

**FIRM SOCIAL CAPITAL AS COMPETITIVE ASSET:  
THE CASE OF LIPARI CONSULTING**

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## **ABSTRACT**

Social network analysis is increasingly becoming a subject of interest in many diverse areas of study. With the development of online social networks and the high volume of available information online, it is relevant to use this information to better understand how firms are connected to each other and how that can become a competitive advantage.

This dissertation aims at studying a specific firm, dividing the analysis into two different contexts. One involving the collaborators of the company and their contacts. Another looking into the direct connections of the company.

For data collection, it was used LinkedIn for the first case and information given by the firm for the second part. For the individual network, the data collection resulted in more than 13000, which resulted in around 400 companies after being filtered according to criteria such as position of the person in the company, size, age and sector of the company.

The analysis was done using descriptive statistics and the software UCINET to create the representation of the networks and then to further analyze centrality measurements.

The results indicate that this company's collaborators have very similar profiles; that most of the connections are within 4 areas of business; that most of the contacts exist within Italy; that most of the companies are in the market between 20 to 50 years.

The conclusions taken show what kind of social capital management strategy the company has and what kind of steps it could take to further develop their business.

**Key-words:** Social Network Analysis; Social Capital; UCINET; Strategy; Information; LinkedIn

**JEL Classification:**

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## **CHAPTER 1 – INTRODUCTION**

### **1.1 THEME CONTEXTUALIZATION**

In basic terms, a firm exists to produce goods or services, sell to customers and generate profit. Historically, this was initially done by focusing solely in mass production with low costs as the demand was high enough to cover all the existing offer. With the development of production techniques and the entrance of more companies in business, in 1970 this reality changed with the offer becoming higher than the demand, originating a need to compete for a market share (Silva, 1993). Following this change, competitive advantage has become a great issue for strategy, with theories ranging from an external (Porter, 1985) to an internal (Barney, 1991) perspective of a firm.

Porter (1985) asserts that by observing and analyzing the industry to which a company belongs and acting according to the threats and opportunities presented, it is possible to achieve a competitive advantage, or at least stand at the same level as its competitors. On the other hand, Barney (1991) looks at the company's resources to explain how one can achieve a competitive advantage. The author defends that, by having resources that are valuable, rare, difficult to copy and the organizational capabilities to use them, it is possible to achieve a sustainable competitive advantage.

For clarification purposes, capital can be considered as physical, human or organizational (Barney, 1991) Physical capital is constituted by all the machines, buildings, geographic location, access to raw materials and other types of equipment that are owned by the company; human capital is all the knowledge, skills and experience of a company's employees; organizational capital includes the formal reporting structure, planning, controlling and coordinating systems as well as all the relationships within the firm and between the firm and those in its environment. These relationships between firms can also be seen as social capital.

Social capital is a concept that was first introduced by Coleman (1988) while confronting two already existing ideas in the areas of sociology and economy. In a nutshell, social capital is the capacity of a firm to benefit from its contacts, which means that, by

definition, it is necessary to have a network of contacts (a social network) to have the possibility to create value from social capital.

The importance of such a tool has been augmenting due to the increasing necessity for people and organizations alike to connect with between them and with each other, and due to the high number of means through which is now possible to connect.

This idea of working together, of making connections, has gained importance in the last few years, as it becomes for difficult for firms to work on their own, closed on their small world and still be able to thrive. The globalization and the increasing willingness for companies to work with an open-innovation mindset adds up to create more connections between companies.

Social network analysis has been explored in different contexts over the last few years with more than 1600 papers being published covering its usage in areas such as human resources (Hollenbeck & Jamieson, 2015), innovation (Ahujia, 2000; Bae & Gargiulo, 2004; Giuliani & Bell, 2005; Salman et al, 2005; Zaheer & Bell, 2005; Schilling & Phelps, 2007; Mazzola et al, 2015), alliances (Koka & Prescott, 2002; Koka & Prescott, 2008) or supply chain (Borgatti & Li, 2007; Choi & Kim, 2008). Within these there has been a few (e.g., Burt, 1997; Peng and Luo, 2000; Acquaah, 2007) covering how a micro-level network (employees) can affect a macro-level network (companies).

On another level, online social networks have been evolving in different directions. One of the most used worldwide is LinkedIn. LinkedIn is an online social network that is available for business purposes, where companies can present themselves and connect with potential future employees; while for people it can be a source of information about job opportunities and can be considered a way to do an effective personal marketing. Among the information that is available in LinkedIn, there are the connections of each person, their current position, location and company. From this information source is possible to acquire a massive amount of information and with it form a descriptive network of how a person is connected (Waters, 2014).

From the combination of all the factors with the need of Lipari Consulting to find new ways to further strength their position and develop their business comes the opportunity



to develop this dissertation, using social network analysis to further comprehend the situation of the company; LinkedIn as a source of information; and UCINET, a software for network analysis, to map and organize the information collected.

## **1.2 MAIN OBJECTIVE**

Taking the context previously described, the objective of this thesis is to identify, organize and analyze all the existing connections between Lipari Consulting and other firms as well as its employees and their working connections, and evaluate any possibilities of using them to develop a competitive advantage.

## **1.3 SPECIFIC OBJECTIVES**

Having defined the main purpose of this dissertation, the following are the specific objectives that this thesis aims to achieve:

1. To identify any relationships that the company has had formally with other companies and in which context;
2. To identify all working relationships of Lipari Consulting's employees, analyze them and select those that might have more significance;
3. To create a network based on the information gathered in point 1 and 2, a network for each one;
4. To identify which nodes are of most importance and which relationships might present opportunities;
5. Further investigate the main actors and profile them, from the individual network
6. To understand how to reach the bigger firms in both networks;
7. To understand the current situation of the firm and propose modifications to better align with the goals.

## **1.4 RESEARCH QUESTIONS**

1. How is Lipari Consulting connected to other firms?
2. How are its employees connected with other people?
3. Who has the most central role in the company?
4. How do the profiles of the main actors influence the network?
5. Through whom is possible to reach the most important companies?

6. Which companies can provide better opportunities to Lipari Consulting?
7. Which kind of strategy does Lipari Consulting have to manage its social capital?

## **1.5 SCOPE**

The scope of this thesis is to gather information about all existent working connections between Lipari Consulting and other firms, as well as the social network of Lipari Consulting employees'. The focus is on how to use them to improve and grow the company's business, investigating potential new clients or business partners.

## **1.6 STRUCTURE**

To achieve the presented objectives, this dissertation will have the following structure:

**Chapter 1 – Introduction:** In this chapter, it was presented a contextualization of the problematic, the main and specific objectives, the investigation questions, the scope and finally the structure.

**Chapter 2 – Literature Review:** This chapter will encompass definitions of different concepts, frameworks, theories, models and relationships necessary for both the understanding of the topic and the development of a careful analysis.

**Chapter 3 – Data Analysis:** In this chapter all the process will also be explained. Starting by a brief description of the company being analyzed, followed by how the data will be collected and treated, and ending with the analysis and some comments.

**Chapter 4 – Conclusions**

## **CHAPTER 2 – LITERATURE REVIEW**

### **2.1 INTRODUCTION**

All the theoretical and conceptual support for this dissertation will be presented in this chapter. Firstly, the concept of social capital will be described, followed by its incorporation in social network and other similar concepts. After it will be discussed how a social network can be analyzed and which kinds of measures have been studied. Finally, it will be explained how it is possible to benefit from a Social Network and Social Network Analysis (SNA)

### **2.2 SOCIAL CAPITAL**

Social capital has been defined by numerous authors (e.g Bourdieu,1986; Coleman, 1988; Burt, 1992; Lin, 2001) as the capacity for an actor (e.g., individual, organization, or community) to extract value from his position in a network by getting access, for example, to more (or better) information, opportunities, resources, or knowledge. As a resource, social capital is different from other types of resources, as, firstly, one entity does not own social capital as it belongs to both parts of a relationship, which means that if this relationship ends, the social capital disappears; and secondly, instead of being transformed into profit, it dictates how to use opportunities to transform financial and human resources into profit through relations with colleagues, friends, and clients. (Burt, 1992).

Social capital exists as a social network that can enable its elements to achieve better results through different possible actions (Coleman, 1988) which translates into the social capital metaphor that “people who do better are somehow better connected” (Burt, 2000). Individually, these benefits have been shown by Boxman, De Graaf, and Flap (1991) where it is shown that people with more contacts receive a higher pay than those with a smaller network. These come from information benefits which can “occur in three forms: access, timing, and referrals”, where access is getting the information and knowing who can use it; timing, that you are informed early; and referrals, when someone mentions you for an existing opportunity (Burt, 1992).

In summary, the potential value of social capital is tied up with the opportunity for actors to access information and resources that otherwise they would not be able to. Most of the research related to this topic focuses on how to get value from it and, similarly, so will this dissertation (Maurer & Ebers, 2006).

### **2.3 SOCIAL NETWORKS**

As previously mentioned, social capital can be seen as a network of contacts (actors or nodes), which interact between themselves in multiple ways and can be characterized in different dimensions such as duration or frequency (Laumann et al., 1978, cited in Acquaaah, 2007; Borgatti & Li, 2009).

As a model, it considers the actors as being interdependent and considers their relational ties as ways for information and resources to flow between them, originating opportunities or constraints on individual decisions and actions (Choi & Kim, 2008)

As for types of relationships they can be either continuous or discrete. Continuous are mostly ties based in either kinship relations (family); role-based relations (friends, colleagues); cognitive-affective relations, meaning that it is someone you “trust” or “know”; or simply by sharing a location, group, or similar attributes. Discrete can be those that you can count over a period, such as how many times two people meet or talk, or through the flow of information (Borgatti & Li, 2009).

Another way to classify the relationships is according to the strength of the tie - depends on the proximity of an actor to its connections. If they are closely connected, like family, it will be a strong tie; if distant, like an acquaintance, it will be a weak tie. In his paper, Granovetter (1983) explains how weak ties can be important in a social network and how they are able to benefit the actor. More about this idea will be discussed later, with the confrontation of other similar ideas.

### **2.4 EMBEDDEDNESS**

As “even the network itself is often embedded in a larger institutional context (whether social, political, or economic)” (Choi & Kim, 2008) it becomes important to understand also the concept of embeddedness.

Uzzi (1996) firstly defines embeddedness as how social relations affect economic action, a situation usually ignored or underestimated by economists. In another paper Uzzi (1997) further describes social embeddedness as “the degree to which commercial transactions take place through social relations and networks of relations that use exchange protocols associated with social, noncommercial attachments to govern business dealings”.

For Choi & Kim (2008), embeddedness constitutes one of the most important research topics related to social networks. It enables us to understand a firm’s behavior or interfirm interactions taking into consideration the social structure around the actors, as it is part of a larger social structure. In other words, it helps to understand how economic decisions and outcomes are affected by the larger structure the actor is part of. For example, how being part of a country with economic problems affects a firm’s capacity of getting a loan from a foreign bank.

Along with this theory, Uzzi (1996,1999) explores the type of existing ties, separating them between embedded ties and arm’s length ties. Embedded ties are related to be part of a same network structure as the other actors where trust and reciprocity help on getting benefits; while arm’s length ties refer to a relationship merely occasional, with continuous contact that would enable the parties to develop trust. In his 1996 study, Uzzi concludes that embedded ties can produce competitive advantages that are difficult to emulate with arm's length ties. Quoting: “embeddedness increases economic effectiveness along a number of dimensions that are crucial to competitiveness in a global economy-organizational learning, risk-sharing, and speed-to-market-perhaps underscoring the growing importance of embeddedness as a logic of economic exchange”.

Nonetheless, this does not mean it is a perfect situation. As many other ideas in management and strategy, having only one kind of relationship is not ideal and there is a point after which embeddedness becomes negative. As such, the conclusion is that is necessary to have a network integrated with both kinds of ties (Uzzi, 1996).

## **2.5 SOCIAL NETWORK ANALYSIS (SNA)**

“Social network analysis, sometimes also referred to as ‘structural analysis’, is not a formal theory, but rather a broad strategy for investigating social structures” (Otte & Rousseau, 2002).

In order to do so, the most important part is to define what is important to study. As there is no correct or best way to do it, the focus should be on what will provide the best network to achieve our objective. Then, decide which type of network it should be: full network or ego network (Borgatti & Li, 2009). The full network would have all the relationships of all the actors within the scope of the study. By starting at the basic unit of a social network, the dyad, and continuously add all the relationships to each node, the end result will most likely become a number of paths connecting indirectly all the actors (Borgatti & Li, 2009). The problem with this kind of network is the amount of effort required to acquire all the information. As such the most common type of network used is an ego-network which consists of (a) a focal actor, known as ego, (b) the set of actors with any kind of tie to ego (known as alters), and (c) all ties among the alters and between the alters and the ego” (Borgatti & Li, 2009). The reason, apart from being easier to collect data, is that it is believed that distant connections are less relevant to the analysis (Borgatti & Li, 2009).

As for how to collect data to create a network, Borgatti & Li (2009) present diverse options, starting with the traditional surveys, which means asking to every actor to disclose their connections, and repeating the process until the amount of desirable information is achieved. This method presents the problem of asking the actors for possible confidential or intimate information. As such, another possibility is to ask each actor to bring their connections into the study, so that all information present is willingly given. The problem with this approach is that it requires a lot of time. Another option is the aggregation method, where actors are grouped according to a specific characteristic, overcoming the privacy issue and giving the idea of what happens in the network. It has the limitation of being impossible to visualize who are the actors.

Archives can be another source of information, such as contract data from companies’ financial statements; citations data, from publishers’ portals. A more modern option is to

make use of the *Web*, either with dedicated software to find links between actors or using online social networking services, such as LinkedIn or Facebook.

## 2.6 CONCEPTS AND MEASUREMENTS IN SNA

In this section the aim is to briefly explain all concepts related to analyzing a social network and what kind of indicators can be used to better understand one and take conclusions from it.

**Network:** “A network is represented as a graph on a set  $N$  of nodes, with a finite number of members  $n$ . Nodes are also sometimes referred to as vertices, agents, or players.” (Jackson, 2010)

**Network constraint** is an index that measures the extent to which a person's contacts are redundant (Burt, 1992).

**Network - directed/undirected:** the type of network depends on the type of relationships. If the relationships are **mutual**, i.e., there is a flow (e.g. information, goods, services) in **both ways** (e.g. friendship, alliances), the network will be **undirected**; if the flow is in only **one direction** (e.g. giving advice to, lending money), the network is **directed**.

An **open network** exists when an actor can interact with others at in a similar basis, i.e. all actors have the same possibility of interacting with each other; while in a **closed network** there is a preference given to some of the actors, i.e. not all the actors have access to the same opportunities.

**Path** is the sequence of nodes necessary to reach a specific node, without passing twice in the same one.

**(Geodesic) Distance** is the length of the shortest path between two nodes.

**Size** of a network is the total number of nodes it has.

**Density** is the average strength of connection between contacts. Density is sometimes discussed as a proportion because in studies limited to dichotomous data (two people are

connected or not), the average strength of connection between contacts is also the proportion of contact pairs who are connected (Burt, 2000).

**Centrality** is the extent to which a person is in the center of a network. Actors with higher centrality have more influence in their network.

**Degree of centrality:** “The degree of a point is simply the count of the number of other points that are adjacent to it and with which it is, therefore, in direct contact” (Freeman, 1978).

**Betweenness:** Nodes have a higher betweenness if they appear in many short paths between other nodes. Means that a lot of information passes through them, which can result in the control the information flows or get to overloaded with information (Borgatti & Li, 2009).

**Edge betweenness:** Similar concept as betweenness but instead of nodes, ties. Basically, these ties have a higher edge betweenness if they are important relationships that have a great impact in the whole network (Borgatti & Li, 2009).

**Closeness centrality:** number of links that a person must go through, in order to reach everyone else in the network. The lower the number of links, the higher the closeness. According to Freeman (1978) it also measures the independence of a node – higher closeness means that less contacts are required to pass a message to everyone in the network.

**Network centrality** measures the extent to which a network is dominated by a single (few) central nodes. It compares the centrality of the most central node to the other nodes and the results come between 0 and 1.

**Eigenvector centrality:** “This also leads to the proposition that nodes that are connected to well-connected nodes will have even more information than nodes that are connected to an equal number of less connected others” (Borgatti & Li, 2009). Nodes with higher Eigenvector centrality are more central by this measure.



**Structural holes** exist when two nodes are linked to the same ego but not linked between them, creating a gap in flow of information. It indicates that these two nodes have access to different flows of information (Hargadon & Sutton, 1997).

**Group/Sub-structures:** Any sort of close connected groups within the network. Dyads, Triads, and ego-centered circles can all be thought of as sub-structures.

**Cliques** are a sub-structure with a “maximal subset of nodes in which the density is 100%. In other words, in a clique, everybody has a tie with everybody else” (Borgatti & Li, 2009).

**Structural equivalent:** Two nodes are structurally equivalent if they have the same relationships to all other nodes.

**Regularly equivalent:** Two nodes are regularly equivalent if they have the same profile of ties with members of other sets of actors that are also regularly equivalent.

## **2.7 BENEFITING FROM SOCIAL NETWORKS**

Along this section the objective is to present several ways of gaining advantage using social capital, be it at an individual or corporate level. For this, different strategies will be discussed, put against each other, and explained as to their advantages and disadvantages.

### 2.7.1 Types of Information

By now it is clear that information is the main benefit that can be achieved through a social network. Koka & Prescott (2002) divide this information benefits into three different kinds – information volume, information diversity and information richness. Since managing contacts requires time and effort, it is important that an actor has a strategy to get the most out of his potential social capital (Burt, 1992). As such, three kinds of strategies related to each type of information have been identified.

To benefit from a high information volume, i.e. getting a high amount of information, the best strategy is through achieving a more central position in a network (Koka & Prescott, 2002). The advantages are, as follows: (i) the company gets more information related to its core business, making it easier to incorporate and profit from (Helfat, 1994; Kale et

al., 2000; Tiwana, 2008); (ii) since all contacts are closely connected, it is possible to obtain information faster and more efficiently, resulting in an overall lower cost to access information (Granovetter, 1978; Burt, 1992); (iii) finally, a firm is able to get a return on scale from the high volume of information, as every piece of information brings in an increased value (Ahuja, 2000; Dittrich & Duysters, 2007).

On the other hand, one problem of these networks is that they end up being composed by mostly cohesive and structural equivalent contacts, which means that the network might end up providing redundant information benefits, originating from the same sources (Burt, 2000). It also means that information coming from indirect ties (non-redundant) will serve for the whole network and its partners, diminishing the benefits a firm can take from it (Ahuja, 2000). Finally, Glasmeier (1991) further explains that “firms with many direct ties may be more constrained in their ability to absorb new information or respond to it as flexibly as firms with few direct ties”. As such, it does not come as a surprise when in Burt’s study (2000) a high network density has a negative association with the performance of a firm.

Burt (1992) defends that out of two networks with the same size, the one with more non-redundant contacts provides more benefits and explains that network management should follow two basic principles: efficiency and effectiveness. The efficiency principle dictates that one should focus in a primary contact that will be “responsible” for informing about his ties, becoming a bridge between the indirect contacts and the ego. The effectiveness principle states that if more than one contact lead to the same cluster, then only one person from each cluster should be selected to “represent” it, i.e., to act as the bridge between the ego and the cluster. This liberates time to connected with other people and creates structural holes. With these two principles is possible to be in the center of the information and coordinate activities (Burt, 1992). In summary, a way to have an efficient network full information is to maximize the number of structural holes or to minimize the redundancy between partners (Burt, 1992).

This kind of networks can be called broker networks or entrepreneurial networks and it implies achieving a position in a network where you build a bridge between two disconnected nodes and gain an advantage from it (Burt, 2000). With an entrepreneurial

position an ego firm is able to benefit from information diversity, which gives the company a broader range of contents in the received information, although less quantity of it (Koka & Prescott, 2002). By exploring the diversified information, it can benefit in the following way: since information is gathered through ‘weak-ties’, it will come from ties working in different industries, markets or technologies. This idea of ‘broad-search’ (Gilsing & Nooteboom, 2005; Dittrich and Duysters, 2007) provides non-redundant information that can help to generate new ideas, knowledge or technologies. The possible limited amount of information received constitutes the drawback of this position.

In a paper about collaboration and knowledge networks in coastal resources management, Cárcamo et al (2014) explains that with decentralized networking is harder to coordinate in the solution of simple tasks, to form groups and to build support for collective action. On the other hand, they are more advantageous in a long-term planning and to solve more complex tasks, they have less problems if one of the actors disappears and are perceived as more fair and open.

The two previous strategies are related to how the network itself is composed, together forming the idea of structural embeddedness defended by Granovetter (1985, 1992). The other major idea - relational embeddedness - is also the third strategy, as described below.

Relational embeddedness provides the focal firm with information richness. It means that by having stronger connections with alters the firm can benefit from higher quality information (Håkansson & Johanson, 1993; Podolny, 2001) and a deeper exploitation of opportunities (e.g. Dittrich & Duysters, 2007). According to this view “densely embedded networks with many connections linking ego's alters that are facilitative for ego, and social structures are seen as advantageous to the extent that networks are "closed"” (Ahuja, 2000). Being part of such a network has the advantage of a higher level of trust, a lower risk of opportunistic behavior and the existence of a better environment to trade (Uzzi, 1996). It also facilitates the cooperation between actors and “also makes defection less likely by enhancing actors’ ability to undertake joint actions to enforce the cooperation of offending parties” (Coleman, 1990, cited in Bae & Gargiulo, 2004). In other words, by forging stronger connections with the alters, a focal company can benefit from trust and reputation as they safeguard against opportunism and they improve the

awareness of the rules, routines, and procedures that each needs to follow to improve coordination. Similarly to the first case, while focusing in a small part of the network, it's possible to miss other useful information.

Burt (2000) presents also another way to have access to social capital without being in the center of it, by «borrowing». This idea translates into having someone (a sponsor), that will introduce the actor to the network and act as a bridge between this actor and the other members of his network. Through this situation, the actor will have access to his sponsor's network. It is the best option for “outsiders” or “newcomers” (e.g. a new agent in the acting business that needs to contact directors) to be sponsored by someone already in the network, as it enables them to tap into his sponsor's social capital. A network that strongly relies on sponsoring will be a hierarchical network which is usually made up by large, sparse networks anchored on a central contact (the sponsor).

Overall, a broker network is regarded as the best strategy to manage a social network, giving more advantages at different levels for a lower amount of time and energy spent.

### 2.7.2 Types of Companies

As almost everything else in business, and life in general, achieving one condition does not spell success for everyone. In this case, even if a firm manages to settle in one of previous strategies it does not mean that they benefit automatically from the described benefits. In their study Zaheer & Bell (2005) link social network research with the resource-based view of a firm and explain that a firm can only fully benefit from their social capital if they have both a “superior set of internal resources and a beneficial network structure”. This means that for a firm to be able to fully incorporate the information they acquire, it is necessary to have resources relevant to be able to “assimilate and replicate new knowledge gained from external sources” (Cohen & Levinthal, 1990).

Further along this idea, it is also possible to divide companies by the type of knowledge and experience they have into specialists, generalists, and those in the middle (moderate specialization levels) (Shipilov, 2006). Specialists concentrate their business in a few segments and have a deep understanding how they function and how to thrive based on

their experiences (Barnett, et al., 1994), giving them a higher performance when working within their scope. On the opposite side, generalists have a broader knowledge of the industry as they operate in a wide range of markets (Ingram & Baum, 1997), which enables them to participate in a higher number of projects throughout different areas.

The performance of each type of company depends on the kind of network they are part of. In an open network generalists and specialists would have a higher performance. The firsts due to their ability to reach to different markets and, as such, find and make use of more opportunities than the others; the specialists because their expertise in one specific field would be an asset to some firms in the network (Shipilov, 2006).

On the other hand, if it is a closed network, Shipilov (2006) concludes that firms with moderate specialization get better results. This is due to their necessity and openness for cooperation – while generalists and specialists have their own resources and are able to trade them, firms with moderate specialization have more limitations, and recognize them, giving them more interest in forging trusting and fruitful alliances, which make them better partners.

In summary, specialists and generalists usually have better in-firm resources, which makes them abler to thrive in an open network. While firms with moderate specialization require a space with more trust, rules and cooperation to be able to work together with other firms and complement their internal fragilities with their partner's resources.

To close this topic, it is possible to conclude that a firm's internal capabilities dictate how it can benefit from their social network and provide another clue on which kind of network strategy it should take.

### 2.7.3 Benefiting from an individual's social capital.

“Management researchers have argued that the social capital embodied in the development of managerial social networks and ties with external entities, a micro-level construct, affects an organization's competitive advantage and performance, a macro-level construct” (Acquaah, 2007). As such, and considering the topic of this dissertation,

it is crucial to better understand how individuals can contribute to the success of the organization.

In their work, Peng and Luo (2000) argue that connections between managers of different companies can serve as substitutes to formal institutional support. Some authors (e.g. Pfeffer & Salancik, 1978; Powell, 1990) suggest that managerial ties are more important as the environmental uncertainty increase. As such, studies in non-developed countries (Peng & Luo, 2000; Acquah, 2007) give another perspective of how important an individual's social capital can become.

To evaluate performance, Peng & Luo (2000) aimed at understanding how managerial ties could impact on market share and return-on-assets (ROA). Their conclusions supported that the most impacted aspect was market share, providing some possible explanations such as that developing managerial ties requires cash outflows; that there might be a lag effect from getting market share results to achieving better financial returns; or that the principal objective of the managers is only the market share. This better performance due to social capital is also supported by Acquah's (2007) study. In his study, Acquah (2007) concludes that the relationships forged by a manager can provide several benefits such as secure access to financial and strategic resources and high-quality information about products, marketing, and technological opportunities.

The importance of the manager's social capital is higher when the companies are either small, in the service sector or in low-growth industry (Peng & Luo, 2000). Maurer and Ebers (2006) study how biopharmaceutical companies use social capital throughout their development. In the start-up phase, it was important for the managers to keep close ties with managers of similar companies as it allowed them to have access to resources that otherwise would be extremely difficult to use. But in following phases it was more important to expand their connections to other areas in order to access knowledge that did not exist in their primary network. As such, in their study, Maurer and Ebers (2006) show the importance of social capital in each phase of a growing company and how it can influence its success. An important revelation is how the successful companies in this study had developed a way to divide and manage their network, ensuring that no one had to deal with different realities at the same time, liberating the founding managers to focus

on ties that would improve their managerial skills and the overall performance of the organization while the senior scientists were in charge of keeping the initial connections with their fellow scientists to keep having access to resources and information within the industry.

From this study it is possible to conclude that: every member of an organization should have the responsibility of both bringing their social capital into the company and be part of its management (Maurer & Ebers, 2006); “friendship networks between individuals across firms might also be significant conduits for the transfer of information and knowledge” (Zaheer & Bell, 2005); investment on business founder’ social and human capital brings better performance to a company (Bosma, et al., 2004); and individuals can also contribute to the organization with the creation of intellectual capital (Nahapiet & Ghoshal, 1998).

Finally, managers should be careful when developing their network as deviating from a clear network strategy can impair their capacity of collecting full benefits from a network (Moran, 2005). Moran (2005) also points out that a manager should focus not only in an entrepreneurial strategy to gain advantage over others in terms of information, but also in relational embeddedness, building stronger and trustworthy ties that can be of help in situations of higher uncertainty.

Overall, from this section it is important to retain that what a manager does outside the organization can also have a great impact on how the organization performs, but also that all the employees of a company can have impact in a company’ social capital, not only the managers.

## **2.8 SNA IN HUMAN RESOURCES MANAGEMENT (HRM)**

Having understood how actors can understand and benefit from a social network, it is now time to look on how this concept is being used in other areas. Since this dissertation will partially focus in evaluating the connections of some of the collaborators of Lipari Consulting, it makes sense to understand how this kind of analysis can (or should) influence how a company manages their human resources, for recruiting, maintenance and evaluation.

This section will be based on the paper written by Hollenbeck & Jamieson (2015) as it provides an insight closer to what is the focus of this dissertation than other authors (e.g. Hatala, 2006; Parise, 2007) that focus mostly in other aspects, such as Human Resource Development, which are less relevant for the objectives of this work.

The first way the authors present to use social network analysis in HRM is for the recruiting step. It is explained that with the increasing importance of team-based structures in companies, it becomes more important to understand not only the attributes of each individual but also how each employee behaves within the company. By understanding which collaborators are better at connecting people and/or spreading knowledge, it is possible to define a baseline profile of what to look in possible candidates. Another possible use is to find the candidates themselves. It is already a current practice to recruit through referrals, but as most people do not have a full comprehension of their network, some talent might be overlooked; hence, by mapping everyone's social network, it is possible to have a clearer image of who might be adequate for the open position. After recruiting, it is in the integration phase that SNA might help. According to different studies cited by the authors, it is important for a new employee to be properly integrated, as it will influence his satisfaction with the job, and his access and assimilation of tacit knowledge. With SNA, it is possible to identify both the employees that have more 'social influence' as well as those that seem more socially isolated and, with this, intervene.

Hollenbeck & Jamieson (2015) also explain how SNA can be used to evaluate performance. In order to understand not only how someone performs his job but also how he contributes to others', it makes sense to identify to whom the people go to when they require help or looking for new ideas. SNA could also be useful to help mapping processes within a company, i.e. to understand through whom the information passes until the process is complete and, with this, look for inefficiencies and correct them.

The downsides of this kind of analysis could be an abusive/unethical use of the information collected; an increase of time wasted socializing, if social relationships become a performance measured; as well as more frequent but less important contact between employees.



In summary, this tool can provide the managers with more information, and more accurate, providing a different basis to make decisions. It also helps identify who are the informal leaders within the organization and who might be adding value without being noticed.

### **CHAPTER 3 – CASE STUDY**

This chapter is dedicated to the practical part of the dissertation. It will begin with a description of the company, then the methodology used to collect and process the data, followed by some descriptive statistics of the collected data and ending with an analysis of the created networks.

#### **3.1 LIPARI CONSULTING (LC)**

Created in 2007 by current CEO Giuseppe Lipari in Alcamo, a province near Palermo in the region of Sicily, Lipari Consulting is a management consulting company that focus primarily in collaborating with the most important international companies.

In 2010 it expands its network, starting to collaborate with the management consulting companies that work in the markets of Banking and Insurance, becoming in 2012 the market leader in consulting through partnerships. In 2012 it also acquires its first direct clients. In 2016 it further increases the portfolio of direct clients and creates a new division – Advisory – to deal with them, reaching revenues of €6 million.

LC provides services in the areas of:

- Project Governance, managing the work and capacity plan, cost control, risk management and reporting;
- Process Analysis, evaluating the current situation, mapping the processes and re-designing them;
- Business Analysis, doing feasibility studies, selecting partners, defining business requirements and service models, and launching commercial campaigns;
- Functional Analysis, collecting functional requirements, drawing functional documents, selecting software, defining integrational IT models, and training and developing user manuals.

- Software Certifications, defining and drawing test plans, define functional tests' documents, UAT activities and test reporting.

Their declared mission is “Work with passion side to side with our clients to support them during their growth.” In its values, LC considers that are the human resources that create a combined value to the company and for this it adopts a politic of motivation and accountability to each individual in their assignments.

In a recent article, written in the TP24 online newspaper, to celebrate the LC's 10-year-old anniversary, it was highlighted that Lipari Consulting has achieved considerable success with its team having an average age of 28,8 years and mostly composed by former students of the University of Palermo (78%).

### **3.2 DATA COLLECTION AND PROCESSING**

The main source of information for this analysis are the existing connections of each employee of Lipari Consulting in the professional social network known as LinkedIn. To collect the required data and information (name, company and position) with minimal risk of losing information while processing it, it was requested to all the collaborators to follow a short tutorial (*vide* appendix 1) that would allow to download all the connections information into one excel file (*vide* example in appendix 2). After collecting all the data and organizing it in one file, the next step is to filter the connections per position and company in order to a) obtain only the connections that have influence within the company to participate in the definition of a partnership or to influence the decision of outsourcing a problem and b) to exclude companies that do not have enough available information to work with.

The first step of filtering the available data will be done by position. In order to do this, it will only be considered the professionals with a job title within the managerial positions. It will be divided firstly into first-level managers, middle-level managers and top-level managers (DuBrin, 2011) For a matter of simplification, considering the extremely high number of entries, the positions considered will be only the ones present in LinkedIn,

since it would require additional resources to further investigate if any person has any other position in other organization.

The next step will be to evaluate each of the remaining connection's companies as per their size (number of employees), sector of activity, country, city and age. The information about the size of the company will follow LinkedIn classification (appendix 3) and the sector of activity will be based in the second level of the SIC code. This will allow a better understanding of what each company could provide in terms of a possible business associate or a potential client.

After all these steps, the relevant information left consists in a total of 447 companies to which there is enough information to proceed with an analysis.

### **3.3 PERSONNEL NETWORK ANALYSIS**

This section will start by some brief overall descriptive statistics that intend to describe the kind of information gathered. The second part will be a deeper analysis of the statistics available, dividing them by employee and matching it with size of the companies connected to each one and the sectors of activity. Then it will proceed to the main analysis – the network analysis – providing some insight about the total network.

### 3.3.1 Overall Descriptive Statistic

Starting by splitting the companies by country, it is verifiable that most of them are present in Italy (64%), followed by the United States of America (12%) and the United Kingdom (5%).

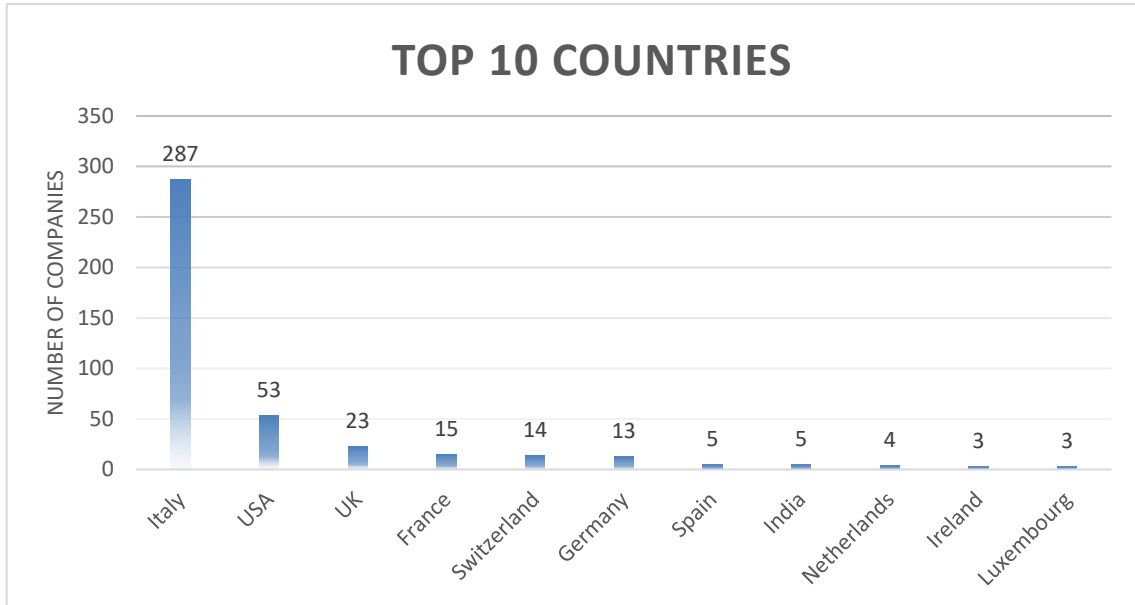
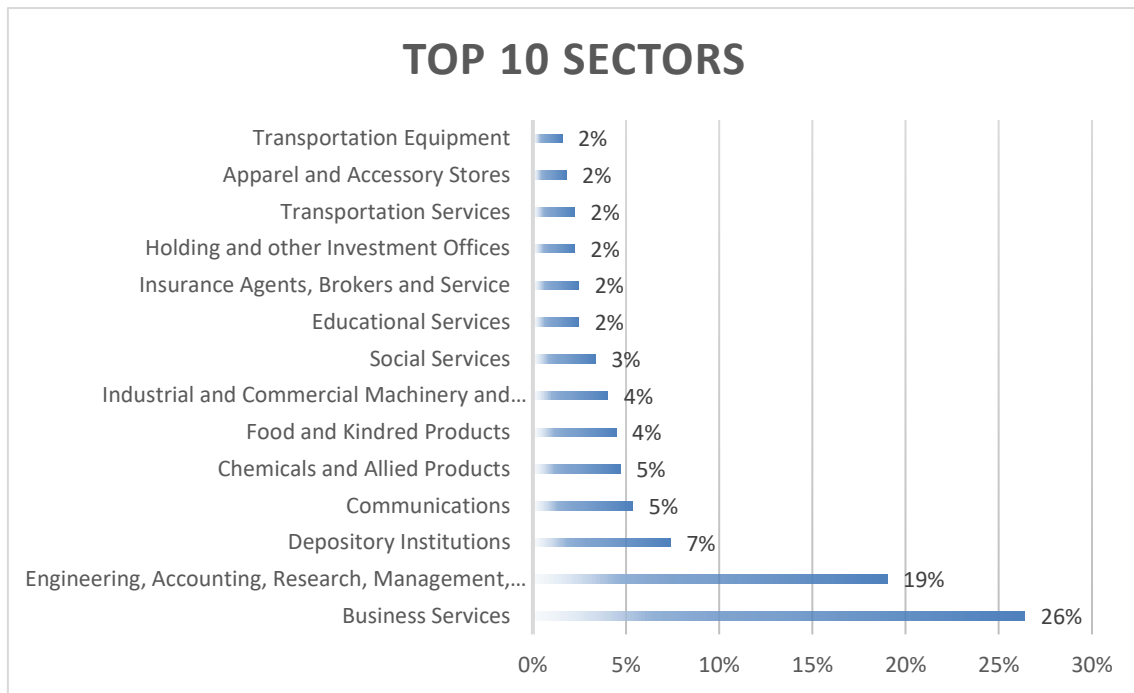


Figure 1 - Top 10 Countries

Through this information is possible to affirm that the working relationships are currently more focused on the internal market of the firm, with some exceptions.

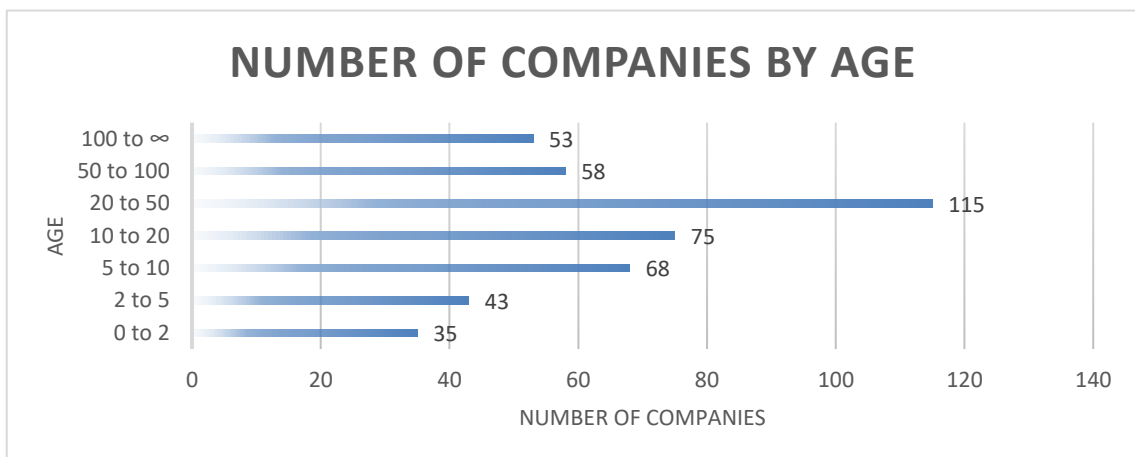
Now looking at the principal areas of business where these companies belong, it is clear the domination of companies in the sectors ‘Business Services’ and ‘Engineering, Accounting, Research, Management, and Related Services’, which are mostly composed of consulting activities – 45% in total -, followed by the area of Depository Institutions, fully composed by banks. All other areas below are represented by 7 to 24 companies.



**Figure 2 - Top 10 Sector**

This reality shows a similar result as the previous graphic, where most of the connections exist within the same business area of Lipari Consulting.

As for how long each company has been in the market, the most important remark is that 35 of those companies can be considered start-ups and that a third of them (146) have less than 10 years.



**Figure 3 - Number of companies per age**

This fact can be explained by how the data was filtered. Since only the most important positions were considered, there is a higher chance to find them in smaller companies.

Finally, by separating the companies in analysis according to their number of employees, it is noticeable that there is no dominant category, with the ones with higher values ranging from 14 to 17% of the total and the other 3 from 6 to 8%.

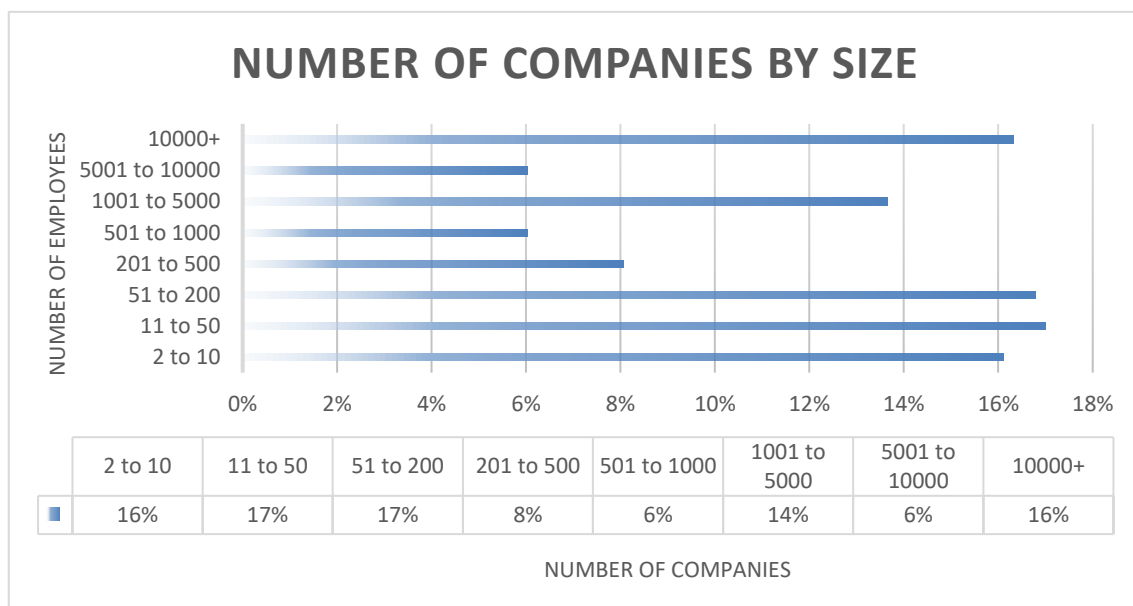


Figure 4 - Number of companies by size

Two remarks, first the high number of companies with less than 200 employees, which, considering that most of them work in Italy, points to the fact that a great part of Italian companies are SME's. Secondly, comparing Figure 3 and 4 it is noticeable that (i) there are 100 companies with more than 5001 employees and (ii) that and 111 with more than 50 years. This suggests that the size of the company might be related to its age.

### 3.3.2 Top 10 Sectors by Age

In this section it will be compared the age of the company to its sector of activity. The objective is to understand how they related to each other in this sample.

Table 1 - Top 10 Sectors by Age - 0 to 2

	0 to 2
<i>Business Services</i>	38,24%
<i>Engineering, Accounting, Research, Management, and Related Services</i>	20,59%
<i>Communications</i>	8,82%
<i>Social Services</i>	5,88%
<i>Depository Institutions</i>	5,88%

[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]

For companies with less than 5 years, the most common sector of business is consultancy, with almost 60%. Either directly related to business or in other areas (e.g. engineering or accounting).

**Table 2 - Top 10 Sectors by Age - 2 to 5**

	<b>2 to 5</b>
<i>Business Services</i>	30,23%
<i>Engineering, Accounting, Research, Management, and Related Services</i>	25,58%
<i>Social Services</i>	11,63%
<i>Food and Kindred Products</i>	4,65%
<i>Miscellaneous Services</i>	4,65%
<i>Chemicals and Allied Products</i>	4,65%
<i>Educational Services</i>	4,65%

In table 3, consultancy services have a slightly lower percentage due to the higher number of sectors present and the existence of some banks (Depository Institutions).

**Table 3 - Top 10 Sectors by Age - 5 to 10**

	<b>5 to 10</b>
<i>Business Services</i>	33,82%
<i>Engineering, Accounting, Research, Management, and Related Services</i>	14,71%
<i>Depository Institutions</i>	11,76%
<i>Insurance Agents, Brokers and Service</i>	5,88%
<i>Communications</i>	5,88%
<i>Transportation Services</i>	4,41%
<i>Industrial and Commercial Machinery and Computer Equipment</i>	4,41%
<i>Transportation Equipment</i>	2,94%
<i>Educational Services</i>	2,94%
<i>Hotels, Rooming Houses, Camps, and other Lodging Places</i>	2,94%

**Table 4 - Top 10 Sectors by Age - 10 to 20**

	<b>10 to 20</b>
<i>Business Services</i>	38,67%
<i>Engineering, Accounting, Research, Management, and Related Services</i>	30,67%
<i>Communications</i>	5,33%
<i>Depository Institutions</i>	5,33%
<i>Holding and other Investment Offices</i>	2,67%
<i>Industrial and Commercial Machinery and Computer Equipment</i>	2,67%

Most of the companies with between 10 and 20 years are in the consultancy, representing almost 70%. While the ones aged between 20 to 50 have 50% in the consulting business, with the others divided throughout the sectors.

**Table 5 - Top 10 Sectors by Age - 20 to 50**

	<b>20 to 50</b>
<i>Business Services</i>	30,43%
<i>Engineering, Accounting, Research, Management, and Related Services</i>	18,26%
<i>Communications</i>	8,70%
<i>Depository Institutions</i>	4,35%
<i>Chemicals and Allied Products</i>	4,35%
<i>Food and Kindred Products</i>	3,48%
<i>Industrial and Commercial Machinery and Computer Equipment</i>	2,61%
<i>Insurance Agents, Brokers and Service</i>	2,61%
<i>Holding and other Investment Offices</i>	2,61%

**Table 6 - Top 10 Sectors by Age - 50 to 100**

	<b>50 to 100</b>
<i>Food and Kindred Products</i>	10,34%
<i>Engineering, Accounting, Research, Management, and Related Services</i>	10,34%
<i>Industrial and Commercial Machinery and Computer Equipment</i>	8,62%
<i>Depository Institutions</i>	8,62%
<i>Social Services</i>	6,90%
<i>Chemicals and Allied Products</i>	5,17%
<i>Business Services</i>	5,17%
<i>Transportation Services</i>	5,17%
<i>Apparel and Accessory Stores</i>	5,17%
<i>Electric, Gas and Sanitary Services</i>	5,17%

In both tables for companies with more than 50 year-old, the situation is quite different with the firm being split through the different sectors without any clearly dominant sector.

**Table 7 - Top 10 Sectors by Age - 100+**

	<b>100 to ∞</b>
<i>Depository Institutions</i>	18,18%
<i>Chemicals and Allied Products</i>	16,36%
<i>Engineering, Accounting, Research, Management, and Related Services</i>	12,73%
<i>Food and Kindred Products</i>	12,73%

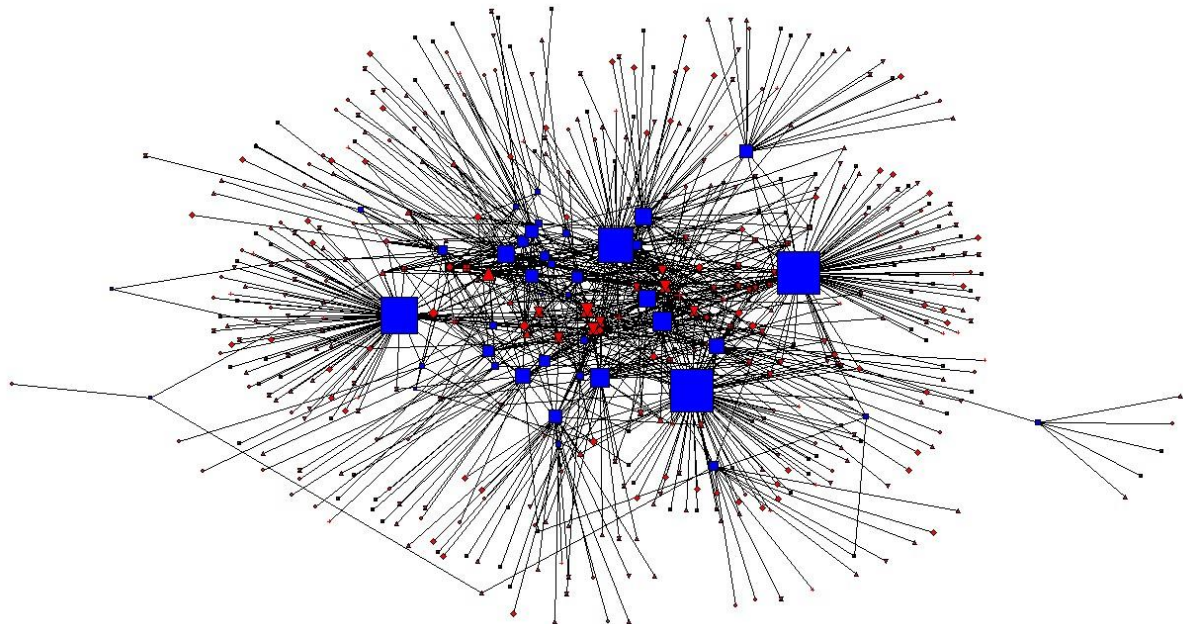


<i>Insurance Agents, Brokers and Service</i>	7,27%
<i>Industrial and Commercial Machinery and Computer Equipment</i>	5,45%
<i>Social Services</i>	3,64%
<i>Business Services</i>	3,64%
<i>Holding and other Investment Offices</i>	3,64%

To summarize, it is noticeable that (i) apart from the older companies (over 50 years-old) most of them belong to the consultancy sector; (ii) the older the companies are, the more the percentage is split throughout the sectors; (iii) the most present sector overall – ‘Business Services’ – loses importance as the age increases; (iv) the data reveals (or confirms) that a lot of consultancy firms have been created in the last 20 years.

### 3.3.3 Overall Employees Network Analysis

In Figure 5, a representation of Lipari’s network, the main point of analysis are the squares which represent Lipari’s employees. The size of the square represents the degree of each node. Below, Table 8 summarizes the top15 of personnel with the higher amount of connections, ranked by ‘Degree’.



**Figure 5 - Complete person-to-company network (larger version in appendix 4)**

Looking into the first column, ‘Degree’ represents the number of direct connections each person has. Two notes worth taking are that the first two (Giovanni Lipari and Giavito Parinello) have both more than 90 direct connections; and that between the 4<sup>th</sup> and 5<sup>th</sup> place the difference is of 37, which leave the top 4 clearly highlighted.

Look at betweenness is interesting to check how the top 3 have a way higher value than the rest, showing how these three are important in connecting the network. Another interesting result is how Gabriele Biddeci, who has less contacts than both Gianvito Parrinello and Giovanni Lipari, gets a higher value for betweenness, which means that even though he has less connections he is present in more short paths.

In terms of closeness there is no surprise, with the values following, with only a few exceptions, the ranking of degree.

Finally, for Eigenvector centrality, it is interesting to notice that Gabriele Biddeci has a relatively low value, which means that even though he is well connected directly, indirectly, or through others, he has less importance than, for example, Salvatore Pampinella or Alessandro Messina that are in 5<sup>th</sup> and 6<sup>th</sup> place, respectively.

**Table 8 - Top 15 Nodes by Degree**

<i>Id</i>	<i>Degree</i>	<i>Betweenness</i>	<i>Closeness</i>	<i>Eigenvector</i>
<i>Giovanni Lipari</i>	97	29009,63	1247	0,126
<i>Gianvito Parrinello</i>	95	26897,15	1243	0,14
<i>Gabriele Biddeci</i>	84	29940,08	1269	0,078
<i>Chiara Titone</i>	77	17875,47	1287	0,14
<i>Salvatore Pampinella</i>	40	3979,139	1375	0,085
<i>Alessandro Messina</i>	39	6904,057	1371	0,08
<i>Antonella Buffa</i>	35	3999,533	1373	0,084
<i>Arianna Pace</i>	33	6580,059	1389	0,071
<i>Federico Colletti</i>	33	6669,494	1369	0,075
<i>Alessio Vella</i>	30	5875,813	1383	0,067
<i>Daniele Erra</i>	28	5502,727	1407	0,056
<i>Fabiana Lombardo</i>	27	6980,095	1443	0,034
<i>Tiziana Mondello</i>	26	2765,548	1387	0,072
<i>Raffaele Alberino</i>	25	4348,851	1411	0,058
<i>Pasquale Gravina</i>	23	8681,308	1509	0,011

Before for a person-by-person analysis, it is interesting to notice how each worker contributes to the network. For this purpose the method chosen was a Pareto analysis (Figure 6) where it's possible to observe the contribution of each person (blue bar) for the total knowledge of the firm (red line). To note that the first 4 represent around 40% of the total and that the last 24, out of 42 people under analysis, contribute only with 20%.

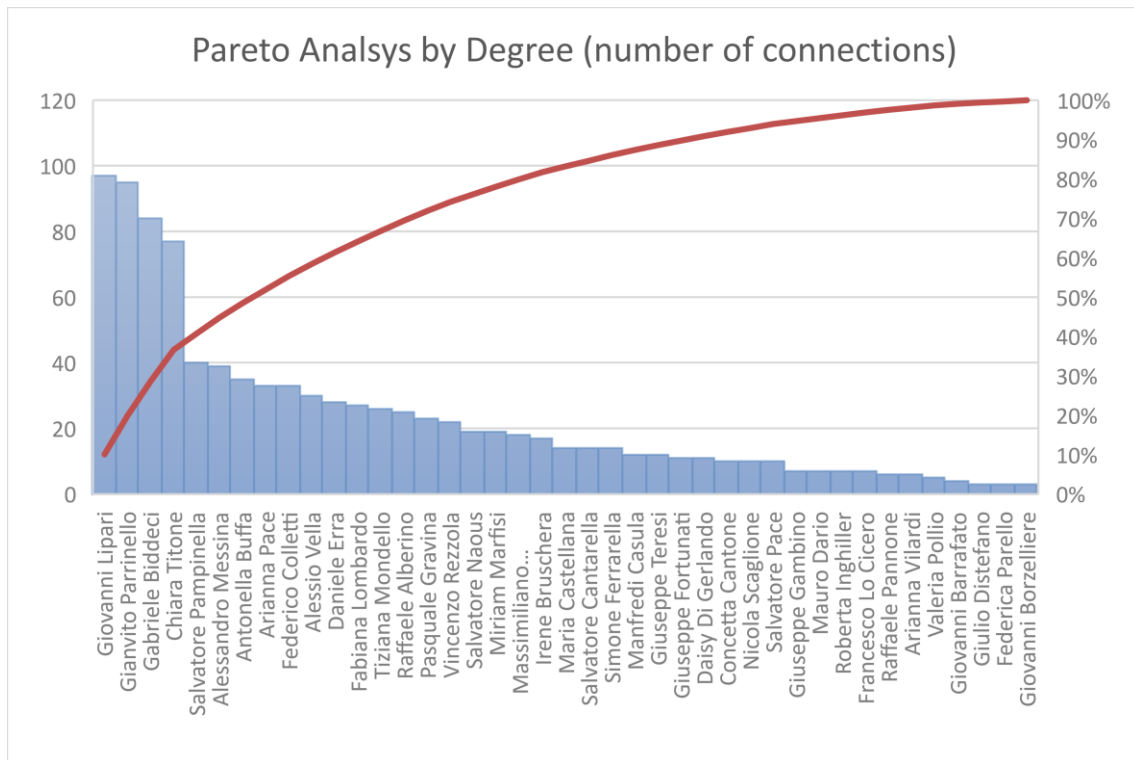


Figure 6 - Pareto Analysis by number of connections (Degree)

### 3.3.4 Individual Analysis

Having identified the most important people within the company, the next logical step is to understand how influent each of them are. Each analysis will be composed by a personal description (former jobs and education) according to LinkedIn and a summary of their ‘expertise’ (how they fare per size, age and sector). The full analysis can be found in the appendix (appendix 5)

#### a) Giovani Lipari – Current CEO of Lipari Consulting

After studying computer science and business administration, Giovani Lipari focused his whole career in the consulting business. As such it is not surprising when more than 30% of his contacts work in consulting firms. Since most of the business of Lipari Consulting is providing services to banks and other financial entities, it is also normal that the second most present sector is banking. Looking at Figure 8 it is understandable that almost a third of his connections work for big companies (over 10000 employees) followed by those of small dimension (51 to 200). Figure 7 presents a similar result, with 30% of the connections being part of companies between 20 to 50 years old. It is also relevant to notice that around 80% of his contacts work for companies with over 10 years of existence.

b) Gianvito Parrinello – Current Partner of Lipari Consulting

After finishing his master degree in management engineering, Gianvito Parrinello has been working with Lipari Consulting from since the start. As such, it is not surprising that the results obtained are not far from those of Giovanni Lipari, with consulting service's companies coming in the first two places and banks in third. As for the size of the companies, its distribution is slightly more disperse when comparing to Giovanni's, but still greater focus on the almost same categories.

c) Chiara Titone – Current Sales Manager at Lipari Consulting

Chiara Titone presents a similar profile to the previous two. A degree from the same university in the same area, starting her professional life in Lipari Consulting and continuing until now. As such, all the acquired information points in the same directions as the previous cases, with consulting and banking being the main sectors, big firms as the main connections and companies between 20 and 50 years with a higher percentage.

d) Gabriele Biddeci – Currently a consultant in Lipari Consulting

With no information available on LinkedIn, the profile analysis is quite limited. As in all the previous cases Gabriele Biddeci did his studies in UNIPA, both bachelor and master in management engineering. As usual the main sectors of activity are consulting-related, but in this case the following ones are communications, food and chemicals. As for size and age, it differs from the other people, as, for size, there's not only the big companies but also the small ones (2 to 50 people) that represent a third of his total connections. Age is also more distributed when comparing to the other 3 cases, as all values are between 10 and 20% apart from the category 2 to 5. This may represent some value for the company as he has access to difference types of companies of different sectors.

e) Salvatore Pampinella – Currently a Sales Manager in Lipari Consulting

With a profile similar to the previous employees, Salvatore Pampinella's connections are also more present in consulting and banking companies. The main difference stands in the internal education experience that he had in Sweden, even though for now it does not show any major difference. As for size and age, it follows the trend, with 40% of the

companies being large ones, while in age around 50% of them belong to the range from 10 to 50.

The following people have similar profiles to Giovanni Lipari and Chiara Titone in all the aspects under consideration:

- f) Alessandro Messina - Currently a Senior Consultant at Lipari Consulting
- g) Antonella Buffa – Currently a Senior Consultant at Lipari Consulting
- h) Arianna Pace – Currently a Consultant working for Reply through Lipari Consulting
  - The only significant difference is the presence of the Chemical sector in 4<sup>th</sup> place with almost 10%.
- i) Federico Colletti – Currently a consultant at Lipari Consulting working for Reply
  - The only highlight is the bigger presence of companies of smaller size (2 to 50).
- j) Alessio Vella – Currently a Senior Consulting at Lipari Consulting working for UniCredit Business Integrated Solutions
- n) Raffaele Alberino – Currently a Senior Consultant at Reply, working through Lipari Consulting in Sondrio, Italy
- k) Daniele Erra – Currently a Business Analyst at Lipari Consulting working for Reply

With a different background from the previous cases, Daniele Erra studied in a different university and before starting in Lipari Consulting he worked in an accounting company. In practice, the results tend to the same as previously, with a dominance of big companies, between 20 to 50 years belonging to the baking or consulting sector.

- l) Fabiana Lombardo – Currently a Consultant at Lipari Consulting

Also with a different educational background, the main differences comparing to the previous cases are the dominance of contacts working for companies aged between 5 and 50 years old and that a third of them are large companies.

- m) Tiziana Mondello – Currently a Consultant at Lipari Consulting

The only significant differences are in her background, as she studied abroad for her master – in Turkey – and worked for a few years in public administration. Even so, network-wise she is quite similar to the previous coworkers and it shows by her similar results.

o) Pasquale Gravina – Currently a Junior Consultant at Lipari Consulting

Comparing to his peers, Pasquale Gravina has a more international profile, with a year spent abroad studying plus an internship, both in Warsaw. In terms of the variables under analysis there is no difference, with all three presenting similar numbers to his colleagues.

In an overall analysis the main points to retain are the following:

- Most of the collaborators under analysis have a very similar profile, which ends up providing the same kind of connections and ideas;
- Only a few (2), have a different academical background, which, in one hand, provides the firm with similar capabilities, views and work methods. This may signify that any of the consultants are capable of providing similar levels of service. In other hand, means that they all know more or less the same people, or people in the same places, which reduces the variety of firms that is possible to reach;
- Out of 15, only 3 have had international experiences during their studies. Even though the country origin is not under analysis here, it probably means that most of them will not be able to contribute with a lot of networking if the company decides to expand to other countries;
- All in all, the connections of these employees match the connections of the company, which might signify that most of the professional connections were made while working in Lipari Consulting.

### **3.4 B2B NETWORK ANALYSIS**

Opposite to the employees' network, the B2B network is based on information given directly from the company. It is composed by all the businesses conducted, either directly with the final client or through some other company in the last 3 years (as of December, 2016). In total, there are 75 companies, other than Lipari Consulting, composing this

network. In order to better understand the following analysis, these companies work exclusively as a bridge between the final client and Lipari Consulting:

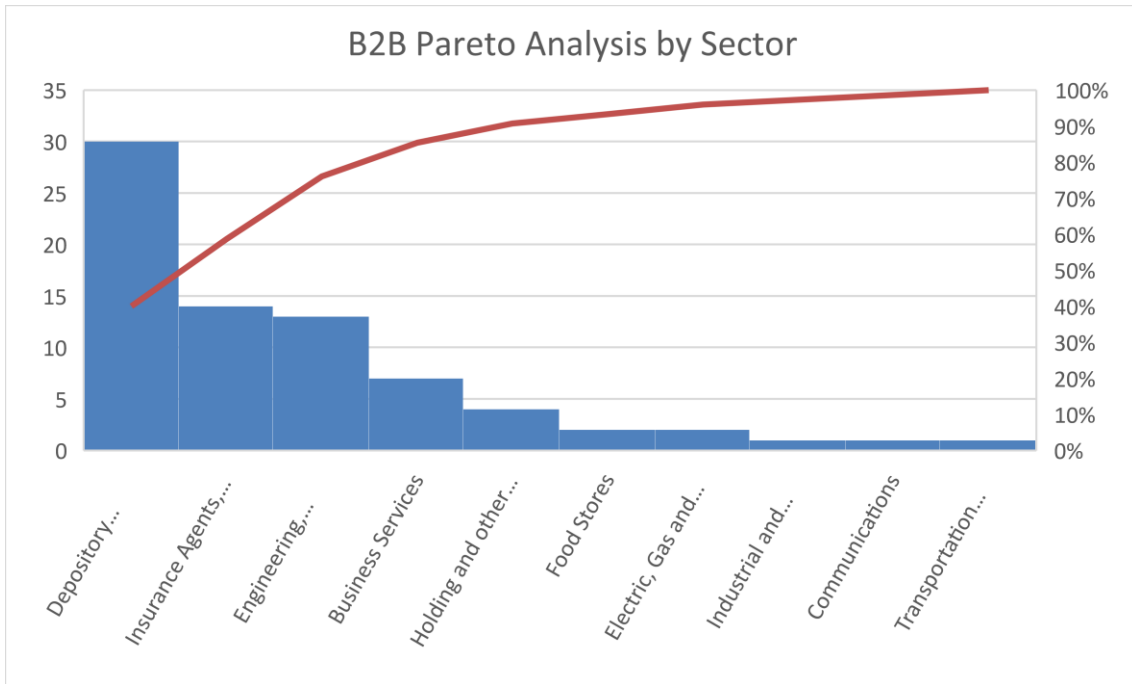
- Be Consulting
- Be Solutions
- BIP
- Capgemini
- Corvallis
- Datagroup
- Deloitte
- Demet
- Double Consulting
- E\*FC Reply
- Hewlett Packard
- Iris Cube Reply
- KPMG
- Nexen
- Quid Informatica
- Reply Technology
- SCS Consulting
- Simmetrix

#### 3.4.1 Overall Descriptive Statistics

Starting by characterizing the data by sector of activity using the same list as before - SIC Codes – it is observable that the companies are divided into 10 sectors of activity:

- Depository Institutions;
- Insurance Agents, Brokers and Service;
- Engineering, Accounting, Research, Management, and Related Services;
- Business Services;
- Holding and other Investment Offices;
- Food Stores;
- Electric, Gas and Sanitary Services;
- Industrial and Commercial Machinery and Computer Equipment;
- Communications;
- Transportation Services.

To better understand the relevance of each one, Figure 7 shows a Pareto Analysis which uncovers that 80% of the connections are with companies from 4 areas: Depository Institutions; Insurance Agents, Brokers and Service; Engineering, Accounting, Research, Management, and Related Services; and Business Services. Most of them are banks and insurance companies, which are the main final client and amount to a total of 59%. Followed by consulting firms in diverse areas which most of them act as intermediaries (as shown in Figure 10)



**Figure 7 - B2B Pareto Analysis by Sector**

Turning the attention to the size of the companies (Figure 7), it is noticeable the dominance of big companies with 29% of them having more than 10000 employees and 56% with more than 1000. Taking into consideration that most of them are banks and insurances, it is understandable that most of them represent big bank and insurance chains. On the other side, the 7% of companies with less than 50 employees indicate that small companies are neither the focus of the business nor a source of opportunities.



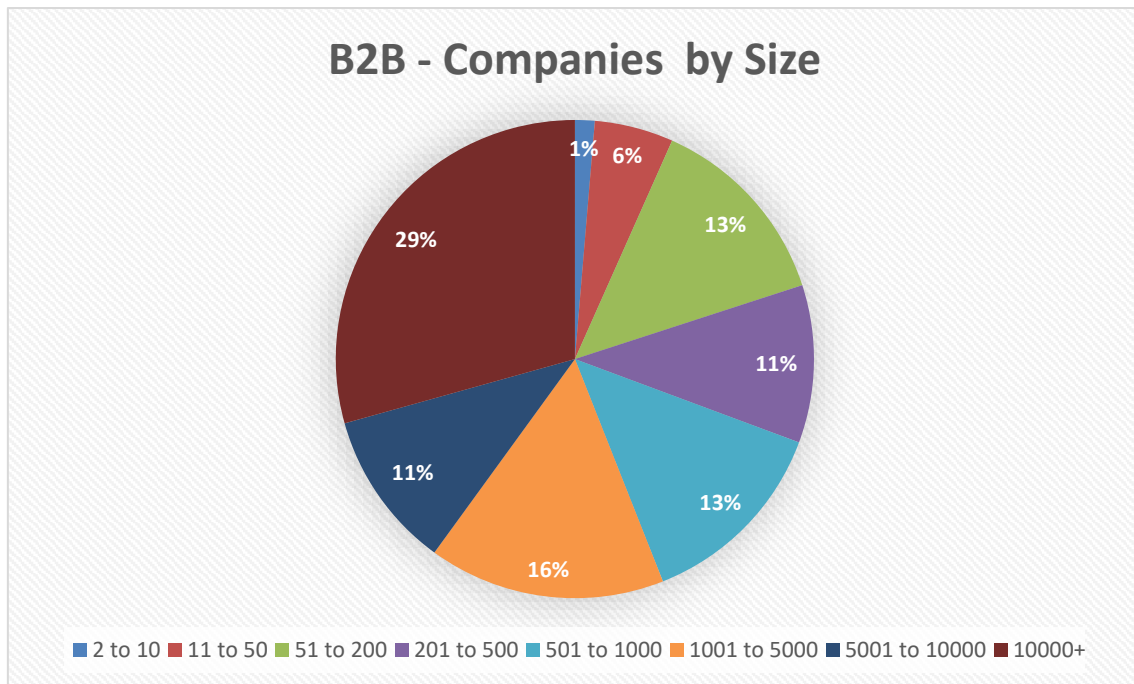


Figure 8 - B2B: Companies by Size

Taking these observations and applying them to the age of the firms, it is also visible a similar pattern as 60% of the companies present in the network are either between 20 and 50 years or have more than 100, while companies with less than 5 years count only for 8% of the network. This information reinforces the idea that Lipari Consulting deals mostly with big, renown institutions.

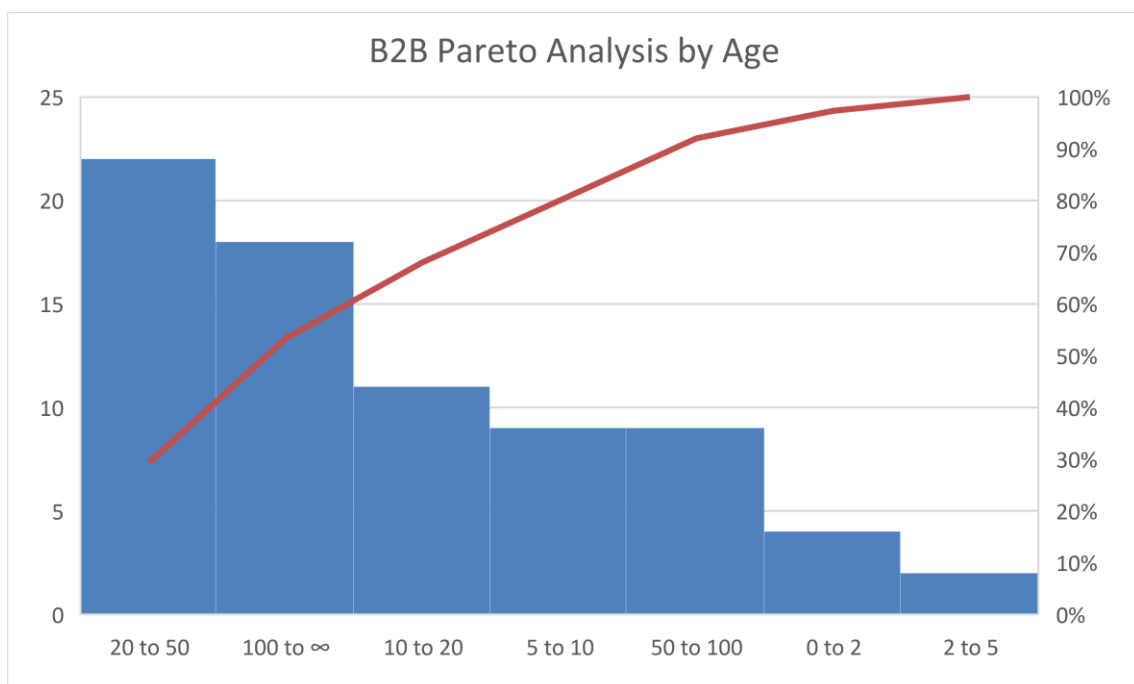


Figure 9 - B2B: Pareto Analysis by Age

### 3.4.2 Network Analysis

In the figure below is represented the whole network surrounding Lipari Consulting. The different sizes represent the amount of connections each node has; the colors the size of each company. Using NetDraw<sup>1</sup> capacities, Table 9 contains information about the degree of the top 5 companies that serve as intermediaries. Combining the information from both the network and the table it is visible the importance of E\*FC Reply as it brings 31 customers to Lipari Consulting, while the other top 4 amount to a total of 26. This shows in a first instance that around half of the businesses conducted were done through E\*FC Reply.

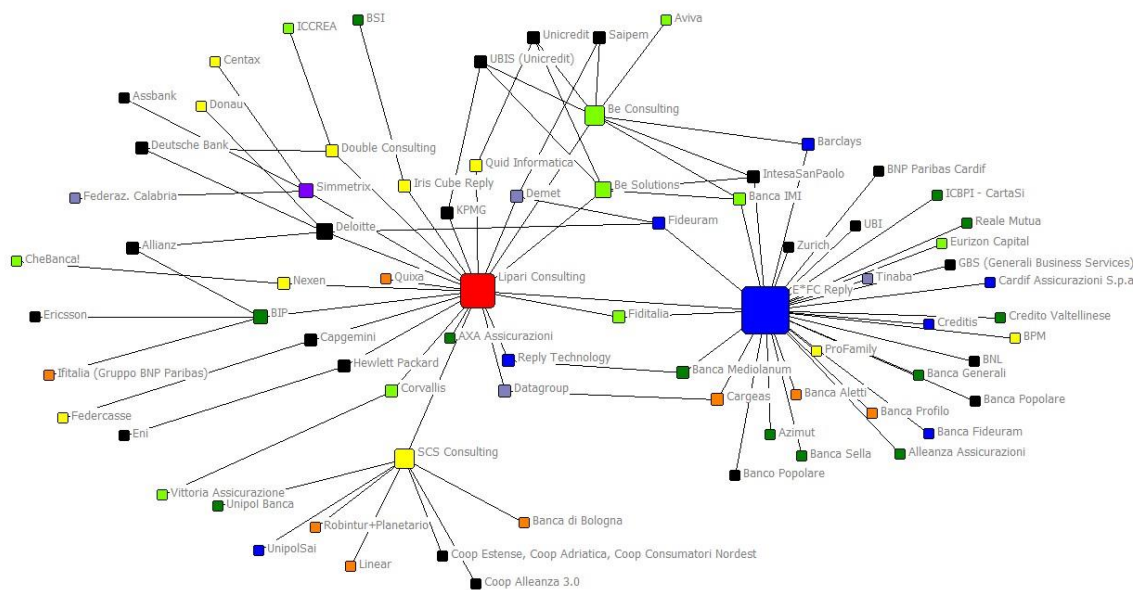


Figure 10 - B2B Network – Size (larger version and legends in appendix 6 and 6.1)

Table 9 - Top 5 B2B Companies by Degree

<i>Id</i>	<i>Degree</i>
<i>E*FC Reply</i>	31
<i>Be Consulting</i>	8
<i>SCS Consulting</i>	8
<i>Be Solutions</i>	5
<i>Deloitte</i>	5

<sup>1</sup> Complement to UCINET program.

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Having determined who is the most important partner, the next step is to understand who are the big clients within reach and how to reach them through the network. Focusing on the black and blue nodes (companies with more than 5001 employees), the tables below summarize how to reach each of the biggest potential clients.

**Table 10 - Connections to firms with more than 10000 employees**

Objective	Connections	Objective	Connections
Allianz	BIP	IntesaSanPaolo	E*FC Reply
	Deloitte		Be Consulting
Assbank	Simmetrix		Be Solutions
Banca Popolare	E*FC Reply	Saipem	Demet
BNL	E*FC Reply		Be Consulting
BNP Paribas Cardif	E*FC Reply	UBI	E*FC Reply
Coop Alleanza 3.0	SCS Consulting		BE Consulting
Coop Estense, Coop Adriatica, Coop Consumatori Nordest	SCS Consulting	UBIS (Unicredit)	Be Solutions
Deutsche Bank	Deloitte		KPMG
	Double Consulting		Be Consulting
Eni	Hewlett Packard	Unicredit	Be Solutions
Ericsson	BIP		Quid Informatica
GBS (Generali Business Services)	E*FC Reply	Zurich	E*FC Reply

**Table 11 - Connections to firms with more than 5000 employees**

Objective	Connections
Banca Fideuram	E*FC Reply
	E*FC Reply
	Be Consulting
Cardif Assicurazioni S.p.a	E*FC Reply
Creditis	E*FC Reply
	E*FC Reply
Fideuram	Demet
	Deloitte
UnipolSai	SCS Consulting

With the current network it is possible for Lipari Consulting to connect to any of the bigger companies with only one bridge. Fideuram, Unicredit and Intesa SanPaolo are the ones that have more ways to reach (3).

In order to add some more possibilities to the network, a search was made on if and how these big companies interact with each other. For example, the search shows that Intesa

SanPaolo has partnerships with other companies such as Unicredit, BNP Paribas, BNL and Coop. While Deutsche Bank is also connected to Unicredit, Zurich and Allianz through cooperation in some projects; and UnipolSai with Coop, Saipem and Ericson by providing services. Below (Figure 11) is the representation of this new network.

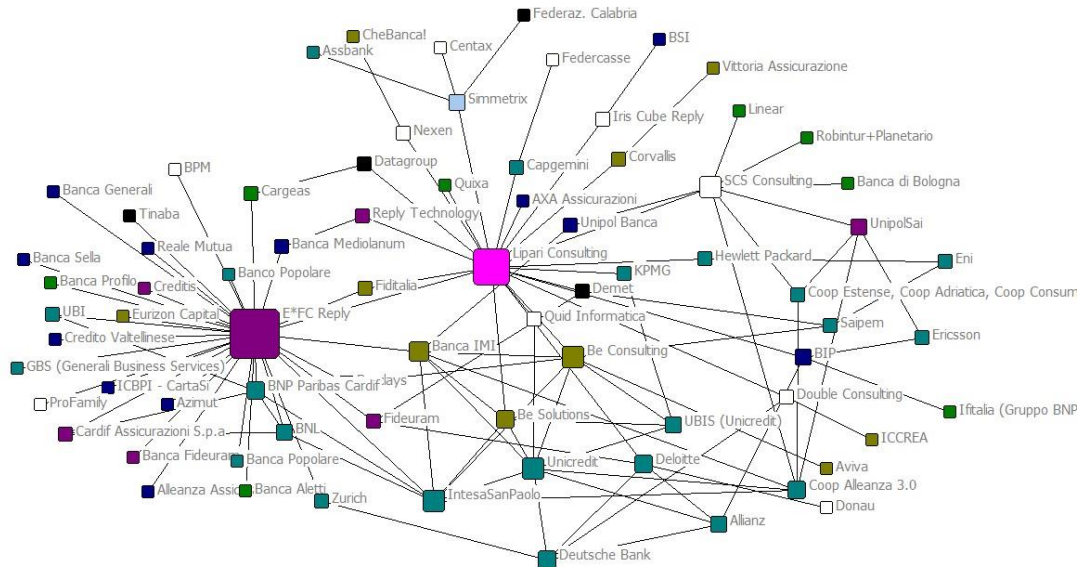


Figure 11 - B2B Network - Enhanced version (larger version and legends in appendix 7 and 7.1)

In the two tables below (Tables 12 and 13) it is represented the centrality measure of Degree, Betweenness, Closeness and Eigenvector.

Starting by degree, it is clear that the most important (central) actors of the network are E\*FC Reply and Lipari Consulting. That is also visible in the network representation (Figure 11) as E\*FC Reply seems to be part of a separated cluster and Lipari Consulting is connected to the firms identified as their business partners and directly to some other clients.

As for betweenness, there are two positions that deserve a remark: first, Lipari Consulting appears in first place, which means that it is through this company that many of the shortest paths pass through them; second, how SCS Consulting and Simmetrix show up in higher positions, which means that even though they are not directly connected to many other companies, they are part of a lot of short paths, which gives them importance in connecting companies.

**Table 12 - Top by Degree and Betweenness**

<i>Id</i>	<i>Degree</i>	<i>Id</i>	<i>Betweenness</i>
<i>E*FC Reply</i>	31	Lipari Consulting	1726,151
<i>Lipari Consulting</i>	21	E*FC Reply	1519,255
<i>Unicredit</i>	9	SCS Consulting	346,555
<i>Be Consulting</i>	8	Simmetrix	219
<i>SCS Consulting</i>	8	Be Consulting	193,077
<i>IntesaSanPaolo</i>	8	BIP	151,568
<i>Banca IMI</i>	7	Deloitte	119,768
<i>Coop Alleanza 3.0</i>	6	Banca IMI	117,223
<i>Be Solutions</i>	5	IntesaSanPaolo	114,298
<i>Deloitte</i>	5	Double Consulting	85,667
<i>BNP Paribas Cardif</i>	5	Coop Alleanza 3.0	77,729
<i>Deutsche Bank</i>	5	Unicredit	76,048

As for closeness the most surprising result is Fidelity, as it does not appear in any of the previous tables. Looking at the network, it is understandable why, as this company is between the top two (Lipari Consulting and E\*FC Reply), which means that they can reach the other companies ‘faster’ through these two.

Finally, for eigenvector centrality, there are no surprising results. The most interesting one is the difference between E\*FC Reply and Lipari Consulting, which shows that the first one is better connected than the second. Also, that IntesaSanPaolo is now very close to the values of Lipari Consulting, which shows that through their connections, both companies have similar levels of centrality.

**Table 13 - Top by Closeness and Eigenvector**

<i>Id</i>	<i>Closeness</i>	<i>Id</i>	<i>Eigenvector</i>
<i>Lipari Consulting</i>	129	E*FC Reply	0,527
<i>E*FC Reply</i>	140	Lipari Consulting	0,31
<i>Fidelity</i>	173	IntesaSanPaolo	0,277
<i>Be Consulting</i>	182	Banca IMI	0,237
<i>IntesaSanPaolo</i>	182	Unicredit	0,203
<i>Banca IMI</i>	183	Be Consulting	0,198
<i>SCS Consulting</i>	185	BNP Paribas Cardif	0,185

<i>Be Solutions</i>	189	<i>Be Solutions</i>	0,17
<i>Deloitte</i>	193	<i>BNL</i>	0,17
<i>BIP</i>	194	<i>Coop Alleanza 3.0</i>	0,136
<i>Quid Informatica</i>	195	<i>Cardif Assicurazioni S.p.a</i>	0,134
<i>Double Consulting</i>	196	<i>Fiditalia</i>	0,127

As for the possibilities to connect Lipari Consulting to the bigger companies there are 2425 possibilities. In Table 14 it is represented how many paths exist with each number of steps (from 1 to 5), where it is observable that more than more than half of them are done through five companies while only 20% are done through three or less. This result makes sense taking into account the number of existing connections shown in the network.

**Table 14 - number of paths for each number of steps**

<i>#Steps</i>	<i>#Paths</i>	<i>%</i>
1	43	2%
2	106	4%
3	345	14%
4	633	26%
5	1298	54%
<i>Total</i>	2425	100%

As for which companies appear the most we have that E\*FC Reply has the most total appearances (1482) followed by UniCredit (1281), Banca IMI (841) and Be Consulting (801). This means that these firms are the ones through which more paths pass through and enable this amount of connectivity.

The ones easier to arrive (that appear more times as final destination) are Unicredit (249), UBIS (Unicredit) (206), Coop Alleanza 3.0 (554), BNP Paribas Cardiff (550) and BNL (473). When checking why, it is noticeable that the first three are directly connected to Unicredit, benefiting from its position, and that the other two are connected in a small cluster within themselves and E\*FC Reply and Intesa San Paolo.

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Between Step 2 and 5, the top 4 remain the same as the first case, which reinforces the idea that those are the most important ones to connect the whole network. As for the first step E\*FC Reply is the one that directly provides access to the highest number of paths (413), followed by Be Solutions (369), Be Consulting (250), Fiditalia (240) and Deloitte (205). This means that for Lipari Consulting these are the most important business partners as through them flows most of the information of this network.

## CHAPTER 4 – DISCUSSION AND CONCLUSION

In this chapter all the most important conclusions will be presented. First by discussing the results, reviewing the answers to the research questions initially proposed that were already given throughout the results analysis, and with other remarks that might have managerial influence. Since it is a case study, the next part will have some recommendations on what can be done to use the results presented in this dissertation. The final section will have some limitations of this study and how it can be further explored in the future.

### 4.1 DISCUSSION

The first point of discussion is the importance of social capital for Lipari Consulting. As it was previously noted, a manager' social capital has been proved to be of higher importance when a company is either small, a service provider or in a low-growth industry (Peng & Luo, 2000). As such, for LC, a service company, social capital is supposed to have a greater impact. Looking at this company's history it is visible that from the start it has been finding work through its connections – first through its founder and CEO connections and later the firm's own connections. Taking into account where it is positioned in the moment, with considerable success, it is possible to say that it is aligned with Peng & Luo's (2000) conclusion - **that small companies and service companies benefit from a manager' social capital.**

Secondly, it is important to notice how LC has managed their social capital and how they are positioned in the network. Following the conclusions taken in the initial part of section 3.4.2, it is visible in the image of the network (Figure 10) that most of the business conducted by LC is done through a partner. In this sense, it is possible to position **LC has a social capital "borrower"** (Burt, 2000), as it depends on other company's connections to find more work, instead of developing the network on their own. This provided the firm the necessary business to keep functioning and growing, connecting indirectly to companies within they specialty, having low costs of network management and collecting a great part of the possible benefits. It also means that it follows the efficiency idea proposed by Burt (1992), as LC uses a few connections to reach into different clusters. In terms of positioning within the network, since it is an ego-analysis it is obviously



centered in the network. Nonetheless, it is important to notice that it can reach all the big companies (Figure 11) within a few steps.

With the individual network analysis, one of the most relevant remarks is how the social capital is distributed through the individuals. Following one of Maurer & Ebers (2006) ideas, social capital should be managed by more than just a few people in order to give more time to the top members to engage in other important activities. **In LC's case is that most of the social capital is centered in only a few members of the organization.** As such, it is possible for the company to incur in some social capital problems, either by not being able to answer to all their connections or by not having enough time to perform all the necessary tasks within the organization.

Looking into the services provided by the company and into the areas it works with, it is possible to conclude that **LC appears to be locked in a few sectors of activity**, connecting mostly with consulting or financial companies. In this case, and according to Shipilov (2006) it can be classified as a specialist company, as it regularly works within the same area of knowledge. These types of companies have an advantage when working in an open network. Since this network can be described as an open network, where all the consulting companies are equally evaluated, the success that LC had until now can also be explained through this point – because they are ‘specialists’ in their area, they are rewarded with a higher amount of opportunities than other consulting companies with a similar standing. It can also explain how it became the leader of consulting to partnerships in 2012.

This idea of working only within a few business areas is confirmed by the **profiles** of the members of the organization. The ones that were studied in this **dissertation revealed to have a very similar profile within themselves.** This means that if on one hand the company is able to provide a similar service independently of who is providing it – which can be seen as a competitive advantage; on the other hand it can become an obstacle for growing, as the network, knowledge and skills are also similar and can difficult the adaptation to other businesses, countries or cultures.

In terms of possibilities for growing, as both networks (individual and B2B) have a majority of their connections in Italy, at the moment it is safe to assume that, through organic growth, **LC's possibilities lie only in the Italian market**. Adding the member's profiles to the network limitations it results in a high difficulty of moving internationally on their own.

Finally, comparing the individual network with the B2B network, it is visible that there are some possibilities of growing the business through smaller companies (Figure 4 and Figure 8). At the moment, it appears that most of the firm's services are provided to bigger companies. While in the individual network 33% of the companies present have less than 50 employees and this idea also goes along with LC's mission of helping their clients in their growing process. Obviously, the success of this would depend on the financial capacity of these small firms to be able to request Lipari Consulting's services.

## **4.2 RECOMMENDATIONS**

Taking the type of network into account, it might be important for LC to establish closer relationships with companies that might provide access to other markets – both sectorial and geographically. Continuing with a strategy of 'borrowing' social capital, it might be beneficial for **Lipari Consulting to start working closer with companies that have also access to other types of markets or that are present in multiple countries**. This will help LC to expand their options and continue growing.

To do that it is also important that **it starts to recruit in other areas**. As it was previously described, most of the human capital currently existent in the company have a very similar origin. Also, since most of the professional connections were created during their time in Lipari Consulting, it is also important to recruit people with different professional experiences that can contribute also with more networking. As such it might be important to recruit people from other knowledge areas, companies and universities as it can bring more opportunities to the company, as well as a higher degree of flexibility to embrace other kind of challenges.

Since there is a strong reach, by both the company and its members, to the Italian market, **it would be a good step to start reaching more clients directly**. In fact, following LC's

recent history this is a step that is already being taken. By doing this the company might be able to control better their network, increasing their access to information and their ability to manage how it is spread. It will help with increasing their market share and network reach – to client's clients or partners, for example.

For that, it is crucial that **LC develops a clear network management strategy**, splitting responsibilities to different members. As it starts to move in a different direction (e.g. internationalization or reaching more direct clients), if there is no care with their current relationships, it might result in the loss of partnerships and, consequentially, business opportunities.

Finally, **Lipari Consulting should look into the possibility of connecting directly and closer to companies with a high importance within the network** (e.g. UniCredit and Banca IMI) in order to have faster access to information.

#### **4.3 LIMITATIONS**

The first limitation of this study, and probably the most important, is the database. As it depends on a social network, all information might not be 100% real as it depends on how each person constructs his profile. For example, if people define their position as more important than it actually is, the filtering done to only select people with the capacity to influence decisions will not be totally correct. The same applies to the possibility of the profiles not being up-to-date or if a person has another position in another organization that does not show as their main activity. Since the pool of information is too vast for one person to identify all these possibilities, some discrepancies between the presented information and reality might be found. A similar problem occurs in the classification of the companies, as the information used was also found online and is also dependent on the information released by each company. This problem was mitigated by only selecting companies for which it was possible to acquire information for all the desired fields.

A second limitation is related to the construction of the networks. Since it was not possible to study the connections between all the under analysis, the networks are limited to the connections existent directly with LC or with its partners.

Lastly, another limitation of this dissertation is related to the strength of the ties. Since it was not studied how strong are the ties between the different actors it is not possible to assure that even though it is possible to reach an influential person in an important company, that it will result in an opportunity to the firm as it will depend on the relationship between the two actors.

#### 4.3.1 Suggestions for Further Studies

For further studies it might be interesting to further explore on how using a business social network can in fact provide with relevant and accurate information when studying the network of a company.

Within this company, it could be important to further understand the importance of the identified ties and to complement the networks with information about the relationships between the other actors present in the networks.

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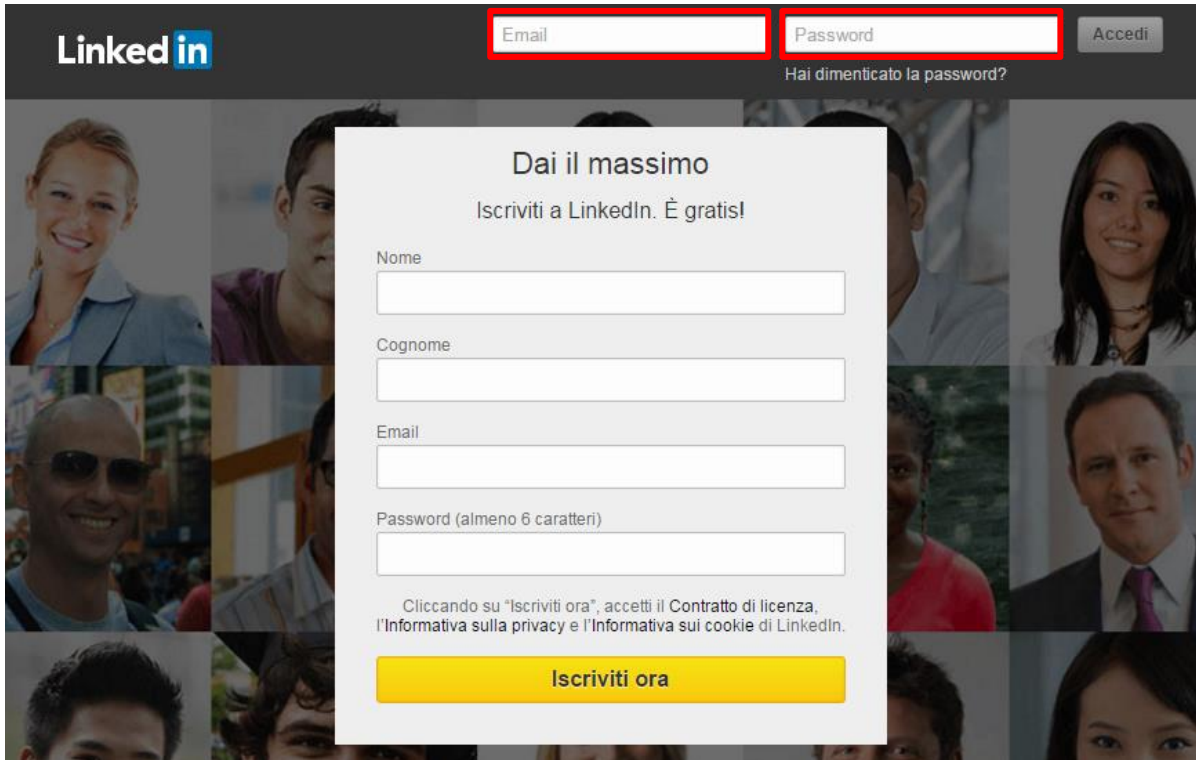
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## APPENDIX

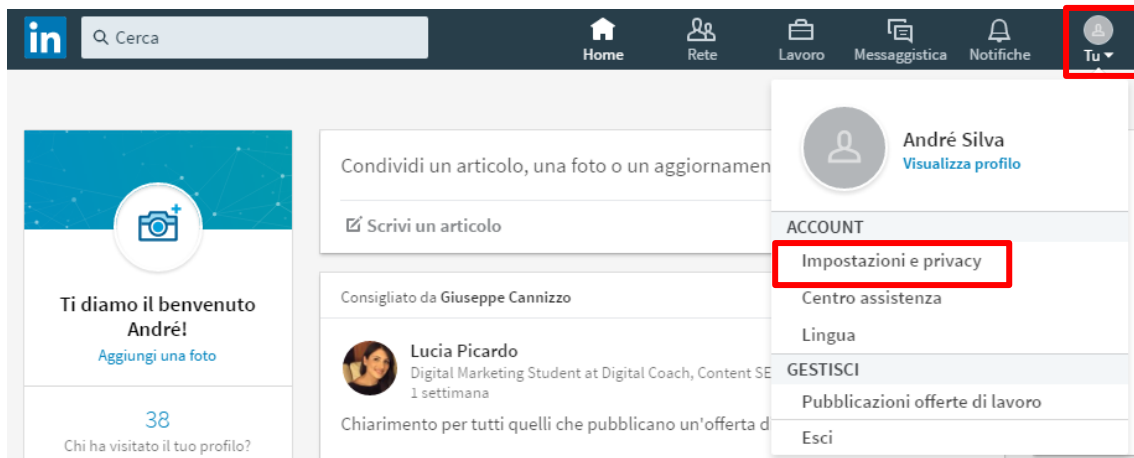
### APPENDIX 1 – TUTORIAL TO RETRIEVE INFORMATION (ITALIAN)

1. *Apri la pagina de LinkedIn e accedi con il tuo e-mail e password.*



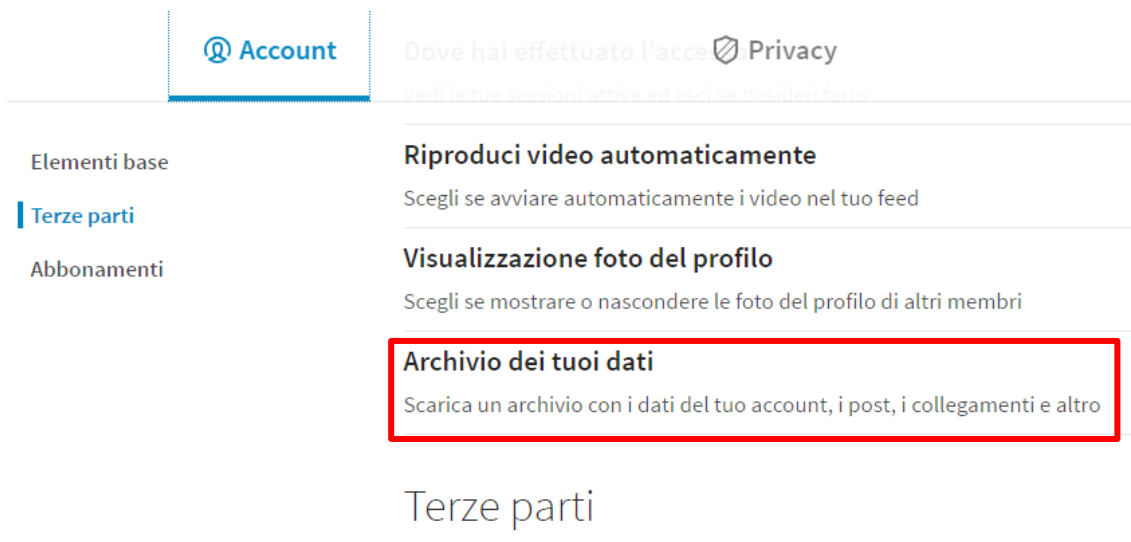
Figure\_A 1 - LinkedIn initial screen

2. *Selezioni 'Tu' e fai click su 'Impostazioni e privacy'*



Figure\_A 2 - Account: Settings and Privacy

### 3. Trovi e selezioni 'Archivio dei tuoi dati'



Figure\_A 3 - Personal data archive

### 4. Selezioni 'Solo file veloce' e fai click in 'Richiedi archivio'

#### Archivio dei tuoi dati

Scarica un archivio con i dati del tuo account, i post, i collegamenti e altro

I tuoi dati LinkedIn appartengono a te e puoi scaricarne un archivio in qualsiasi momento.

Forniamo l'archivio in due pacchetti: un "file veloce" che include solo alcune categorie di dati del tuo account, come ad esempio informazioni del profilo, collegamenti e messaggi (pronto in circa 10 minuti), e un secondo pacchetto che include le informazioni dettagliate, tra cui attività e cronologia del tuo account (pronto in 24 ore). Per saperne di più, [visita il nostro Centro assistenza](#).

Scegli il formato che preferisci.

Solo file veloce: questo file include collegamenti, contatti, segnalazioni, messaggi e informazioni del profilo come esperienza, formazione e progetti. Riceverai un link per scaricarlo.

File veloce più altri dati: riceverai i dati in due pacchetti nel giro di 24 ore circa.

Figure\_A 4 - Request archive

5. Nella nuova finestra, inserisci la tua password e click in 'Fine'

The screenshot shows a LinkedIn account settings page. At the top, there is a header with the LinkedIn logo and the word "Account". Below this, there is a section titled "Scegli il formato che preferisci." (Choose the format you prefer). There are two radio button options: "Solo file veloce: questo file include collegamenti, contatti e informazioni del profilo come esperienza, formazione e più. Per scaricarlo." (Selected) and "File veloce più altri dati: riceverai i dati in due pacchetti". Below these options is a button labeled "Richiedi archivio". A red box highlights a modal dialog box that appears over the page. The dialog box has a close button (X) in the top right corner. The text inside the dialog box reads: "Per motivi di sicurezza, inserisci la tua password per effettuare questa modifica" (For security reasons, enter your password to make this change). Below this text is a text input field labeled "Password". At the bottom of the dialog box, there are two buttons: "Fine" (Done) and "Password dimenticata" (Forgot password).

Figure\_A 5 - Input password

6. Dopo 10min, controlla il tuo email e fai proseguire il email de LinkedIn con il file a [apaulinosilva@gmail.com](mailto:apaulinosilva@gmail.com) (aprirò le file "connections" pero se ci sono delle informazioni che non volete condividere, per favore aprite il documento .rar e mandatemi solo il connection file)

Grazie!!

## APPENDIX 2 – SAMPLE OF COLLECTED DATA

Table\_A 1 - Sample of collected data: Connections

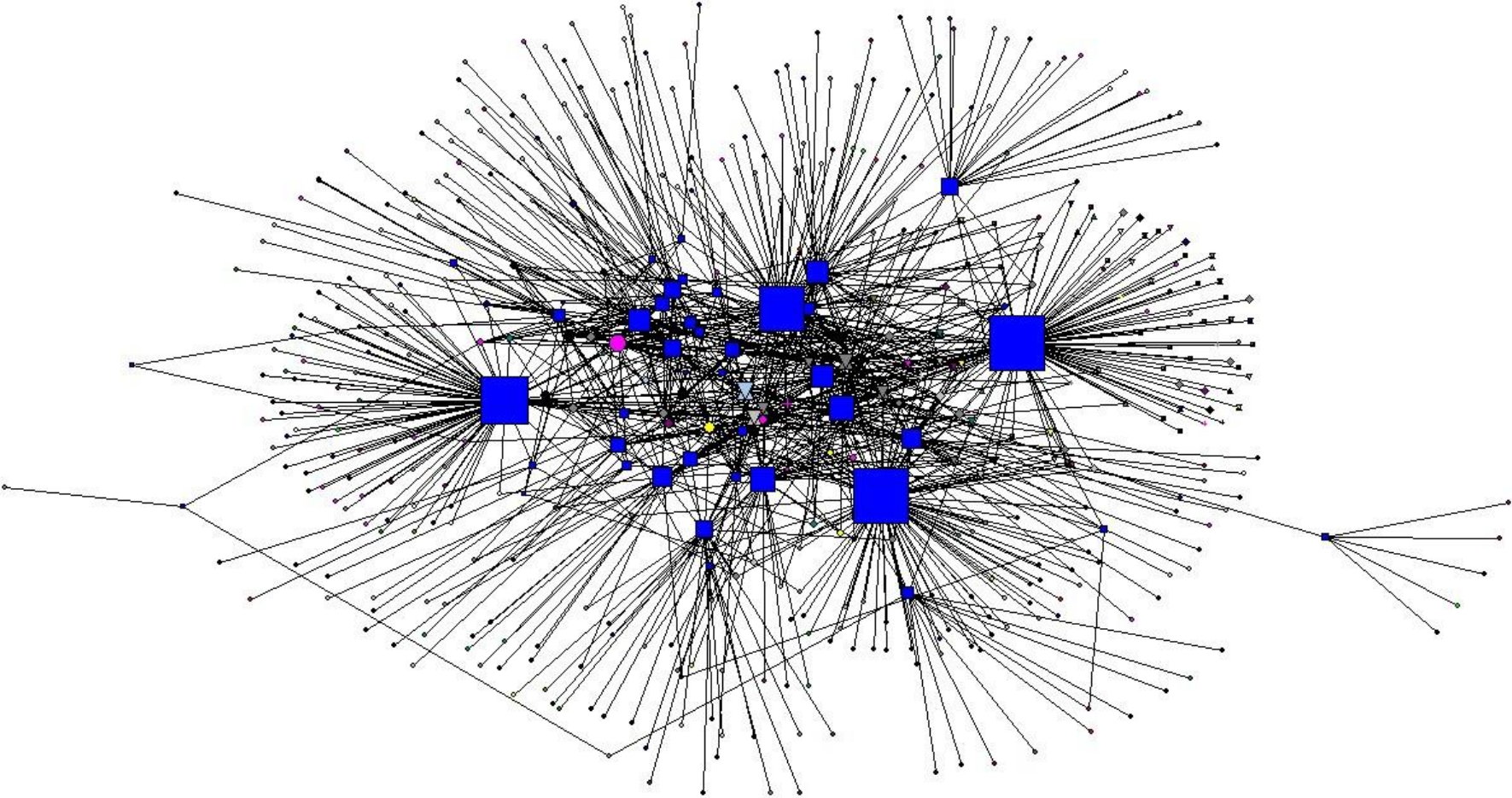
FirstName	LastName	EmailAddress	Company	Position
André	Silva	Apaulinosilva@gmail.com	ISCTE Business School	Master Student
Alessia	Pantaleo	pantaleo.alessia@gmail.com	DentalPro	HR Specialist
Francesco	Bianchi	frensy23@tiscali.it	Remax Valori	Real Estate Agent
Paola	Goretti	paolagoretti20@yahoo.it	LA SCALA - Studio Legale	Controllo di gestione e supporto all'internal audit
Maria Rita	Guarneri	mariaritaguarneri@yahoo.it	Studio Commercialista	Impiegato contabilitÃ
MARIA GRAZIA	VASI	vasimariagrazia@gmail.com		
Salvatore	Levantino	salvoleva83@gmail.com	Tragus Group	chef
Marco	Ferrante	marco.ferrante@executivehunters.com	Executive Hunters	Recruiter
Costantino	Manes	c.manes@tin.it	Systema S.r.l.	BIM Construction Specialist
Gloria	Colorizio	g.colorizio@artemis-careerconsulting.com	Artemis Career Consulting	Senior Consultant
Andrea	Melini	meliniand@tiscali.it	Be Consulting	Manager
Simone	Albanese	simone.albanese.1993@gmail.com	Communication Village	Account Business
Agata Giorgia	Costa	agatagiorgiacosta@gmail.com	ManpowerGroup	Hr Recruiter\Headhunter
Adrian	Cotoara	adrian.cotoara@gmail.com	P4Cards - SIA Group	Head of Cards Client Support
Silvia	Giunti	silvia_giunti@hotmail.it	Intesa Sanpaolo	Channels & Projects - Global Transaction Banking

### APPENDIX 3 – LINKEDIN: COMPANY SIZE CODES

Table\_A 2 - LinkedIn company size codes Source: LinkedIn

Code	Description
A	Self-employed
B	1-10 employees
C	11-50 employees
D	51-200 employees
E	201-500 employees
F	501-1000 employees
G	1001-5000 employees
H	5001-10,000 employees
I	10,001+ employees

**APPENDIX 4 – COMPLETE PERSON-TO-COMPANY NETWORK**



**Figure\_A 6 - Complete Person-to-Company Network: Large version**



**APPENDIX 5 – FULL INDIVIDUAL ANALYSIS**

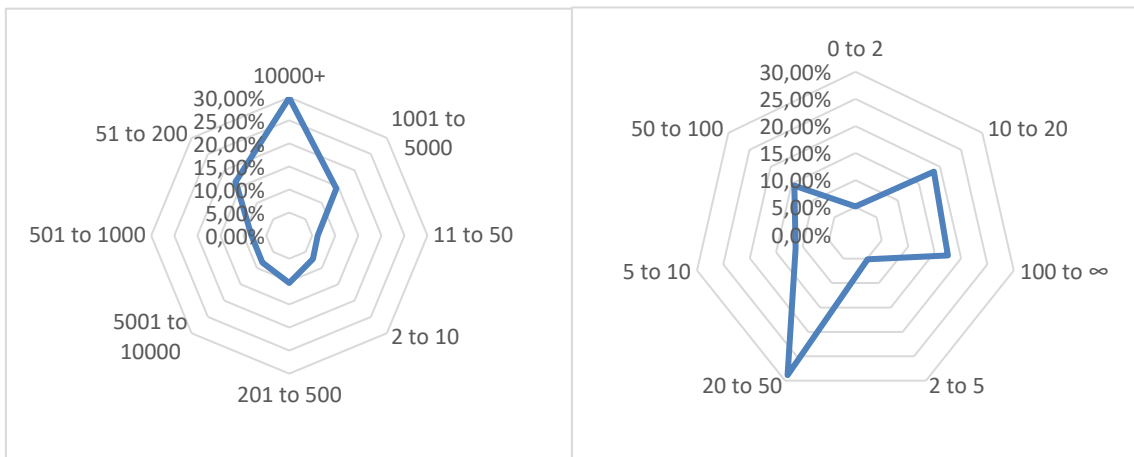
a) **Giovani Lipari** – Current CEO of Lipari Consulting

Previous positions:

- Business Development Manager at Sikelia Service from 2003 to 2006 in Catania, Italy.
- Consultant at Reply from 2001 to 2003 in Milan, Italy.
- Consultant at Arthur Andersen Business Consulting from 1998 to 2001 in Rome, Italy.

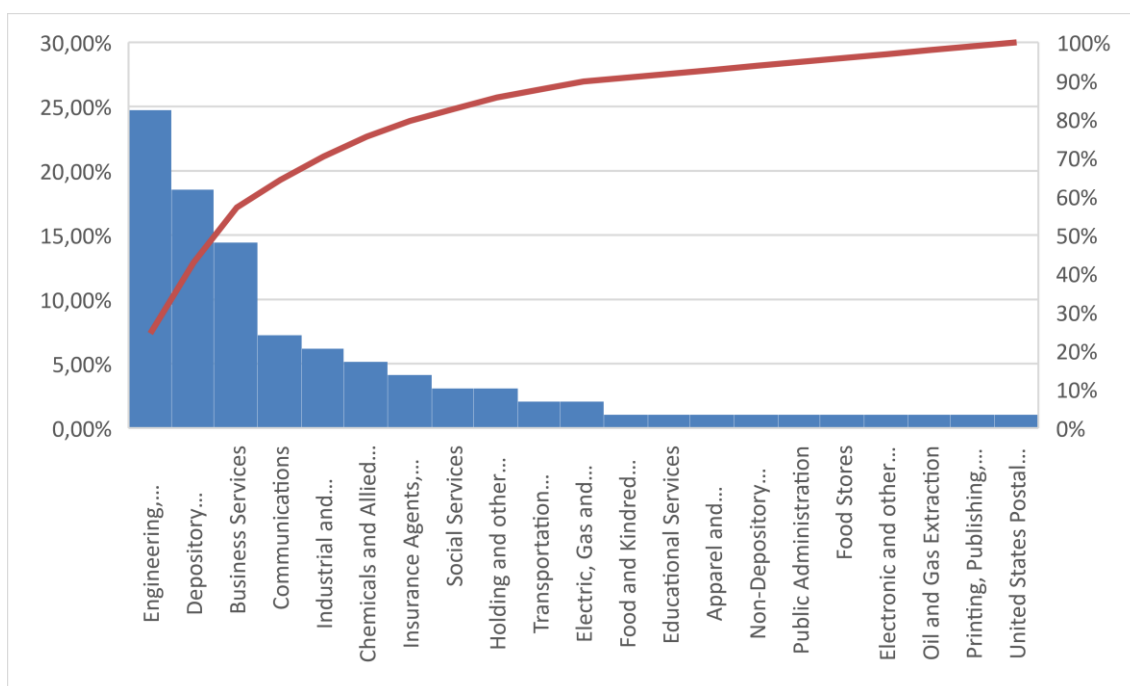
Education:

- Master in Business Administration in LUISS Guido Carli University, from 2000 to 2001 in Rome, Italy
- Computer Science in Università degli Studi di Palermo, from 1992 to 1998 in Palermo, Italy.



**Figure\_A 7 - Knowledge by size – Giovanni Lipari**

**Figure\_A 8 - Knowledge by age – Giovanni Lipari**



**Figure\_A 9 - Pareto Analysis by sector - Giovanni Lipari**

After studying computer science and business administration, Giovanni Lipari focused his whole career in the consulting business. As such it is not surprising when more than 30% of his contacts work in consulting firms. Since most of the business of Lipari Consulting is providing services to banks and other financial entities, it is also normal that the second most present sector is banking. Looking at Figure number 8 it is understandable that almost a third of his connections work for big companies (over 10000 employees) followed by those of medium dimension (51 to 200). Figure 7 presents a similar result, with 30% of the connections being part of companies between 20 to 50 years old. It is also relevant to notice that around 80% of his contacts work for companies with over 10 years of existence.

**b) Gianvito Parrinello – Current Partner of Lipari Consulting**

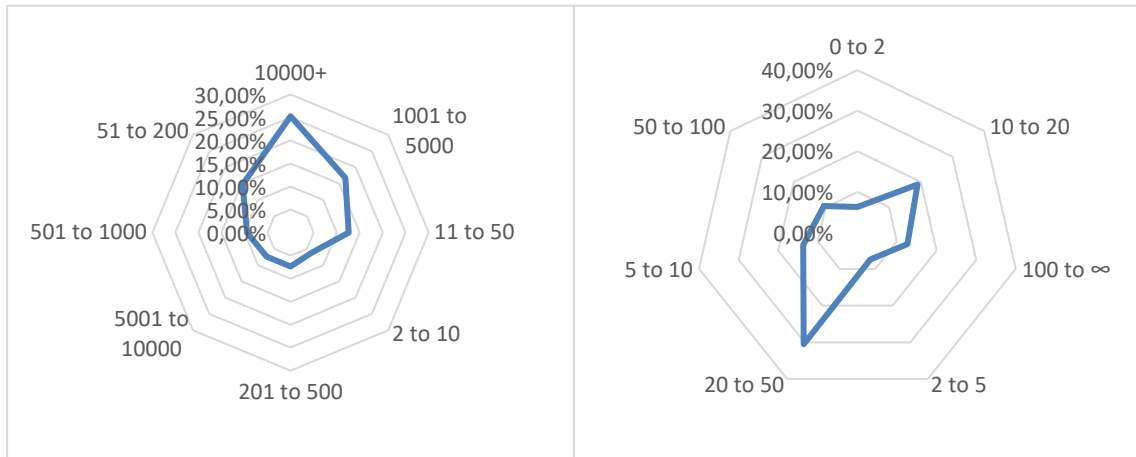
Previous positions:

- Senior Consultant at Lipari Consulting working for Reply from 2012 to 2013 in Milan, Italy.
- Senior Consultant at Lipari Consulting working for B.E.E. Consulting from 2010 to 2012 in Milan, Italy.
- Consultant at Lipari Consulting working for Reply from 2007 to 2010 in Milan, Italy.

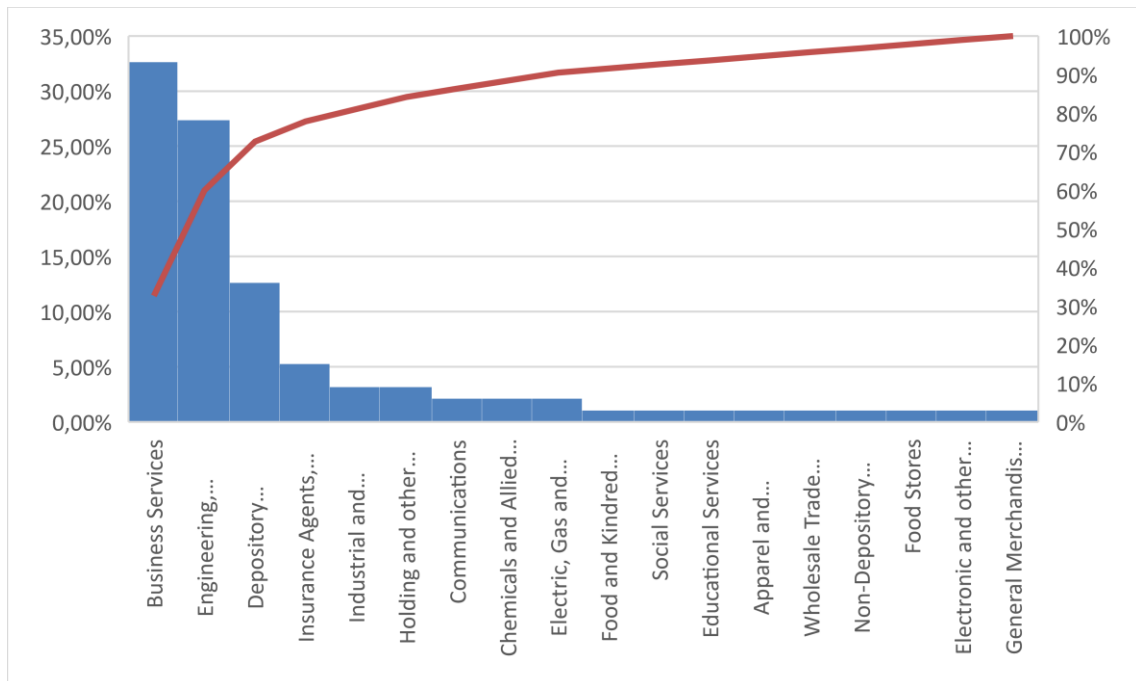
[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]

Education:

- Designer and technical installer of solar, thermal and photovoltaic systems in Centro formazione (Via Dostoevskij 2 20098 San Giuliano Milanese-MI), from 2009 to 2010 in Milan, Italy
- Master in Management Engineering in Università degli Studi di Palermo, from 2001 to 2006 in Palermo, Italy



Figure\_A 11 - Knowledge by size - Gianvito Parrinello      Figure\_A 10 - Knowledge by age - Gianvito Parrinello



Figure\_A 12 - Pareto Analysis by sector - Gianvito Parrinello

After finishing his master degree in management engineering, Gianvito Parrinello has been working with Lipari Consulting from since the start. As such, it is not surprising that the results obtained are not far from those of Giovanni Lipari, with consulting service's companies coming in the first two places and banks in third. As for the size of the companies, its distribution is slightly more disperse when comparing to Giovanni's, but still greater focus on the almost same categories.

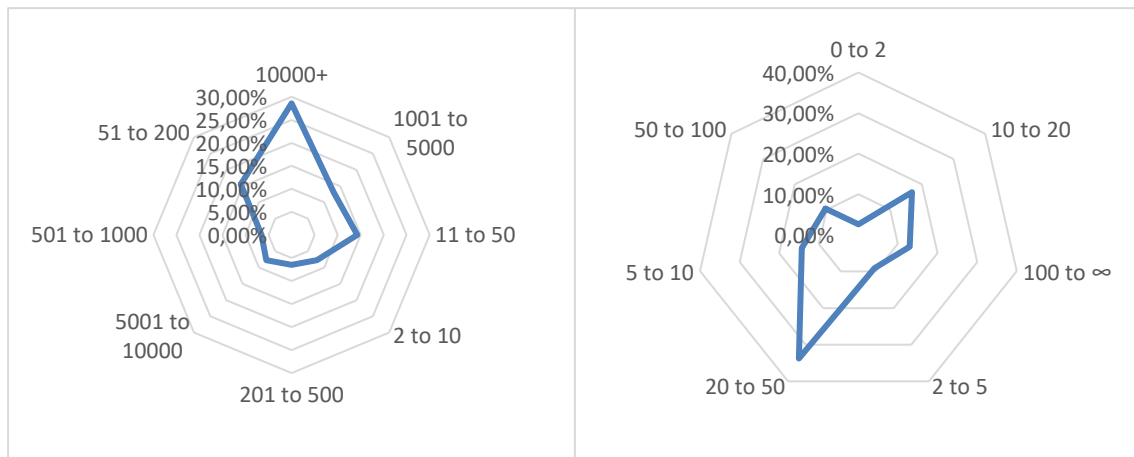
c) Chiara Titone – Current Sales Manager at Lipari Consulting

Previous positions:

- Senior Consultant at Lipari Consulting from 2013 to 2015 in Milan, Italy.
- Consultant at Lipari Consulting working for Reply from 2010 to 2013 in Milan, Italy.
- Consultant at Lipari Consulting working for B.E.E. Consulting from 2011 to 2012 in Milan, Italy.

Education:

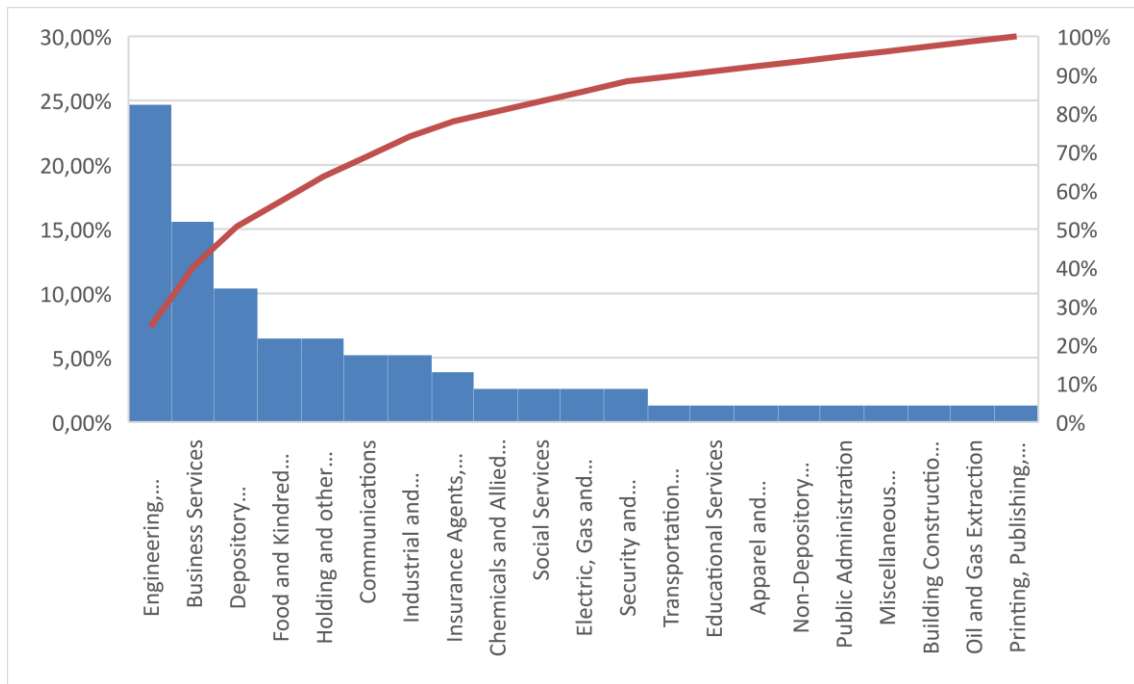
- Master in Management Engineering in Università degli Studi di Palermo, from 2007 to 2010 in Palermo, Italy.
- Bachelor in Management Engineering in Università degli Studi di Palermo, from 2004 to 2007 in Palermo, Italy.



Figure\_A 14 - Knowledge by size - Chiara Titone

Figure\_A 13 - Knowledge by age - Chiara Titone

[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]



Figure\_A 15 - Pareto Analysis by sector - Chiara Titone

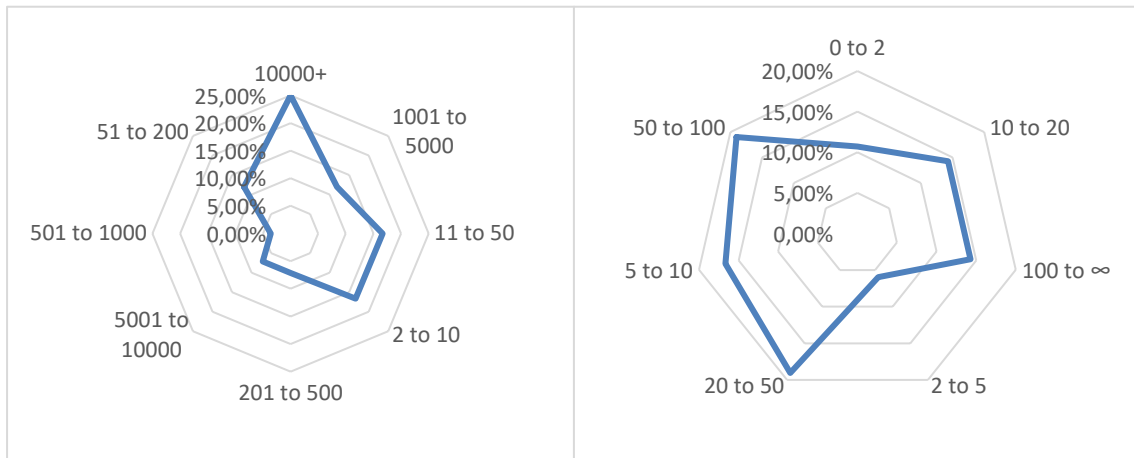
Chiara Titone present a similar profile to the previous two. A degree from the same university in the same area, starting her professional life in Lipari Consulting and continuing until now. As such, all the acquired information points in the same directions as the previous cases, with consulting and banking being the main sectors, big firms as the main connections and companies between 20 and 50 years with a higher percentage.

d) Gabriele Biddeci – Currently a consultant in Lipari Consulting

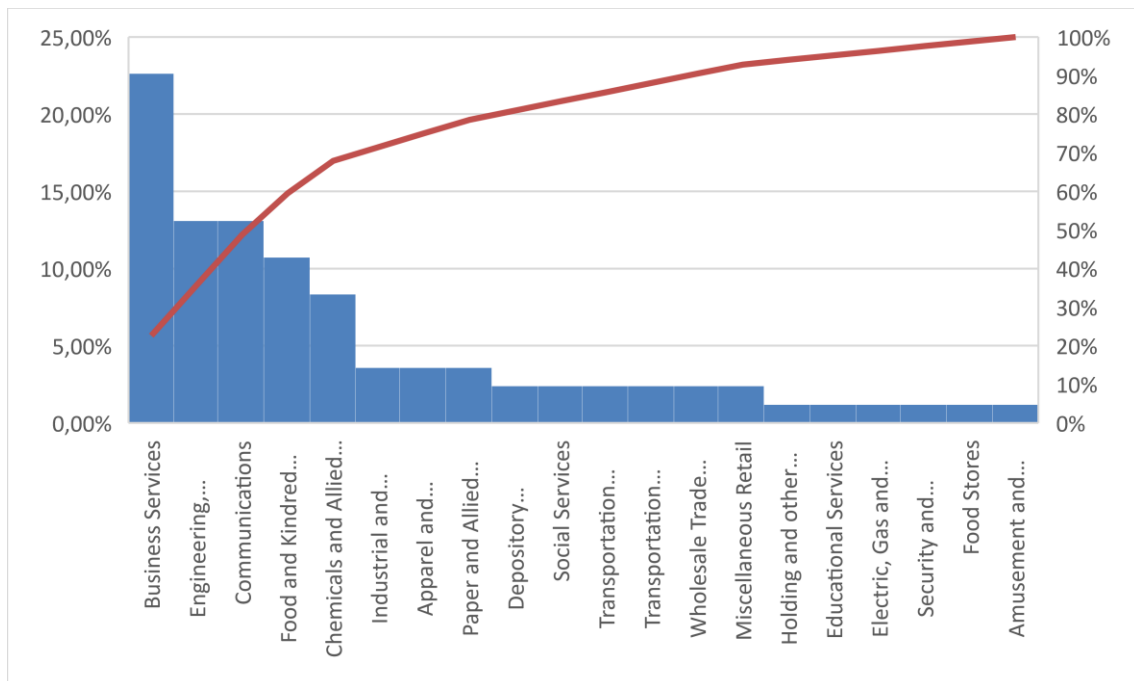
Education:

- Master in Management Engineering in Università degli Studi di Palermo, from 2011 to 2013 in Palermo, Italy.

- Bachelor in Management Engineering in Università degli Studi di Palermo, from 2007 to 2011 in Palermo, Italy.



Figure\_A 17 - Knowledge by size - Gabriele Biddeci      Figure\_A 16 - Knowledge by age - Gabriele Biddeci



Figure\_A 18 - Pareto Analysis by sector - Gabriele Biddeci

With no information available on LinkedIn, the profile analysis is quite limited. As in all the previous cases Gabriele Biddeci did his studies in UNIPA, both bachelor and master in management engineering. As usual the main sectors of activity are consulting-related, but in this case the following ones are communications, food and chemicals. As for size and age, it differs from the other people, as, for size, there's not only the big companies but also the small ones (2 to 50 people) that represent a third of his total connections. Age

[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]

is also more distributed when comparing to the other 3 cases, as all values are between 10 and 20% apart from the category 2 to 5. This may represent some value for the company as he has access to difference types of companies of different sectors.

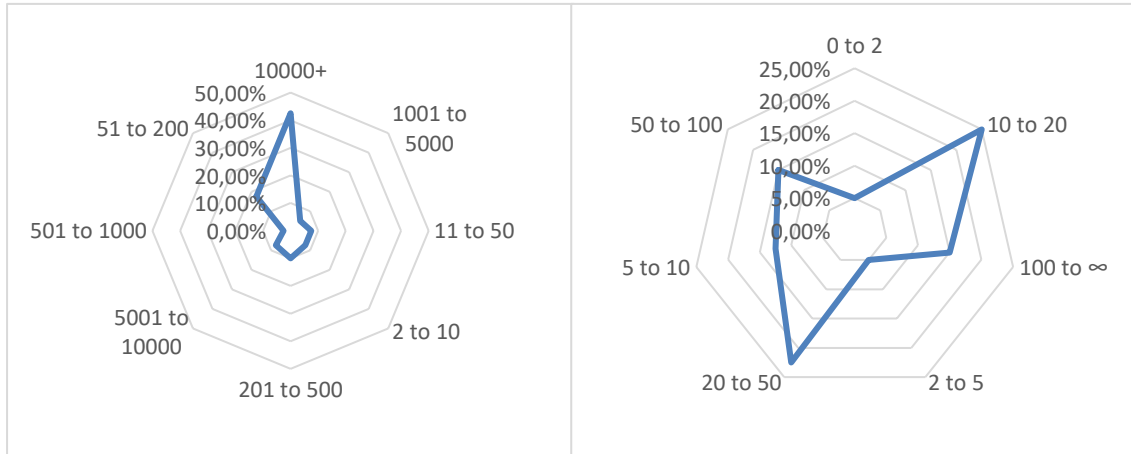
e) Salvatore Pampinella – Currently a Sales Manager in Lipari Consulting

Previous positions:

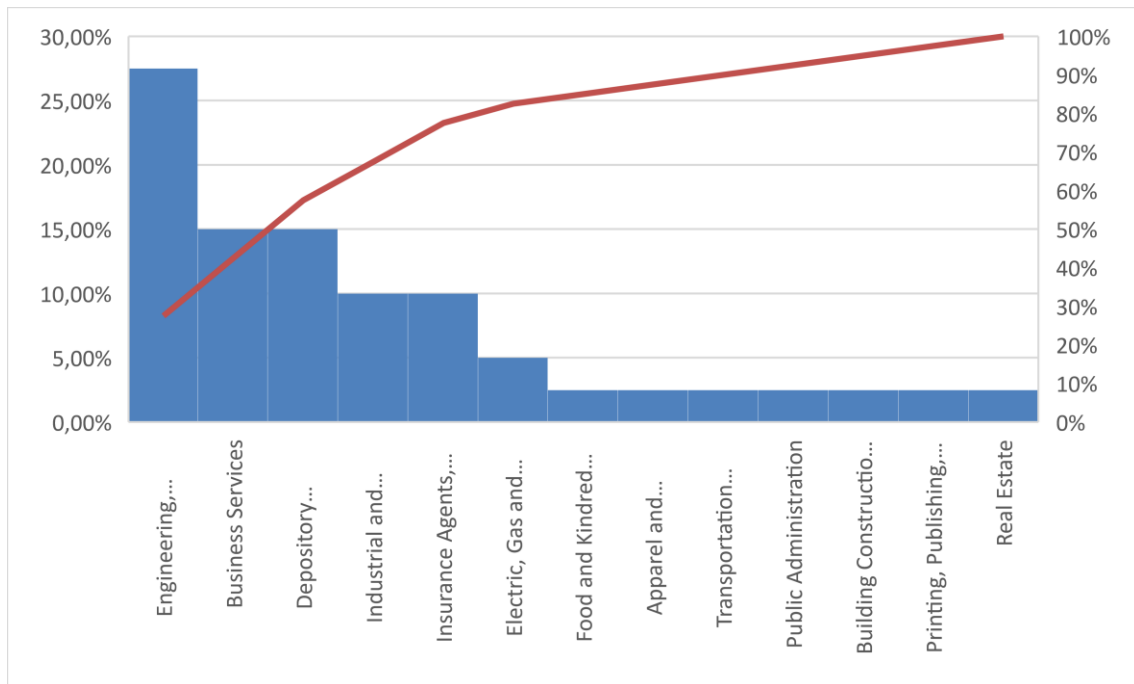
- Senior Consultant at Lipari Consulting working for Reply since 2013 in Milan, Italy.
- Senior Consultant at Lipari Consulting working for B.E.E. Consulting since 2012 in Milan, Italy.
- Senior Consultant at Lipari Consulting working for Demet Consulting in 2012 in Milan, Italy.
- Consultant at Lipari Consulting working for B.E.E. Consulting from 2010 to 2012 in Milan, Italy.

Education:

- Exchange student in Linköpings universitet from 2008 to 2009 in Linköping, Sweden
- Master in Management Engineering in Università degli Studi di Palermo, from 2002 to 2008 in Palermo, Italy.



Figure\_A 20 - Knowledge by size - Salvatore Pampinella Figure\_A 19 - Knowledge by age - Salvatore Pampinella



**Figure\_A 21 - Pareto Analysis by sector - Salvatore Pampinella**

With a profile similar to the previous employees, Salvatore Pampinella's connections are also more present in consulting and banking companies. The main difference stands in the internal education experience that he had in Sweden, even though for now it does not show any major difference. As for size and age, it follows the trend, with 40% of the companies being large ones, while in age around 50% of them belong to the range from 10 to 50.

f) Alessandro Messina - Currently a Senior Consultant at Lipari Consulting

Previous positions:

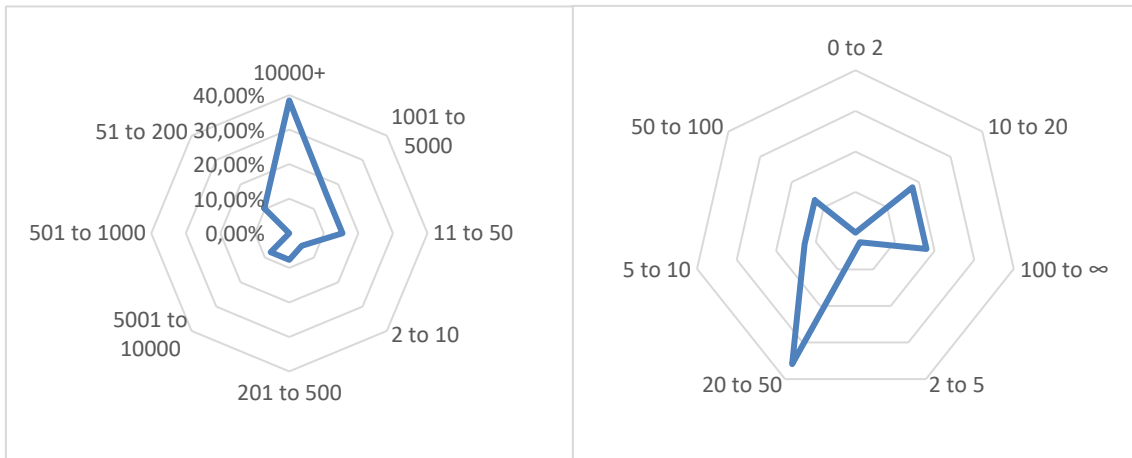
- Trainee at Prefettura U.T.G di Agrigento during 2011.

Education:

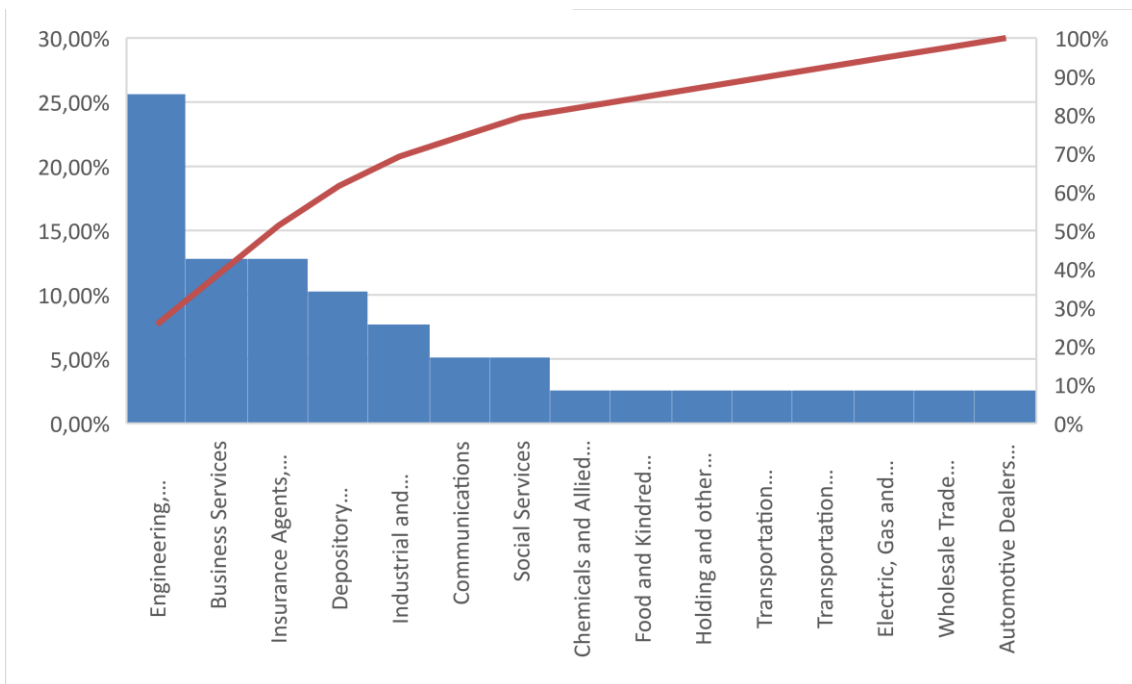


[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]

- Master in Management Engineering in Università degli Studi di Palermo, from 2008 to 2011 in Palermo, Italy.



Figure\_A 23 - Knowledge by size - Alessandro Messina Figure\_A 22 - Knowledge by age - Alessandro Messina



Figure\_A 24 - Pareto Analysis by sector - Alessandro Messina

With a degree from Università di Palermo and his whole professional career done in Lipari Consulting, without any surprise the results obtained are very close to both Giovanni Lipari and Chiara Titone to all the aspects under consideration.

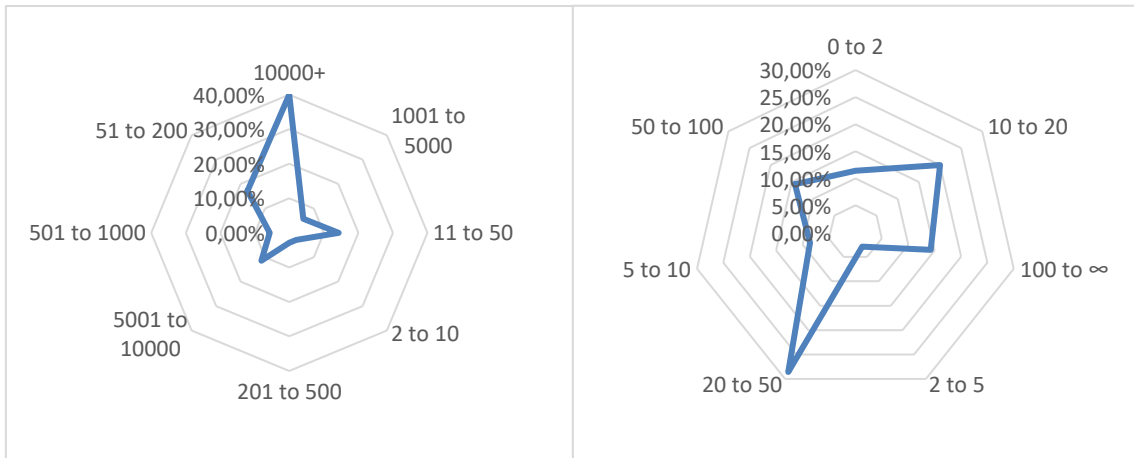
g) Antonella Buffa – Currently a Senior Consultant at Lipari Consulting

Previous positions:

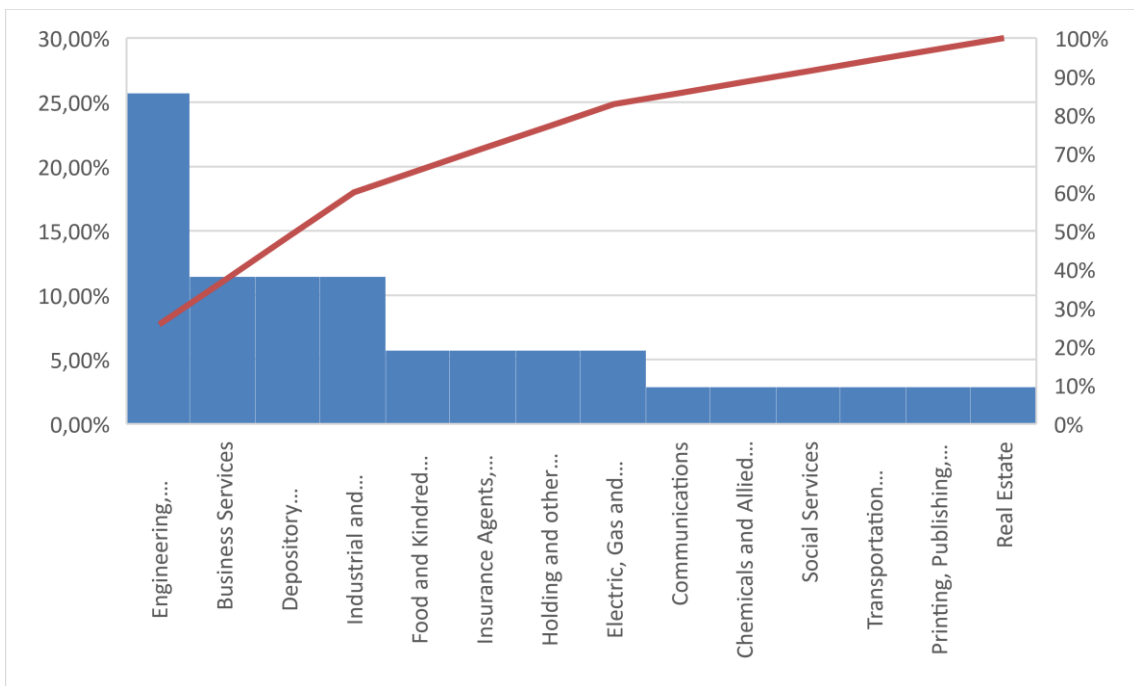
- Trainee at Mimosa snc from 2009 to 2010 in Palermo, Italy.

Education:

- Exchange student in Linköpings universitet in 2012 in Linköping, Sweden
- Master in Management Engineering in Università degli Studi di Palermo, from 2009 to 2012 in Palermo, Italy.



Figure\_A 26 - Knowledge by size - Antonella Buffa      Figure\_A 25 - Knowledge by age - Antonella Buffa



Figure\_A 27 - Pareto Analysis by sector - Antonella Buffa

Like Alessandro Messina, Antonella Buffa also had an international studying experience. Professional, apart from a traineeship all her career was done in Lipari Consulting, and like previous cases, the results are very similar.

h) Arianna Pace – Currently a Consultant working for Reply through Lipari Consulting

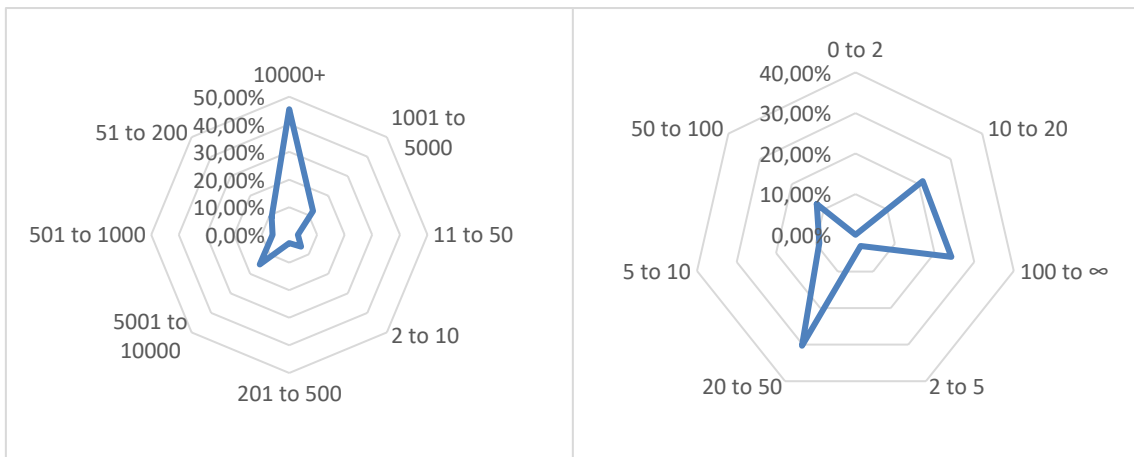
Previous positions:

[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]

- Consultant at Lipari Consulting working for Reply from 2014 to 2015 in Milan, Italy.
- Consultant at Lipari Consulting working for Reply during 2014 in Rome, Italy.
- Consultant at Lipari Consulting working for BIP during 2013 in Milan, Italy.

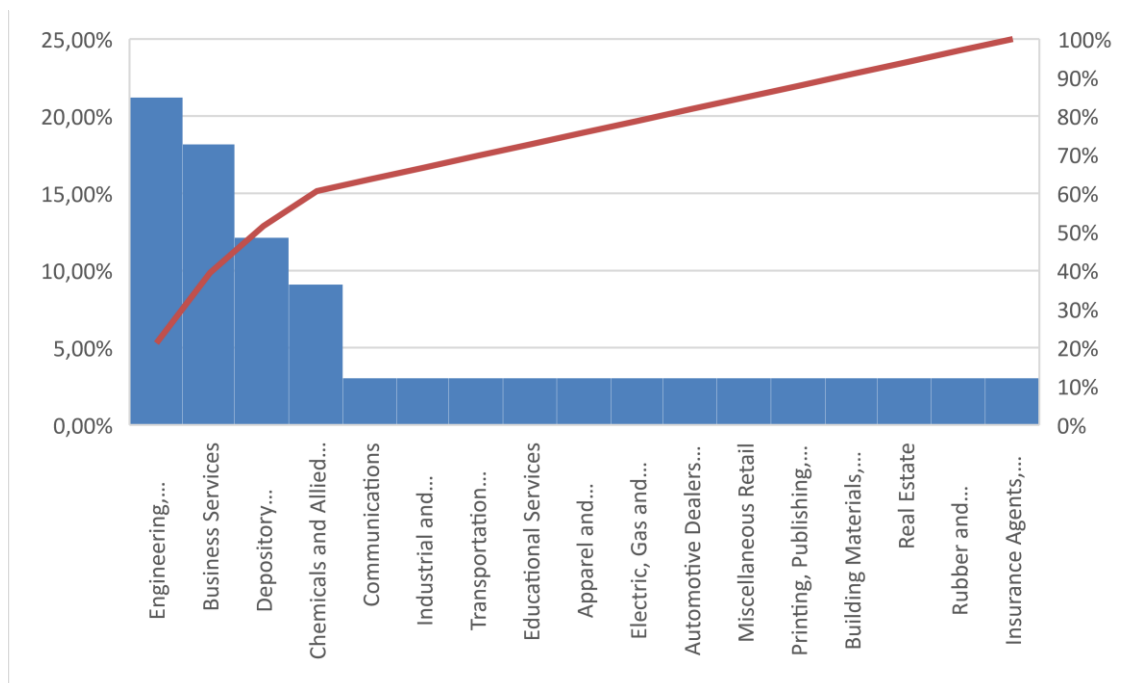
Education:

- Thesis project in Linköpings universitet in 2012 in Linköping, Sweden
- Master in Management Engineering in Università degli Studi di Palermo, from 2011 to 2013 in Palermo, Italy.



Figure\_A 29 - Knowledge by size - Arianna Pace

Figure\_A 28 - Knowledge by age - Arianna Pace



Figure\_A 30 - Pareto Analysis by sector - Arianna Pace

Arianna Pace also had an international experience in a Swedish university, and like the other employees that went there, she presents similar results to the dimensions under observation. The only significant difference is the presence of the Chemical sector in 4<sup>th</sup> place with almost 10%.

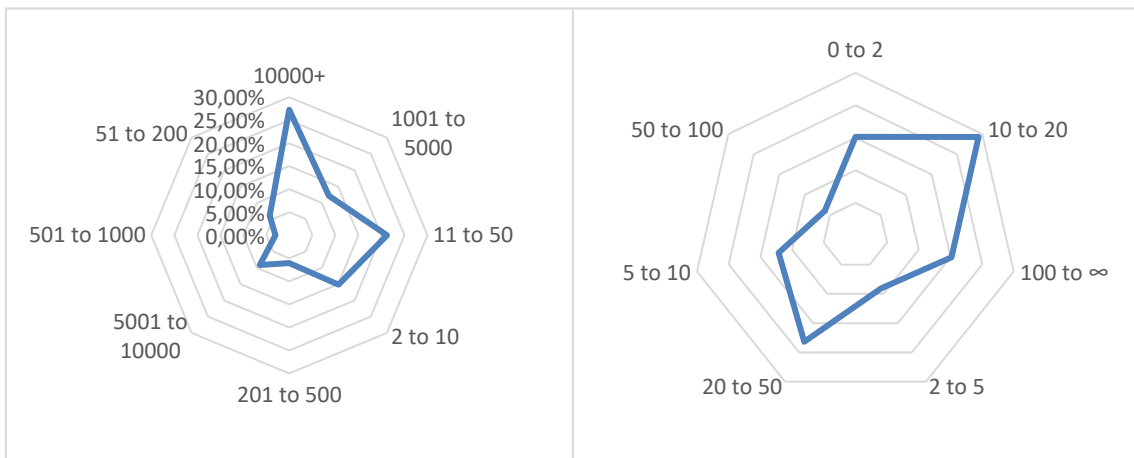
i) Federico Colletti – Currently a consultant at Lipari Consulting working for Reply

Previous positions:

- Senior Consultant at Lipari Consulting working for Reply from 2014 to 2015 in Milan, Italy.
- Senior Consultant at Lipari Consulting working for Reply during 2014 in Rome, Italy.
- Consultant at Lipari Consulting working for BIP during 2013 in Milan, Italy.

Education:

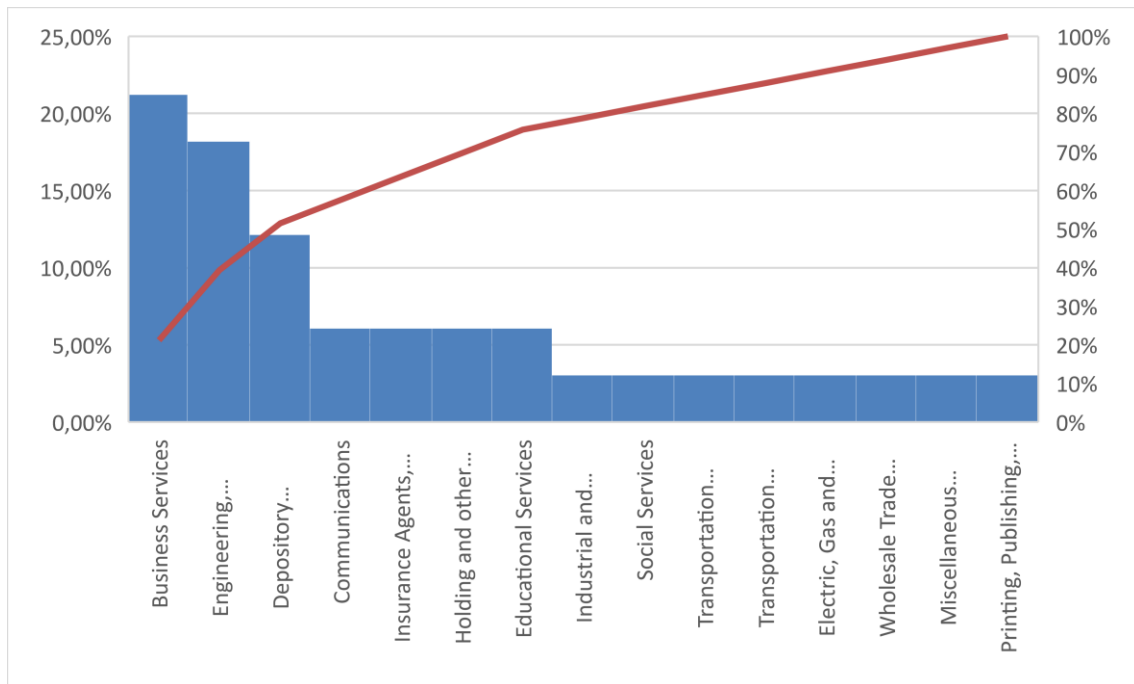
- Master in Management Engineering in Università degli Studi di Palermo, from 2011 to 2013 in Palermo, Italy.
- Bachelor in Management Engineering in Università degli Studi di Palermo, from 2007 to 2011 in Palermo, Italy



Figure\_A 31 - Knowledge by size - Federico Colletti

Figure\_A 32 - Knowledge by age - Federico Colletti

## [Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]



Figure\_A 33 - Pareto Analysis by sector - Federico Colletti

Professional and educational background within the previous cases, with similar results in terms of age a sector. The only highlight is the bigger presence of companies of smaller size (2 to 50).

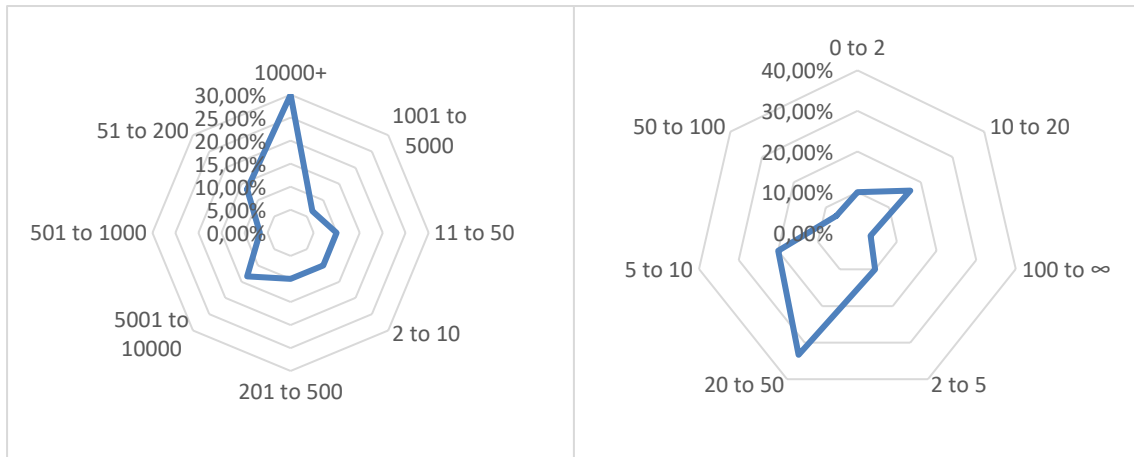
j) Alessio Vella – Currently a Senior Consulting at Lipari Consulting working for UniCredit Business Integrated Solutions

### Previous positions:

- Business Development Manager at Lipari Consulting working for BNL Gruppo BNP Paribas during 2013 in Rome, Italy.
- Intern at AMAT Palermo S.p.A from 2012 to 2013 in Palermo, Italy.

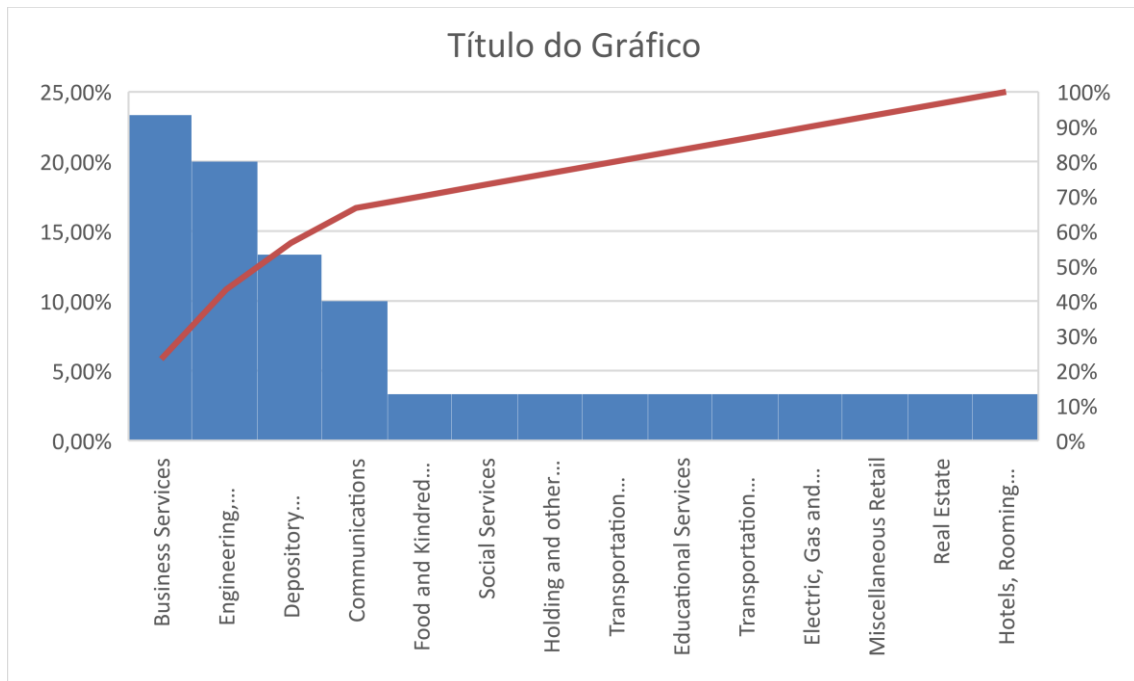
### Education:

- Master in Management Engineering in Università degli Studi di Palermo, from 2006 to 2012 in Palermo, Italy.



Figure\_A 35 - Knowledge by size - Alessio Vella

Figure\_A 34 - Knowledge by age - Alessio Vella



Figure\_A 36 - Pareto Analysis by Sector - Alessio Vella

Similar background, similar results. No special highlight.

k) Daniele Erra – Currently a Business Analyst at Lipari Consulting working for Reply

Previous positions:

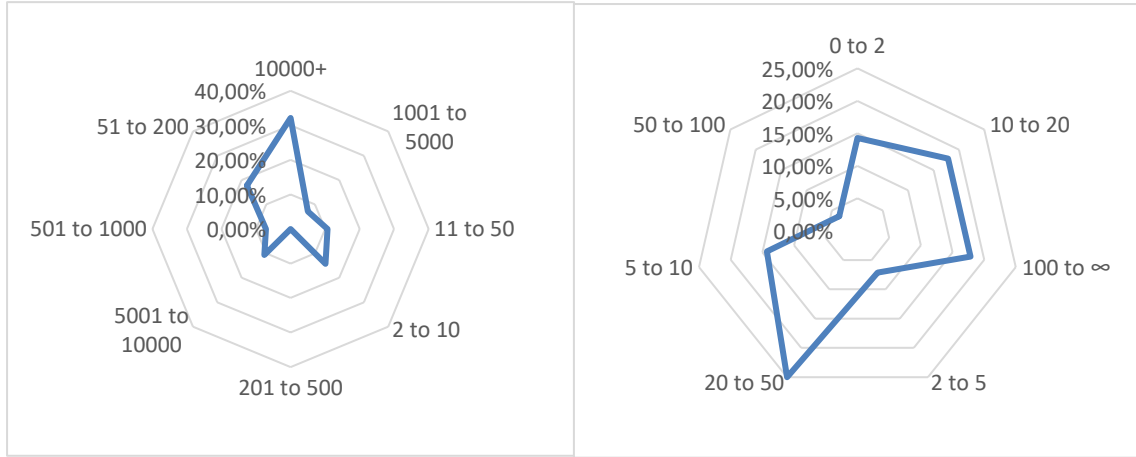
- Accountant at Comercial studies and accounting audits from 2013 to 2014 in Fisciano, Italy.
- Sales manager at Solofra Palace Hotel during 2009 in Solofra, Italy.

Education:

[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]

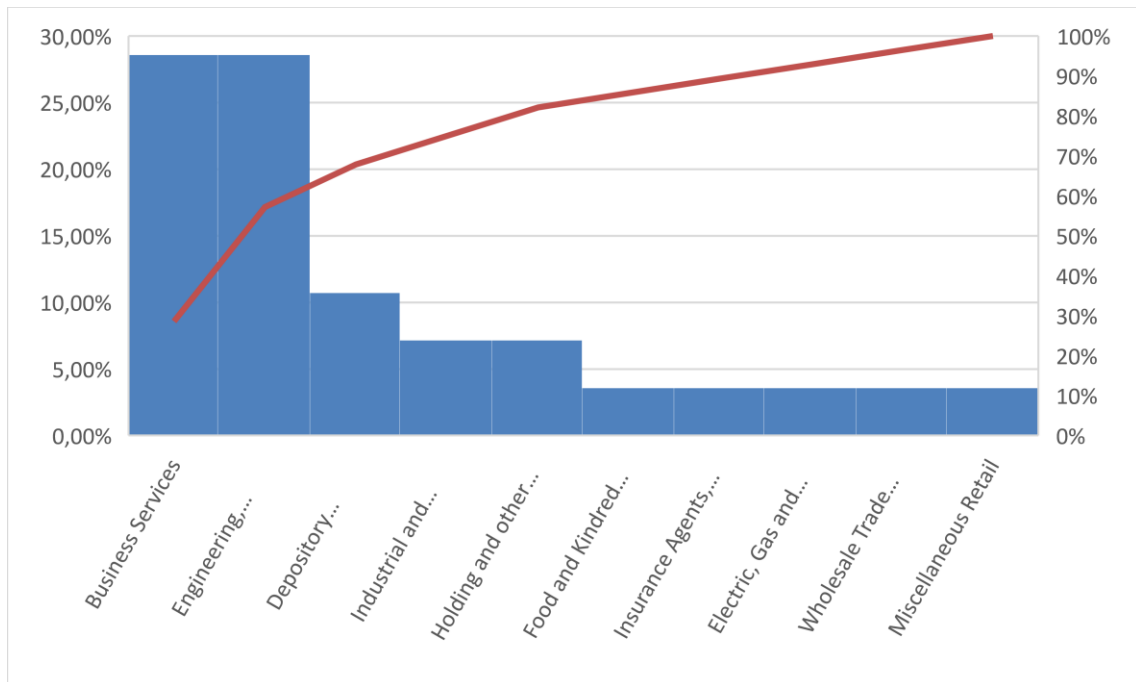
- Master in Business Consulting and Management in Università degli Studi di Salerno, from 2011 to 2013 in Salerno, Italy.

- Bachelor in Business Economics and Administration in Università degli Studi di Salerno, from 2006 to 2011 in Salerno, Italy.



Figure\_A 38 - Knowledge by size - Daniele Erra

Figure\_A 37 - Knowledge by age - Daniele Erra



Figure\_A 39 - Pareto Analysis by sector - Daniele Erra

With a different background from the previous cases, Daniele Erra studied in a different university and before starting in Lipari Consulting he worked in an accounting company. In practice, the results tend to the same as previously, with a dominance of big companies, between 20 to 50 years belonging to the baking or consulting sector.

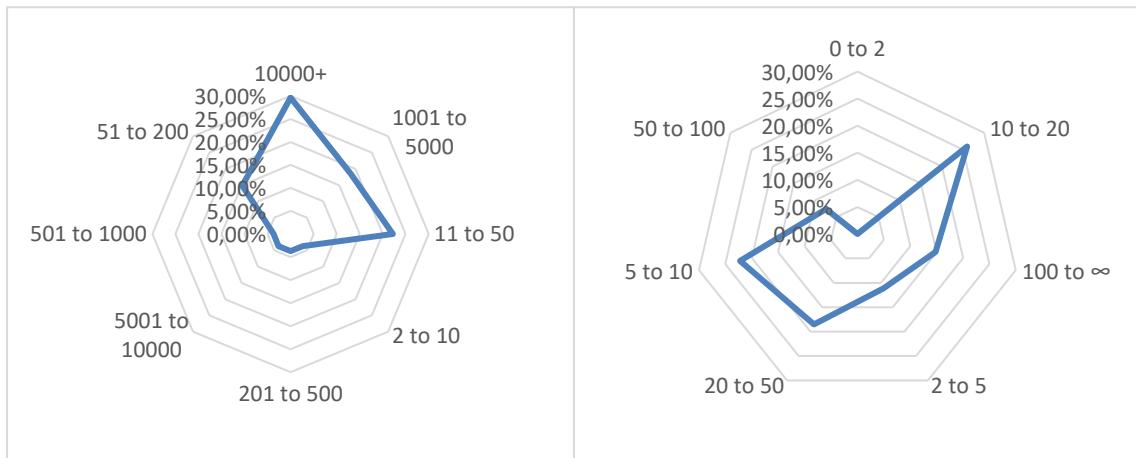
l) Fabiana Lombardo – Currently a Consultant at Lipari Consulting

Previous positions:

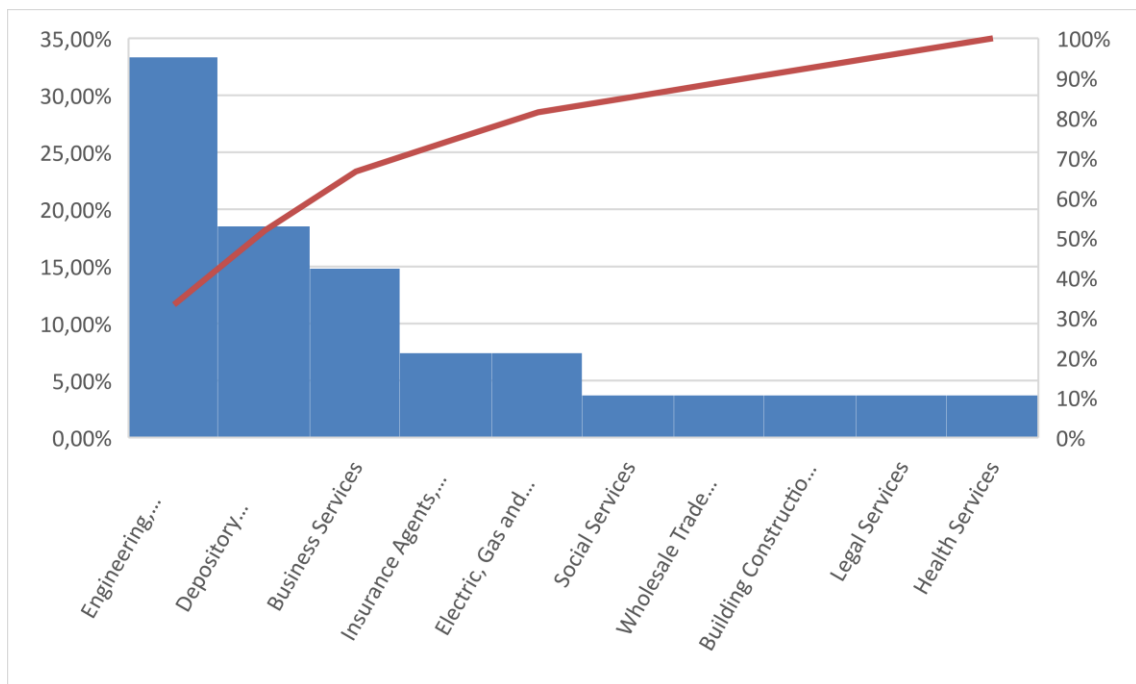
- Consultant at Lipari Consulting working for UniCredit Business Integrated Solutions during 2014 in Milan, Italy.
- Consultant at Lipari Consulting working for Intesa Sanpaolo from 2013 to 2014 in Milan, Italy.

Education:

- Degree in Economics and Management of Financial Intermediaries in Università degli Studi di Siena, from 2005 to 2011 in Siena, Italy.



Figure\_A 41 - Knowledge by size - Fabiana Lombardo Figure\_A 40 - Knowledge by age - Fabiana Lombardo



Figure\_A 42 - Pareto Analysis by sector - Fabiana Lombardo



[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]

Also with a different educational background, the main differences comparing to the previous cases are the dominance of contacts working for companies aged between 5 and 50 years old and that a third of them are large companies.

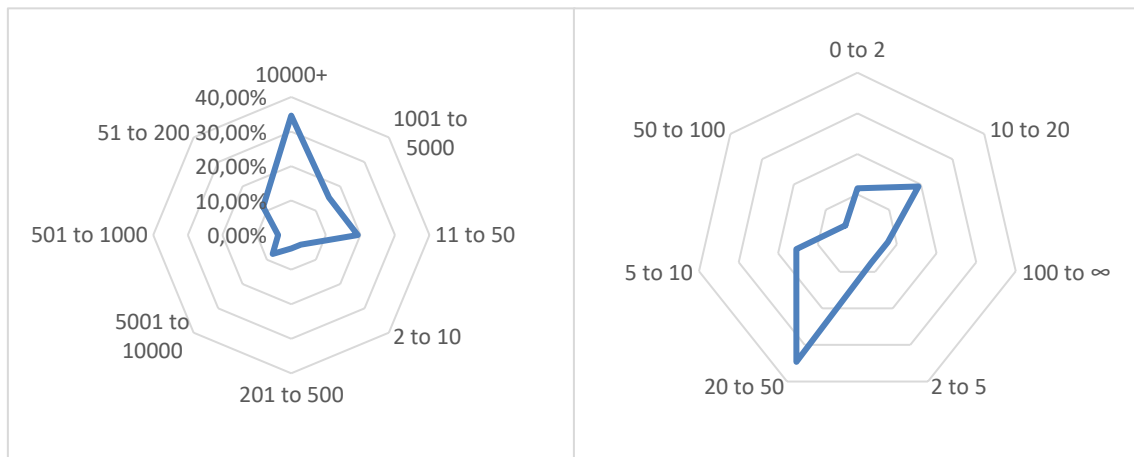
m) Tiziana Mondello – Currently a Consultant at Lipari Consulting

Previous positions:

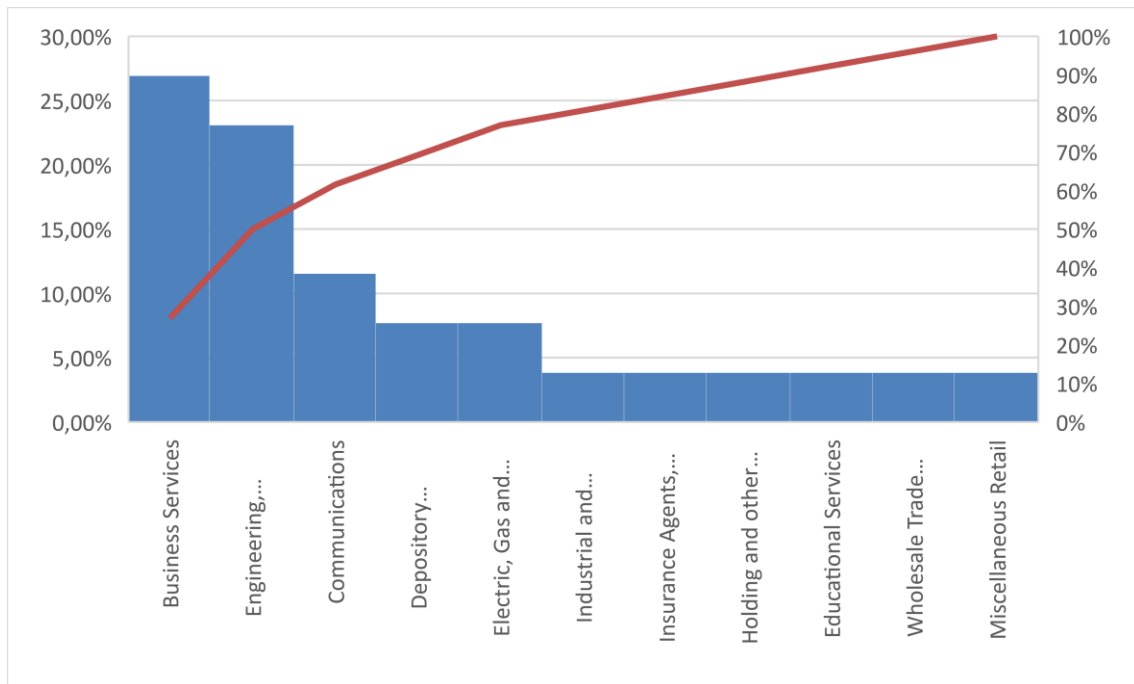
- Public Administration at Comune di San Fratello from 2009 to 2013 in San Fratello, Italy.
- Internship at Comune di San Fratello during 2012 in San Fratello, Italy.
- Internship at Comune di San Fratello during 2011 in San Fratello, Italy.

Education:

- Master in Management Engineering/Industrial Management in Marmara Üniversitesi, from 2013 to 2014 in Kadıköy, Turkey
- Bachelor in Management Engineering in Università degli Studi di Palermo from 2006 to 2012 in Palermo, Italy



Figure\_A 44 - Knowledge by size - Tiziana Mondello    Figure\_A 43 - Knowledge by age - Tiziana Mondello



Figure\_A 45 - Pareto Analysis by sector - Tiziana Mondello

The only significant differences are in her background, as she studied abroad for her master – in Turkey – and worked for a few years in public administration. Even so, network-wise she is quite similar to the previous coworkers and it shows by her similar results.

n) Raffaele Alberino – Currently a Senior Consultant at Reply, working through Lipari Consulting in Sondrio, Italy

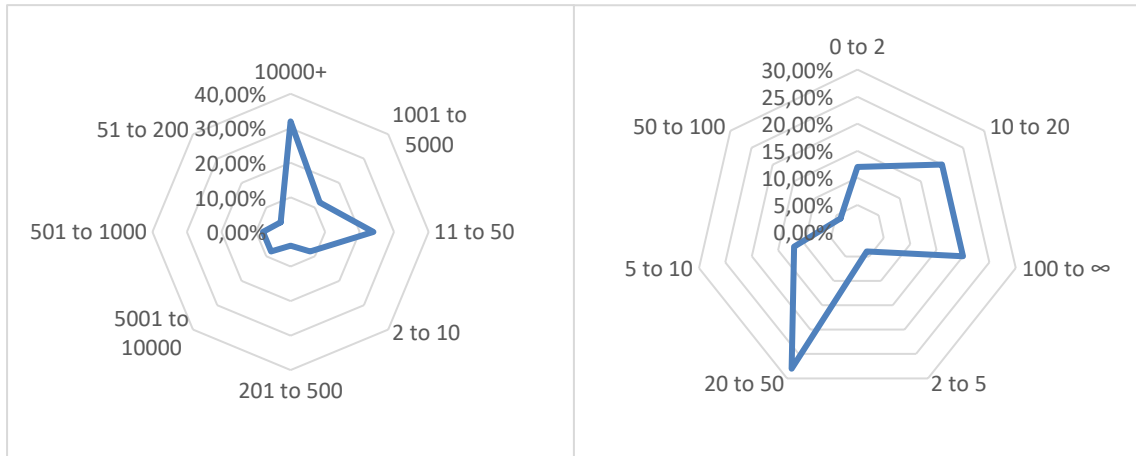
Previous positions:

- Senior Consultant at Lipari Consulting working for Reply from 2016 to 2017 in Rome, Italy.
- Senior Consultant at Lipari Consulting working for Intesa Sanpaolo during 2016 in Milan, Italy.
- Consultant at Lipari Consulting working for UniCredit from 2014 to 2016 in Milan, Italy.
- Business Analyst at Lipari Consulting working for UniCredit from 2013 to 2014 in Milan, Italy.

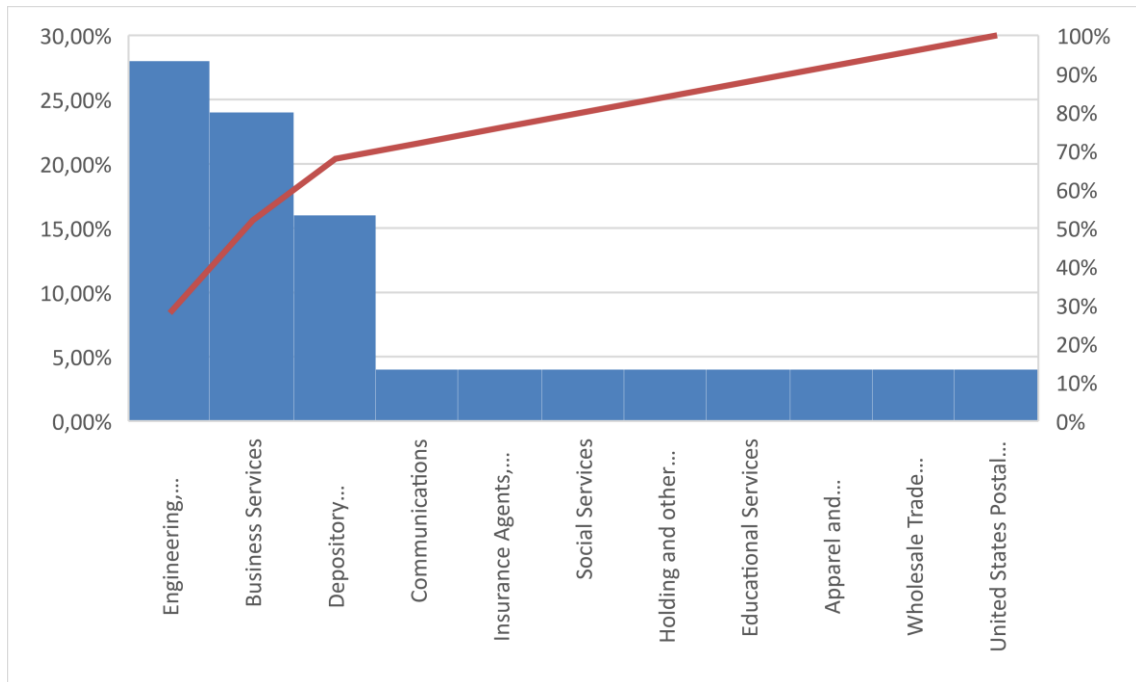
Education:

[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]

- Bachelor in Management Engineering in Università degli Studi di Palermo, from 2011 to 2013 in Palermo, Italy



Figure\_A 47 - Knowledge by size - Raffaele Alberino    Figure\_A 46 - Knowledge by age - Raffaele Alberino



Figure\_A 48 - Pareto Analysis by sector - Raffaele Alberino

Similar profile and results to previous cases with no major highlight.

o) Pasquale Gravina – Currently a Junior Consultant at Lipari Consulting

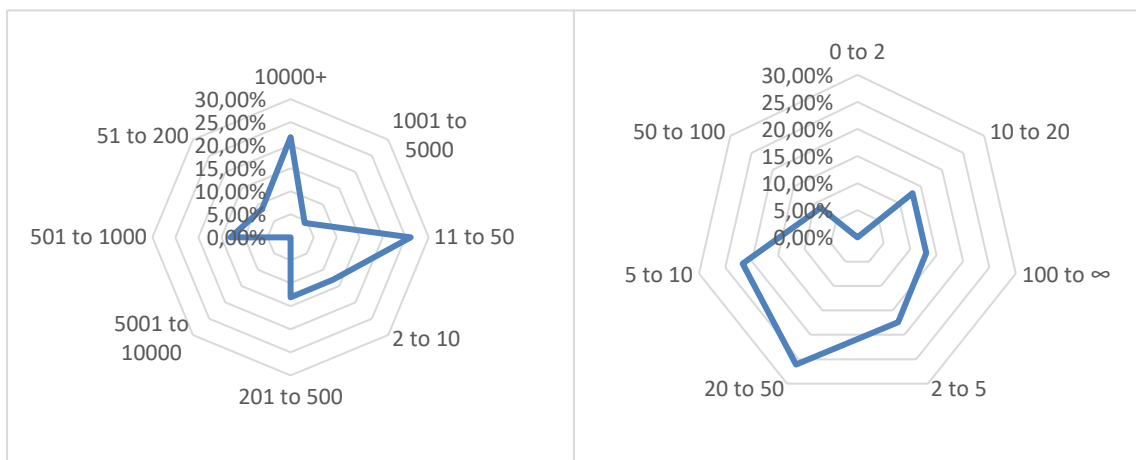
Previous positions:

- Internship - Junior Financial Operations Specialist at BNP Paribas Securities Services working during 2016 Warsaw, Poland.

- Business/Accounting Consultant at Studio Commerciale Gravina during 2014 in Santa Maria Capua Vetere, Italy.
- Curricular internship at Comune di Capua working from 2013 to 2014 in Capua, Italy.

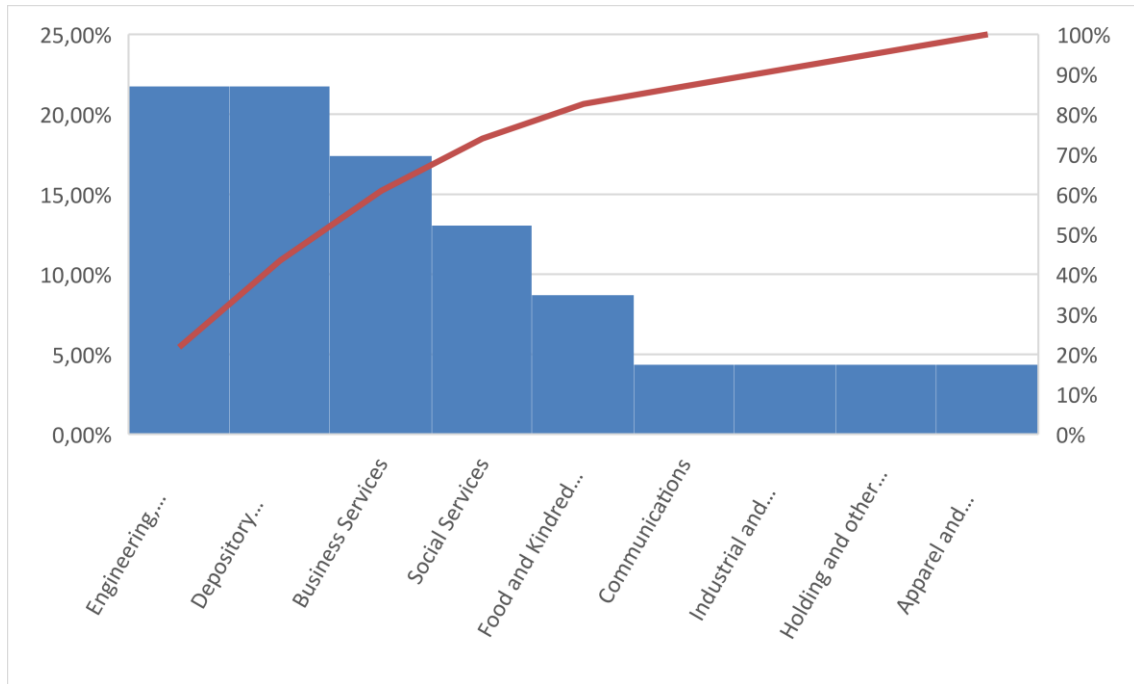
Education:

- Master in Management and Economics in Seconda Università degli Studi di Napoli, from 2014 to 2016 in Napoli, Italy
- Erasmus+ in Uniwersytet Warszawski, from 2015 to 2016 in Warsaw Poland
- Bachelor in Business Economics in Seconda Università degli Studi di Napoli, from 2011 to 2014 in Napoli, Italy



Figure\_A 50 - Knowledge per size - Pasquale Gravina Figure\_A 49 - Knowledge by age - Pasquale Gravina

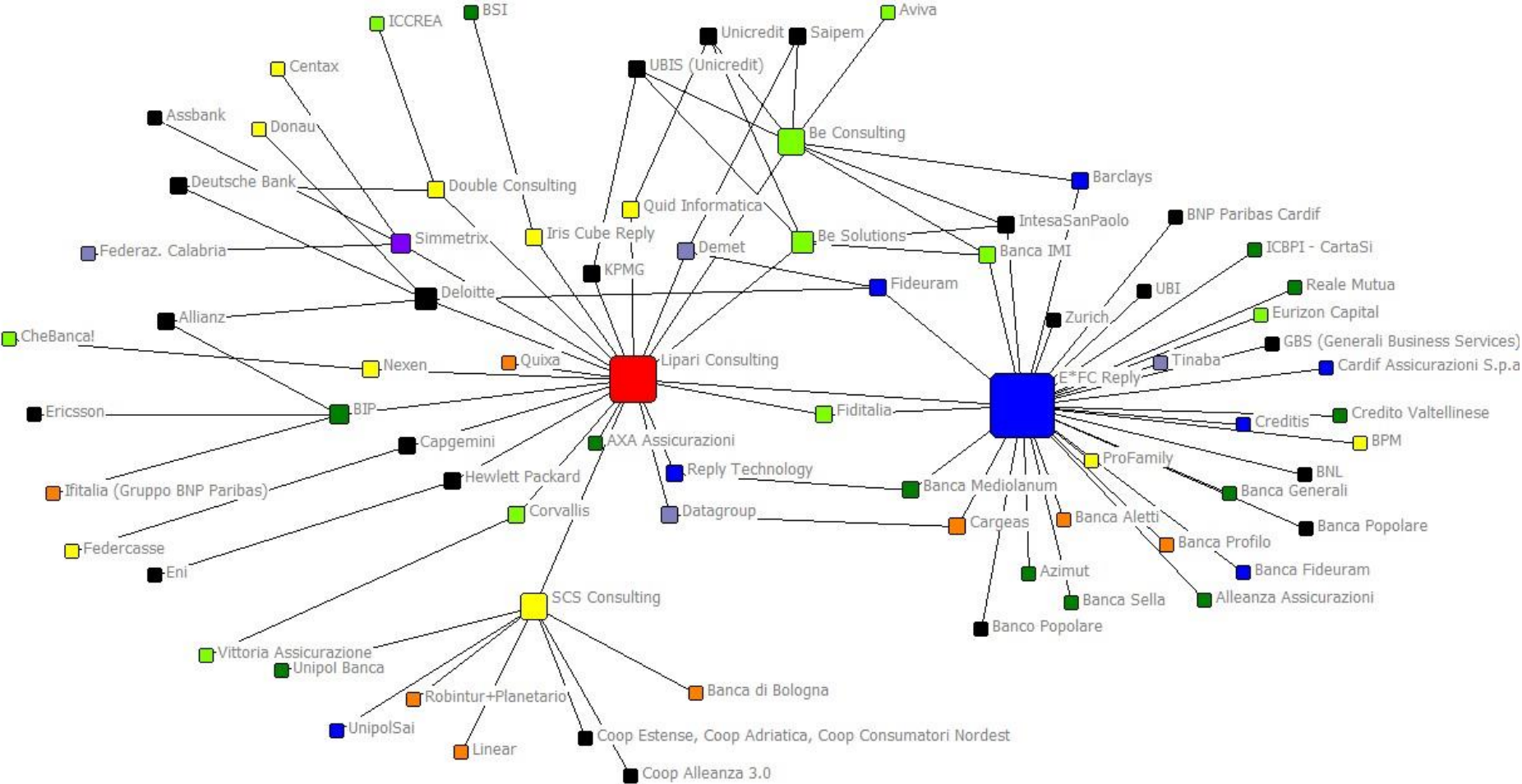
[Firm Social Capital as Competitive Asset: The Case of Lipari Consulting]



Figure\_A 51 - Pareto Analysis by sector - Pasquale Gravina

Comparing to his peers, Pasquale Gravina has a more international profile, with a year spent abroad studying plus an internship, both in Warsaw. In terms of the variables under analysis there is no difference, with all three presenting similar numbers to his colleagues.










**APPENDIX 6 - B2B NETWORK – SIZE**



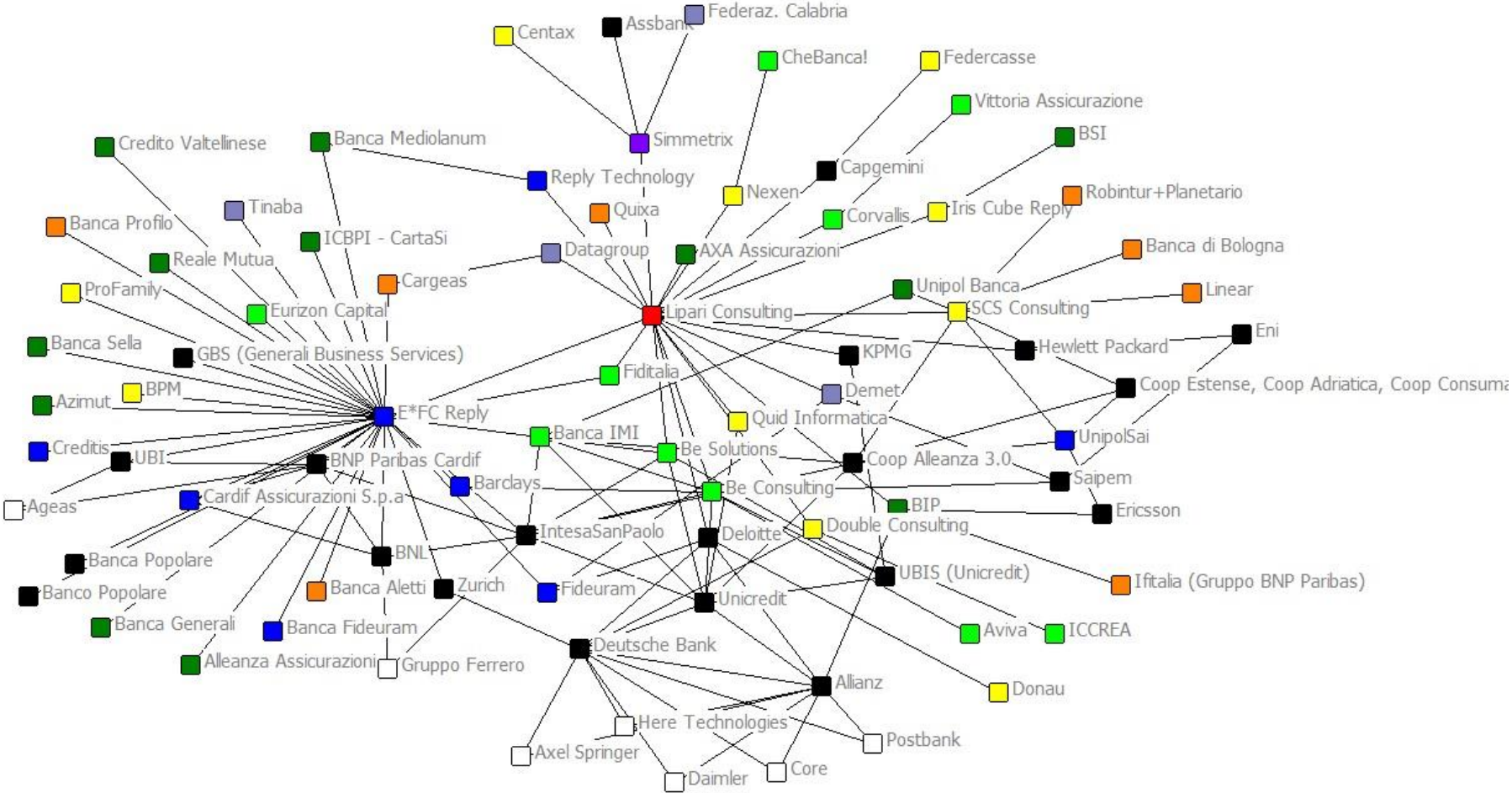
**Figure\_A 52 - B2B network**

APPENDIX 6.1 – LEGENDS FOR B2B NETWORK

Table\_A 3 - Legends for B2B network - Size

	Size	Level
	N/A	0
	2 to 10	1
	11 to 50	2
	51 to 200	3
	201 to 500	4
	501 to 100	5
	1001 to 50	6
	5001 to 10	7
	10000+	8

**APPENDIX 7 - B2B NETWORK - ENHANCED VERSION**













**Figure\_A 53 - B2B network - enhanced version**



APPENDIX 7.1 – LEGENDS FOR B2B ENHANCED NETWORK

Table\_A 4 - Legends for B2B enhanced network

	Size	Level
	N/A	0
	2 to 10	1
	11 to 50	2
	51 to 200	3
	201 to 500	4
	501 to 100	5
	1001 to 50	6
	5001 to 10	7
	10000+	8
	N/A	