial stages, requires the participation of all the members and the Network Manager, and a strong commitment on the part of everyone. A general picture of the tourist situation of the territory is made, in relation to the product to be developed, proceeding with the guided technique of the Canvas model, which lends itself more than others to start-up phases. It identifies what is needed for the tourist by bike, what the members offer and their strengths both logistically and in terms of supply, what is missing, what should be implemented by the members themselves, and what should be offered in an external convention. Specifically, for the product, a geographical mapping of the characteristics of the territory, the attractions, the places of historical-cultural interest and all those aspects that may be relevant when tourist offer is made. The results are synthesized and organized in an organic way by the Network Manager.

2) Creation of tourist packages related to the product: this phase is coordinated by the Network Manager in concert with GdV, and is developed through various meetings to which the other members are present, and in which it is discussed what to include in these packages. The packages just mentioned, must be logically integrated with the offer of the territory related to culture, art, exhibitions, attractions of the places, tastings of typical products, depending on the type of package and user;

3) Communication and promotion of products: in this phase, the logo for "Cycling in the Venice Garden" should be elaborated, the coordinated image must be prepared for the launch of the product, after which the network proceeds with the actual promotion, which is done in a unified and well planned manner, with a well-conceived editorial plan. For this task, the Manager involves the two most referenced subjects and with the necessary skills and experience available to the Network: the GdV Consortium and the Freedom company, which organizes events of great resonance. With them the strategy is established to "hook" the Cycling in the Venice Garden brand to the most significant events related to the cycling world, which affect the brand and give greater visibility to the network, developing other innovative ones and allowing them to be launched from scratch. This phase is also instrumental to the entry into the network of other companies, which are able to realize the benefits deriving from participation.

4) Marketing: this is a fundamental step from which the success of the product is decided; Given that every company on its website and on its communication actions both on paper and online, commits itself to highlight the product club and the related brand, thus emphasizing the network, here too it is worth considering that, in such a specialized market, marketing and sales must be managed under a single direction to be more effective. Therefore, the GdV Consortium is entrusted by the members to maintain relations with travel agencies specialized in both Italian and foreign cycle tourism, still under consideration; likewise, the GdV Consortium is invested with the role of participating on behalf of the Network at the most important trade fairs in the sector and of implementing the activities for the bid-offer meeting.

They in fact have a routine of weekly and monthly meetings. The members meet each other regularly at least monthly to share the various proposals and activities. Usually the president figure is a representative one, but in the case of cycling the contribution is also operative. The firms within the Network do not know each other before and are not same-type businesses.

The reason why the president is active in an operative sense is due to the fact that, being in starting phase, the other members just ask for more promotion but not all do actively. The Network needs a leader. The purpose of the network is commercial and of promotion but it even has a social role. For example there is The "Monaco-Venice" board that manages the promotion with the aim of bringing tourists from Monaco, As well as managing and organizing the cycling path with the territory : all of these initiatives have a social role, bringing benefits for the whole community.

To resume some variables, useful to put on evidence, are that cycling in the Venice garden is a Network-subject, it is a young network, and from a contractual point of view an open one. As saw above, the network is open but there are some criteria to respect and high fee. For what concern the role, so from an accountability point of view, the network is a centric one, so defined because of the presence of consortium Marca Trevigiana. It can be also defined as an horizontal organization, formed by firm of the same sector but even from really different one. The strategic timeline is undetermined, because of the main object of creating a new service for the Tourism market. Moreover the operative,

administrative, and strategic role is attributed to the Network Manager, who plays operative tasks. The general idea is of sharing common object but it is a process path to build step by step, the nature of the network is of convergent strategy.

In the table below are shown the main variables of the coordination mechanism, current within the network.

Table: "Coordination Mechanisms"

<b>Network</b>	<b>Accountability</b>	<b>Predictability</b>	<b>Common Understanding</b>
<b>Cycling in the Venice Garden</b>	<p><b>intermediate level</b></p> <p>Leader Firm (consortia)            Subjectivity            Common Body            President            (representative/Leader)            Network Manager            (operative/leader)            Routines: weakly and monthly meeting,</p>	<p><b>High Level</b></p> <p>Consortia:            Defined goals            coordinate            define rules,            Service card,            reporting activity</p>	<p><b>Low-intermediate Level</b></p> <p>Clear final object            Asymmetrical info            Delay</p>

Source: Authors' data elaboration

## **3.7 Almax**

### 3.7.1 Network presentation

The "Almax" network takes its name from the network leader company. This, with over sixty employees and an average annual turnover of more than ten million euros, stands out from the dimensional-structural profile with respect to the remaining companies in the network. The network is also formed by both companies and individual companies, which nevertheless present the mono-sectorial nature of the network. It is evident, if one looks at the productive specialization of the members, that the companies are related to the leather goods sector and in particular in the manufacture of bags and suitcases. The network is currently formed by: Pelletteria Almax Srl, Demipelle Srl, Nanni Pelletterie Srl, Samar.

A peculiarity of the Almax Network is the simultaneous presence of Tuscan companies, especially Florentine, and others from the province of Naples. The synergy formalized in the network contract between companies of two distant centers of the leather goods sector, was born as a step following the consolidated subcontracting relationship, established over time by the company Almax, in response to an increased competitiveness of the market in the sector, but also to followed by a historic moment of crisis in the Italian market in general. This network is born between companies that already had a relationship of collaboration as they were mainly sub-contractors of the leader who then operate in the same supply chain. The companies considered it appropriate to start a more participated collaboration and the Network Contract seemed the most appropriate tool to pursue common objectives.

The objectives set by the Contract were many and were gradualized, and almost achieved. In particular, until now, the network has done a lot: on the financial level, looking for financial products suitable for small businesses and trying to improve the bank's rating to obtain, to small member companies, rates closer to those of the lead partner; on the level of quality and efficiency; in terms of process innovation, that is to say processing techniques. Some results have also been achieved on the cost reduction front.

### 3.7.2 Pelletteria Almax Srl<sup>20</sup>



Pelletteria Almax located in Via sette regole in Scandicci (Florence) was created in 1986 by Mauro Guerrini, evolving from a historical Florentine leather goods factory, the company – with the addition of Mauro's sons: Massimiliano and Alessandro – has grown to become a Partner of the most important Italian firms in leather goods. The modern management style, together with the application of technology and decades of experience in finely crafted products, have led them to have 85 staff members and an established network of subcontractors, with over 400 employees in total.

Creative projects are developed in the modelling department. Here, the ability of the technicians aided by the latest technologies allow us to create models which correspond to even the most demanding of expectations. Their decades-long experience and capacity to directly manage every phase of production mean that the Pelletteria Almax is able to produce high-quality bags and briefcases, in line with the most dynamic and flexible of requests. The quality of the finished product results from the attention given to the entire production cycle and from a final inspection, which is carried out within the company. This allows to guarantee a quality standard in line with the specific needs of the client.

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<sup>20</sup> website: [www.almax-italy.com](http://www.almax-italy.com)

**PELLETTERIA ALMAX S.R.L.**

50018 Scandicci

Codice fiscale  
Numero CCIAA

03772260489  
FI0386937

Società privata  
Società artigiana  
Questa società è indipendente (ma non è AR di un Gruppo)

**Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2007 - 2016)**

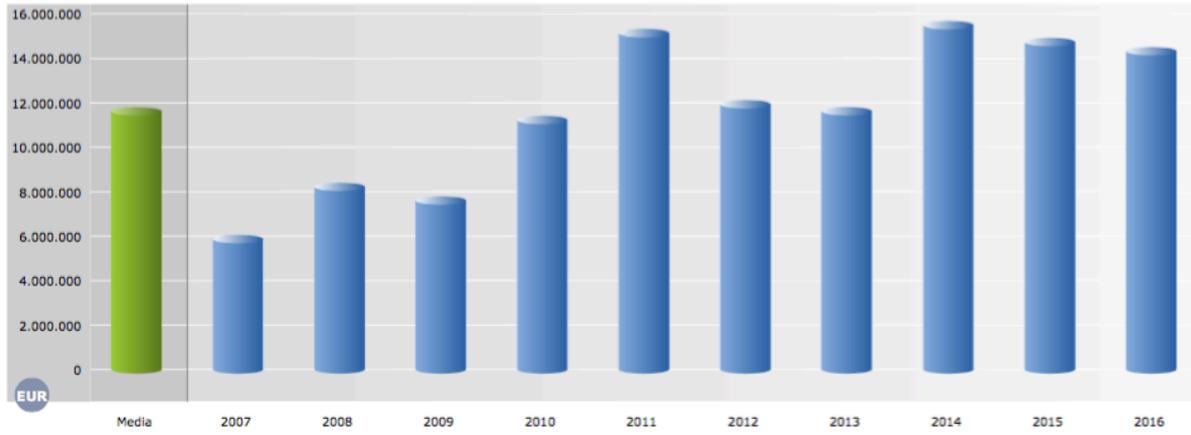


Figure: "Index evolution"

**PELLETTERIA ALMAX S.R.L.**

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Questa società è indipendente (ma non è AR di un Gruppo)

**Evoluzione in indici di diverse variabili (anno di riferimento : 2016)**

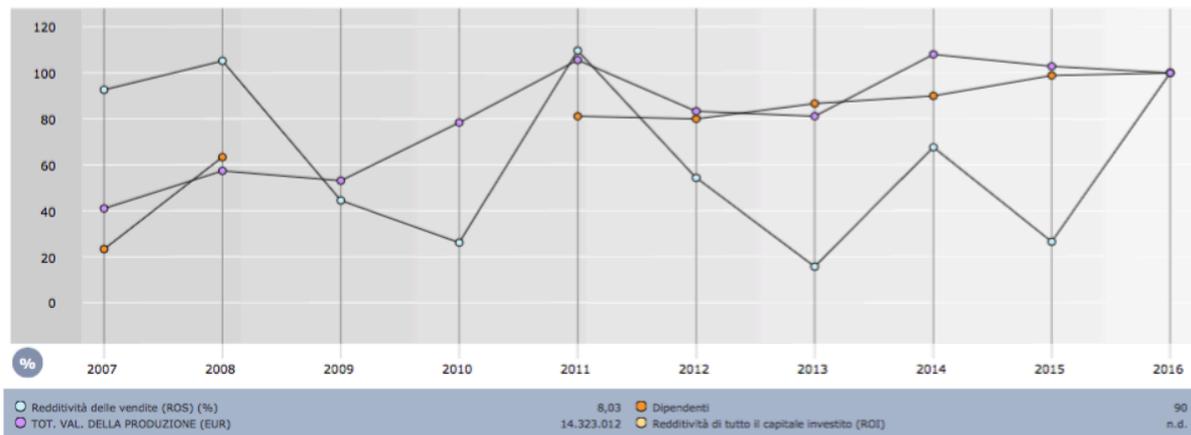


Figure: "KPI's evaluation"; Source: AIDA

### 3.7.3 DemiPelle Srl

Pelletteria DemiPelle located in via J.K. Kennedy in Figline Valdarno (Florence), is an artisan company that has been operating in the leather goods sector for over 30 years, collaborating with some of the most important brands, specialized in the assembly of high quality women's, men's, travel bags and briefcases. The company operates in a spacious factory of about 750 square meters in the province of Florence, responding to all the requirements mandated by current regulations and able to provide the rationalization and quality of work. It counts cutting-edge machinery in the sector and a staff of 16 qualified employees, DemiPelle based their story on a continuous achieving of experience, professional efficiency for the realization of the original Italian product.

**Figure: “Value of production”**



Figure: “KPI’s evaluation”; Source: AIDA

### 3.7.4 Nanni Pelletteria Srl

Nanni leather goods of Allocca Massimiliano, is a young company founded in 2010, operating in the small leather goods sector in the Neapolitan territory. Located in via De roberto, 44 Naples, they manage to satisfy all customer needs, with tailor-made solutions, and collaborate with major brands such as Prada and Balenciaga. He currently has total of 60 employees, and in the last few years he has registered a turn-over of two million.

Figure: "value of production" and KPI's evolution; source: AIDA

#### NANNI' PELLETERIE S.R.L.

80143 Napoli

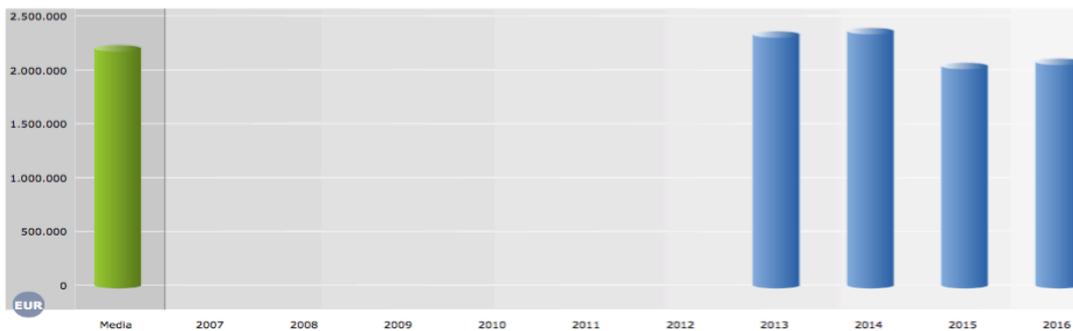
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Numero CCIAA

06597211215  
NA0824537

Società privata

L'A.R. Globale di questa società è MR MASSIMILIANO ALLOCCA

#### Evoluzione di una variabile finanziaria: TOT. VAL. DELLA PRODUZIONE (2013 - 2016)



#### NANNI' PELLETERIE S.R.L.

80143 Napoli

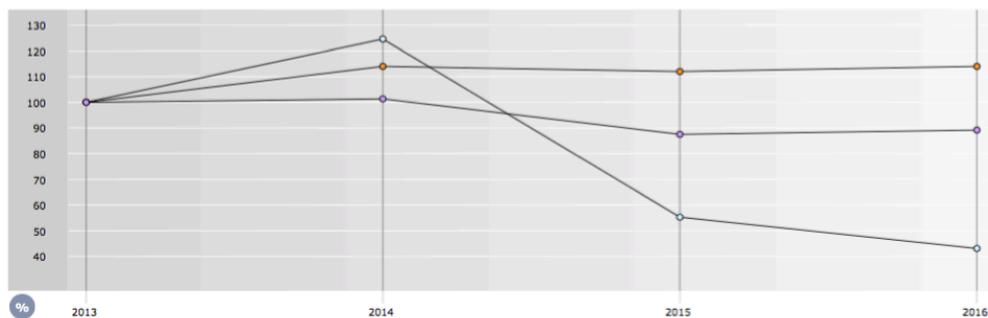
Codice fiscale  
Numero CCIAA

06597211215  
NA0824537

Società privata

L'A.R. Globale di questa società è MR MASSIMILIANO ALLOCCA

#### Evoluzione in indici di diverse variabili (anno di riferimento : 2013)



○ Reddito delle vendite (ROS) (%)  
○ TOT. VAL. DELLA PRODUZIONE (EUR)

4,92 Dipendenti  
2.326.453 Reddito di tutto il capitale investito (ROI)

50  
n.d.



### 3.7.5 “Samar” Srl

Samar was founded in 1996 with the opening of the activity by the current owner Salvatore Montaleone. Exploiting the skills acquired over the years, the activity, dedicated to the cutting phase, is enlarged, operating at the service of the major brands in the leather goods sector. The company, located in Scandicci (Florence), has grown rapidly to meet the needs of customers who have commissioned a growing amount of work over the years.

Like most companies in the Tuscan leather goods sector, the company works on behalf of the main top-level suppliers of the major manufacturers: Gucci, Balenciaga, Yves Saint, Laurent, Prada, Alexander McQueen, Fendi, Versace, Bally, Tod's, Berlutti. This has pushed the company to innovate technologically and to equip itself with equipment in step with the demands of the market to be more and more performing. The company is organized for the management of small and large lots and offers an effective logistics coordination service.

Samar guarantees the utmost confidentiality thanks to the division of the work in islands that develops on two floors for a total area of 450 square meters. Samar also provides control service on parts and quality service in order to limit the percentage of components to be cut out for problems related to the raw material. The company has been able to invest in technological innovation, an indispensable factor to combine with the artisan skills, to meet the needs of the brands that require a continuous evolution in production and logistics in order to respect the increasingly tight timing dictated to the current production model and contain costs.

The strength of Samar is found in the strategic choice by the owner to always be present in the company covering not only a management and control role but spending a large part of the working day within the various departments. In fact, the holder performs a continuous training of employees, who are currently 15.

This allows him to know all the phases of work in all its facets and this helps to solve everyday problems internally, to identify solutions with greater speed and to optimize dispersion at a temporal level. Samar operates in compliance with high quality and safety standards and over time has tried to enhance the membership of the company in order to strengthen the link between the employees themselves as well as between employees and owners. In addition, the company is committed to identifying improvements in health and safety, the environment, good practices and energy savings on a daily basis. The propensity to share research and process innovation has found its maximum expression in the choice to join, together with other companies, the establishment of a Business Network suggested by one of the major clients of the company.

### 3.7.6 Governance and coordination

Massimiliano Guerrini, director of Almax srl, defines the Almax network not as a supply chain network, but as protection of the supply network. The network was founded on the promotion of Gucci, an Italian high fashion brand based in Florence, belonging to the Kering group. Gucci was already a customer of Almax, and the basic idea was to safeguard the supply chain, at a time of crisis that found a solution the network contract instrument. The main purpose was to give to the affiliate companies, the possibility to interface with the great brands, favouring a vertical line up that the single companies would not have.

Almax was created thanks to the consolidated relationship among the companies who know already each other as Guerrini stated: “the trade agreements were already regulated, they were existing supply relationships, because it was a network that did not exist in the form but in substance, but signing a contract among eight entrepreneurs is a different thing ...”. The contractual phase was supported externally and suggested by Confindustria Firenze. The original idea was to conclude the contract as Gucci-Almax-Suppliers but at the end it was opted to conclude a Network contract among suppliers as Almax leader, and Gucci-Almax Network as “sponsorship deal”. The latter lasted for three years and supported the network, bearing the greatest burden. The first actions started were the establishment of a common fund, meetings with the aim of finding solutions from which emerged initial conflicts, inevitable but instrumental to a good start by taking the right path. The actual phase of the network could be defined as mature but not yet concluded. Mature because the network is active for five years and the objectives have been achieved. In this moment, the network is in a turning-point, at which the decision to keep going or closing the contract must be made. The turning point resides in finding new goals shared by all the network companies. The relationships inside the Network are collaborative, even thanks to the initial disputes, but nonetheless the main problems faced are of coordination. Instead, from a financial resources procurement point of view, the Network had access to credit from banks at really low interest, and that helped to the single company, mostly in a first phase, to survive and obtain supplies. For what concerns coordination responsibility, there was a Network Manager in charge until 2016. She was an external figure, chosen for her managerial competency. The network manager was also chosen for her experience in aggregate forms for forty years, as guiding actions and investment activities are necessary. The manager was paid by the network. In addition, the manager had ideas and knew the sector but also had the ability to carry out collective strategies and hold different heads together, converging interests, interpreting them and making them become common. Among her tasks there was the activity’s coordination, by organizing meetings, reports, even supply’s negotiations, the Network manager figure was really adaptable. There was even a common body formed by Massimiliano Guerrini and his brother, holding meetings on monthly base. The contract objects were shared, but there were no rules and procedure was established in the long term preliminarily. Each company was aware about the objects, and about the activities and related improvements’ strategy in terms of planning, and deadlines. As Massimiliano said, the advantages took from the network contract was in term of performance itself, deal enhancement, cost reducing,

investments, learning and training. For what concern this last point he also said that of of the lateral activity within the network was the entrepreneurial training on the figure of the entrepreneur that brought advantages even form each of the members.

What emerged from the interview is that Almax is a network in a mature/ending phase, with no legal subjectivity so it born with the merely contractual nature. It can be defined as a close network. The reasons reside to the original relationship that characterize the network, all of the companies had previous contacts with the leader firm. This fact suggests no real necessity of a strong form of governance. Moreover, the Network can be defined convergent because of the strategic cohesion and complementary. From accountability perspective, we found the leader firm, which corresponds with the common body, and a common fund. Consequence of that is the identification of this kind of network as a centric one. As already said, Almax is defined as supply chain network, within which we find companies of the same sector and to some extent, part of its “closeness” is due to that. According to the contract the network does not have a defined ending, furthermore, they have achieved the object so they are formally alive but not operative. They need new goals shared by all instead of the Network could be identified as an ending phase, more than mature. The rule of the Network Manager in this network is interesting because is a managerial one but also entrepreneurial especially in a preliminarily phase, although the presence of the leader firm.

In the table below are shown the main variables of the coordination mechanism, current within the network.

Table: “Coordination Mechanisms”

<b>Network</b>	<b>Accountability</b>	<b>Predictability</b>	<b>Common Understanding</b>
<b>Almax</b>	<b>intermediate level</b> Leader Firm (Almax)/common body NO Subjectivity Network Manager (external coordinator) Routines: monthly common body meetings.	<b>intermediate Level</b> Defined goals, No rules, No regulamentation	<b>High Level</b> Clear final object Shared.

Source: Authors' data elaboration

### 3.8 Final considerations

The analysis of the Networks' sample sees a plurality of:

- Objectives: Innovation, promotion, new service, integration of services etc but also individual.
- Industry: Automotive, Tourism, IT, Tanning. Electronic goods.
- Results: New partnerships e.g KW Apparecchi scientifici university "Normale" of Pisa), new technology (Highlander), new company (Menocarta.pro), easy access to credit (Almax), new functions (NAT).

All with several different internal choices of coordination.

The very nature of the network contract has left freedom for each network and actors to interpret and exploit this tool in a flexible way. Therefore, the coordination processes have been adapted and modified based on the understanding of each network. To some extent it is possible to identify the network as a Macrostructure, within which it is possible to find different patterns of the organizational variations.

Once a descriptive overview for each network is given, and the organizational variables highlighted, it follows a differentiation of the data collected by mapping the networks' world, identifying two dimensions in order to create a predictive matrix.

The choice of the dimensions for the construction of the matrix is inspired by higher organization models, such as meta-organizations.

*R. Gulati, P. Puranam, and M. Tushman (2012)* introduced the concept of *meta-organization*, defined as "an organization whose agents are themselves legally autonomous and not linked through employment relationships. An agent in this definition could itself be an organization (within which there may well be employment relationships)". Their model has been applied to the networks' matrix by explicating some analogies. (...) the analogies are related to a defined kind of interrelations among nodes of an organization.

"Every meta-organization must, by our definition, employ some substitutes for formal authority, but the precise manner in which those alternatives are generated and exercised exhibit systematic variations. We argue that patterns within this variation may be understood by considering two important dimensions of meta-organizations: the degree to which a meta-organization's boundaries

are open or closed and the degree of its internal stratification” (Gulati, Puranam, Tushman, 2012)

**Meta-organization boundaries:** Emphasizes the importance of interorganizational relationships, the interorganizational collective itself is, ironically, not without boundaries. Strategic deliberation about the extent and limits of purposive organizing is as relevant to meta-organizations as it is to integrated organizational entities: it shapes the attraction, selection, and retention of members of the collective. The meta-organization boundaries provide a basis for members’ identification with the collective and the collective’s differentiation from others. The essential aspects of such boundary arrangements include:

(1) who chooses members; (2) criteria for membership (i.e., the attributes members possess and the degree of redundancy between them); and (3) duration and exclusivity of membership (i.e., whether members can belong to more than one meta-organization).

A relevant consideration is also how membership decisions are made. A decision to grant membership may be made bilaterally, between the leader firm and the new member. Introducing a new member into a collective requires the approval of existing members. In both contexts, contracts typically spell out expected results. Membership is essentially closed — that is, new members require some form of approval to join.

Alternatively, it may be chosen a more open membership arrangement in which the boundaries are kept more permeable. Membership in the collective is based on self-selection.

In sum, decisions about boundaries and the relative openness of membership fundamentally alter the behavioral dynamics within a meta-organization, as well as the range of feasible governance arrangements. Closed membership is reminiscent of traditional interorganizational forms like strategic alliances. Partner search, screening, and selection are crucial tasks in these cases, and the timing of a new member’s entry is controlled. Closed boundaries typically go hand in hand with an explicit and, more importantly, tailored definition of tasks and of relationships to other members. Each member’s specific role in the metaorganization is negotiated from the start, and the duration of membership and timing of exit is also negotiated. Closed membership is also associated with fewer members and active management of members’ diversity in order to facilitate interorganizational coordination.

Open membership, on the other hand, makes the timing of members’ entry and exit difficult to control and constrains designers to provide standardized role conceptions to new members. Opening up membership creates significantly higher collaboration process losses, which may be offset by increasing input (such as number of members and number of contributions) and encouraging collective attempts at improving the process.

**Degree of stratification:** a hierarchical differentiation of roles or tiers of membership is marked in some cases and not in others. Where stratification is present, the upper tiers enjoy more extensive decision-making rights, bear more responsibility for coordinating the activities of the lower tiers, and participate in the meta-organization's design decisions. Tiering has two important functions for the collective: it reduces coordinative complexity and serves as a motivational mechanism. Stratification helps reduce the complexity of coordination by subdividing the collective into smaller subgroups (Simon, 1962; Zhou, forthcoming). Assigning higher-tier organizations to supervise and coordinate the activities of specific sets of lower-tier organizations in turn enables the highest-tier organizations to concentrate on oversight of the overall meta-organization. Like hierarchies in traditional organizations, tiering serves to specify spans of control within meta-organizations.

Stratification and tiering can also serve as a motivational device. The material and symbolic benefits associated with higher tiers can create incentives for member organizations to contribute to the collective and can even establish a 'career trajectory' for them. The responsibilities awarded to higher-tier organizations also draw attention to which issues are important and which competencies are valued in the community and, thus, help channel members' activities — without the direct intervention of higher tiers — toward desired ends.

A high degree of stratification gives rise to, and enables the exercise of, status- or role-based authority structures. Though such authority may be limited in scope, especially in open-membership contexts, it still creates a social structure that can guide task identification and assignment, decision making, and conflict resolution. In contrast, a low degree of stratification is likely to support the emergence of a 'community of equals' in which members are simultaneously principals and agents of the collective

Flatter, more egalitarian designs are associated with "heterarchical" coordination arrangements, whereby all members have similar or overlapping rights and responsibilities to promote alignment of activities within the collective — which often involves extensive multilateral negotiation and consensus-building efforts. Alternatively, supervisory tasks may be temporarily assigned to particular members, depending on their capabilities and the specific tasks in question. Such low-stratification contexts enhance the member's sense of ownership of and commitment to the meta-organization. This may, however, also discourage cospecialization and make it more difficult and time consuming to arrive at community-level decisions and resolve conflicts.

In sum, decisions about internal stratification have significant impacts on both motivation and coordination within meta-organizations. While a high degree of stratification may replicate many of the conventional benefits of stratification within traditional (business) organizations, it also potentially replicates its costs. Where widespread participation based on a sense of involvement and identification with the meta-organization (fueled by a sense of egalitarianism and freedom from the

explicit exercise of authority) is critical, lower degrees of stratification may be preferable. (*Gulati, P. Puranam, and M. Tushman, 2012*)

Starting from these considerations, it have been chosen the dimensions of Gulati, Puranam and Tushman, (2012) adopted on the Network contest. Instead of the proper stratification dimension, the network-subject and the network-contract dimension have been used; and in regard to membership dimension, the strategic membership and affiliate membership.

The first dimension refers to the presence of the legal subjectivity, inherent to the Network contract. Consequently, a network- subject requires an high formalization, by being an entity and by having some mandatory elements (common fund, common body).

The second dimension, the membership, impacts on the actors' number (numerosity), and the consequent degree of boundaries to entry.

The specificity of access to the network is a meaningful distinction. (Grandori, 1989)

In fact a powerful means of enhancing the likelihood of achieving a coordinated action among firms is the selection of partners on the basis of some good predictors of relevant behaviours for the cooperation. The broader the scope of cooperation, the stricter the rules of accesses will be. It may be worth noting that a high specificity of access does not mean highly formal access rules. In fact, specificity of access may be all the more relevant in informal sociocultural networks that have to rely heavily on socialization as a mechanism for building up operating norms and values (Ouchi 1980)

The strategic memberships' dimension concerns the impact that the strategic object has on the network: a strong cohesion within the network is required and characterizes it. Indeed, an affiliate membership does not see the strategic impact on the single member so does not require a high degree of strategic cohesion, as a consequence in a strategic membership the boundaries are "closed" and in the affiliate membership the boundaries are "open". The characteristic of a closed network are, from a strategic point of view, factors such as high fees to pay, restrictions, limitations or complete closure with no possibility of enter. Depending of the strategic impact of the object on the network, there will be a stronger coordination, as a consequence is expected a centralization that pushes to a coordination form with an impact and an orientation of the objectives among the members.

In the following table we show a predictive matrix help to understand the patterns within which works the variations of coordination mechanism and the consequent level of centralization required by identifying four clusters. And those clusters help us to be predictable

	<b>Network-Subject</b>	<b>Network-Contract</b>
<b>STRATEGIC MEMBERSHIP</b>	CYCLING MENOCARTA.net	HIGHLANDER NAT ALMAX
<b>AFFILIATION MEMBERSHIP</b>	MENOCARTA.PRO	BUONGUSTO VENETO BUONGUSTO ITALIA

Table: “Final Network Matrix”, Source: “Authors’ elaboration”

In the first cluster (strategic Membership-Network Subject) have been put “Menocarta.net” and “Cycling in the Venice Garden”, with an expected long lasting, strong strategic object and a centralization with a coordination oriented to objects’ alignment among the members, with convergent strategy. The networks’ strategy impacts the firms. The coordination mechanism expected are: the presence of the common body, the common fund and of a leader figure, network manager with operative and leader skills. High predictability, with weekly routines, activity of budgeting, monitoring and task definition. To this cluster is expected or a higher level of centralization or high standardization, and higher level of accountability. The common understanding in terms of shared culture, shared goals, and cooperation is required. In this quadrant it is, also possible to see a sort of higher stratification and closed membership most closely resemble traditional extended-enterprise, to some extent acquired with the subjectivity, in which the leader firm (or group of firms) contracts with upstream, downstream, or horizontal partners that possess complementary assets to enhance its own capacities, market reach, technology, capabilities, or reputation. Linkages between members of the meta-organization are directed rather than emergent. (*Gulati, P. Puranam, and M. Tushman, 2012*)

In the second cluster (strategic membership–network contract) have been grouped Highlander, NAT and Almax. Here are present high level of cohesion as well. The strategic cohesion is fundamental but, it is not required a high effort to share the common understanding because usually the object is really specific (R&D) Here the interrelations play a crucial role. The centralization is present and The coordination mechanism expected are: strong operative focus, so the Network manager with an

operative role, high level of predictability, with teams, tasks, continuous routines, deadlines and monitoring. High common understanding is expected, in this cluster belong network with consolidated relationship. From this cluster can be predictable individuate it as a sort of *closed-community* in which decision making and responsibilities are more evenly distributed (though there will continue to be lead actors, and action is multilateral rather than unilateral. (Evans and Wolf, 2005)

In the third cluster (affiliation membership – Network subject): Strong strategic object, network consolidated during the time, with a long lasting view, with promotional objects and cooperation objects. To some extent it is possible to include here “Menocarta.pro.” as well. It is expected a coordination figure, a firm or a network manager due to the high number of the affiliated firms, a common body, this network works as a firm so has a own accounting and administration, indeed a high level of accountability, It is also expected an high level od common understanding of not a high level of predictability. Open-membership, with low stratification resemble *open communities* or public forums more than they do traditional organizations. Given their flexible boundaries, their structural features — such as processes, groups, and factions or clusters of members — are constantly in flux. Authority is less well defined, and linkages are emergent rather than directed (O’Mahony and Ferraro, 2007). Order is typically created by means of simple agreed upon ground rules and/or mutual *ad hoc* policing of member activity. Open communities are self-organizing contexts in which actors share knowledge freely (Baldwin and von Hippel, 2011; Franke and Shah, 2003; Faraj and Johnson, 2011). Openness in terms of membership leads, in turn, to transparency in the development process, since communication about projects and their direction largely occurs in public. Thus, project leadership is accountable to the wider community for its growth and future direction, and everyone is aware of shortfalls and issues. Transparency also affords individuals self-determination with respect to the level of effort they choose to expend and awareness of others’ efforts that they might be able to fold into their own. (Gulati, P. Puranam, and M. Tushman, 2012)

In the fourth cluster (affiliation membership-network contract): high number of firms and generic participation. The higher is the number of members the higher is the degree of centralization required. Objects and performance are oriented to promotion. A sort of *Managed ecosystem* is expected the large majority of members contributes to the system’s input the variation, phrased in ecological terms and a smaller group of editors is responsible for most of the pruning and policing or, again in ecological terms, the selection and retention processes. . (Gulati, P. Puranam, and M. Tushman, 2012)

In this cluster is possible to individuate “Buongusto Veneto” Network. It has not been analysed above, but to some extent it is positioned here.

"Il Buongusto Veneto" Network includes, at the end of 2012, seventeen companies, all located in the Veneto Region, of which the majority have a legal form of joint-stock companies. The peculiarity of this network lies, above all, in the fact of structuring itself as a mono regional network. The network aggregates companies from different sectors, although it is mainly characterized by companies in the food industry and wholesale trade. There is a Network manager with a leader function.

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## Appendix. 1 “Questionnaire”

### DOMANDE

#### **1 Profilo dell'azienda leader e/o delle aziende membri**

1. Ruolo dell'intervistato in azienda
2. Denominazione del contratto
3. Azienda di riferimento
4. Forma giuridica dell'azienda di riferimento
5. Numero addetti 2017
6. Fatturato 2017
7. Numero addetti 2014 - 2015-2016
8. Fatturato 2014-2015-2016
9. Principali mercati di sbocco 2015-2016-2017
10. L'impresa partecipa/ è partecipata finanziariamente da altre imprese?
11. L'impresa ha in corso collaborazioni diverse dall'accordo di rete?

#### **2 Nascita del contratto di rete**

1. Quali vi attendevate nell'entrare nel contratto di rete
2. Conosceva già le aziende con cui siete poi entrati in rete Si/No
  - a. Se sì, che tipo di rapporto avevate
    - i. Fornitori
    - ii. Clienti
    - iii. Competitors
    - iv. altro
  - b. Se no, come siete entrati in contatto con aziende della rete
    - I. Contatti personali
    - II. Contatti tramite associazione
    - III. altro
3. Chi ha gestito la redazione del contratto di rete
  - a. Studio esterno
  - b. Associazione
  - c. altro

4. Quali sono state le prime tre azioni che avete realizzato una volta stipulato il contratto di rete
  - a. Incontri
  - b. Stesura documenti
  - c. Avvio di canali digitali per la comunicazione
  - d. altro
5. L'impresa ha altre forme di collaborazione contemporaneamente al contratto di rete?
  - a. Franchising
  - b. Consorzio
  - c. ATI, leasing
  - d. altro

### **3 Attuale fase del contratto di rete**

1. Quanti anni ha la vostra rete
2. Se dovesse definire in quale stadio si trova ora la vostra collaborazione, quale sceglierebbe tra queste definizioni?
  - a. Uno stadio ancora iniziale con diversi problemi da risolvere
  - b. Uno stadio ormai maturo con una collaborazione consolidata
  - c. Uno stadio di cambiamento
3. Il rapporto con gli aderenti alla rete è di tipo:
  - a. Conflittuale
  - b. Collaborativo
  - c. In parte collaborativo e in parte conflittuale
4. Quali risultati avete ottenuto fino ad ora dal punto di vista della vostra impresa (potete scegliere più item)
  - a. Avere più risorse per realizzare i nostri obiettivi
  - b. Scambiare informazioni
  - c. Imparare dagli altri
  - d. Realizzare un progetto nuovo
  - e. altro
5. Valutate su una scala da 1 a 4 il funzionamento della rete oggi (1- non funziona – 2- sufficiente 3- buono 4-molto buono)
6. Se avete dato una valutazione da 1 a 2 , quali sono gli attuali problemi o ostacoli a un buon funzionamento della rete ?
7. Se avete dato una valutazione da 3 a 4, quali sono i motivi che spiegano il funzionamento buono o molto buono della rete?

8. Quali difficoltà avete riscontrato durante questo percorso fino ad oggi? (potete scegliere più item)
- a. Coordinamento e relazioni tra gli aderenti
  - b. Reperimento di risorse finanziarie
  - c. Ricerca dei partecipanti alla rete
  - d. Individuazione dell'obiettivo strategico
  - e. Progettazione e costituzione iniziale della rete
  - f. Nessuna
  - g. Altro

#### 4. Meccanismi di coordinamento

##### **Accountability (più o meno formale):**

1. Chi è il responsabile del coordinamento della rete? (*role*)
2. Esiste una impresa leader all'interno della vostra rete?
3. Se SI , perché è stata scelta?
4. Se Si , che attività svolge?
5. Esiste un team o una figura preposta per lo sviluppo della rete?
6. Avete un manager di rete?
7. Se si quando è stato individuato e che profilo ha?
8. Se SI che attività svolge ?
9. Qual è il grado di collaborazione con le imprese che aderiscono al contratto? (1- basso – 2- sufficiente 3- buono 4-molto buono)
10. Con quanta frequenza mantenete contatti con le altre aziende in rete? (*routines*)
  1. In che modo vi scambiate informazioni (*object*) ? (potete scegliere più item)
    - a. Piattaforme
    - b. Mail
    - c. Skype call
    - d. meeting
    - e. sistema integrato della gestione della rete
    - f. Altro

##### **Predictability (it allows people to fit their own tasks into the whole through anticipation of when others will do their work):**

1. Avete fissato obiettivi congiunti?
2. C'è un protocollo/procedura/regole che seguite per aiutarvi a coordinare le attività che vi siete proposti?
3. Vi siete fissati delle scadenze per monitorare l'avanzamento della rete?

**Common Understanding (shared perspective on the whole tasks and how individuals' work fits within the whole):**

1. Tutti i componenti della rete sono a conoscenza degli obiettivi della rete?
2. Tutti i componenti della rete sono a conoscenza di come sviluppare le attività inerenti la rete?
3. Tutti i componenti della rete condividono materiale informativo / scadenze / e altri piani?

<b>5. Performance</b>
-----------------------

1. Quali tipi di vantaggio vi ha portato essere in rete? (potete scegliere più item)
  - a. Economici - risparmio costi
  - b. Miglioramento vendite
  - c. Realizzazione nuovi prodotti e servizi
  - d. Reputazione – brand più visibile
  - e. Apprendimento e miglioramento interno
  - f. altro
2. Ritene che ci siano stati dei miglioramenti da quando siete entrati in rete?
3. Dati gli obiettivi che vi eravate posti/ vantaggi che vi aspettavate, può indicare il livello di raggiungimento degli stessi? (1=nessuno 2=sufficiente 3=buono 4=molto buono)
4. Può indicare quali sono state le maggiori difficoltà riscontrate?
5. Dall'adozione del contratto, grazie al confronto con le altre imprese, ritiene che sotto il profilo dell'organizzazione interna e della gestione manageriale, la sua impresa:
  - a. non è cambiata affatto
  - b. è migliorata in alcuni aspetti
  - c. abbia imparato molto
  - d. la rete è ormai essenziale per la competitività

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