Università
Ca'Foscari
Venezia

Master's Degree

in Economia e
Gestione delle
Aziende

Final Thesis

Change management as thriving force in the creation of Sustainable Value in the Italian SMEs: the case of MEP S.p.A.

Supervisor
Prof. Stefano Micelli

Assistant supervisor
Prof. Michele Tamma

Graduand
Lorenzo Tam
866521

Academic Year
2018 / 2019

I wish to express my deepest gratitude to

Professor Stefano Micelli for accepting to be my supervisor and guiding the work from the beginning to the end

Ms. Michela Del Fabro for welcoming me into the company, for her admirable passion and open-mindedness

Dr. Vito Rotondi for accepting me into the company, for his trust, knowledge and great managerial competence

Dr. Anna Pizzale, Mr. Andrea Marino Cerrato, Mr. Claudio Miconi for their dedication and empirical contribution

My family for the constant support

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Introduction

Organizations today face high levels of uncertainty and complexity within the environment they operate in. Not only have the old ways of doing business become obsolete, shaped by the increasing competition, but the deep transformations the world is undergoing dictate the urgency for organizations to respond to new needs.
Factors such as globalization, liberalization, deregulation, market competition and generally the VUCA (Volatility, Uncertainty, Complexity and Ambiguity) of the external environment have improved drastically over the past decades, impacting businesses worldwide. The Italian SMEs (Small and Medium-sized Enterprises) – especially the ones displaying a strong international character - have to bear the weight of such global transformations as well as the further exacerbation of the international scenario because of the issues of scarcity of resources, polluting emissions, environmental preservation and social well-being. The key to not only survive but excel on the market is represented by the ability to adapt, reorganize and change internally, in order to face the threats and transform them into opportunities, guaranteeing firm-level sustainability over time through the creation of sustainable value (economic, but also social and environmental).
By taking the Italian medium-sized company into consideration, this work aims at investigating whether these companies' business model, placed alongside the implementation of organizational change processes through change management models and theory, can drive them towards sustainable success. To do so, a case study is analyzed: an Italian medium-sized champion operating in the heavy industrial machinery industry.
The first chapter has the aim of describing the distinctive traits of the Italian medium-sized company and its management model, whereas in chapter two an in-depth analysis of the available change management models aimed at implementing an internal transformation process is conducted. Chapter three has the objective of providing proof of the fact that organizational change under several perspectives can indeed represent the engine for the creation of sustainable value and firm longevity. The empirical analysis was conducted through an on-site internship, which allowed for the gathering of relevant data and information through a variety of sources (documents, archival records, direct unstructured interviews), as well as the direct active observation of the

internal structure, flows, processes, activities and culture.
The medium-sized company taken as reference displays a variety of distinctive features that have allowed it to survive on the market, from the very first year of activity in the late nineteen-sixties, all the way to the first decade of the twenty-first century. This work argues that the change in the global economic paradigm that took place in recent years has to be faced through adaptation, vision, transformation, competence and ultimately management.

Chapter 1: The Italian SMEs: traits and value-creation

1.1 Distinctive features

SMEs (Small and Medium-sized Enterprises) represent a very large proportion of the economic fabric in many countries. These firms have developed a unique management model over the years, gaining the attention of the management literature in recent times.

Hermann Simon coined the expression "Hidden Champion" to describe German medium-sized firms, Luigi Serio calls Italian medium-sized enterprises "medie eccellenti". SMEs are under many aspects different to large companies. They don't benefit from heavy economies of scale, they suffer less efficiency, they don't reach those big numbers. However, they not only survive on the market, but they stand out, showing a highly competitive character based on knowledge, competence, responsiveness and innovation.

Although the expression "Hidden Champions" was first attributed to the companies composing the German economic fabric, it has since become more versatile, and it has been adapted and used to identify firms characterized by some common qualities. Luigi Serio (2017) refers to the Italian enterprise fabric, whose entities are easily comparable to hidden champions. Simon himself states that "such companies [are] in almost every part of the world […]" (Simon, 1996). Management literature has focused on large companies and corporations for years, with little if any consideration for the small and medium-sized enterprises of the world. The reason for that can be traced back to the fact that the American company was the one taken as reference: for reasons such as market size, demand and technological leadership the American firms were the first ones to reach large dimensions by the end of the 19th century, starting from sectors such machinery production, electricity, chemicals, thanks to transformations deriving from innovations such as steam engine, railroads, telegraph and telephone (Amatori & Colli, 2011).

In his book *Hidden Champions – Lessons from 500 of the World's Best Unknown Companies*, Simon identifies the prerogatives of the hidden champions (Simon, 1996):

- they are leaders (or close enough to market leadership) in the world market;
- their sales revenue is less than one billion USD, which means that they are not "large"; rather, they are either small or (more often) medium-sized. Serio (2017),

while analyzing Italian medium-sized enterprises, refers to different numbers, indicating a turnover between 16 and 355 million € (Mediobanca-Unioncamere);

- they are hidden, which refers to the fact that they do not have a high profile or public visibility; this characteristic can be dependent on the kind of market they operate in: small niches.

As far as market leadership is concerned, it is true that it usually refers to the market share. However, its meaning often goes beyond that, including some other criteria; leadership can be measured through sales revenue, sold units (products or services), technology, as well as criteria such as quality level, servitization, presence in the global market, product/process innovation, market influence and trend-setting; market leadership becomes a more complex and articulated definition, exceeding the boundaries of the mere market share. Simon identifies market leadership as the main goal of a hidden champion, and he recognizes the importance of a long term-oriented view as opposed to quick short-term results; a more detailed analysis on how to reach a predetermined goal will be defined in chapter two, through the description of various change management models and their evolution and influences over time.

Luigi Serio (2017), in his analysis, identifies several factors that seem to be peculiar and common among medium-sized Italian enterprises, starting from the *governance* structure: they are by large family-owned. The founding family is still within the organization to a certain degree. In some cases it remains in total control of ownership without playing an active managerial role other than the strategic decision-making at the top level; in others, especially in the smaller firms, family members actually have a well-defined lower-management position and they are involved in day-to-day operations and decision-making, so that the clear boundaries between family members and professionals/managers tend to blur. In medium-sized enterprises there is a strong managerial presence: managing the complexity and uncertainty of doing business these days has become such, that the knowledge and competence required cannot derive from passion nor experience alone. Professional figures are necessary, managers with acquired knowledge who are better qualified to manage a company that started small at the beginning but grew bigger and more complex over the years. However, the peculiarity of these companies is that they can hardly be compared to the big managerial firm. The family remains crucial to guide the organization and maintain the very specific set of values the company was founded on in the first place, or to maintain key

relationships with long-standing clients, partners or other stakeholders. The overall strategic direction of the firm is led by the family, whose members are usually the President, the Vice-president or even the CEO (Chief Executive Officer). Management, on the other hand, has the autonomy and authority to run the company, once the guidelines have been defined. Both family and management interact profusely at different levels, creating a shared and unique set of principles representing the substratum on which to run the company (Varaldo, Dalli, Resciniti, & Tunisini, 2009). From a practical point of view, the true common ground is found in the business plan, where general guidelines, strategic goals and plan of action meet.

Another important commonality is represented by the management of human resources, which entirely differs from the type of management adopted in big firms: the type of relationship established between top levels and workers, especially between founding family and employees, is direct and personal, and the HR management attitude is *ad hoc* for each individual, rather than universal (Boldizzoni & Serio, 2011). People are often seen as the true and ultimate driver of value creation, and they are treated accordingly. That is why another important factor is education, representing a very consistent investment. Many firms have an actual internal corporate school or academy, where a great variety of courses are organized, ranging from managerial disciplines to more technical and operational matters. Soft skills are developed, too. The final aim, apart from hard skills or competencies-strengthening purposes, is to bring together the workers' interests and the company's objectives. Furthermore, since employees' personal well-being is in direct proportion with their motivation, performance and productivity on the job, a positive influence and an empowerment of the individual on a personal scale through education might bring big improvements in the work environment, too. People – especially lower management - are therefore often empowered, they have a good degree of autonomy and a somewhat direct relationship with the company's higher levels; these characteristics have an important implication: people are held accountable for their actions, for both mistakes and merit. It is very important to note that all this leads to a critical aspect represented by the degree to which a person is replaceable, meaning that there is a very fine line between a person being valuable and that same person being irreplaceable. From an organizational perspective, irreplaceable resources are very difficult to manage, for reasons such as strong dependency on their work, health, performance, satisfaction and their strong

bargaining power with colleagues, superiors and even top management. Furthermore, irreplaceability is usually created over time, meaning that these resources, having been in the company for several years and even decades, are closely linked to an old view of work, doing business, conceiving the organizational culture. When being in an organization where the role of people is the key to value-creation, within an environment that requires quick adaptation and constant change, this traditional approach reveals itself to be insufficient and even obsolete. The risk the organization faces when dealing with a consistent number of irreplaceable resources, apart from the critical issues of aging workforce, knowledge transfer to younger generations and employee turnover, is to incur in the so-called competency trap. Often used within the management literature of *learning organizations*, where organizations are seen as experimental learning systems (Lant & Mezias, 1992), the expression *competency trap* indicates an organization's loss of capability to either exploit existing knowledge or explore new knowledge, the first being the most common one in incumbents or firms leading the market. The competency trap leads an organization deeper and deeper into the inability to explore new knowledge that is different than the previous one, relying on past experience exclusively (Liu, 2006). In the learning organization framework, it is the capability to learn and explore new knowledge, besides the exploitation of consolidated knowledge derived from experience, that generates technical, marketing, managerial and strategic dynamic capabilities to sustain and even increase competitive performance over time (March, 1991). In relation to the human resources, the so-created competency trap makes an organization be stuck – or trapped - in its old ways, with no understanding, desire or will on behalf of management to change and evolve.
Another distinguishing feature is represented by the strong orientation towards innovation, not only from a technological perspective, but also in terms of capability to offer integrated and complex solutions to respond to the market. When talking about innovation, it is crucial to make some important distinctions: product vs process innovation, incremental vs radical innovation, competence-enhancing vs competence-destroying innovation, architectural vs component innovation (Schilling, 2013). The reason for that is that these different types of innovation require different types of knowledge within an organization.
Product innovation refers to the novelty and improvements embodied in a company's output, which can be both tangible or intangible. Process innovation, on the other hand,

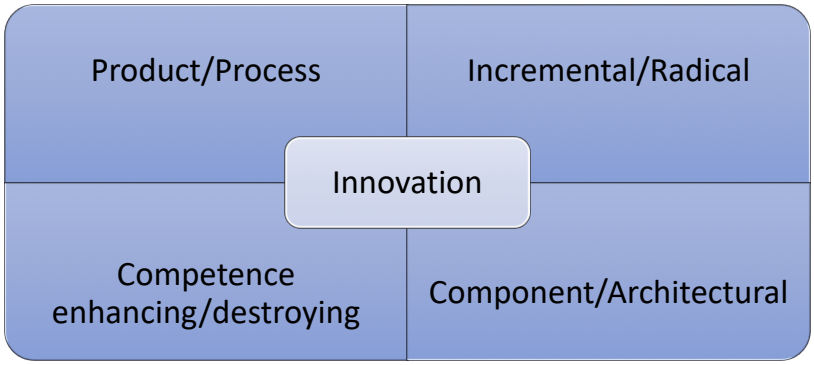
refers to the improvement of a particular set of actions or stages, ranging from production to business and marketing; this kind of innovation usually has the direct or indirect consequence of increasing efficiency or effectiveness. Product and process innovation often go hand-in-hand, meaning that one can cause or be the consequence of the other and that a particular product innovation for one firm can represent a process innovation for another. This last scenario is particularly true in Business 2 Business markets, an example being the industrial machinery industry: a new innovative machine, output of company A (product innovation), most certainly represents a potential process innovation for company B, the customer, using that machine for production (process innovation).

An incremental innovation is defined as an innovation "that makes a relatively minor change or adjustment to existing practices" (Schilling, 2013); It is improvement; it potentially gives great benefits and returns; but it is not revolutionary. A radical innovation, on the contrary, can be defined as "new" and "different"; the more an innovation represents a variance from existing products, practices, technologies, the more it is radical (Daft & Becker, 1978). Taking the industrial machinery industry as a reference, a machine with increased speed and efficiency definitely represents an incremental innovation, whereas a new never-seen-before machine has to be considered a radical change. An innovation can be defined as radical in relation to the risk it entails, too (Dewar & Dutton, 1986): the more radical the innovation, the more unknown the response of customers and users. Moreover, radically new products often require new complementary goods or services, often provided by third actors whose adaptation or speed of response is not a certainty by any means.

A competence-enhancing innovation builds on already existing knowledge, leveraging current competencies. A competence-destroying innovation, on the other hand, makes previous knowledge and competencies obsolete. Radical and competence-destroying innovations as well as incremental and competence-enhancing innovations often occur in tandem, but they are not necessarily interchangeable; with reference to the industrial machinery industry once again, a radically game-changing product may actually build on an existing knowledge base (i.e. patent).

Last but not least, an important distinction is between component (or modular) innovation and architectural innovation. Many products are composed of a variety of parts or components of a same system, and each of these systems is in turn part of a

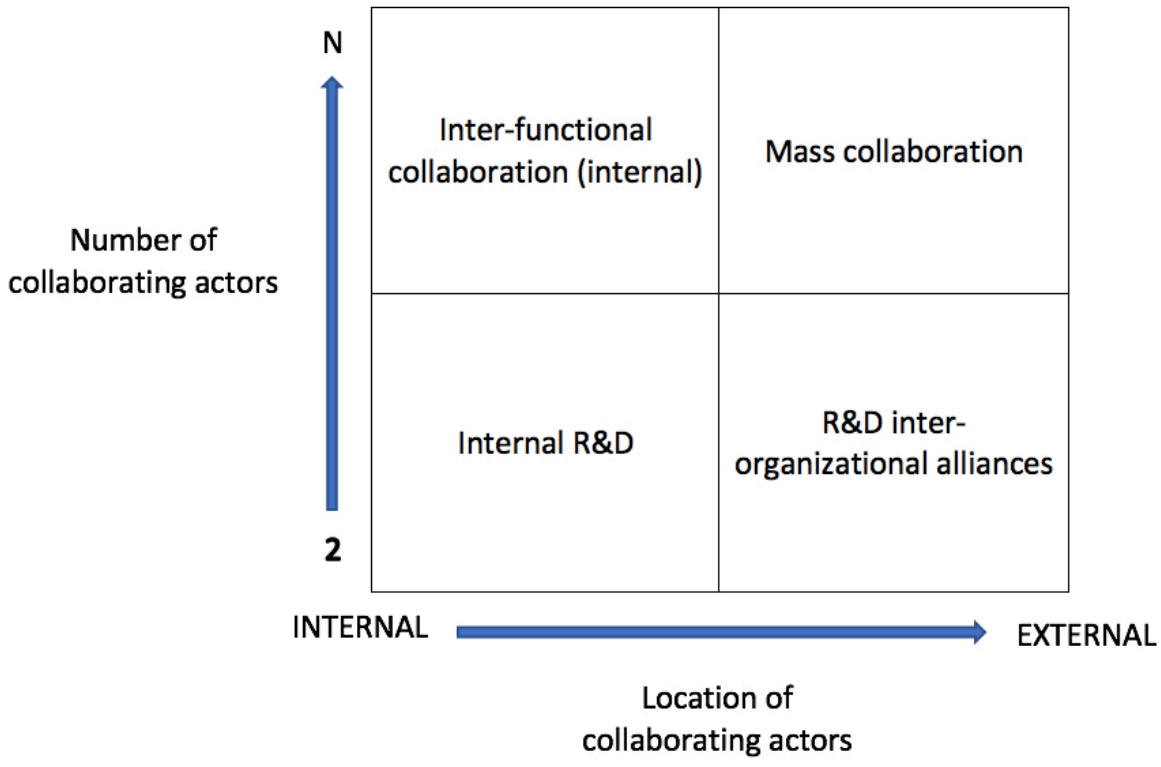
wider system (Fleming & Sorenson, 2003). Component innovation refers to a change or improvement of an individual component or more components, without effecting the overall composition of the broader system those components belong to. Architectural innovation, by contrast, implies a change in the general system configuration, without affecting the single components themselves; that means that change occurs in the manner in which the components interact among themselves (Henderson & Clark, 1990). There is a link between architectural, radical and competence-destroying innovations as well as between modular, incremental and competence-enhancing innovations, but they all refer to different underlaying kinds of innovation that can occur simultaneously. For instance, it is not difficult to imagine an incremental innovation built upon architectural changes. This categorization of different types of innovation is very flexible, since a certain change hardly ever fits perfectly one category only.



The source of innovation can be found in Research and Development, which is the main reason SMEs usually invest a consistent share of their revenues in it. After all, innovation is globally one of the main drivers for companies to obtain sustainable and profitable growth over time (Fredberg, Elmquist, & Ollila, 2008).

However, the "traditional" model for innovation is being accompanied more and more by a more *open* model, in which innovation becomes an interactive process involving different actors both internal and external, in a continuous exchange of knowledge and flow of information (Quarantino, 2011). According to this definition, innovation is not the final output of the internal R&D department alone. The reason for that can be found in the impact globalization had and has on economic processes worldwide. New knowledge from which innovation arises is seldom created and developed within the company's boundaries alone. Rather, it is generated by the value chain in its entirety,

both upstream and downstream, thereby increasing the pool from which it derives and its growth potential, allowing it to circulate through collaborations, partnerships and alliances between entities such as customers/users, suppliers, universities, research institutes, partners and even competitors. The shift to a more open innovation model requires a change in mentality, too. This is far from easy, since the cultural principle of self-reliance, according to which control is the key to a successful innovation (Chesbrough, 2003), has to be abandoned after decades of application. Companies should therefore implement a flexible corporate culture, open to external contamination and inclined to both inter-functional and inter-organizational cooperation, adopting an organizational model allowing the governance of the relationship with other actors and institutions (Chiaromonte, 2006). Value creation passes through the *democratization* of the innovation process, which is extended to all the aforementioned actors, employees included. The different types of innovation management are shown in the matrix below:



Based on Figure 2A: "A model of open innovation alternatives", *Managing Open Innovation – Present Findings and Future Directions*

The more the innovation process shifts towards a more external setting and the more the number of actors shifts from 2 (firm + internal R&D) to N, the more the complexity increases, making it essential to invest in coordination in order to govern the newly-created network of relationships. In particular, mass collaboration represents the most complex scenario, in which a more profound change of the organizational model is required: the quantity and variety of the actors involved in the innovation process and the knowledge transfer implies a change in the organizational structure, culture, and human capital. A new *forma mentis* is necessary (Fredberg, Elmquist, & Ollila, 2008), of both management and employees. The biggest issue to overcome to successfully implement the gradual shift towards an open business model is the governance of the different links in the value chain and the network of relationships; other criticalities are represented by the need for a multicultural corporate and business environment, market transaction costs, core competencies protection and relationship formalization strategies, keeping in mind that new actors may have very distant and different business interests and systems of values (Quarantino, 2011).

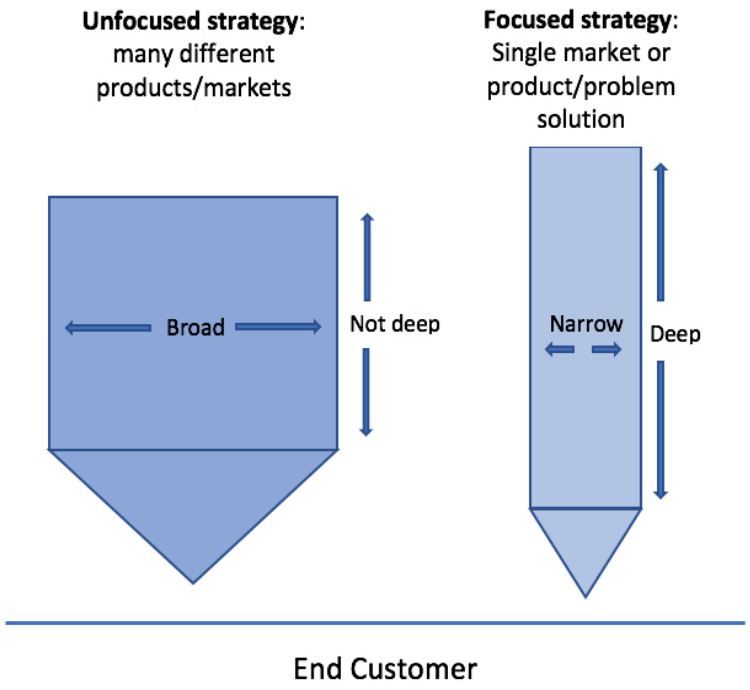
Open innovation models have grown rapidly in the past decades, especially in technology-based sectors (Vanhanverbeke, Duysters, & Noorderhaven, 2002).

Under this perspective, firm and R&D size does not matter anymore; the true key to innovate is to be *brain intensive*, valuing the capability to connect to other systems and to be a player within an extended network of actors, maintaining the medium size and its flexibility at the same time (Uzzi & Spiro, 2005).

This new model makes the creation of new value possible. Through the new social relationships, the firm is able to generate returns as well as access and exploit external resources. The network itself therefore becomes a great pool of information on availability, reputation, competencies and reliability of the potential partners (Gilsing & Lemmens, 2005).

1.2 Market, strategy and time of entry

It is important to define the market. Probably the easiest and most used way to describe a certain market is the type of product. A company producing heavy industrial machinery is in the industrial machinery market, there is no doubt about that; however, the product-based definition is not the only one there is. The definition can be based on competences and technology as well. Another interesting market description is given by the focus on customers' needs. If a company produces rebar (reinforcing bar) bending machines, it operates in the market of providing solutions to bend rebars. Whichever definition is chosen, one thing is clear: hidden champions operate in small, niche markets, with a very high level of specialization and a relatively small number of competitors. When using the definition that considers the product, wide variations can derive from the levels of breadth and depth of the production range. The breadth of the product line refers to the variation of output, which means it refers to the number of different products produced by the company; a wide range of products represents a bright production line (a high level of breadth). Depth, on the other hand, signifies the number of variants of the same product, or the degree to which the company is able to meet the market's needs in its entirety. A broad firm can be very similar to a deep firm, since they can both have a number of very similar products; however, the product line's structure differs completely. Going deeper means adding complementary products or features to the main output, whereas going broader means increasing the level of diversification:



Based on Figure 3.4: ""Broad" versus "Deep" Approach to Strategy", Hidden Champions-Lessons from 500 of the World's Best Unknown Companies

The hidden champions seem to prefer the focused strategy: the narrowness of the market they operate in (and lead) causes firms to focus on depth. On one hand, this allows for a very high degree of specialization and deeply rooted competences; on the other, these companies incur the risk of overspecialization, which can derive from the complete dependence on one market, the loss of leadership position due to standard-product-producers entering the market, or a cost increase due to the difficulty to exploit economies of scale. It becomes clear that there is no *one best way*, and the choice between breadth and depth is far from easy:

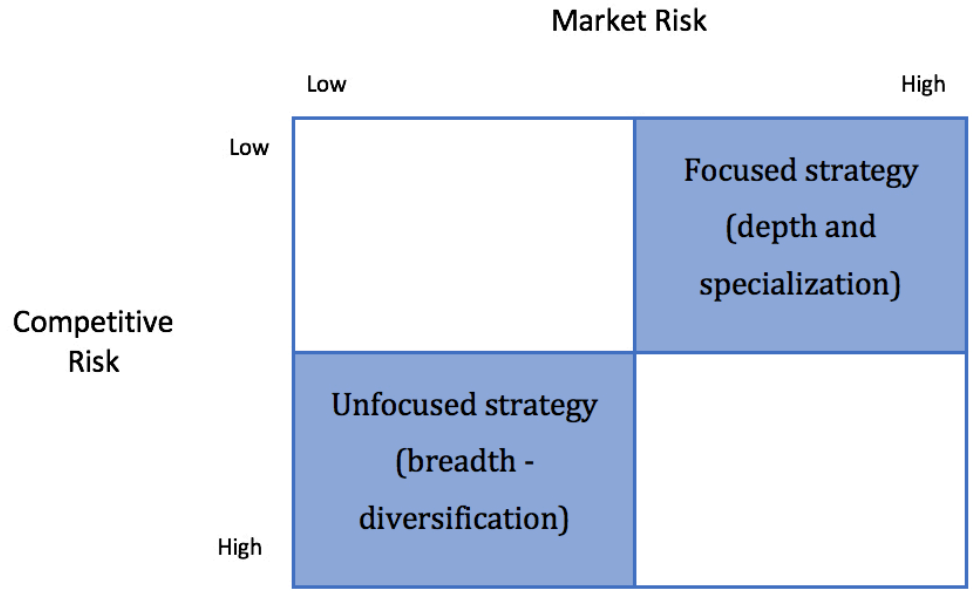


Figure: "Market risk vs competitive risk", *Hidden Champions – Lessons from 500 of the the world's best unknown companies*

As shown in the figure above, companies adopting an unfocused strategy face a high competitive risk, whereas companies opting for a focused strategy face a high market risk.

As mentioned before, Hidden Champions are hidden, indeed, in that they usually don't boast great visibility. The reason for that can be found in the fact that they were able to build a strong brand over the years, well known only to actors operating in the same or close industries, therefore not needing that marketing push; or thanks to factors such as first mover advantages or close-to-monopoly environments. Although being the first mover in the market often implies competitive advantage over other firms, management research yields conclusions that are quite conflicting (Schilling, 2013). In order to gain a deeper understanding of the competitive position and brand placement of a given company, it is very useful to analyze advantages and disadvantages of being a first mover or not. It may seem obvious that a company introducing a new product to the world market can benefit from quite a long-lasting reputation in that given domain; this is especially true when taking technology-based or technology-oriented products into consideration. A strong reputation equals a strong company image and a quickly-built brand loyalty. A first mover's position certainly compares to a – although temporary –

monopoly, since customers' expectations about the product's features and price can be shaped, not only monitored. The first mover benefits from technological leadership, not only for the fact that there is no early competition, but also because when late entrants finally start to slowly saturate the market, the above technology will be protected by patent, copyright and difficult-to-obtain capabilities, making imitation very difficult to attempt.

As said before, the time advantage is key, and makes it possible to benefit from monopoly rents, both in the form of higher returns and lower costs. However, technological leadership can hardly be considered the only advantage a first mover can enjoy. As a firm adopts a more focused strategy, the production process becomes more complex; a point will be reached eventually after which outsourcing part of the process to external actors, as for instance the production of semi-finished goods, is a very rational choice. Clearly, the relationship between client and supplier transforms, quickly developing into a key partnership, where the level of mutual dependence increases proportionally. This scenario describing the relationship with suppliers perfectly fits into another class of first mover advantages: the preemption of scarce assets (Schilling, 2013). Other similar monopoly-rent-creating factors may include making sure to be the first one to obtain resources that are non-abundant, as key distribution channels, locations or specific government permits. Moreover, a crucial advantage is represented by the exploitation of buyer switching costs (Boulding & Christen, 2001). This advantage refers to the cost that arises whenever a buyer choses to switch to another good (or another producer); this cost can consist of the complements needed or of the time needed to get acquainted with the new product. This is especially true in technology-based industries, where it takes a lot of time and effort to get to know a similar yet different product. The existence of switching costs even discourages the adoption of products/technologies that are better than the one that is being used. In other words, the sum of the value of the current technology and the switching cost must be inferior to the value of the new technology, in order for the user to actually switch. It is therefore clear that for a new product to be preferred to an existing one, it cannot simply be better; it has to be *much* better. From here it is not difficult to derive the strategic picture: competitive advantage is maintained whenever a firm is able to keep the switching costs high enough to make users/customers prefer the current product instead of the new one.

Last but not least, the first mover can exploit increasing returns to adoption. The more a technology or its physical application is adopted, the more information and user feedback can be gathered to improve the product itself; furthermore, being the first to enter the market often guarantees high initial revenues, which can then be invested in further improvement of the product. The more a technological product is adopted, the more its created value for the producer increases, also thanks to the beneficial effects of a positive learning curve and experience curve (Boulding & Christen, 2001), which can derive from an increased efficiency of the production process, for instance. The increased knowledge resulting from the learning process generates in turn a very dynamic capability: the absorptive capacity. A firm's previous experience allows for a capacity to recognize and value newly acquired knowledge and use it to optimize the development of current products, different products and complementary goods.
The adoption of a particular product means the growth of the installed base, which is the number of consumers using it. Thanks to the aforementioned increasing returns to adoption, the R&D activity financed by sales revenues is able to produce complementary goods, causing the shift towards a deeper, focused strategy. Obviously, a large installed base attracts new actors producing complementary goods, too, stimulating market competition; as much as new competition means the loss of monopoly rents and a decrease in the complementary goods market share, it also further stimulates the growth of the installed base, in a self-reinforcing cycle depicted below:

Based on Figure 4.2: "The Self-Reinforcing Cycle of Installed Base and Availability of Complementary Goods", Strategic Management of Technological Innovation

There are, of course, disadvantages of being first movers. The first disadvantage that comes to mind is the fact that pioneers have to face high Research & Development costs, not only for the development of the new product, but also for the development of technological alternatives that ultimately did not lead to success and commercial employment. This type of burden also includes initial investments in production as well as in complementary goods. In many cases these types of expenses do not have to be shouldered by later entrants, who can therefore channel their effort and resources without having to bear the risk of the trial and error process (Boulding & Christen, 2001).

Another disadvantage is represented by the possible lack of enabling technologies; those technologies are crucial for the realization of the final product, and yet the producer does not have the knowledge and competencies to develop such enablers internally.

Another burden to carry is represented by the immaturity of complementary goods: electric cars need charging-station networks, industrial automatic heavy machinery needs software and an adequate electricity consumption capacity.

Last but not least, a first mover may face a very high level of uncertainty about consumer preferences and requirements; this informational gap usually leads to an investment of time and resources later entrants may not have to bear.

1.3 Hidden visibility

It is true that these B2B SMEs are predominantly hidden. However, as mentioned before, they rely on a strong brand nevertheless, as one of the main advantages of being the first company on the market. However, this privileged position can become onerous, even unsustainable over the long run. Competitive advantage needs to be maintained even against the new actors' lower prices, and effective communication of the product superiority like technology, quality, service or experience becomes a *must have.*

In fact, one could even argue that communication is helpful only when it entails the right message, which cannot be based on the product's features exclusively. Especially in the Business to Business industry, the mistake many firms make is the fact that the communicated message fails to go beyond matters like quality, price, efficiency of after-sales services (Di Mase & Agostini, 2019). It is sometimes useful to focus on other important matters as well, not necessarily strictly related to the main use the final consumer makes; for instance, matters of security and work safety. This is especially the

case when customers are structured and complex businesses, in which the purchasing process is subjected to the approval of more than one decision maker, not only the purchasing manager. On that note, the professional figure of the HSE (Health, Safety and Environment) manager is becoming more and more important within both B2C and B2B companies; what that means is that on one hand companies' and final consumers' awareness and sensitivity to social as well as environmental sustainability matters have drastically increased, and on the other that sustainability laws and regulations have become stricter in the vast majority of countries; not surprisingly, new exigencies derived from changes in the regulatory framework cause businesses to shift to other products and possibly other suppliers able to meet their needs (Kotler & Pfoertsch, 2008). Attention to the environment, safety of workers and health of consumers and society at large therefore represent a powerful and effective message to be sent to the open world. However, the risk of engaging in empty and meaningless communication is there if firms' activities do not actually reflect what they state they do or believe in. From the opposite perspective, a very similar mistake would be to engage in virtuous behavior and activities without showing it, therefore not benefitting from the potential returns.

The digital revolution was definitely a turning point in companies' value-creating activities along Porter's primary and supporting value chain activities (Porter M. E., 1985), Marketing surely being one of them (Di Mase & Agostini, 2019). Apart from the direct consequence of being able to access and use effective and quick digital marketing instruments on a very large scale - even for those who did not have a well-defined marketing strategy (Di Mase & Agostini, 2019) - the revolution meant that the quantity of information available to both consumer and businesses has increased exponentially, to a number so high that the average attention level to single information has inevitably dropped. In such a scenario, companies failing to recognize the dangers of being left out or getting mixed up with all the other actors are going to be invisible to consumers, have little *brand awareness* and a close-to-zero *brand equity* (Di Mase & Agostini, 2019); from here, is it far from difficult to imagine how easy it is not only to lose ground to competition, but also completely disappear from the market.

Implementing a marketing strategy allows companies to survive in the market; if it is well defined, tried out and put into practice successfully, it can make them market leaders. Even in the Business to Business realm, in companies that historically are not

marketing-driven, external communication has become one of the main drivers to attract new customers, keep existing customers (*brand loyalty*), maintain the *brand identity* and ultimately generate returns on investment.

1.4 International character

Both the hidden champions identified by Hermann Simon and the SMEs described by Luigi Serio share an important commonality. These companies' presence on international markets is quite relevant: more than 70% of their revenues derives from sales in foreign countries (Serio, La Nuova Borghesia Produttiva. Un Modello per il Capitalismo Italiano, 2015); the percentage easily reaches 90% or more in many cases. The adopted strategy is usually direct export, identifying the main tendency to directly control the distribution channels. This means that all the main activities of the value chain are conducted in Italy, where the headquarters is located, whereas the peripheral entities supply products and services (Serio, Medie Eccellenti, 2017). Although this is the main approach SMEs adopt in foreign markets, it needs to be said that it is not the only possible one, especially when taking into consideration big companies, too. Different strategic approaches derive from different strategic requirements, which in turn are determined by the type of industry taken as a reference.

In the so-called *global industries* (Bartlett & Ghoshal, 1987), the external environment is characterized by products or technologies changing in an incremental manner, rather than radically; national markets are quite homogeneous, protectionist barriers and transportation costs are low, there is a global and somewhat homogeneous demand for a certain type of product. Under these conditions high levels of efficiency are possible, allowing the exploitation of large economies of scale.

In *multinational industries*, on the other hand, worldwide markets are characterized by lower levels of homogeneity in demand and consumer preferences; this inevitably requires a local differentiation approach to strategy, enabling businesses to meet local needs and adopt to local cultures, habits, traditions, and – where these last factors do not have a big impact – national or international regulations and restrictions. In this scenario, also referred to as *multidomestic industry* requiring a *country-by-country* approach (Pontiggia, 2016), foreign subsidiaries are bound to have more autonomy and less dependency from the decision-making and directions of the home country

headquarters. Businesses are only successful when guided by strong responsiveness and adaptation capabilities.

Bartlett and Ghoshal also identify the so-called *international strategy,* where the key to success lies in the capability to transfer knowledge to overseas and foreign subsidiaries or partners; this can be represented by the ability to spread a particular innovation, know-how or technology developed in the home country across national borders; this way, product and process quality can be maintained and replicated worldwide; efficient and effective knowledge and key competencies transfers pave the way for the exploitation of *learning economies* (Barlett & Ghoshal, 1987). Needless to say, this approach is desirable in knowledge-based industries, were the final production of output entails tacit knowledge to a high degree as well as technical and technological complexity. Such industries are usually guided by big R&D investments; since the Research and Development division is quite often located close to the home country facilities making it not easily accessible outside the company barriers, the ability to transfer key R&D knowledge to the desired actors worldwide may represent an important source of long-lasting competitive advantage.

In reality, it needs to be said, it is quite difficult to impose a strict categorization to firms and the markets they operate in. The truth is that while such categories may depict approaches and external environment fitting the last decades of the 20th century, they are just too simplistic today. Complexity and uncertainty have increased over the last decades, but so have market size and opportunity. Many firms have progressively moved to the *transnational strategy,* developing a new set of capabilities, constantly trying to overcome the model of the pure textbook global, multinational or international company, aiming for efficiency, responsiveness and learning capabilities simultaneously. Basically, a company today can present economies of scale and standardized products, responsiveness to the new requirements of foreign markets as well as knowledge transfers and learning economies all at once, following the principle: *standardize whenever possible, adapt when necessary*. While on one hand this makes it a very difficult job to manage such corporate complexity, on the other it paves the way for growth on a global scale.

SMEs too have adapted to the changes required from a global economy, becoming *de facto* "pocket multinationals". Foreign subsidiaries or partners quite rigorously follow the headquarters' guidelines, specializing in sales and services; some of them can be

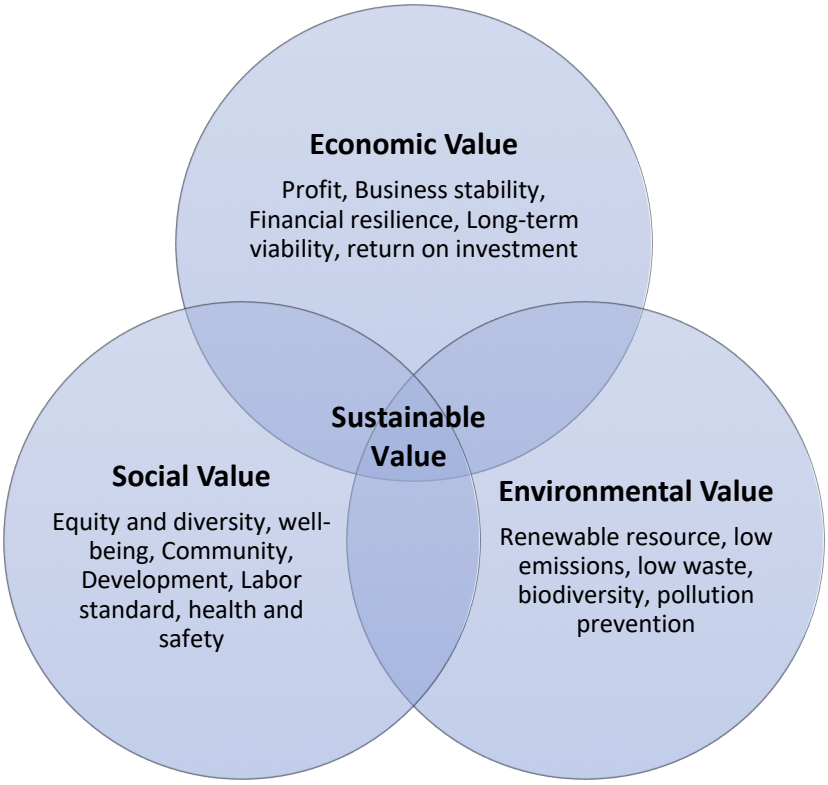
defined *transnational* satellites, since they do adapt to the characteristics of local markets in terms of customer relationship and market requirements (Ghoshal, 2009). Foreign entities are often represented by agents or distributors; in some cases they are partners, in others they are actual delocalized wholly-owned subsidiaries (Serio, Medie Eccellenti, 2017); the organizational structure of these champions is therefore quite simple: the central role is played by the "mother company" controlling its subsidiaries (Colli, 2010).

Presence in foreign markets, continuous innovation, quality of products and services are the main value-creating factors for such firms; other prerogatives include the direct presence of the entrepreneur and other family members inside the organization, a highly specialized workforce representing the primary source of innovation thanks to the continuous interaction with customers and suppliers, and high levels of specialization of production associated to a strong business strategy, which guarantees dominance of niche markets (Serio, Medie Eccellenti, 2017). They are often the main actors in the supply chain, being the biggest players within the network of relationships they operate in. Suppliers are often smaller firms, chosen by the "leading firm" because of reasons linked to competence, knowledge of the counterparty's needs, trust developed over years of relationship, geographical proximity, quality of the finished or semi-finished product supplied. It is true that such international players would be expected to source from international firms belonging to global value chains; however, relationships with national and even local suppliers and partners over the long run brought to a progressive and consistent reduction of the informational asymmetry between supplier and customer, which means that the simple supplier-customer relationship has become something different, closer to a partnership, where the degree of coordination, interdependency and trust between the parties is substantial (Mancini, 1999).

1.5 Multidimensional value

The characteristics described above depict a clear picture of the small and medium-sized enterprises in the Italian economic fabric, without failing to recognize the need to continuously engage in finding solutions to meet the ever-changing market requirements. However, this need for change must be read not only from a purely economic perspective, and the complexity and turbulence of the external environment causing that change does not only regard factors affecting economic sustainability, but environmental and social sustainability as well. Factors such as climate change, scarcity of natural resources, increase of the global population and pollution are deeply affecting the globe and its future survival perspectives, becoming to all intents and purposes a key orientation for the way of conducting business in organizations worldwide (Boons, Montalvo, Quist, & Wagner, 2013). Given that small and medium-sized enterprises represent more than 80% of all organizations globally (Small and medium enterprise outlook, 2002), that they account for more than 70% of the global production (O'Laoire & Welford, 1996) and that they cause more than one third of global pollution (Weisner, Chadee, & Best, 2018), engaging in the implementation of the so-called *triple bottom line* (Elkington, 1997) – economic, environmental and social sustainability – is a rational choice to make, especially with the existence of a link between the implementation of socially and environmentally sustainable practices and increase of economic and financial performance. Even though there is no well-established consensus on the win-win relationship between the two (Albertini, 2013), there is evidence of the fact that the stimulus to face these new global challenges implies a series of internal organizational transformations that have as a consequence the development of new capabilities, with the effect of efficiency along with performance improvements. Furthermore, by actively engaging in environmental sustainability, small and medium-sized enterprises introduce more efficient ways of conducting their activities, reduce costs and empower the human capital, too (Weisner, Chadee, & Best, 2018). Sustainability is defined as an economic model of development able to meet the needs of the present generation and maintain the ability for future generations to meet their own needs (Development, 1987). It refers to the ability to maintain the ability to satisfy the needs of humanity over time, in the long run. Sustainability is a complex concept, that can be referred to more than one domain only; it has a multi-dimensional meaning, in coherence with the triple bottom

line:



Based on Figure 1: "Sustainable value", *Business Model Innovation for Sustainability: Towards a Unified Perspective for Creation of Sustainable Business Models*

Actually, it is the very meaning of the existence of firms and entrepreneurship. Firms are entities creating a holistic and shared value: for shareholders, stakeholders, employees, society at large (Porter & Kramer, 2011), and should therefore integrate environmental and social objectives into their mission (Schaltegger & Wagner, 2011) and strategy, thereby innovating their business models accordingly (Evans, et al., 2017).

For reasons such as innovation capability, flexibility and responsiveness, small and medium-sized enterprises are well-suited to engage in a sustainable transformation. The relationship between innovation and sustainability, as well as with learning is strong, indeed; by integrating social and environmental initiatives into their strategy SMEs are going to increase their learning process and therefore the opportunity for innovation (Moore & Manring, 2009).

There are different attitudes of firms adopting a sustainable behavior (Noci & Verganti, 1999):

- a resistant approach is adopted by those SMEs which don't pay any attention to environmental and social stimuli or pressures.
- a reactive approach to sustainability implies a reaction to external factors such as environmental regulations or local pressures; however, those reactions don not go beyond compliance, since the required adaptations and changes are seen as additional costs.
- a firm adopting an anticipatory strategy, instead, is able to foresee opportunities deriving from social and environmental issues and act to grasp them for future competitive advantage. The adoption of such an approach is largely dependent on factors such as type of market, product, size of the SME and whether the firm is an incumbent or an early follower in the market; the reason for that can be found in the evidence that incumbent firms, which are by definition firms well-established within the market they compete in, have to overcome a greater resistance in innovating radically (e.g. completely new products), and they are thereby more inclined to innovate incrementally (Min, Kalwani, & Robinson, 2006).
- a proactive strategy with regards to sustainability-oriented innovation implies the acknowledgement on behalf of the firm that the identification of sustainability issues represents an opportunity to create competitive advantage; the proactive approach in many cases derives from the desire and behavior of the family, owner or top management, relying on the firm's dynamic capabilities such as flexibility (Aragon-Correa, Hurtado-Torres, Sharma, & Garcia-Morales, 2008), and can bring the benefits of being first movers within the market.
- Last but not least, a sustainability-oriented innovation is based on the existence of a business model deeply rooted in sustainability, as well as a very open innovation strategy, where the interaction with external institutions and actors is strong. Innovation and sustainability are combined into one, as described below.

1.5.1 Sustainability-oriented innovation

There is more than one type of sustainability-oriented innovation (Klewitz & Hansen, 2014): process, organizational and product innovation.

Process-level innovation refers to all the activities within the value chain, redesigned to produce products or services reducing the use of resources and manage side-outputs like waste or hazardous materials in an efficient manner, at the same time. This kind of innovation often refers to production practices; two main concepts are identifiable: *cleaner production* refers to the application of an integrated and preventive environmental strategy to processes (and products and services, too), in order to improve their general efficiency, reducing the risk to humans and environment (Changing Production Patterns: Learning from the Experience of National Cleaner Production Centres, 2002). Cleaner production has the objective of achieving and environmentally-oriented mindset to management within the organization, thereby reducing resource use. In organizations where a continuous improvement approach is already in place, continuous environmental improvement is easier to implement, since the right mindset and the right resource considerations might have already been achieved (Berkel, 2007). The term *eco-efficiency* partially overlaps with cleaner production, but it entails a slightly different meaning: it puts more emphasis on the economic benefits deriving from a more environmentally sustainable approach (Cote, Booth, & Louis, 2006), stressing the fact that environmental performance and economic performance can be combined in order to reducing negative environmental impacts and create economic value, simultaneously. Eco-efficiency includes measures such as a reduction in the use of materials, changes in the organizational procedures, disposal of inefficient resources, elimination of inefficient practices or projects developed inside the firm with the specific aim of energy-saving, for instance. Apart from the production process, also logistics entails sustainable innovation potential: the transportation network efficiency can be improved; a change in the transportation modalities and the distribution channels can occur, as well as a redesign of the packaging system (Kirkwood & Walton, 2010). Sustainable process innovation increases firms' chances of gaining a new competitive position against non-innovating competition, and it allows to spread sustainable practices along the whole value chain.

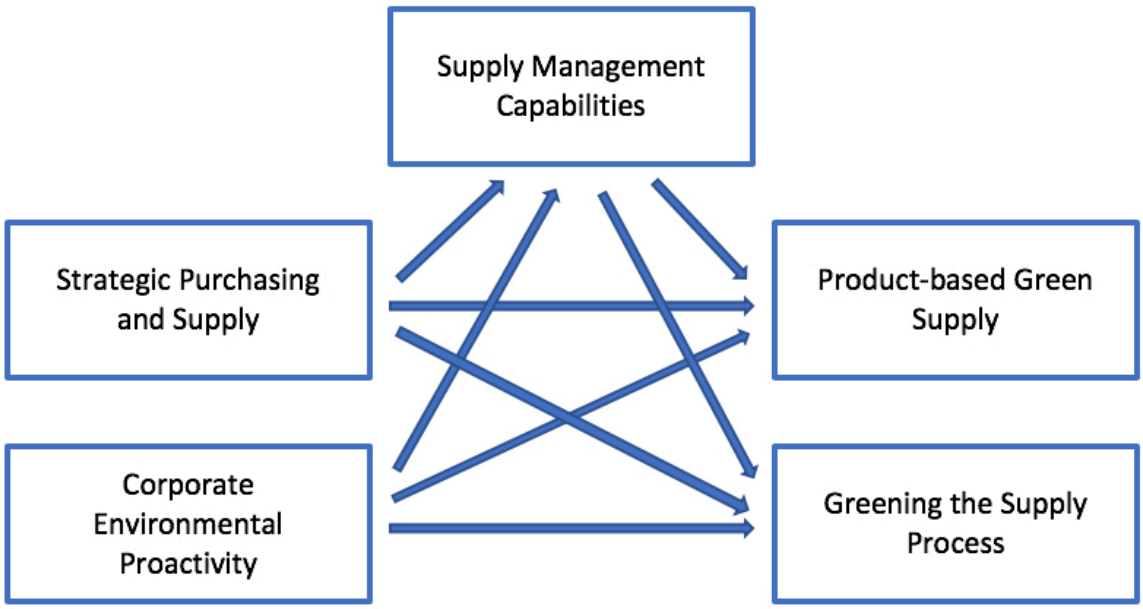
Organizational innovation refers to a broader type of approach towards sustainability, often identified by environmental management systems (EMS), the most used of which

is the ISO 14001 standard (Bos-Brouwers, 2010). However, the better performing SMEs are usually the ones engaging in environmental management systems (Hitchens, Clausen, Trainor, Keil, & Thankappan, 2003); moreover, another reason for the failure to implement an EMS is linked to the clear contrast between the mainly informal management system of small and medium-sized firms and the formal nature of EMS processes. This means that the integration of environmental practices within a firm's management system has a lot of implementation potential in many firms, still.
Within organizational innovation, an important topic is represented by supply chain management (SCM), which can consist of using EMS like the ISO 14001 certification to gain a competitive advantage against competition and respond to the pressures coming from downstream entities within the chain, or actively integrating social and environmental issues within traditional SCM practices, thereby influencing external actors, making environmentalism "cascade through the industrial ecosystem" (Holt, 2004). A first step is represented by local sourcing (Klewitz & Hansen, 2014) or local production: sourcing materials, semi-finished goods or components from a small selection of suppliers or, better yet, producing such goods internally (vertical integration), can drastically decrease transportation emissions (and costs) and value social sustainability throughout the value chain by decreasing labor and social issues in developing countries, for instance. In spite of the drop of transportation emissions reachable in the mere logistic management function, SCM innovation requires a well-defined strategic decision by top management, who has the responsibility to take the environmental and social costs of sourcing into account, without losing control of the economic cost of procurement. This approach on behalf of management can be defined as c*orporate environmental proactivity* (Bowen, Cousins, R.C., & Faruk, 2001), where management goes beyond mere compliance, giving high priority to environmental issues and managing environmental risk actively. A SCM sustainability-oriented approach also includes:

- *strategic purchasing and supply*, where the various types of purchased materials and services along with the types of relationships established with the suppliers are formalized and written down, including them in a long-term purchasing function plan;
- *supply management capabilities,* characterized by a strong coordination among all the organizational functions involved, especially the purchasing function.

Purchasing policies and procedures need to be formalized and written down, and the knowledge and technical competencies and skills of the purchasing professionals need to be enhanced. Furthermore, workers need to gain an advanced understanding of environmental practices and how they affect the whole supply;

- *product-based green supply,* which is largely based upon the closeness and level of cooperation with the suppliers, in the continuous effort to eliminate the packaging of supplied goods and reduce waste to minimum levels;
- *greening the supply process*, which implies a structured system allowing supplier categorization and tracking. The greening process consists of a redesign of the strategic supplier selection process through an integration of environmental criteria into the vendor assessment system. This will allow to conduct an analysis of the suppliers with an environmental management system in place and rank them according to their environmental performance through a scoring system. Potentially, the scoring system can be based upon a supplier questionnaire (Gold, Seuring, & Beske, 2010).



Base on Figure 1: "Model of the role of supply management capabilities in green supply", *Sustainable Supply Chain Management and Inter-Organizational Resources: A Literature Review*

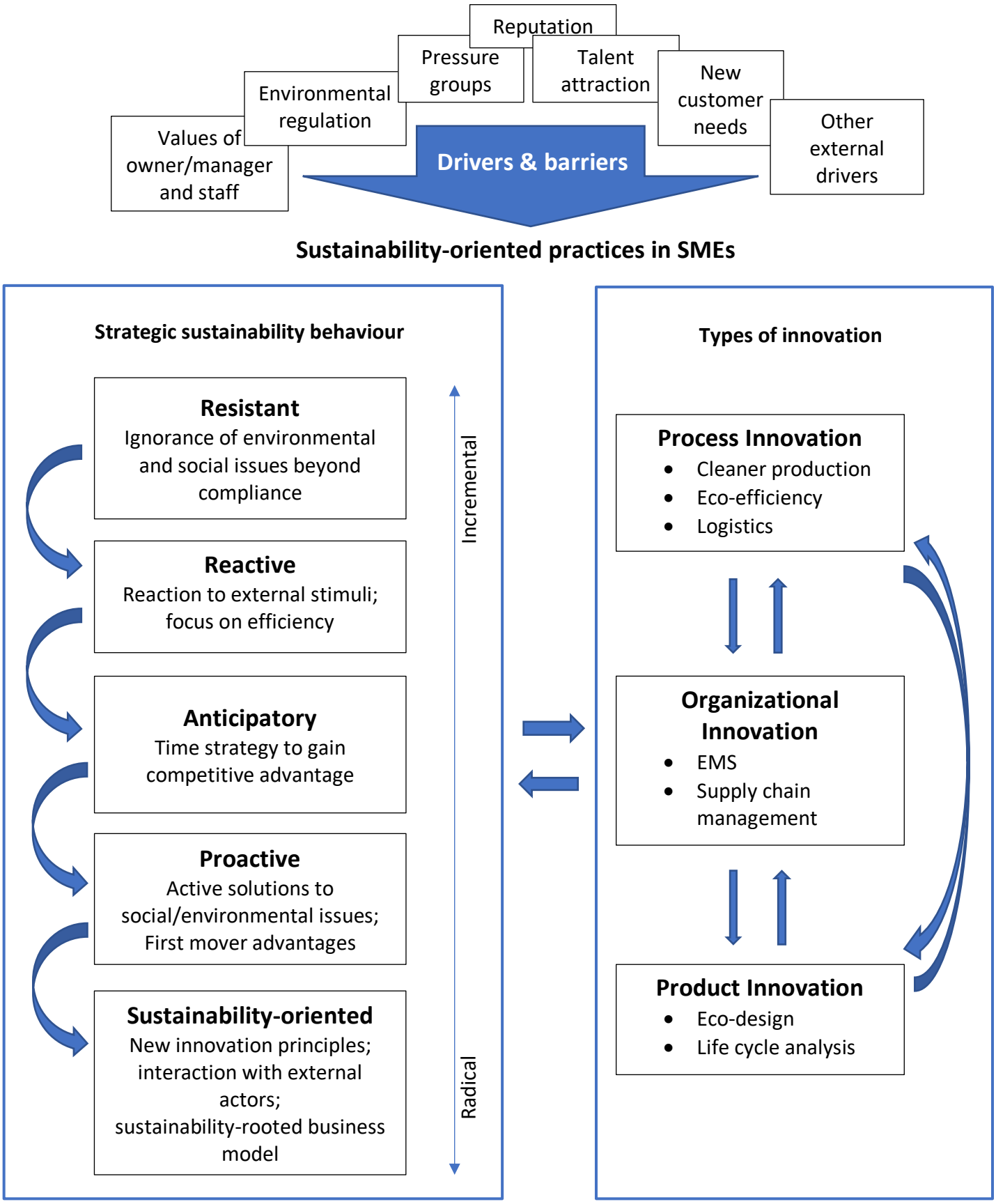
Under this perspective, within organizational innovation efforts, a fundamental issue is represented by the capability to spread a sustainability vision to all the actors actively involved in the change process. This calls for the fundamental contribution of an internal academy or business school, embodying the primary means able to infuse the open-mindedness to accept a new vision and a new paradigm to guide people's daily operations. In order to do so, employee development, training and engagement can be reached through a variety of activities, ranging from class lectures all the way to interactive CSR activities and simulations based upon what-if scenarios and actual organizational instances.

Additionally, sustainability-oriented organizational innovation is highly dependent on the innovation process itself (Klewitz & Hansen, 2014); new principles can therefore be integrated in the traditional approach to innovation, such as *biomimicry* or *biomimetics*, in which the natural environment itself is seen as a "basis for creating a visionary, commercial opportunity, which sought to transcend and transform current industry practice" (Kearins, Collins, & Tregidga, 2010), in a vision that relies on a deep insight into the knowledge flow that can derive from the study of nature. This concept goes even beyond corporate environmental management, deeply considering a business-nature relationship. As much as this vision may seem extreme, it offers a clear perspective on how to embrace a new vision in line with the ecological paradigm of recent times. However, biomimetics is not the only way to change the innovation process itself: following the principles of *open innovation* described earlier in this chapter, in which the whole value chain constitutes a network from which the firm is able to source innovative ideas, knowledge and competencies. Even entities such as governments, authorities, universities and research centers can become role models, regulators, knowledge disseminators, financial supporters and capability-builders in matters concerning social and environmental challenges (Hansen & Klewitz, 2012).

Until now, process and organizational innovation have been described, and only product innovation has been left out. Product innovation is often referred to as *eco-design* (Lefebvre, Lefebvre, & Talbot, 2001). Eco-design comprehends the activities ranging from pre-manufacturing all the way to the end of the product's life-cycle, thereby covering its ideation, engineering, prototyping, production and logistics (Noci & Verganti, 1999). It encompasses concepts such as energy-saving features, green or eco-

friendly materials, product recyclability and both durability, which is the ability of a given product to perform under normal use conditions (Cooper, Beyond Recycling - The longer life option, 1994), and longevity, which is dependent on consumer behavior, too, such as the discarding of functional products by consumers (Cooper, The significance of product longevity, 2010). As for the sustainability vision, in order for eco-design principles to be integrated into the firm's strategy, new competencies have to be built, thanks to the effort of the internal academy. One of the pillars of eco-design is the improvement of the product's entire life cycle, which starts from the selection of the materials to employ, reuse or replace, and finishes with decision-making about reduced, reusable or biodegradable packaging (Kearins, Collins, & Tregidga, 2010).

It is clear that the above-mentioned innovation types (process, organizational and product) overlap to some degree, as they all belong to the same process of organizational change. For instance, efforts aimed at achieving cleaner production might become product innovations, later on. Process and product innovations are linked, in that changes in manufacturing implemented initially, leading to an increase in eco-efficiency, may bring in return a new perspective on the product life cycle in its entirety. Process innovation and organizational innovation interact, too, as they may be complementary, and can therefore improve the overall company performance (Michelsen & Fet, 2010). For instance, organizational innovations such as the development of management systems can lead to process innovation (cleaner production), thanks to the measurement of material consumption, emissions and waste.



Based on Figure 4: "An integrated framework for sustainability-oriented innovation of SMEs", *Sustainability-oriented innovation of SMEs: a systematic review*

The possibility of a link between sustainability and corporate strategy within firms is clear. However, the commitment to the creation of a multidimensional kind of value (economic, environmental and social) must be backed by a strong vision and inclination to change. Especially in the case of incumbent firms, which have been on the market for many years and sometimes decades, transitioning to a new way of conducting daily activities on the basis of a new forward-looking perspective is far from granted, and can require organizational transformations difficult to implement or even to approach.
For these reasons, delving into the change management literature can definitely provide more clarity on the matter.

Chapter 2: Managing change

2.1 Lewin's Unfreeze – Move – Freeze model

Change management represents the key to successfully implement any kind of strategy or vision that requires an organizational transformation; a sustainability-oriented change makes no exception. This chapter analyses the change management models and tools studied and put into practice by renowned professors, researchers, managers and even sociologists.

Probably the first change management theory traces its origins back to 1947, when Kurt Lewin formulated the "Unfreeze – Move – Freeze" or "Unfreeze – Change – Freeze" theory (Grant, 2016).

Based on Figure 1: Change as three steps, "Unfreezing change as three steps: Rethinking Kurt Lewin's legacy for change management"

This simple and linear three-step model represents the foundation of most of the later change management theories, some of which still permeate today's relevant management literature.

The very first step of the change process is to *unfreeze* the current situation. The organization needs to prepare for change, acknowledging the fact that it might come in various forms: gradual and incremental or disruptive and revolutionary. Unfreezing is crucial in that it paves the way for the second step: the *move* phase, which is the actual effort to innovate, abandoning the old schemas. Since decision makers are at the top level of the organization, the spread of the change message usually occurs through a top-down approach, by means of formal and informal communication. However, the top-down approach is not enough. Active recognition, participation and adoption of change at all organizational levels is what makes it effective (Levasseur, 2001). The third and last step is *Freeze* or *Refreeze*, where the implemented change is crystallized, becoming the new organizational standard. Lewin (1947) describes change as "the difference between a preceding situation and a following situation which has emerged out of the

first as a result of some inner or outer influences"; he also gives a mathematical representation:

$$Ch = S_{after} - S_{before}$$

Where Ch = change, S_{after} = following (new) situation, S_{before} = preceding situation. Whenever change can be connected to a function of specific factors *a* and *b* responsible for that change, a law is found.

Lewin's apparently simple three-step model is derived from his approach to experimental analysis and procedures. Both field and laboratory experiments have the aim to gain an in-depth understanding of the nature of the initial situation (S_{before}), the circumstances and events that cause change (Ch) and the final scenario (S_{after}).

Even though Lewin's model is referred to in modern management literature as the milestone and turning point of change management, it needs to be said that as much as it may be true in that he paved the way for later thoughts, the actual *Unfreeze – Move – (Re)freeze* schema was developed after Lewin's death, which occurred the same year he wrote his most relevant work on the matter.

As Cummings et al. (2016) point out, what is known of the three-step change model today is mainly a post-Lewin reconstruction. Lewin himself conducted his analysis from a sociological perspective, investigating group behaviour, rather than explicitly referring to organizations. Nevertheless, the post-Lewin shift of the model to firm logic cannot be understood as incoherent, since from both a sociological and economic perspective organizations are composed of groups of individuals working and interacting with each other with the purpose of reaching a certain preestablished objective. Indeed, Lewin introduces the concept of "social field", as "a totality of coexisting social entities, such as groups, subgroups, members, barriers, channels of communication, etc." (Lewin, 1947), all of which can relate to organizational entities: no wonder later authors adopted Lewin's studies as an action model for managerial practices.

According to Lewin, groups constantly shift from a state of constancy to a state of change, that in turn brings new constancy; the state of constancy itself holds the potential for change. A group is seen as a dynamic entity, with several underlaying forces Lewin calls "social forces": restraining forces point to a direction opposed to the

one of driving forces. This assumption represents the basis for the core concept of "quasi-stationary equilibrium".
As Lewin (1947) explains, there are instances in which the dynamic forces are both "opposite in direction" and "equal in strength":

$$F_{(A)} + F_{(B)} = 0$$

where $F_{(A)}$ = driving forces, $F_{(B)}$ = restraining forces and $F_{(A)} = -F_{(B)}$

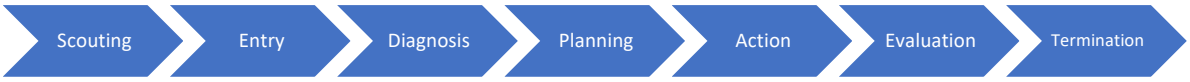
There are instances, on the other hand, in which the driving forces prevail on the restraining forces, or vice versa the restraining forces prevail on the driving forces, causing a shift towards one direction or the other. That's when the so-called *quasi-stationary equilibrium* or *quasi-stationary social state* is lost, and change occurs (Lewin, 1947).
Unfortunately, what is missing in Lewin's work is a coherent connection to empirical evidence. As he writes in one of his late works: "The following experiments on group decision have been conducted during the last four years. They are not in a state that permits definite conclusions" (Lewin, 1947c), meaning that despite his approach and desire to give empirical ground to his theoretical analysis, his thoughts remain somewhat disconnected from direct field observation.
The three-step *Unfreeze – Move – Freeze* model has in later years been criticized for being excessively simplistic, with no account for the complexity of the external environment in which actors operate (Clegg et al., 2005; Child, 2005). Others have noted that the model has over time become obsolete, since it was developed in a world dominated by predictability and certainty, whereas modern times are driven by uncertainty and chaos (Robbins and Judge, 2009). However, as Cummings at al. point out, Lewin's thoughts mustn't be judged to be over-simplistic, naïve, or even obsolete. The whole foundation of his work is based on the assumption that groups are dynamic entities, in constant motion and change, with brief and limited time spans of (unstable) equilibria: how can this not relate to modern times? Furthermore, Lewin did not coin the *Freeze or Refreeze* terminology himself, since his belief was that "groups are in a continual process of adaptation, rather than a steady or frozen state" (Cummings at al., 2016); the origin of the terminology describing the model's third step can be traced

back, with some degree of doubt and inaccuracy, to Leon Festinger, Lewin's former student, who used it in a conference paper in 1950 (Cummings et al., 2016). For the sake of simplicity, the term *(re)freeze* will be associated to Lewin's model's third step.
Even though Lewin's model was intended to be understood as the framework for a sociological analysis, it soon became the reference model to investigate change within the growing field of management studies.

2.2 Kolb and Frohman's consultation model

Kolb and Frohman (1970) propose a model of consultation, in which the goal is to focus on some relevant issues that have been ignored or not analysed in previous change management studies, as well as constructing a model of their own. In doing so, they mention authors that have created change models based on Lewin's three-step landmark in the years following his death.
Lippitt, Watson and Westley (1958) in "*The Dynamics of Planned Change*" define five phases of change, in which the implementer of change is defined as "change agent", and serves its client:
1. Discovery of a need for change; 2. Analysis of the relationship between change agent and client; 3. Examination of alternatives and establishment of final objective, leading to action towards change; 4. Generalization and stabilization of the achieved change; 5. Termination of the relationship between change agent and client (Brotman, 1958).
Beckhard (1969) in his book "*Organization Development: Strategies and Models*" defines five phases, as well: 1. Diagnosis; 2. Strategy planning; 3. Education; 4. Consulting and training; 5. Evaluation (Kolb, Frohman, 1970).
Lawrence and Lorsch (1969) in their book "*Developing Organizations: Diagnosis and Action*" identify four stages instead: 1. Diagnosis; 2. Planning Action; 3. Implementing Action; 4. Evaluation.
Schein (1969) was the one who replaced Lewin's second step "*Move"* with "*Change"*. He identifies seven steps: 1. Contact with the client; 2. Definition of the relationship; 3. Definition of work methodology and setting; 4. Data gathering and diagnosis; 5. Intervention; 6. Involvement reduction; 7. Termination (Kolb, Frohman, 1970).
The aforementioned models are based on the assumption that the presence of an external actor is needed, responsible for the co-implementation of change within the organization. The external actor is represented by the consultant. Kolb and Frohman's

seven-stage process of planned change (1970) serves as a guideline for consultants during their practice, and represents an incorporation of the previous models' most relevant points:



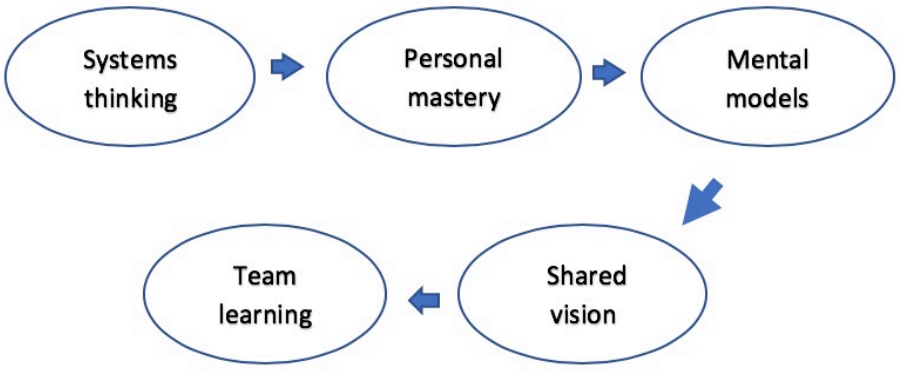
The "Scouting" phase refers to the situation in which the client and the consultant suffer from great information asymmetry: they haven't committed to working with one another, yet. It is the client's responsibility to identify the necessity and to hire the consultant, if his contribution is perceived as potentially beneficial.
The "Entry" phase represents the actual contract between the two parties, defining the terms of the relationship and the ways in which the activities of the change process will be carried out. There are ten areas of agreement between client and consultant that are fundamental: 1. Defining the goal of the collaboration; 2. Initial and general identification of the problem; 3. Impact of the problem on the system (organization); 4. The client's available resources and capabilities to face the problem; 5. The consultant's available resources and capabilities to face the problem; 6. *Modus operandi* to tackle the problem; 7. Nature of the cooperation; 8. Benefits created for the client; 9. Benefits created for the consultant; 10. Level of influence of one party on the other.
The "Diagnosis" phase involves an in-depth understanding on behalf of the consultant of the client's system, culture, perspective on the felt issue, to ensure a better service and a deeper involvement of the client in the diagnostic procedure.
The "Planning" phase involves the definition of the intervention program (plan of action); the definition of the objectives is crucial in this phase: the more precisely and accurately they are defined, the easier it is to think of the best strategy to reach them.
The "Action" phase is about the implementation of the aforementioned strategy. This step should be smooth and straight forward: its difficulty or failure usually lies in previous steps' inaccuracies.
The "Evaluation" phase consists of the comparison between predefined goals and reached goals. The size of the gap between the two determines whether it is necessary to go back to the previous stages, or to move on to the last step.

The "Termination" phase formally ends the relationship between the client and the consultant. However, there is a trade-off that needs to be taken into consideration: the relationship, as defined in the contract, is temporary; but the newly-created change is meant to be permanent, or at least long-lasting. To reach predefined short or medium-term goals is one thing; to improve the client's problem-solving skills and his/her judgement on the nature of the problems and their solution strategy in the long run is another. The relationship should therefore not cease as soon as the first results are reached; on the other hand, if the consultant works alongside the client for too long, an unhealthy co-dependency is fostered, hindering the client's future capacity to take autonomous action.

While these phases seem linear and sequential in time, in practice one may come after its actual successor, or two phases may occur at the same time: overlaps and loops are quite common (Kolb, Frohman, 1970).

2.3 Senge's Learning Organization

Years later, Peter Senge (1990) developed the concept of *(innovative) learning organization*, in his book *The Fifth Discipline*, and one of the most convincing theories of change along with it. In his perspective, organizations are seen as teams with the ability to constantly learn and reinvent themselves (Syeda Asiya Zenab Kazmi *and* Marja Naarananoja, 2014). Senge's model in based on five steps:



Based on Fig IV. Peter Senge's Five Step Model of learning Organizations, "*Collection of Change Management Models – An Opportunity to Make the Best Choice from the Various Organizational Transformational Techniques*"

"Systems thinking" is a call to see and evaluate the picture as a whole, rather than to focus on small pieces of the puzzle. As Peter Senge (1990) in "The Fifth Discipline"

explains, “it is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static “snapshots””. Senge claims in his book that the overwhelming complexity of the world made it crucial to adopt systems thinking; it is therefore no surprise that it actually embodies the “fifth discipline” in Senge’s book’s title. Well, almost thirty years from when “The Fifth Discipline” was written, many of the concepts and concerns Senge mentioned are still very much alive and partially or entirely unsolved; indeed, in some cases the scenario has worsened. Senge refers to “problems such as global warming, ozone depletion […]” as “systemic breakdowns”. Needless to say, these issues remain today probably the biggest challenge modern organizations worldwide have to deal with, under extreme pressures.

“Personal mastery” is referred to as “the learning organization’s spiritual foundation” (Senge, 1990). It is the continuous improvement of people’s own vision, objectivity towards the environment, patience and focus of energies. The organization’s capability to learn is directly proportionate to – and indeed given by - the sum of the individual members’ capabilities.

“Mental models” are fixed schemas, deeply rooted in people’s minds, strongly affecting the way they see and think about the surrounding reality; they can configure as generalizations determined by an over-simplistic judgement or lack of extensive analysis of a current instance. Mental models can be shared by a group of individuals, and therefore permeate entire teams, as well as organizations as a whole. The same way that members of the organization constitute the main engine for change, their limitations represent the primary obstacle to what Senge (1990) calls “institutional learning”: the capability to recognize and abandon the old mental models to see things more clearly, together with the planning activity that follows it. Open conversation and exposure among individuals within a group is the best way to adopt the “learningful” (Senge, 1990) behaviour allowing to overcome the mental model.

“Building shared vision” means creating a shared perspective about the company’s direction, and about the ways to reach future goals. If the individuals understand and adopt the culture, values and sense of identity of an organization, they also understand the actions that need to be taken. Moreover, the deeper involvement has big motivational impacts: working as part of a dynamic entity sharing a clear vision is very different to working for a leader whose principles and work ethic are out of reach.

“Team learning” is the last step. Firm-level learning is the ultimate prerogative of

learning organizations; it doesn't represent the final objective, but the main tool to not only survive but thrive in the increasingly competitive and complex environment, instead. As mentioned before, an organization is a dynamic entity composed of groups of individuals working and cooperating amongst one another. This leads to the conclusion that firm-level learning only happens if individual teams have the ability to learn. Group learning is not straight forward, by any stretch of the imagination. When a team is learning, it produces good results. The group's ability to perform is directly proportional to the so called "collective intelligence" (Woolley, Chabris, Pentland, Hashmi, Malone, 2010). Senge's statement (1990) that the effectiveness of group learning is linked to the individuals' ability to communicate and engage in productive dialogue with one another is supported by the later findings of Woolley, Chabris, Pentland, Hashmi, Malone (2010), who discovered through empirical studies that, even though it may seem counterintuitive, there is very little correlation between a group's collective intelligence (the authors call "*c*") and the average individual intelligence, as well as between *c* and the maximum individual intelligence; on the other hand, there is strong correlation between *c* and average social sensitivity, as well as between *c* and the percentage of group members actively communicating: the more equal the turn-taking of members within the dialogue, the better the collective performance.

Senge's five-step model represents an important leap forward, since people within the organization play an active role. Instead of being mere reactors to change, they engage in full and conscious participation, contributing to model reality (Senge, 1990).

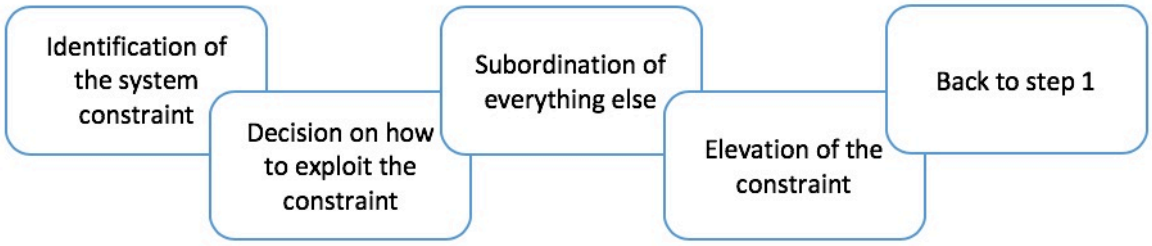
2.4 Goldratt's Theory of Constraints

Not all change models derive from Lewin's first conceptualization. The "TOC" (Theory of Constraints) change model derives from a management-oriented novel by Goldratt (1984), "*The Goal*", which narrates Alex Rogo's path to rescuing the production plant he is responsible for. In order to solve the problem of low efficiency and therefore low profitability of the division's production plant, Alex comes to realize that the first step to come to a solution is to break down the problem into three main analytic components: "throughput", which is the flow of money into the plant; "inventory", which is the money inside the plant; "operating expanse", which is the flow of money out of the plant (Goldratt, 1984). These three variables are interdependent: changing one variable inevitably means changing the other two; in particular, increasing inventory or

increasing operating expense will decrease throughput (Nao, Bernardes, Coman, 2011). The TOC's final objective is to increase cash flow, ROI (Return On Investment) and profit. In other words, *the goal* is to maximize throughput, minimizing inventory and operating expense (Rattner, 2006).

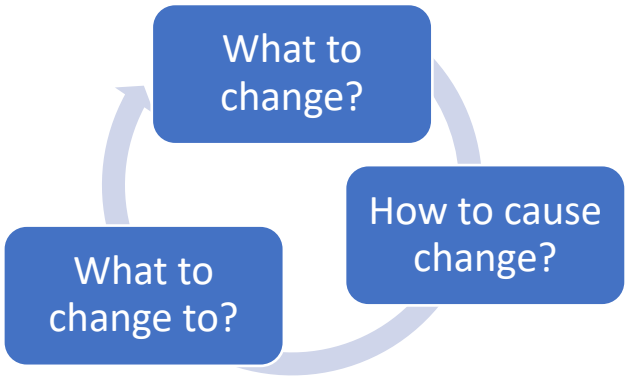
The TOC is based on the assumption that each process or project has at least one constraint, an issue that needs to be overcome. By eliminating one constraint, another will appear (Nao, Bernardes, Coman, 2011), but the process will proceed forward, eventually reaching the end.

Goldratt's TOC can be summarized within a general framework, based on the cyclic nature of the process of dealing with the constraints. Five steps are identified (Rattner, 2006):



The above steps are examined by Goldratt (1990) in his book "*What is this thing called Theory of Constraints and how should it be implemented?"*. A system constraint is "anything that limits a system from achieving higher performance versus its goal" (Goldratt, 1990). Given this definition, the first step becomes clear. Identifying the constraint within a given situation leads to the second step: exploiting the constraint means finding a way to manage the available resources in an efficient manner, allocating them where they are most needed. Subordinating any other aspect to the previous action involves focusing on how to limit the constraint itself. Constraints therefore can be gradually reduced (or "elevated") through a well-thought out plan and an efficient resource allocation, until a point will be reached at which the constraints will be entirely overcome. Then of course, another constraint will emerge, following the first one; and this is when the process has to go back to step one, identifying the newborn constraint. There is, however, an important aspect to consider: going back to step one can be somewhat disruptive, and a new scenario with a new constraint often requires a new policy framework. Ignoring the need to adapt to change by reshaping the internal production policies can be fatal, and it is what Goldratt (1990) calls "inertia".

While the TOC in *The Goal* has a strong operational nature, focused on production and process management, in Goldratt's 1990 book the TOC became a tool with a wider reach. After depicting the five steps, it becomes clear that the author's intention is to create a broader framework, by delving into the process of change through three main questions: "What to change?", "To what to change to?", "How to cause the change?". Goldratt recognizes the psychological nature of these questions: change represents a threat to security, which in turn provokes a state of "emotional resistance"; emotional resistance can be overcome by a greater emotion, only (Goldratt, 1990). The author therefore recognizes the crucial role of people, the core of an organization. However, the role of the leader – seen as the innovator and finder of the solution to implement change – is emphasized as well. The key to successfully implementing change is to fight the widespread emotional resistance with the greater and more powerful emotion of the innovator; in order to do so, people must in some way feel responsible for change and share ownership of the idea. While communicating change and making other people owners of the change idea at the same time may seem paradoxical, Goldratt (1990) explains that there is a way to do so after all. The innovator must guide the process by raising questions, in order to underline the criticalities and flaws of the current situation; people must be made aware of the fact that change is indeed needed. Goldratt himself adopts the same schema in *The Goal*: because of the continuous questioning by the author, the reader might even get annoyed at first; it's much easier to read answers, rather than questions. However, by doing so the reader is out in a situation where he himself must be the one creating the answers. By the same token, a good questioning line can guide people, making them come to the right solution by themselves even in a real organizational setting: "Everybody has the ability to invent, if skilfully induced" (Goldratt, 1990). In his change model, therefore, Goldratt recognizes the essential role of both the leader (the innovator) and the other workers; he understands that the mere top-down approach isn't enough to create pervasive and effective change, unless all people share the urge and the innovation-oriented mindset themselves. There seems to be no downside, other than the fact that the process takes time: minds cannot be changed overnight, and neither can culture, habits, routines and systematic action. But the result is informed and driven people, acting positively, in the right direction and quite autonomously, making the "carrot and stick" method not only unnecessary but even obsolete.



Based on Fig.V Frank Patricks TOC Change Management Model, "*Collection of Change Management Models – An Opportunity to Make the Best Choice from the Various Organizational Transformational Techniques*"

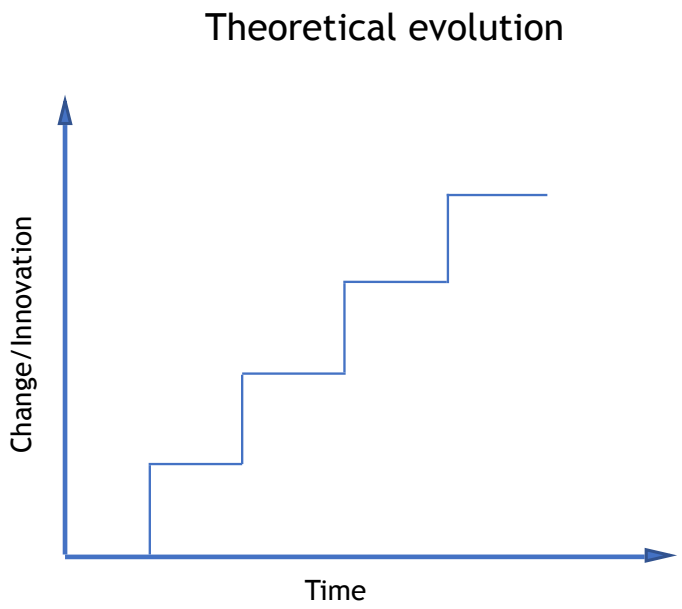
As in the previous TOC model, the above representation of the thought process leading to change is cyclical. The constant elevation of a current constraint paved the way for the next constraint to emerge, and the process started again. Analogously, the change process does not just end after the first implementation; a new change will be required eventually, and the process will start again.

While Goldratt's TOC model may at first glance seem an instrument to increase profit only, by bringing innovative solutions to production processes, its application seems to be broader, applicable to many other organizational instances. As the cyclical nature of the theory shows, the constraints don't ever end, and neither does change: effective change takes time. On top of that, as explained before, the bottom line of any organizational activity is represented by the human factor. To implement true systemic change, people must be the main carriers and the ultimate recipients.

2.5 The Eastern way: Kaizen

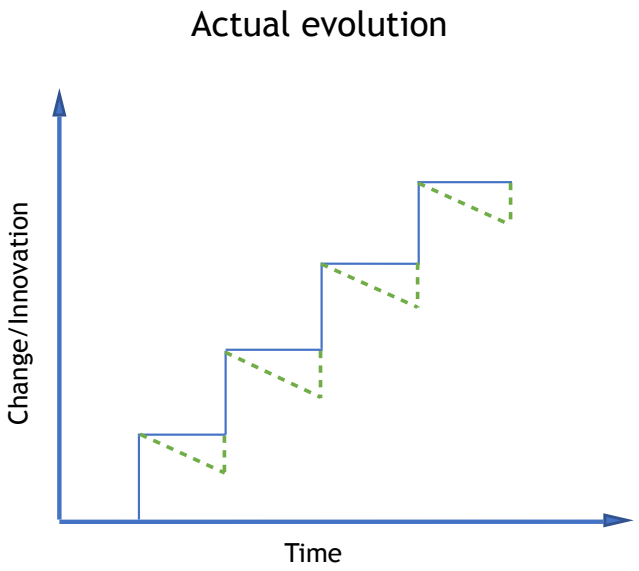
All the previous reasoning brings to the conclusion that change does not necessarily have to be about one-shot solutions, big investments and disruption. Rather, it can take the form of an incremental and never-ending improvement. Disruptive events do occur, of course, and disruptive measures have to be taken in response; but that alone does not predict long-term success. This is the kind of reasoning on which the Oriental school of thought is based. In particular, the Japanese word *Kaizen* best fits the description above: "Kai" means "change", whereas "Zen" stands for "good" (Besta, Lenort, 2009); "Good change" is the continuous and small-step improvement, valuing the long-term perspective, rather than the shorter-term and somewhat profit-oriented view.

The following graph represents the theoretical course of innovation over time, as perceived in the "western" approach.



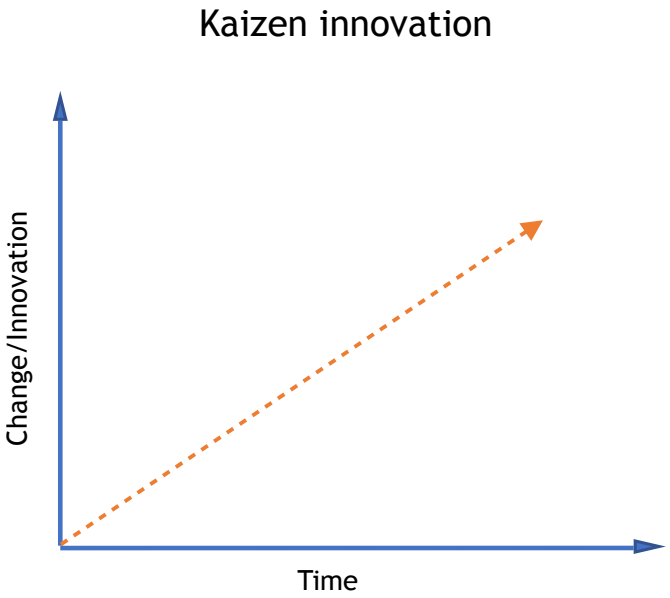
Based on Fig. 1: Theoretical course of innovation, "*Kaizen-Right management*"

The change process is represented as a series of separate steps, all occurring in distinct moments of time. After each change or step (vertical segments) there is a flat horizontal span of time indicating organizational inertia, until the next change has to occur. The graph only represents the theoretical evolution, in that it does not take into account the steady decrease of effectiveness of a given change or innovation over time: each time span is therefore not flat at all; rather, they diminish:



Based on Fig. 2: Real course of innovation, "*Kaizen-Right management*"

In contrast, the Kaizen course of improvement moves ahead slower but steadier. Improvement does not mean big investment and disruption, nor fragmented sporadic change; improvement is a way of doing business and a way of conducting operations.



Based on Fig. 3: The course of innovation in the conditions of continuous improvement Kaizen, "*Kaizen-Right management*"

Moreover, Kaizen is a philosophy affecting the human resources not only within the organization, at every level, but within their private lives as well (Besta, Lenort, 2009).

2.5.1 Lean management

The kaizen principles provide the background to other Far East-developed management tools.

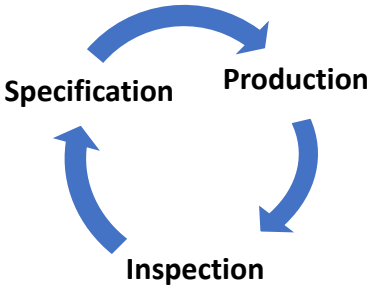
Lean management is the first example that comes to mind. It is built on a variety of layers, ranging from the American scientific division of labor (Taylorism) and the assembly line processes (Fordism) of the early 20th century, to the Japanese production systems. Actually, Lean Management is considered to trace its origins back to the Toyota Production Systems (TPS); as much as that may be true, throughout the years the "American way" had influenced the TPS creators, who took inspiration from it and adapted it to the Japanese attitude (Parkes, 2015). Lean management is best regarded as a set of principles around which a company builds its way of doing business. The main focus areas are quality improvement of manufactured goods, process optimization (effectiveness and efficiency), Just-In-Time production, elimination of waste along with other non-value-creating activities and redundancies (for instance, abolition of intermediate warehouses), flexible workforce.

Moreover, the thrive for perfection in the production process and the role of Quality as main product feature gave birth to the set of managerial practices known as Total Quality Management (TQM), widely acknowledged and used (Parkes, 2015). However, the aforementioned focus areas are not thorough. Lean practices are based on factors such as organizational values, norms and culture, deeply embedded in a given society's traits; in particular, in the Japanese society this cultural substratum is composed of particularism, which refers to point of view diversity and mutual respect; collectivism, which refers to a sense of belonging and membership; cooperation, which consists of teamwork and reciprocity (Parkes, 2015). Hence, lean management is a complex and multifaced managerial philosophy, and should not be used indiscriminately and confused with *lean production*, which entails an operational meaning primarily.

2.5.2 Deming's PDCA model

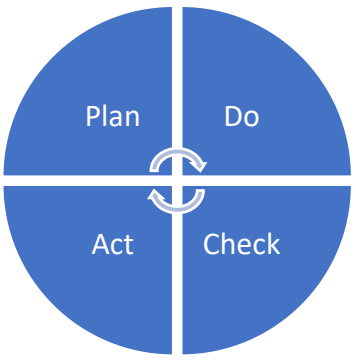
Lean management and total quality management are not the only managerial outcomes resulting from *kaizen*, nor are they the only ones deriving from both Western and

Eastern influences. The PDCA Cycle (Plan Do Check Act) was developed by W. E. Deming in the mid-nineties in Japan (Moen & Norman, 2006). Its origins can be traced back to W.A. Shewhart and his "Shewhart Cycle", based on three steps for improvement: Specification, Production, Inspection, deeply rooted in Galileo Galilei's scientific approach. As Shewhart writes, the three steps of specification, production and inspection correspond to the scientific method's Making a hypothesis, Carrying out an experiment, and Testing the hypothesis, respectively (Shewhart W. A., 1939).



Based on Figure 3, Shewhart Cycle, "*Evolution of PDCA Cycle*"

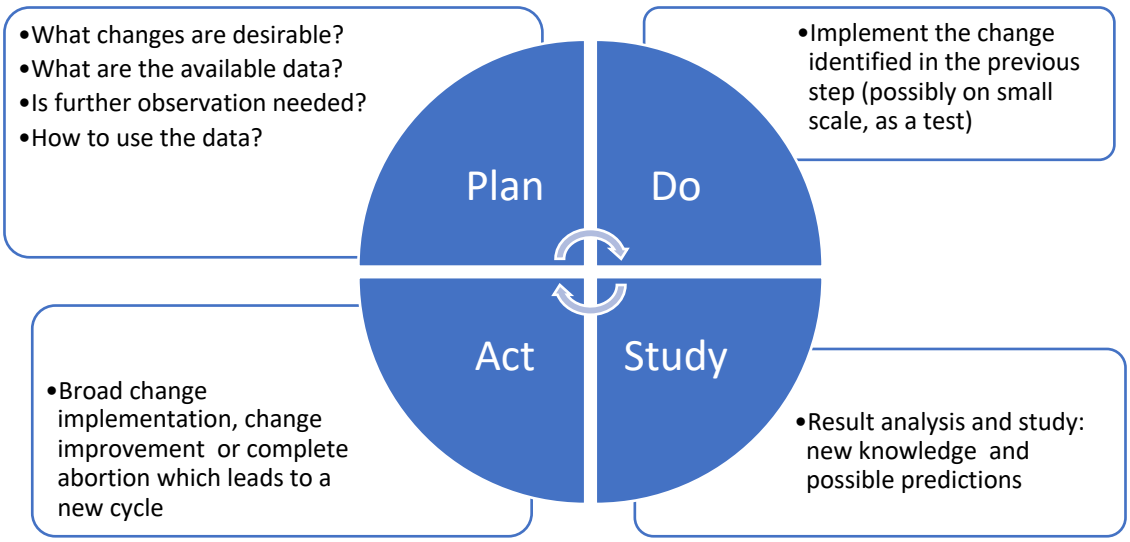
Deming modified the Shewhart Cycle, maintaining the cyclic structure. The Deming cycle, also called Deming's Wheel, was at first used in Japan as a tool to launch new products on the market and was therefore applied to operations only. The four phases of the cycle were the following: Product design→Test product in production line→Put product on the market→Market-research to gain understanding of users' opinion→Back to stage 1: Product re-design. However, Deming's cycle was soon translated into a broader framework, the Plan Do Check Act cycle, to detect and overcome problems and criticalities in a variety of processes:



Based on Figure 6: Japanese PDCA Cycle, 1951, "*Evolution of PDCA Cycle*"

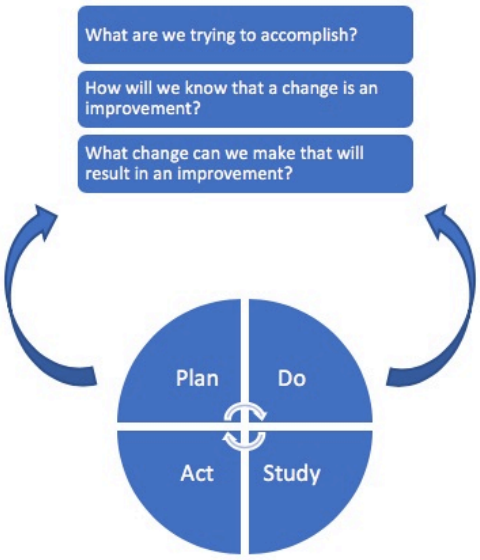
1. The “Plan” step refers to problem definition, as well as to identification of possible causes and solutions;
2. The “Do” step is about the implementation of the chosen solution;
3. The “Check” step involves result evaluation;
4. The “Act” step involves acting according to the outcome of the previous step: if the result evaluation in positive, the solution can be adopted and standardized; if the result evaluation is not satisfying, acting means going back to step 1 and restarting the cycle.

The cycle has not stayed the same since it was first formulated by Deming (Moen & Norman, 2006). The “Plan” step was further implemented by the Japanese Ishikawa, who tried to include targets and goal determination methods. The “Do” step was further implemented, too, with education and training to support the right path to solution (Ishikawa, 1985). Over the next years the Cycle became a management tool, by all means. Nevertheless, Deming himself modified the Cycle, in the Eighties. The reason for that was the imprecision of the “Check” step: the word “checking” was not accurate, since its meaning recalls passive observation and control, rather than active investigation of the criticalities involved in the process. The new revised cycle was called “Plan Do Study Act” (PDSA):



Based on Figure 7: *Shewhart Cycle: Deming, 1986* and Figure 8: *PDSA Cycle: Deming, 1993*, “*Evolution of PDCA Cycle*”

The new “Study” phase replaced the previous “Check” step in order to recognize the importance of the role of new knowledge, representing a crucial factor to enable the learning process and to best implement further change.
The new PDSA Cycle was then further revised; three questions where formulated by Langley et al., the answers to which can be found by using the cycle: “What are we trying to accomplish? How will we know that a change is an improvement? What change can we make that will result in an improvement?” (Langley, et al., 2009):

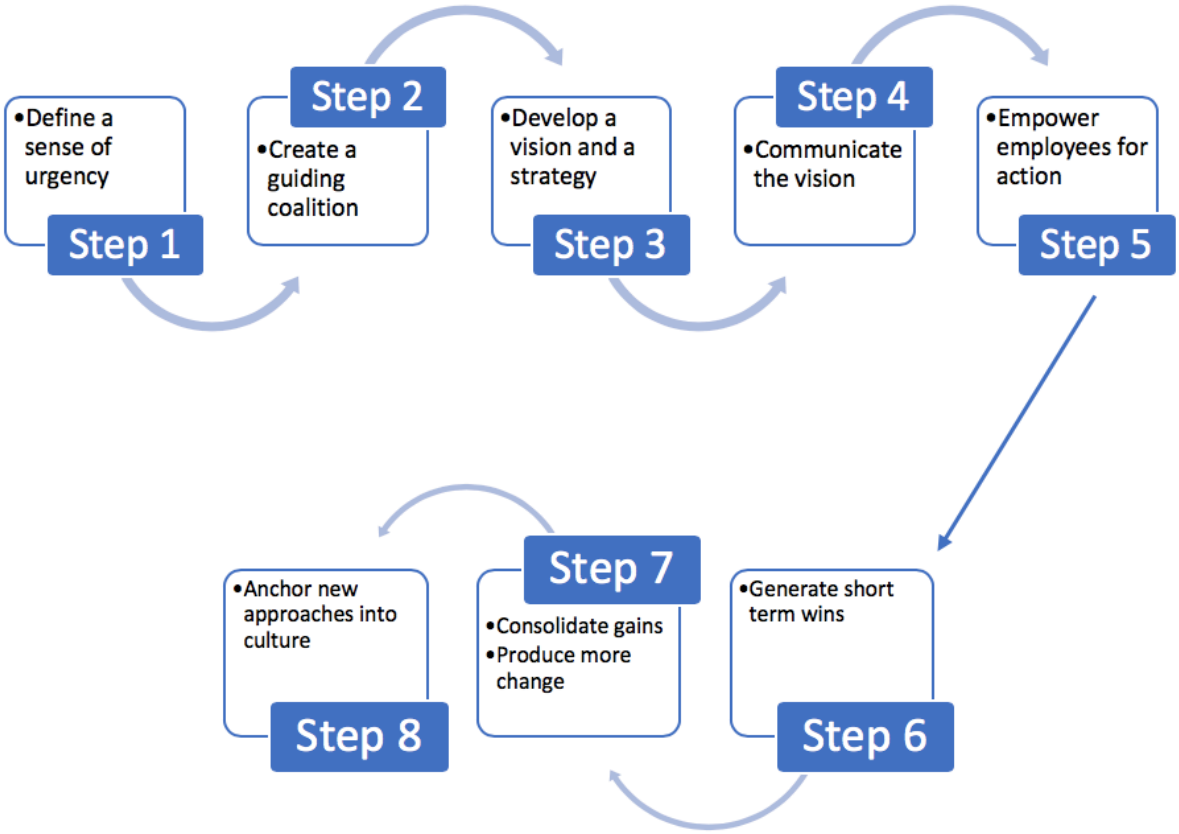


Based on Figure 1.1: The model for improvement, “*The improvement guide*”

The Kaizen principle of continuous improvement alongside the Western scientific methods represent the starting ground and the substratum to the multitude of the aforementioned models, which are used both as tool for single process improvement and for broader change action.

2.6 Kotter's model

By the end of the Nineties Professor John Kotter from Harvard University constructed a linear model to implement change at the organizational level. The model, described in Kotter's book "*Leading Change*" (1996) soon became the best known and most adopted framework for change in business practice, considered by many the most relevant work in change management literature (Dewar & Keller, 2009). Kotter's model describes eight steps to be followed to successfully implement change (Kotter, Leading change, 1996):



The above eight steps will be described more into detail; however, it is necessary to contextualize the process first, by mentioning the economic background and the macroeconomic forces that inspired Kotter's reasoning and brought him to draw the conclusion that change within organizations is necessary.

As Kotter (1996) admits, managers and leaders belonging to his generation lived in a world very different to how it turned out to be by the very end of the 20th century. In the Sixties, the environment in which companies operated was stable and to a good extent predictable, and change happened slowly and incrementally. By the end of the Nineties

(when Kotter's "Leading Change" was published), however, the scenario was far from the same: social, political and economic forces made it impossible for organizations to compete and even survive without incurring into major changes. Kotter identifies four major game-changing factors responsible for the new need for change:

Based on Exhibit 1: "Economic and Social Forces Driving the Need for Major Change in Organizations", Leading Change

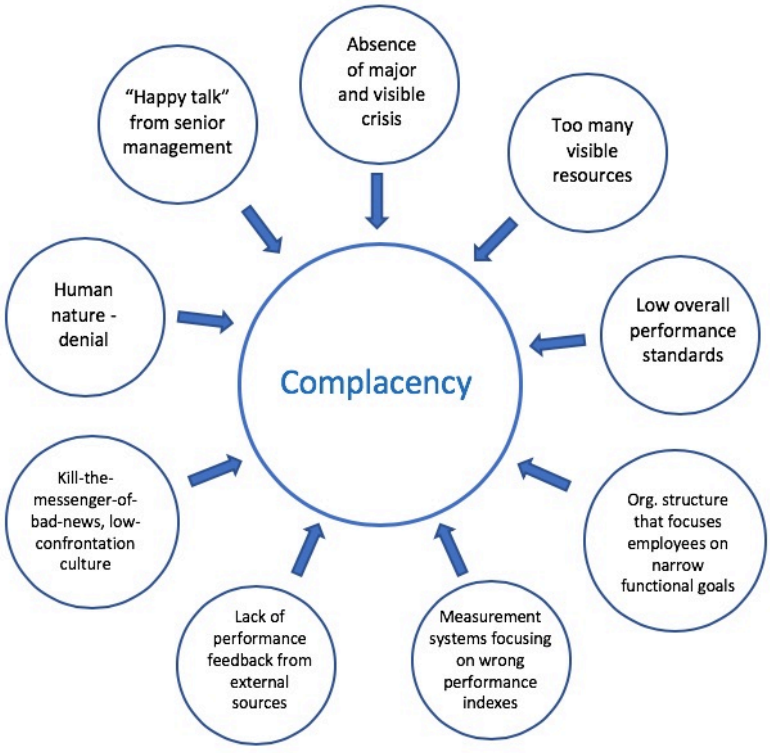
"Technological change" brought faster and easier long-distance communication (e.g. information networks) connecting people worldwide, as well as better transportation; "international economic integration" means fewer tariffs and barriers and increased global capital flows; "maturation of markets in developed countries" means slower domestic growth, more aggressive export and increased deregulation; finally, the "fall of Communist and Socialist regimes" determined an increase in the number of countries who adopted or are linked to the capitalist system, as well as an increase of worldwide privatization (Kotter, The New Rules: How to Succeed in Today's Post-corporate World, 1995). These four factors led to the globalization of markets, as well as to a drastic increase in global competition; the new scenario created new hazards threatening firms' survival on one hand, and new opportunities for improvement and growth on the other. In a new paradigm of less predictability, more uncertainty and complexity only one thing is certain: only the ones who change survive.

Kotter is the first to admit: "All diagrams tend to oversimplify reality. I therefore offer [the Eight-Stage Process of Creating Major Change] with some trepidation" (Kotter, Leading change, 1996). An eight-step schema cannot be a simple solution to all troubles, but it surely represents a very useful tool to assist leaders and managers in the process of successfully implementing a needed change. The full process not only takes time, but it is complicated and messy, the reason being that overall change can often be composed of various minor change processes: several projects may have to be advanced simultaneously in order to reach a broader (but not final) objective. Nevertheless,

according to Kotter it is important to keep the process linear and in sequence. Skipping ahead of steps may seem the obvious option, since managers are always under the pressure of having to perform well and quick, but the chances of succeeding in one step are highly dependent on the success of the previous step.
Even though over twenty years have passed since Kotter's "Leading Change" was first published, it remains extremely up-to-date. The evidence of the time suggested that over the next few decades "the rate of environmental movement will increase and the pressures on organizations to transform themselves will grow" (Kotter, Leading change, 1996). It is true: technological innovation still deeply affects businesses from a variety of perspectives; international economic integration has come to peak levels with the opening up of countries like China, India, Russia, with the strengthening of the European Union becoming one extended market, and with the emergence of developing countries (The retreat of the global company, 2017).
Kotter makes a crucial distinction between leadership and management. Management is seen as "a set of processes that can keep a complicated system of people and technology running smoothly. The most important aspects of management include planning, budgeting, organizing, staffing, controlling, and problem solving" (Kotter, Leading change, 1996), whereas Leadership on the other hand "is a set of processes that creates organizations in the first place or adapts them to significantly changing circumstances" (Kotter, Leading change, 1996). Kotter associates managers' activity to the present, and leaders' activity more to the future (vision, inspiration, dynamism); that's one of the reasons why implementing change is difficult: most people judge change to be a managerial issue, when the truth is that it is rather a leadership issue. Change implementation often failed because of the lack of leadership skills and competences in many companies. The reason for that is rooted in success: as a company experiences success and establishes a certain degree of market dominance, it becomes larger and more difficult to control; the focus shifts inward, creating the need for managerial figures. The number of managers exceeds by far the number of leaders, creating a shortage of leadership capabilities to respond to the necessities of the transforming external environment. An explicit guide therefore becomes crucial.

The first step in Kotter's model is establishing a sense of urgency. As was the case in Goldratt's reasoning, Kotter recognizes the fundamental role of people within the

organization, at any level. A sense of urgency is an awareness constantly affecting one's thinking process and actions, and it is based on both rationality and emotion: rationally understanding the reasons for change must be associated with emotional involvement, too. Furthermore, experience plays a role; to effectively internalize change, a shortcoming must be actually perceived and experienced, and after having perceived the need, it must be accepted, too; only once the need for change has been internalized and accepted the first move towards action is possible: actors then are conscious and responsible, and the old "carrot and stick" method becomes not only unnecessary but even obsolete. One of the biggest issues concerning the first step is complacency, along with the difficulty to drive people out of their comfort zone and make them realize that disregard of existing (but often not self-evident) issues can lead to disaster. There are, according to Kotter, nine factors causing complacency in an organization:



Based on Exhibit 1: Sources of Complacency, "*Leading Change*"

It often happens that a critical issue is not completely explicit. External indicators might not be alarming, there could be no loss of money, people, or resources. However, issues may be implicit, hard to notice at first glance, like for instance customer dissatisfaction over the long run. Or maybe a crisis simply has not manifested itself yet, but it is about

to come, like penalizing macroeconomic forces or worldwide contractions. Moreover, mediocre or bad performance may seem positive if compared to low or wrong standards: profits that have gone up by "x" at the end of a given year indicate a good performance only in absolute terms, but not if compared to the previous year's "2x" profit increase. Another source of complacency is the employees' focus on their own function's results only. This way, the bigger picture of the company's performance is taken into very little consideration, fostering a culture of "it's not my fault" syndrome, where the only person taking responsibility for general indicators is the Chief Executive Officer. Moreover, single employees' feedback on performance usually relies on an internal evaluation system, only; this denies the more complete and accurate evaluation system linked to the judgment of external stakeholders as well, like for instance suppliers' and clients' happiness. Another issue is the lack of honest and effective confrontation among employees; this is closely linked to the human tendency to value wanted information and deny unwanted information. Unwanted news often implies an increase of the workload, or even worse the necessity to change people's previous and usual modus operandi, which leads them to unconsciously (or consciously) ignoring the information altogether. This is due to the status quo preservation, an irrational barrier to any change; when faced with change, people tend to prefer inertia to action, even if the benefits of the new status are higher than its downsides (Bazerman & Moore, 2009). Last but not least, complacency is fomented by an excess of "happy talk". Celebrating past success or current achievements shifts the attention away from relevant challenges that can again get dangerously ignored.

For the above-mentioned reasons, the overall sense of urgency can be (and often is) very low.

The second step in Kotter's process is to create a guiding coalition. A strong leader is fundamental to guide and direct change. It is not a surprise that deep transformations often start with a new leader in charge, the reason being that that person is not too strongly tightened to the old ways of doing business and managing the company. A common problem with top executives within organizations is that they may be blinded by years of experience and past success, and they might not see different paths other than the ones they were used to seeing, which perfectly fits in Senge's description of "mental models": fixed schemas and perceptions of reality, difficult to move away from. However, a leader alone is far from sufficient; according to Kotter, change starts at the

top, and moves down along the hierarchy; top managers must be the first ones to set an example, so that others can follow suit. Kotter identifies four main characteristics a guiding coalition must possess: *position power*, meaning that a sufficient number of the organization's main actors have to agree with the change; *expertise*, meaning that the variety of needed skills and competences must be present within the coalition; *credibility*, meaning that enough people within the coalition must have a good reputation among employees; *leadership*, which is the capability to drive and direct change. Once the presence of these factors has been established, it is crucial to build trust among team members: trust is a human trait essential for successful and long-lasting team work. In large organizations, mistrust can exist between functions or divisions, as well as between different levels of the same division. This has to do with the self-focus of people, aforementioned primary source of complacency: if people's attention and effort are directed to their own activity and their own results exclusively, then everything else and everyone else are not only secondary, but they become an actual third party to be looked at with suspicion and mistrust. Building trust is far from easy, especially since it is hardly ever reached within a couple of days; it requires months and sometimes years of working together and knowing each other. However, trust can be enhanced, and the process of building it can be fastened, by increasing existing team activities or by creating new teams to deal with new projects. Human interaction outside team projects can be improved, too, by organizing meetings at the end of the workday, to discuss issues and improvements, and to take a snapshot of the current situation and current activities: this also has the direct positive externality of making people aware of the bigger picture and making them sensitized of each other's needs, to foster communication, cooperation and empathy. Team-building can also be enhanced through social activities outside the workplace, but not without some drawbacks, like the fact that it is difficult to enforce or control, or the fact that it would mean eroding people's personal life's time, or the fact that it can take years or even decades (Kotter, Leading change, 1996).

The next step is the development of a vision and a strategy, the vision being a vivid picture of the future, and the strategy being the rationale to reach the vision. According to Kotter, a vision must entail the following characteristics: it must be imaginable, in that people must be able to picture it; desirable, in that it meets the interest of the stakeholders at large; feasible, in that there must be a realistic chance of reaching the

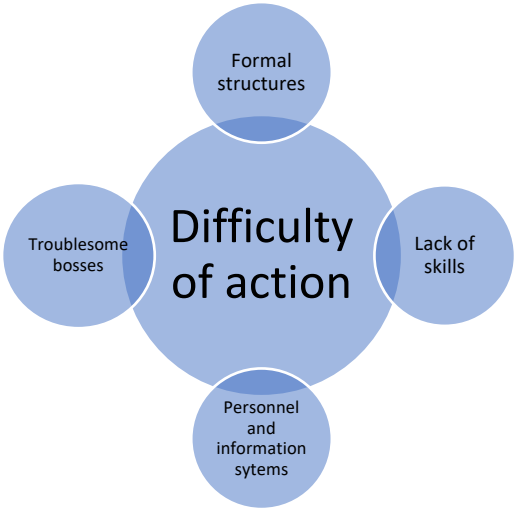
objective; focused, in that it is understandable enough to allow decision-making instruction; flexible, in that it allows for accommodation to new conditions; communicable, in that it must not be hard to explain. The process of creating a vision is complex and non-linear. The vision is first created by the leader and communicated to the guiding coalition first; at this point the idea will be discussed extensively and modified until a good clarity and a good consensus are reached. A critical issue is represented by how much detail should be expressed in the vision statement; the answer to this question is "*est modus in rebus"*, meaning that the statement should not entail too detailed objectives, nor should it be too philosophical or vague. An effective vision must be long-reaching, in order to pull people away from their comfort zone; it values long-term objectives more than short-term ones; it takes into consideration stakeholder value over stockholder value (Jensen, 2010); it often exploits global-scale trends; last but not least, it has some kind of moral power (Kotter, Leading change, 1996). The reason the "moral power" dimension is often present is linked to the fact that the idea of the vision first created and presented by the leader is not only the result of rational and logic thought, but there is also a strong emotional drive as for instance excitement, passion, or even philanthropy. Once the vision has been created and a general strategy has been discussed and developed, it's the managers' task to transform the strategy into action, by defining precise steps within a specific plan, and by converting the plan into financial objectives and forecasts.

A well though-of vision is only successful to the degree to which it is effectively communicated throughout the organization. One of the keys to do so is by embracing Blaise Pascal's message when he wrote "I would have written a shorter letter, but I didn't have the time" (Pascal, 1656): a short and clear message is by far more effective than complex and long winded rhetoric, and it is more difficult to produce, too. Furthermore, given that the vision needs to be communicated to all levels of the organization rather than few top levels executives, language becomes a key factor; managerial vocabulary and business-specific terminology are completely inefficient when it comes down to communicating with engineers, technicians or even line workers, who often represent most of the human resources. Hermann Simons states that "The simplicity and clarity of a goal supports its effective communication" (Simon, 1996). Moreover, leaders must be the first ones to take – and show – action. When people watch superiors' or leaders' engagement in a direct manner, the message is quite

easily conveyed, and they will follow suit; for this reason, it is advisable for leaders and top executives not to live in a bubble of their own, distant and disconnected from the lower levels, but rather to show, participate to the day-to-day life of the company and be directly involved in lower-level operations, "getting the hands dirty" every once in a while. Hermann Simons recognizes the importance of vision (more specifically, goal) communication, too: "If communicated effectively, the goal leads the conduct of all employees" (Simon, 1996).

After having described the first four stages of the change process, the correlation to Lewin's *Unfreeze* phase of his three-step model is clear: the current equilibrium has to be broken first in order to allow for a new equilibrium to be established. Steps one, two, three and four "help defrost a hardened status quo. […] When you neglect any of the warm-up, or defrosting activities, you rarely establish a solid enough base on which to proceed (Kotter, Leading change, 1996). "Defrosting" and "unfreezing" are very effective words, perfectly expressing the concept of transformation from past inertia to present and future dynamism.

After establishing a sense of urgency, creating a guiding coalition, developing a vision, and communicating it, the ground has been layed and the prerequisites are there; the next step is to empower employees, giving them the tools to take action. Unfortunately, if providing new tools is not easy, changing existing inadequate tools is even more difficult. These are the barriers that can obstruct employee empowerment (Kotter, Leading change, 1996)



Based on Exhibit 1: Barriers to Empowerment, "*Leading Change*"

Formal organizational structures can sometimes impede the acting out of a vision. For instance, if a company intends to become more customer oriented through an increased allocation of resources to services, it needs to disrupt the previous formal structure characterized by the fragmentation of resources and responsibilities for products and services, separately. The solution could be putting together teams responsible for both product and product-associated service resources; a certain team would be in charge of a certain product-service package.

The lack of skills issue is something that needs to be addressed straight away; old habits, routines and work environment hardly ever remain the same after a new vision has been spread. Culture, relationships, processes and tasks change, and for people to be empowered to act out the vision they need training. Now, depending on the nature of change different types of skill sets have to be taught. In the case of the development of a new product or the use of new technology, the skills that need enhancing are most likely engineering skills or competences, which may require a straight-forward one-shot training course; in the case of a major business model innovation or a deep cultural change, on the other hand, matters are not quite that easy. Those changes often require a continuous commitment on behalf of both teachers and employees that a one-time frontal lecture simply cannot provide, and a continuous and frequent training schedule is needed. Of course, by providing training and education, some drawbacks must be taken into account: first of all, training comes at a cost; not only the cost of hiring teachers (or paying third teaching parties), but also the cost of subtracting workforce from their own functions. Short term productivity losses are almost inevitable, unless training courses are held after regular work schedules or during weekends, which is a risky option to take in terms of employees' stress, general job satisfaction and performance decrease due to tiredness and work overload (that is without considering legal restrictions).

As far as personnel systems are concerned, they can deeply affect the transformation's success or failure. For instance, an old and inadequate HR management system has to be replaced with a system more in line with the new vision; in the case of the shift of focus towards customers and their needs, evaluation and compensation systems should include parameters based on external indicators, the most obvious being customer satisfaction. Even hiring decisions should be based on a new set of parameters, as for instance propensity to team work and cooperation, adaptive and learning capabilities,

communicating and negotiating abilities, along with the necessary hard skills.
Last but not least, a major obstacle to employee empowerment is represented by misguided bosses, who have trouble digesting change themselves, let alone making others acting it out. As mentioned at the beginning of Kotter's step "creating a guiding coalition", those individuals are very rarely bad people; their beliefs and ways are simply rooted in the past, and they lack the understanding, creativity and open-mindedness that big transformations require. Those individuals often adopt an authoritarian type of management based on control and command, and the end result is punishment for not executing orders rather than reward for implementing transformation. The problem of the procrastination and unwillingness to deal with such individuals is as big as their presence blocking change. For reasons such guilt, problem underestimation or even aversion to deal with such issues, it often happens that top executives tend to "manipulate [those individuals] into a corner where they can be contained or killed off" (Kotter, Leading change, 1996). Instead, the right proactive approach should be honest dialogue and joined problem-solving; if there is no way of reversing the situation, changing matters and "convert" the individual being disputed, the layoff is the most rational solution.

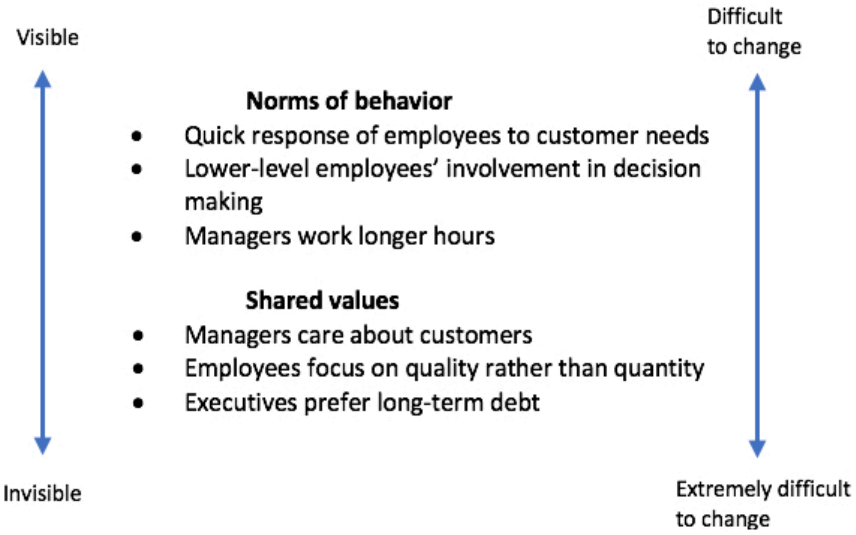
Generating short term wins is the next step in Kotter's model. As soon as change starts to be actively implemented at all levels, it needs to start being shown through actual results. Results can take various forms, not only financial in nature. Celebrating short-term wins is the only way to keep the level of belief high even after the initial enthusiasm. Watching the new vision unfold entirely can take several years, and being on the right track does hardly ever mean immediate and great gratification: the small yet positive results keep motivation and support high and the momentum going within the organization. Moreover, a very important direct consequence is the discouragement of critics, shutting down skepticism and mistrusting individuals lowering the chances of success of the entire process.
Kotter identifies three prerogatives of effective short-term wins; they must be visible, in that they reach the attention of as many people within the organization as possible; unambiguous, in that they do not allow for arguments over the result; related to change in a clear manner, in that it must be identified as a direct or indirect consequence of the change process (Kotter, Leading change, 1996). As far as the timing of the short-term

results is concerned, there is no exact definable moment in which they need to occur. However, Kotter proposes a span of time within which short term wins should occur and be celebrated. Within the first twenty-six months at least two results should be celebrated; in particular, Kotter describes the process as successful when the first win occurs at about fourteen months after first implementing change, whereas a second win has to occur at about twenty-six months for change not to move back. Of course, these numbers don't stay the same by changing the size of the company implementing change: the smaller the company, the shorter the span of time required to produce the first observable results.

This leads to the next step: consolidating gains and producing more change. "Whenever you let up before the job is done, critical momentum can be lost and regression may follow" (Kotter, Leading change, 1996). The transformed practices have to be kept active, as well as implemented even further. Up until the moment when change has finally permeated the organization's culture, there is always the risk of letting all the effort vanish by allowing change to move backwards, or by (even unconsciously) reducing attention, enthusiasm and active engagement. The previously reached short-term wins allow for an increased credibility among employees, which in turn allows to take on new and more ambitious challenges; the produced wins consolidate people's participation to change, which in turn leads to them being further empowered, motivated, satisfied. If the aforementioned events happen, and the sense of urgency is constantly kept high by the guiding coalition, the chances of succeeding go up drastically. At this point, the final step remains.

Anchoring the new approaches into culture implies that, at this particular point of the change process, the old and obsolete culture and practices have been removed from the organization; a necessary, yet insufficient result. The transformation will only be complete when change grows roots so deep that the old ways and habits are forgotten. An organization's culture refers, according to Kotter, to a set of shared values and norms of behavior within a group of people; it is a very powerful factor, able to influence people's behaviors and actions pervasively. The first reason culture is difficult to change is the fact that it is invisible (or at least close to it); after that, culture is the result of years and often decades of activity within an organization, and it is challenging for people to even realize how much their thoughts and actions are affected by it. Kotter

makes some examples of factors composing culture (Kotter & Heskett, Corporate Culture and Performance, 1992):



Based on Exhibit 1: "Components of Corporate Culture: Some Examples", Leading Change

Cultural change comes at the end of the process: "Culture changes only after you have successfully altered people's actions, after the new behavior produces some group benefit for a period of time, and after people see the connection between the new actions and the performance improvement" (Kotter, Leading change, 1996).

The commonalities between Kotter's model and the aforementioned literature on change management are quite relevant. Kotter, however, adopts a more practical approach, able to consider many if not all of the aspects described in previous works in the change management literature.
Even though it is true that there are substantial differences between SMEs and the rather structured companies change management models have been studied and used for, there are some factors making the application of such models particularly suited to be applied to smaller enterprises as well, one of them being the cultural element. For instance, the strong presence of the founding family and/or the owner of the firm determines a very specific set of values that are without any doubt transmitted through the organization over the years, in such a way that they permeate each function and activity. In this sense, change management acknowledges the crucial aspect of the organizational culture, recognizing the role of people as main drivers of any change.

Furthermore, the greater flexibility and responsiveness associated with SMEs in comparison with bigger firms makes them more adept at implementing change.
The real challenge in recent years is the one associated with social and environmental pressures from and within the global landscape. The small and medium-sized companies described in chapter one, displaying an international character and its emblematic type of management as one of their most distinguishing features, represent a key driver for global transformation. Weather these companies adopt a traditional approach based on export exclusively or the exploitation of key partnerships with external actors, they possess the knowledge and competencies to compete on dozens of foreign markets, which means adapting to the different customer needs and cultural, regulative and political environments. A sustainability-oriented behavior not only gives access to the cooperation with strategic partners and suppliers requiring specific prerequisites, but it allows firms to access specific markets that might currently be off-limits for competition.

Chapter 3: Change and sustainability: MEP

3.1 Research Methodology

Through the direct observation and analysis of MEP, an Italian medium-sized company operating in the industrial machinery industry, chapter three has the aim of demonstrating that the company's way of conducting its activity as well as the transformations the organization underwent over the last few years have generated a business model that is sustainable over the long run.

The concept of sustainability taken as reference is thoroughly explained in chapter one, covering economic, social and environmental value creation.

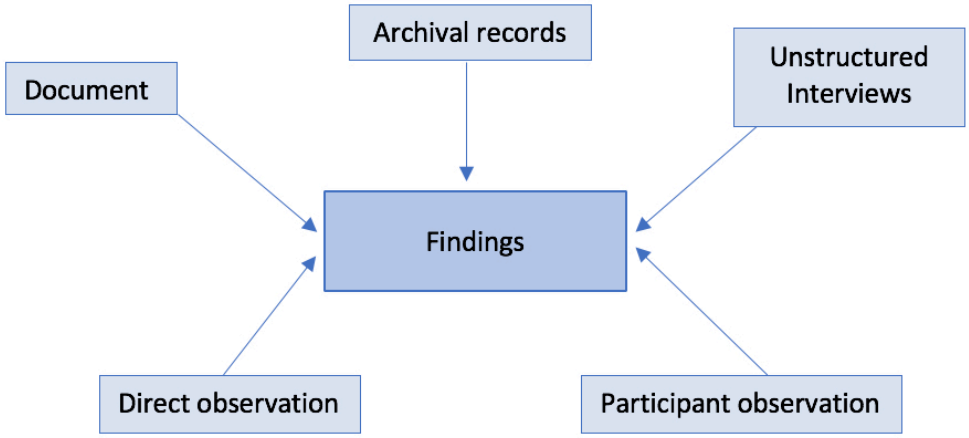
The empirical analysis of the single case study is supported by the literature review of chapters one and two, which examine the distinctive traits of the Italian Small and Medium Sized Enterprises and the evolution and description of several change management models as a framework to organizational transformation, respectively. More than one of the described models represent the key to understand the process of organizational change and a tool to possibly implement further transformations.

Chapter three has been written after a three-month internship in MEP S.p.A. (April 17th to July 19th, 2019), which created the opportunity to gather all the necessary data to support the answer to the above research question.

The case study method used as research tool is the one described in Robert K. Yin's "Case Study Research – Design and Methods" (2014). The data collection comprehends several sources of evidence (Yin, 2014):

- Documentation: calendars, e-mails, notes, MoM (minutes of meeting), written reports, administrative documents, internal records, formal studies, evaluations, articles appearing on mass media, newspapers and magazines. Such documentation has been carefully used, thanks to the awareness of the bias that could affect their objectivity; to overcome the obstacle, other sources testifying the findings have been used.
- Archival records, mainly computer files: organizational records, maps, charts. The conditions under which such records were produced has been ascertained in order to investigate their accuracy; in some cases, they have been updated accordingly.

- Interviews: this kind of source has been used during the internship. Specifically, they were guided conversations rather than structured stream of questions: unstructured interviews (Weiss, 1994). Those interviews have been recorded, guaranteeing a more accurate rendition than notes. After being transcribed, the said recordings have been deleted.
- Direct observation: during the internship period, the opportunity for direct observation of the studied phenomena was created; the objects of observation is represented by meetings, sidewalk activities, classrooms (courses and lectures taking place in the internal business school) and factory work.
- Participant observation: it represents a specific type of direct observation, in which the observer has an active role within the environment or the specific actions being studied. This particular source of evidence has been used extensively: the actual hiring that took place as soon as the internship came to an end gave the opportunity to gather data and information while being directly involved in the observed phenomena. These include active participation in meetings, an active role in the implementation of organizational change processes and initiatives, direct presence in the production facility. Furthermore, attending several courses taking place in the internal academy gave important insights on the organizational culture. Moreover, the attendance at various sustainability-based events allowed for the deeper understanding of the investigated sustainability-oriented change, “Disruptive strategy and sustainability” being one of them, organized by “Salone d’Impresa”, an interactive workshop that involved the direct participation of professionals and entrepreneurs to active debates.



Based on Figure 4.2: *Convergence and Non-convergence of Multiple Sources of Evidence*, "Case Study Research – Design and Methods"

During the three-month internship the main tasks allowed for the collection of data and even the creation of evidence later used as further supporting documentation. Such tasks initially involved the writing of documents introducing and describing the company, its history, its strengths and its brand. All this with the purpose of building a partnership with key external actors to further increase visibility, brand awareness and reputation. Moreover, the participation to inter-functional meetings and the involvement in new projects allowed not only to observe and get to know the inter-functional dynamics, but also to grasp the essence of the corporate strategic direction. Another element in favour of the constant and truthful direct observation was represented by the office's location: the MEP Business School, key entity in the organizational change process and continuous improvement, geographically very close to the majority of the interviewees:

Specifically, the conducted unstructured interviews were addressed to key actors within the firm. These are the selection criteria that were adopted to choose the interviewees:

- Position: the interviewees needed to be in a position allowing them to have a deep understanding of the company's flows and processes while maintaining a broader view of the overall strategic direction;
- Knowledge: the interviewees needed to have the necessary knowledge to be able to provide relevant answers to the questions asked or the matters being analysed;

- Experience: the interviewees needed to have at least a few years of experience within the firm, in order to be able to describe events and possibly changes in retrospect;

These are the actors identified to conduct the unstructured interviews:

- Dr. Vito Rotondi: CEO & Managing Director of MEP;
- Ms. Michela Del Fabro: CEO of ACM, MEP's R&D partner;
- Mr. Andrea Marino Cerrato: ICT & MGNT Systems - MEP Business School Director;
- Dr. Anna Pizzale: Quality Manager;
- Mr. Claudio Miconi: HSE Sustainability Manager.

The qualitative and unstructured nature of the conducted interviews has generated a quite unconstrained and free-flowing discourse. Even though a series of relatively explicit questions have been used to guide the said discourse, depending on the interviewee, the nature of the gathered evidence can hardly be considered a dialogue, which would imply a more pervasive participation on behalf of the interviewer.
The evidence has been used to further strengthen the expressed concepts.

3.2 MEP – distinctive features

M.E.P. S.p.A., which stands for Macchine Elettroniche Piegatrici (Società per Azioni) is an Italian medium-sized enterprise located in Reana del Rojale, Italy. Founded on February 8th1966, its activity, which started one year later, consists of the ideation, design, prototyping, engineering, production and marketing of rebar (reinforcing bar)-processing industrial machinery, plants and equipment. The Group operates in the following market segments: cut and bend-rebar processing equipment, cold rolling, straightening, cutting, precast engineering, welding & handling and downstream engineered production process in mesh welding plants. Its mission is to offer reliable, long-lasting, safe and innovative products, along with pre and after-sales assistance and services.

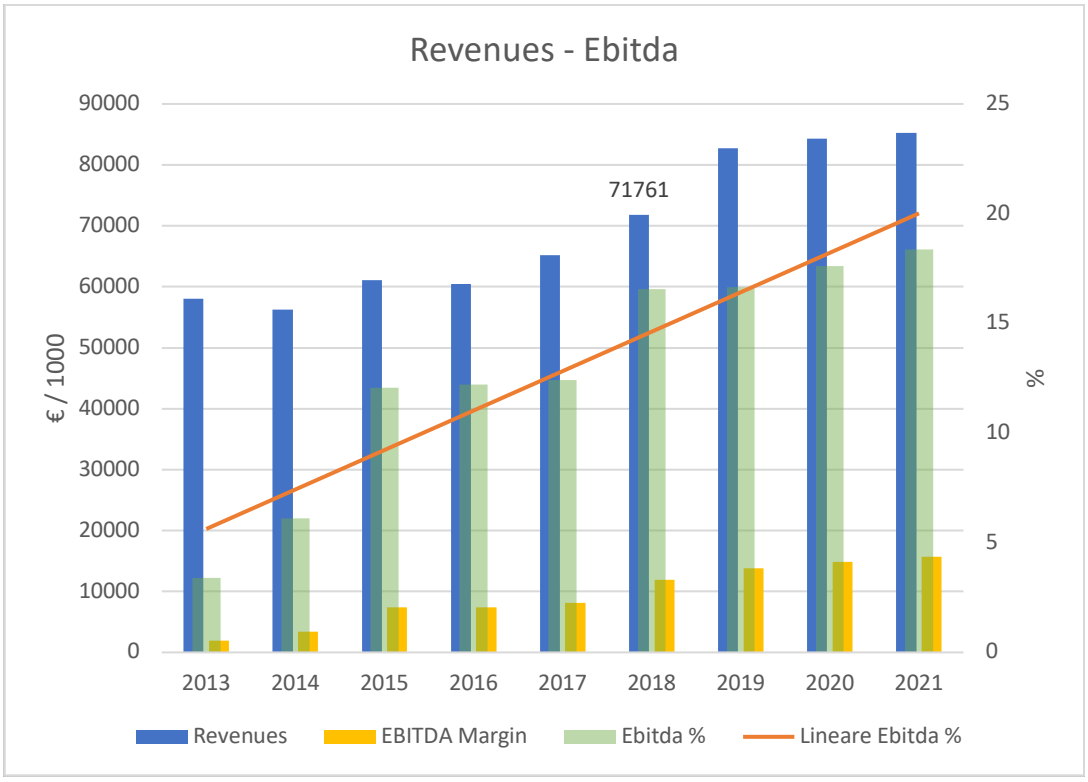
The Reana del Rojale Headquarters counts 197 employees (M.E.P. S.p.A.: 147; M.E.P. MW: 29; A.C.M.: 21); however, the number raises to about 250 employees when considering the group's globally-spread subsidiaries.

Under many aspects, M.E.P. (from here on MEP) represents the medium-sized company whose distinctive features have been described in chapter one. First of all, the

characteristics identified by Hermann Simon in his identification of the *Hidden Champions* fully apply to MEP, in that:

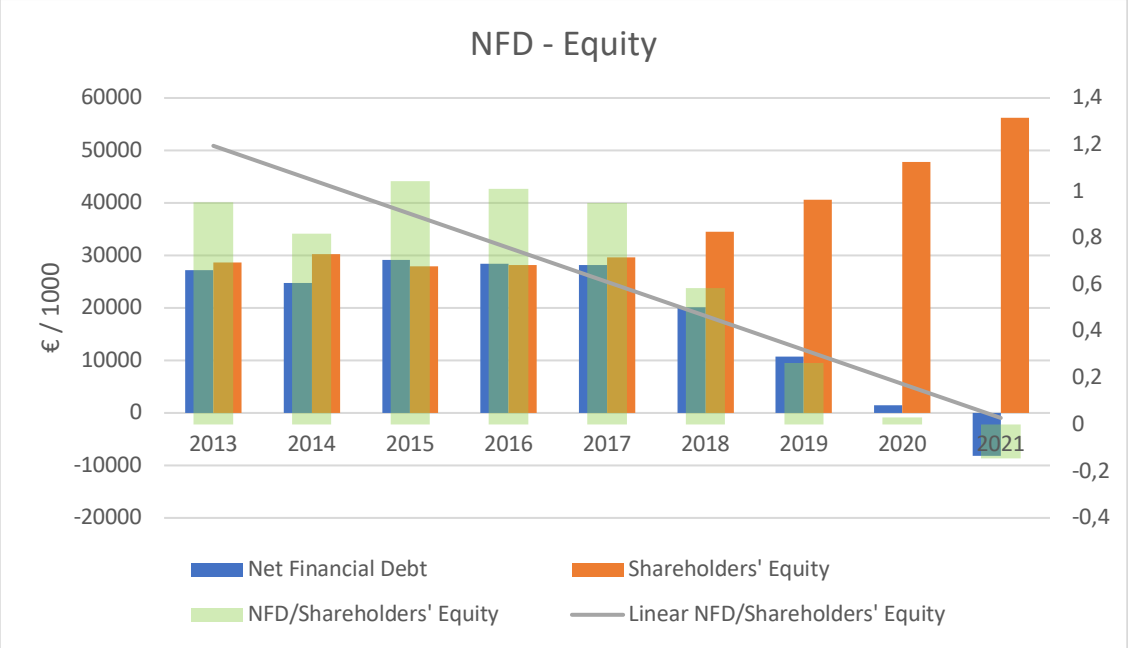
- it is leader in the world market, possessing a market share of 23%-24%, ranking among the top five competitors worldwide;
- its sales revenue is under 1 billion USD. In fact, sales revenues are within the range referred to by Luigi Serio, too, which is between 16 and 355 million €. MEP's turnover was 71,761 million € in 2018 (consolidated: 76,271 million €);
- it is somewhat hidden, in that the company does not have a high public visibility or a high profile. The reason for that can be found in the niche market MEP operates in, mostly unknown outside the boundaries of the B2B heavy industrial machinery industry.

MEP has in recent years witnessed a steady growth in sales volume, as shown in the graph below:



In 2013 MEP's revenue was 58,05 Mio €, whereas by 2018 sales revenues went up by 13,711 Mio €, reaching 71761 Mio €. As far as the EBITDA margin is concerned, it was 1,967 Mio € in 2013, whereas by 2018 it went up by 9,917 Mio €, reaching 11,884 Mio €.

Moreover, MEP's financial stability has increased in recent times as well, thanks to a steady decrease in the Net Financial Debt/Shareholder's Equity Ratio, as shown in the graph below:



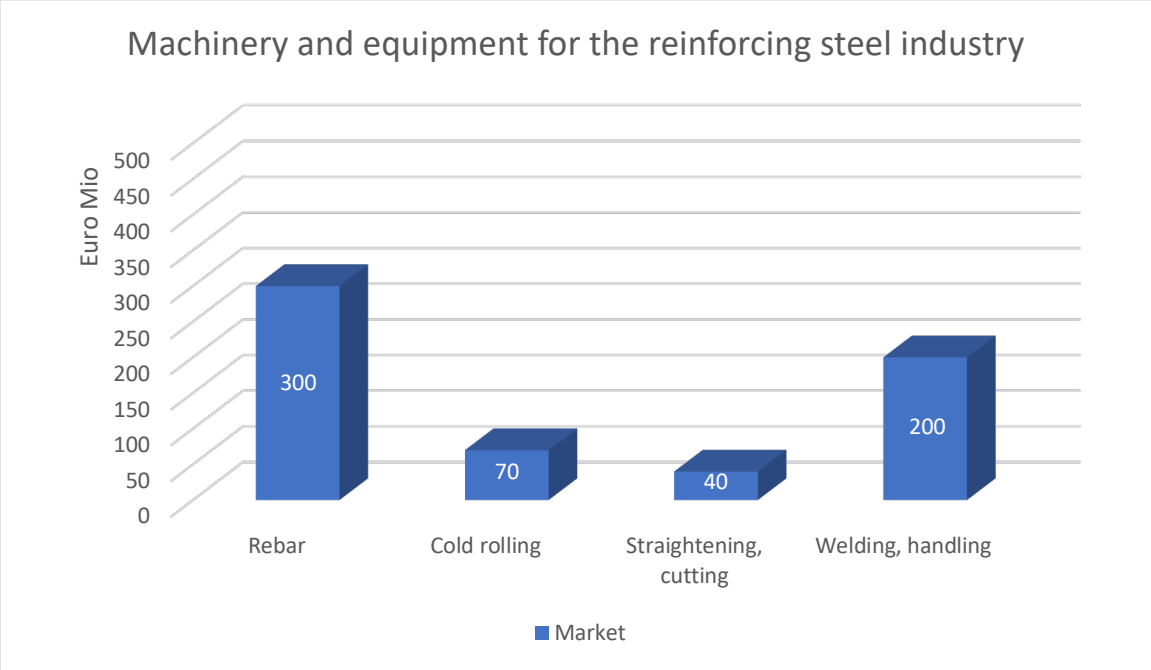
The Net Financial Debt was 27, 248 Mio € in 2013, whereas by 2018 it went down by 7,113 Mio €, reaching 20,135 Mio €. Shareholders' Equity, on the other hand, was 28,614 Mio € in 2013, and went up by 5,862 Mio €, reaching 34,476 Mio € in 2018. These positive trends have been made possible thanks to an improvement of the relationship with banks and other financial institutions as well as an increase of the availability of shareholders' equity.

The company is family-owned. Specifically, the founding family is not only in control of ownership, but the members play an active role within the organization, fulfilling managerial positions as well. The entrepreneurial traits inside the firm are therefore very strong and play a great role in the conservation of the innovation-driven nature of the firm. On one hand the family's presence keeps representing and guaranteeing a specific set of values, passion, vision, organizational culture and maintenance of key relationships with strategic partners or clients. On the other hand, there is a strong managerial presence as well, starting from the top. As mentioned in chapter one, the VUCA (Volatility, Uncertainty, Complexity and Ambiguity) of the external environment have become such, that the presence of educated and prepared professionals has become unavoidable. The interaction between family and management is strong, and the

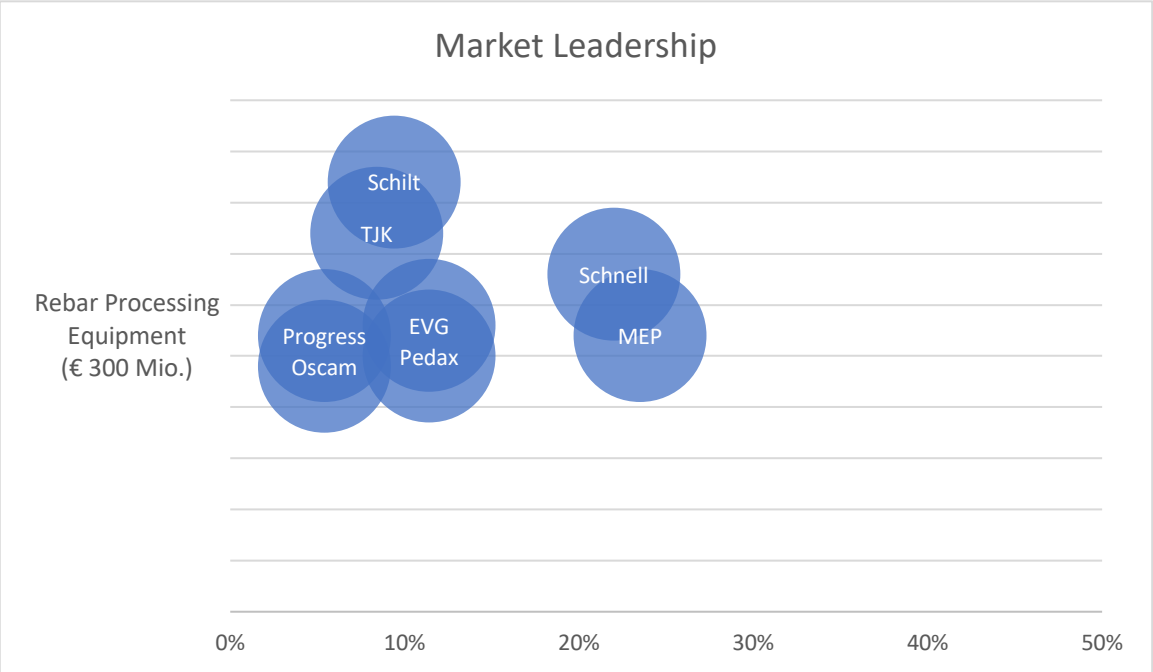
competencies of both complement each other, in order to reach an optimum level firm governance. “Dr. Vito Rotondi and I complement each other. He is a pure manager, I am not. I have managerial responsibilities, but I also have other tasks: I represent the company’s ownership. We have both been able to do our best whenever we joined forces” (Ms. Michela Del Fabro, member of the founding Family and CEO of ACM).

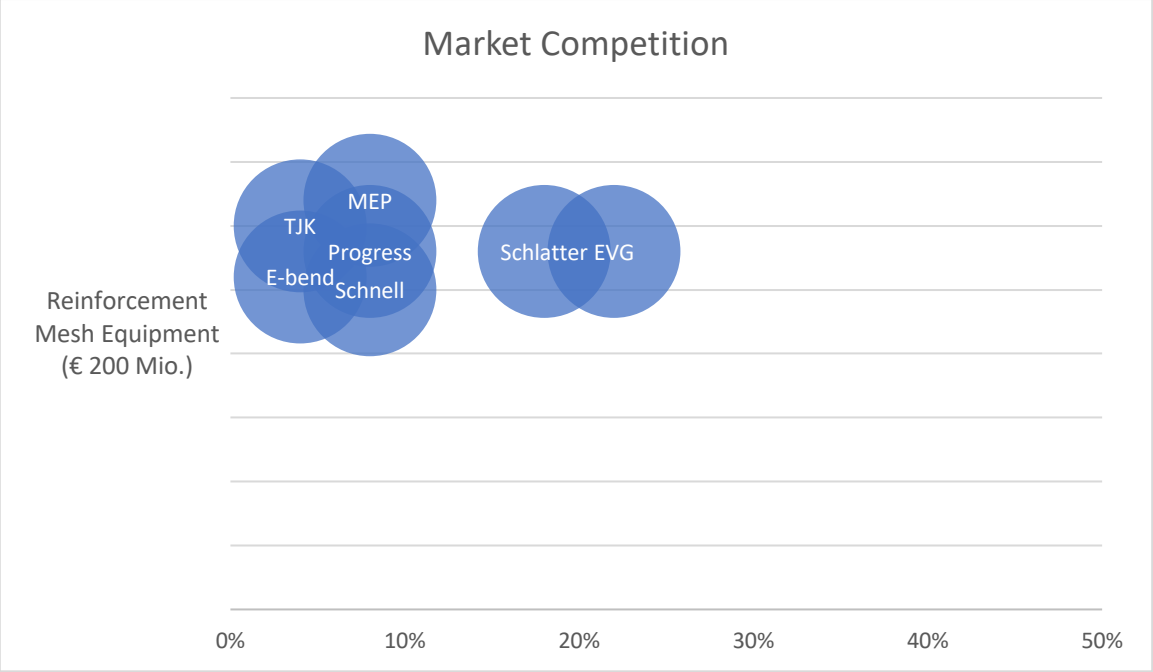
3.2.1 Market structure

As far as the market is concerned, it fits Hermann Simon’s description mentioned in chapter one: it is a niche market, in that it is populated by few competitors. Specifically, the market MEP operates in can be defined as a differentiated (or imperfect) oligopoly, in which the products manufactured by each competitor are close substitutes of each other, and yet they all present their own distinctive features, making them different to one another (Krugman, Obstfeld, & Melitz, 2012). The oligopoly is characterized by dynamism, induced by innovation: few competitors with high barriers to entry represented mostly by technology and product-specific know how. The size of the market in which the Group operates is the following:



As shown in the figure above, the size of the "machinery equipment for the reinforcing steel industry" market is 610 million euros, about half of which is represented by "Rebar". As mentioned at the beginning of chapter three, MEP ranks among the top players worldwide, as shown below:





MEP operates in all of the above markets, which gives a first insight on what the strategy adopted by the Group is. As mentioned in chapter one, there are two main dimensions with reference to the approach to the end customers. A focused strategy is represented by the presence of a range of variations of the same product, or the degree to which the consumers' needs are met. MEP has gone further than the mere production and delivery of a product to the end customer; rather, the company engages in the so-called Technology Solution Provision (TSP), a technological integrated supply based upon the customer's specific requirements and requests, that implies a deep involvement of the customer himself in the design of the right solution. MEP thereby embraces the concept of "*servitization"*: solutions are delivered, rather than machines. An unfocused strategy, instead, refers to the breadth of the product line and therefore the number of different manufactured products; this strategy aims at increasing the level of product diversification. Although MEP has adopted a focused strategy in recent years, meeting the consumers' needs in their entirety, it has indeed developed a variety of different products, too, thereby expanding both breadth and depth. This strategic choice allowed the company to reduce the level of dependence on one market alone, without entirely exposing itself to the competitive risk of operating on different market segments, at the same time.

MEP was the first company to enter the market, patenting the very first automatic stirrup bending machine the world had ever seen in 1967. Being the first entrant, the company initially benefited from first mover advantages, like for instance the establishment of the brand, along with early reputation and loyalty. Furthermore, MEP benefited from monopoly rents, at first: customers' expectations could be not only monitored but shaped, and the absence of early competition allowed for less strict pricing, guaranteeing higher returns. Needless to say, MEP certainly held technological leadership from the very first year of activity, thereby building its primary source of future competitive advantage over the years. By the time competitors started to enter the market, barriers to entry like core competencies, capabilities, knowledge and patents were established, making imitation difficult. As mentioned before, MEP has increased both the breadth and the depth of its products over time; the increasingly complex production process caused the shift towards a less vertically-integrated structure, driven by the necessity to outsource the production of the vast majority of the mechanical, oil-hydraulic and electronic components. The relationship with key

suppliers has over time developed into partnership, increasing the level of mutual cooperation and trust. Through this mechanism MEP exploited another first mover advantage: the pre-emption of scarce resources, represented by key suppliers. Furthermore, being the first on the market guarantees an increase in buyer switching costs: the longer the relationship and the more the mutual knowledge and trust between the final customer and the producer (MEP), the more the cost the customer faces if the decision was made to switch to another supplier, in terms of both the time needed to find another supplier and the difficulty to obtain the same or at least similar products and buying conditions, not to mention the loss of the advantage derived from the specific knowledge of the customer's needs and preferences on behalf of the previous supplier. Finally, the first mover gains advantage from the increasing returns to adoption: the more a MEP product is adopted within the market, the more customer feedback can be gathered in order to improve the product itself. The higher returns deriving from the initial monopolistic position have been invested in such product and process improvements.

Brand awareness and reputation are certainly crucial aspects, developed from the early stages of the company's activity and facilitated by the close-to-zero initial competition. The brand represents for MEP a primary income generating asset, entailing the features that describe the very core of the firm and its competitive advantage-generating traits: technology, tradition, experience, innovation, reliability, all identifying MEP as the best in class. The coexistence of the past and the future, represented both by experience and innovation, are perfectly embedded into the company motto "*the history of innovation*" and the business motto "*a tradition of innovation*": "Innovation is in our DNA; the future challenge is to create an innovation that is sustainable for human beings and the environment as well. It is a unique and exciting opportunity that just was not there in the past" (Ms. Michela Del Fabro, member of the founding Family and CEO of ACM).

Even though the brand is strong and the values associated to it are, too, MEP has in recent years understood the need to actively engage in effective communication, fully recognizing the importance of the Marketing function, even in the business to business industry. In order to improve the relevance of the Marketing function, an Inter-functional Marketing Committee was formed, with the task of discussing, approving and implementing new Marketing-oriented interventions and initiatives, in order to improve brand value and awareness, increase brand equity, maximize firm trustworthiness and

ultimately attract new customers and increase sales as well. The realization that by not adopting a more marketing-oriented approach many value-generating opportunities could be lost led to the birth of a sense of urgency to develop a Marketing strategy, based upon an inbound rather than outbound approach. The first step towards the actual implementation was to create the guiding coalition represented by the inter-functional Marketing committee, in order to empower and train existing and new employees to efficiently use internal and external communication instruments, once the desired vision had been spread. This process, along with others, can be described within the change framework proposed by Kotter in chapter two.

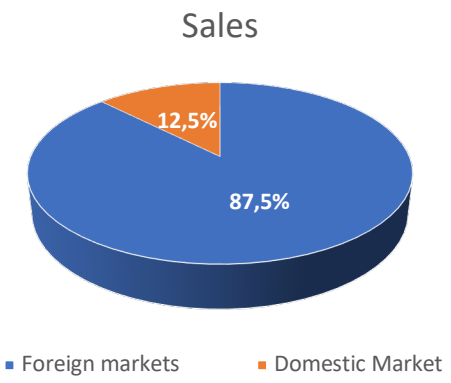
As far as human resources management is concerned, MEP perfectly displays the people-oriented type of approach, in which people are considered indeed the true drivers of value-creation. The ability to link people to the obtainment of the company's objectives therefore becomes crucial: "The winning element has in recent years been represented by the creation of a link between individual behaviour, organizational behaviour and the company's goals, allowing MEP to reach several formal objectives through which the company has found its organizational identity" (Dr. Vito Rotondi, CEO & Managing Director of MEP).

MEP's know-how being among the P.I.G.A. (Primary Income Generating Assets) means that the uncodified knowledge held by people is the key to the company's activity, success and leadership. The other Primary Income Generating Assets are the almost one hundred registered patents, the brand, technology, the aftermarket, the relationship with the clients, goodwill and the overall organizational culture. The human capital represents the core value of the firm; nonetheless, knowledge cannot be considered as static and therefore it cannot be immobilized. Knowledge is a continuously evolving asset. In fact, a firm's competitive advantage can hardly be defined by knowledge; rather, it is derived from its capacity to evolve, transform, reuse and create new knowledge, through both competence-enhancing and competence-destroying innovation.

3.2.2 International character

Last but not least, MEP displays a very solid international character, mainly represented by the nature of the company's sales volume, which well exceeds the already remarkable numbers identified by Luigi Serio and mentioned in chapter one. Specifically, 87,5% of MEP's turnover derives from foreign markets, which are reached through direct sales or

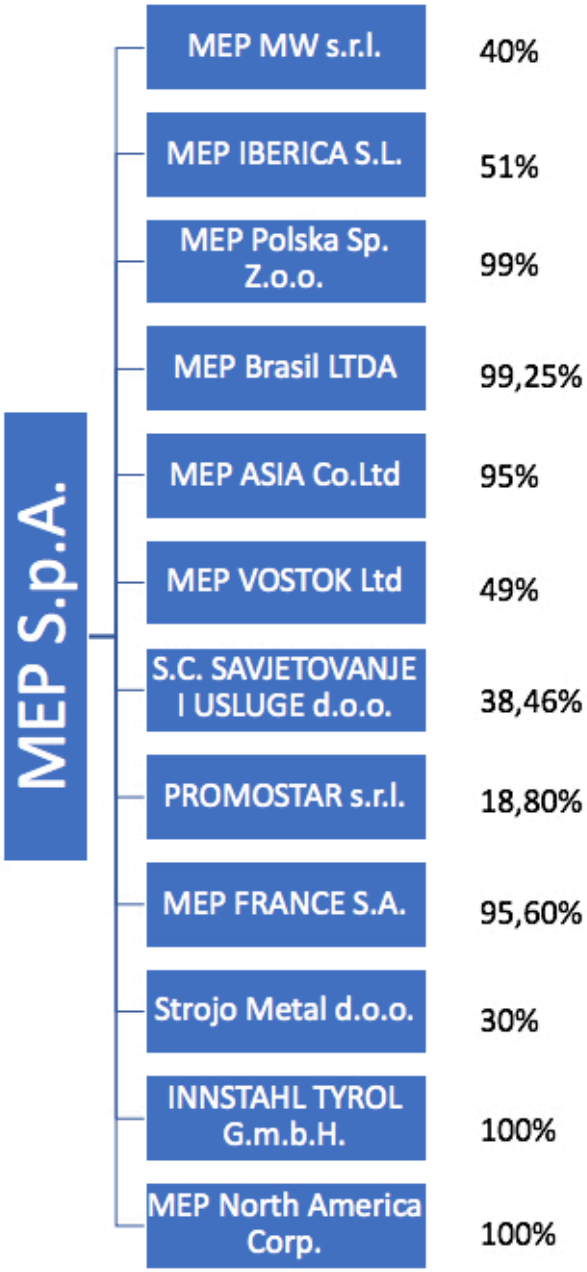
through the Group leader's subsidiaries, guaranteeing sales in over 128 European and non-European countries: "The company could never derive its entire turnover from a domestic market alone; a single market would be too small for us to stay in business and generate profit" (Dr. Vito Rotondi, CEO & Managing Director of MEP).



To date, about 11000 machines have been installed all around the world, and about 82% of the machines produced up until now are still functioning.
International markets are reached through both export and the wholly-owned subsidiaries, sales representatives and agents. Specifically, the composition of MEP Group is as follows:

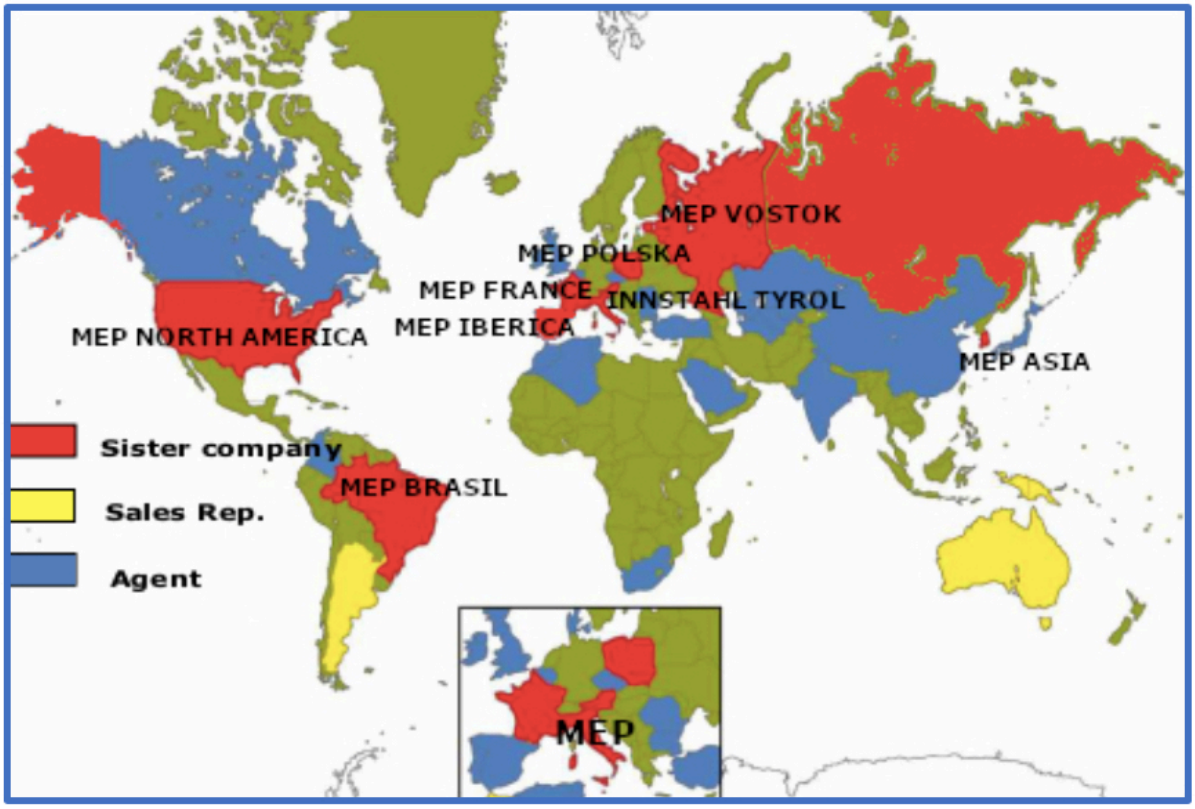
- MEP S.p.A. is the group's headquarters;
- MEP MW (Mesh & Weld) s.r.l. is specialized in the production of Mesh Welding equipment and plants;
- PROMOSTAR s.r.l. is specialized in the production of cold rolling lines;
- MEP North America Corp. ensures sales and services in the America Greater US area (USA, Canada, Mexico);
- MEP IBERICA S.L. ensures sales and services in the Iberian market;
- MEP ASIA Co.Ltd ensures sales and services in the East Asia-Greater China & Japan area;
- MEP BRAZIL LTDA ensures sales and services in the Brazilian market;
- MEP FRANCE S.A. ensures sales and services in the French market;
- INNSTAHL TYROL G.m.b.H. ensures sales and services in the DACH area;

- MEP POLSKA Sp. ensures sales and services in the Polish market;
- MEP VOSTOK Ltd ensures sales and services in the Commonwealth of Independent States (CIS);
- S.C. SAVJETOVANJE I USLUGE d.o.o. ensures sales and services;
- Strojo Metal d.o.o. ensures sales and services.



Moreover, ACM (Automatismi Costruzioni Meccaniche) is MEP's partner, specialized in Research & Development.

Some of the above-mentioned entities are actual fully-owned subsidiaries derived from a *greenfield* type of FDI (Foreign Direct Investment), while others are partners: an example of the first is represented by MEP North America (wholly-owned: 100%), while an example of the second is represented by PROMOSTAR (partially-owned: 18,80%).

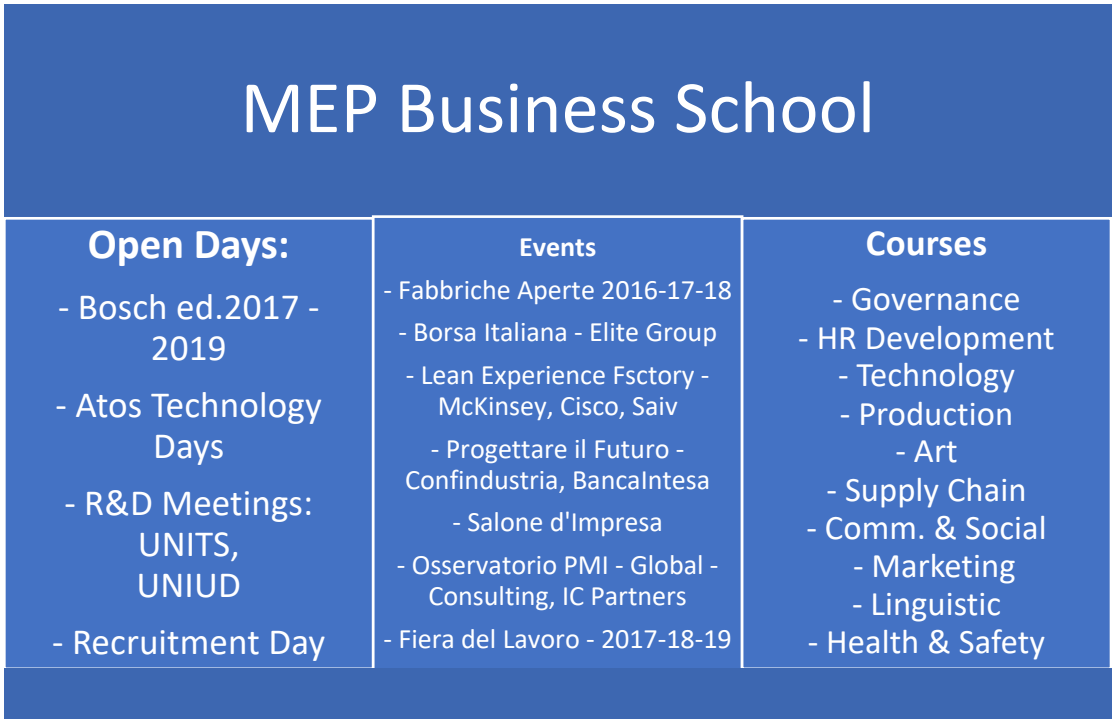


Even though MEP does not fit into the size standards to be defined as "big", in terms of both employees and turnover, the strong international character and the market share would convince otherwise: "The dimensional argument can be misleading. In my opinion, having an 80 million turnover within a 600 million market is better than being *big* and yet have a small share within an immense market. […] We conduct business in 128 countries, ranging from Brazil to Russia, all the way to Australia and Korea" (Dr. Vito Rotondi, CEO & Managing Director of MEP).

3.2.3 Empowering people: the MEP Business School

The MEP Business School was founded on February 8th, 2016, after 50 years from the foundation of the company. It has been the key to empower people within the organization ever since, but it has another important task, too: it is one of the main actors responsible for the implementation of change across all the organizational functions and levels, representing the link between top management, lower management and workers. According to Andrea Marino Cerrato, Director of MEP Business School, knowledge is one of the most valuable assets the organization possesses. The MEP Business School has the aim of further valuing the human capital and its creative power through the development of technological and organizational competencies. This has different types of utility: analysing different professional figures, implementing the level of communication between them and creating a link between people and the external environment, in order to improve the company's overall performance. However, when it comes to change, the development of technological, technical and organizational competencies is not enough; in order to implement change, people must understand the urgency and be aware of the necessity: "The awareness an individual can only acquire through education is the one element allowing for change to actually happen" (Mr. Andrea Marino Cerrato, ICT & MGNT Systems - MEP Business School Director).

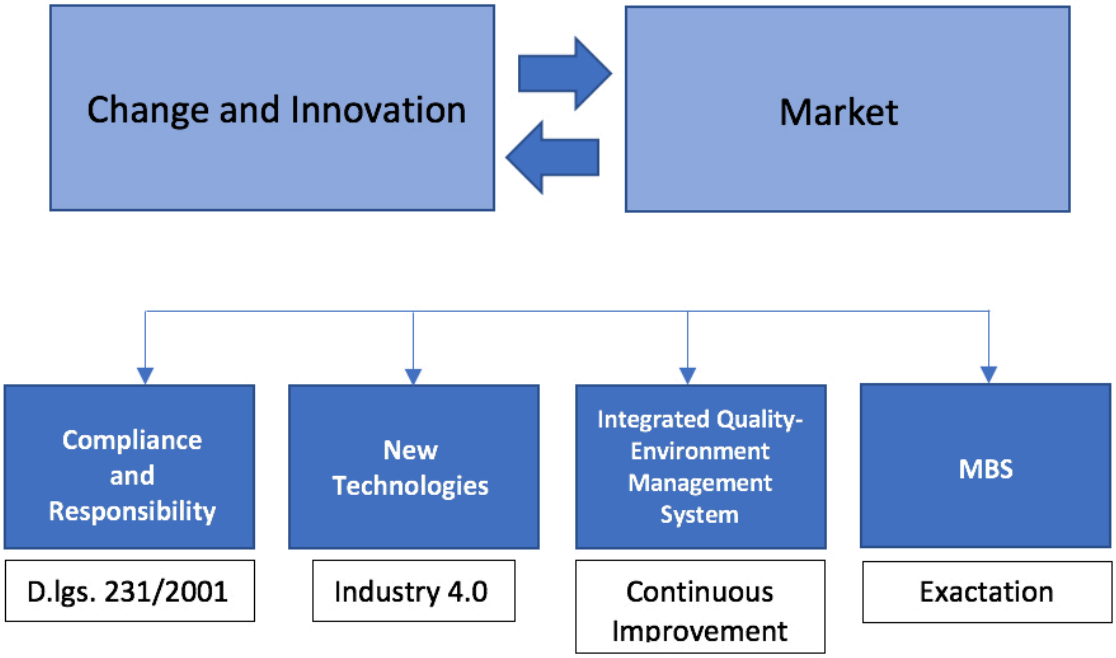
The internal academy has been very active over the past four years, organizing over one hundred courses, addressing over 560 individuals thanks to the efforts of 43 teachers and lecturers, constantly engaging in the implementation of continuous improvement (*kaizen*). It is the key to free people from the competency trap, teach them how to think out of the box in order to create the spark of innovation. Perfectly describing the open innovation model (chapter one), the academy organizes open-days, workshops, practical training and activities, collaborating with suppliers, universities (Università Bocconi, Politecnico di Milano, Università degli Studi di Udine, Università degli Studi di Trieste), Borsa Italiana as well as other partners such as Cisco and Bosch TEC.



The Open Days involved more than 25 lecturers/speakers and more than 150 participants; the Events involved than 25 lecturers/speakers and more than 500 participants; the Courses involved, as mentioned above, more than 560 participants and over 43 teachers/speakers. Lectures rarely consist of a mere theoretical approach; in the vast majority of cases, theory is put into practice: "Within training, theory alone is never sufficient; experience is needed as well, which can be acquired through practical understanding only" (Mr. Andrea Marino Cerrato, MEP Business School Director). Lecturers are:

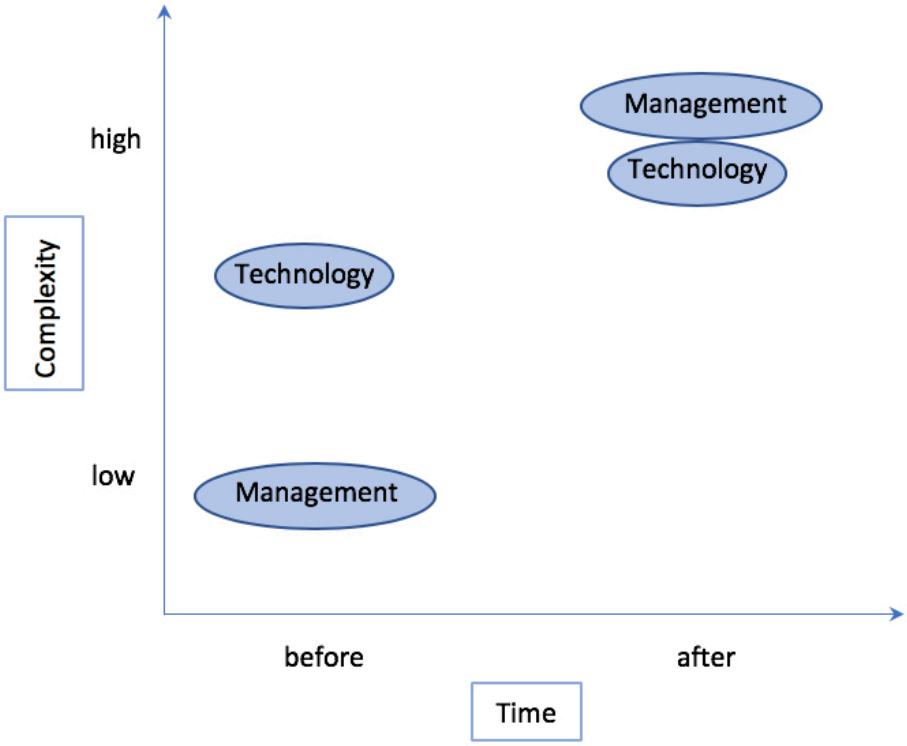
- third parties and external professionals: (I.R.E.S. Fvg, Confindustria Udine, C.C.I.A. Udine, Salone d'Impresa, McKinsey LEF and others);
- internal management (heads of the organizational functions);
- suppliers (e.g. Bosch Tec, Cisco Systems, Bureau Veritas, Festo Academy, Savino Del Bene Spa Global Logistics, Tecnest Spa, Eurosystems Spa, Puntosicurezza Srl, ElectroGraphics, ITR System, TecnoAntincendio, Sine, Sea Gruppo).

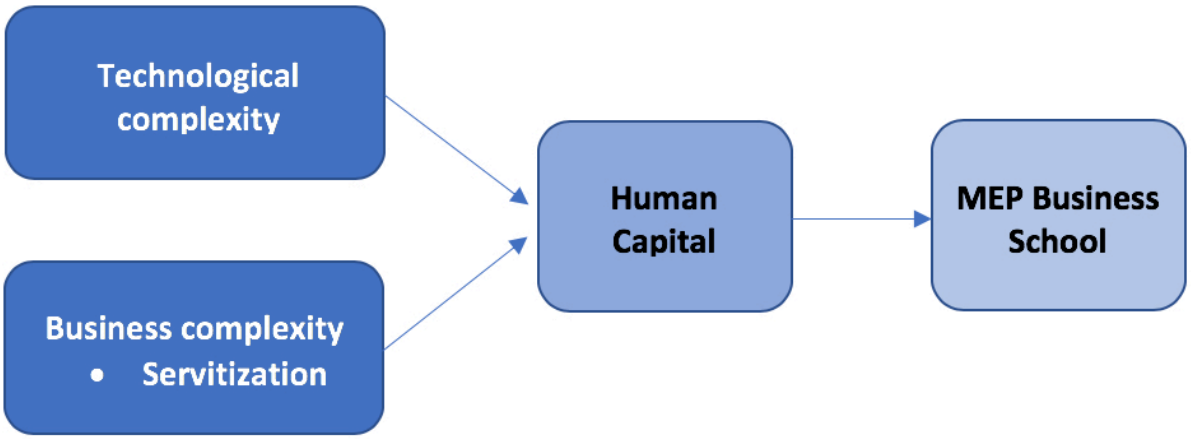
The reason for such deep interaction with external institutions, partners and suppliers is the creation of the substratum on which organizational change and innovation can be built:



As described in chapter two, it often happens that organizational change is born at the higher levels, and it is later spread downstream thanks to a guiding coalition, a team of change agents guided by a leader. From there, the next step is to involve employees and workers in such a way that they recognize, accept, promote and implement the transformations themselves. Education becomes the engine of change, learning processes and culture, promoting innovation and allowing for both the optimal exploitation of existing knowledge and the exploration process of untapped knowledge and opportunities. The knowledge, know-how and competence developed over the years have been in the past and are going to be in the years to come the company's primary strengths and distinctive traits. It is true that innovation is promoted internally thanks to the MBS (MEP Business School). However, the source of innovation can hardly be considered the organization itself, exclusively. The collaboration with external actors belonging to the value chain has given a great contribution to the empowerment of people and to the improvement of their competencies: "A supplier can become a valuable partner, working with us side by side. We have engaged in several collaborations with external actors in the past, with the final aim of developing incremental and innovative solutions for our products. We think this is the right path" (Dr. Anna Pizzale, Quality Manager of MEP). The open innovation model therefore calls for the necessity to abandon self-reliance, opening up to external contamination.

The company's technological and technical competences may have been enough to not only stay in business but create a leadership position even after the establishment of competition; today, however, the new exigencies and complexity imposed by the market, that is the change of consumers' needs and the consequent increased complexity of the output delivered, brought in turn to the necessity to rethink internal organization, too. The key example is represented by the aforementioned Technology Solution Provision: even though the technological effort gives birth to the product itself, it needs to be put side by side with a multitude of processes which in turn must be backed by the internal structure and organization, as for instance pre and after-sales assistance, services and spare parts delivery, constant information flows with clients, attention to peculiar necessities or unique requests. While complexity increases, yesterday and today's scenarios share one common and crucial element, represented by the human capital. That is why empowering people can be considered a source of competitive advantage, an element of differentiation, and that is why the importance of the MEP Business School cannot be overstated. While product complexity is managed by expert technicians, business complexity has to be managed by competent managers. The described scenario implies an important shift from a purely technology-driven to a combined technology and management-driven business. Managerial competences can therefore not be absent.





3.3 Sustainable change: implementation and strategic direction

It is clear that the above distinctive traits depict a medium-sized company that presents a technology-based, customer-oriented and innovation-oriented business model, allowing MEP to lead and excel on the market.
Over the past five years, the company started an internal innovation process, comprehending a variety of aspects as internal organization, a more marketing-oriented strategy which led in turn in an increase of the company's public visibility, renewed corporate finance, corporate governance, and last but not least, an increase of the attention towards environmental and social issues. Such important changes guaranteed a steady growth over the past years, in terms of brand reputation, brand awareness, sales revenue and profits, which in turn generated a new allocation of resources in terms of human capital and new attention to aspects within the daily activity, previously partially or completely unknown.
Such key transformations have been acknowledged and rewarded on several occasions:

- December 2014: MEP is assigned the first Antitrust Star of the Legality Rating released by AGCM (Autorità Garante della Concorrenza e del Mercato);
- April 2015: MEP S.p.A. participates in the ELITE PROJECT at LSEG, Borsa Italiana;

- February 2016: MEP obtains the UNI EN ISO 9001 Certification by Bureau Veritas, in accordance with the requirements of the Quality Management System standards;
- March 2017: MEP is awarded "Le Fonti Awards" for Technological Innovation in the industrial manufacturing sector;
- May 2017: ELITE CERTIFICATE, Borsa Italiana;
- October 2017: MEP is awarded the "Premio Ambrogio Lorenzetti 2017" for Corporate Governance and Sustainability;
- December 2017: MEP participates to the "ELITE BASKET BOND", in partnership with Banca Finint;
- March 2018: MEP is awarded "Le Fonti Awards" for Financial Excellence in Borsa Italiana;
- July 2018: MEP is assigned the A++ Behavioral Assessment and the A+ Financial Assessment by Credit Data Research, using RiskCalc from Moody's Analytics;
- October 2018: MEP is assigned the third Antitrust Star of the Legality Rating released by AGCM (Autorità Garante della Concorrenza e del Mercato);
- November 2018: MEP is the winner of "Le Fonti Awards" for Financial Communication;
- February 2019: MEP obtains the UNI EN ISO 14001 Certification by Bureau Veritas, in accordance with the requirements of the Environmental Management System standards;
- November 2019: MEP is awarded the prize "Le Fonti Awards" for Non-Financial Communication.

The above awards and certifications do not represent the final objective to reach; rather, they represent a starting point on which further improvement has to be built: they represent by all intents and purposes Kotter's short-term wins described in chapter two. The acknowledgement on behalf of top management of the fact that the key to long-term success is to be found in the ability to guarantee the sustainability of all the processes in light of both the economic environment and the broader global issues brought the attention to the creation of Sustainable Value, identified in chapter one with the triple bottom line. In this sense, change management tools such as *kaizen* (constant improvement) and *lean principles* played a key role.

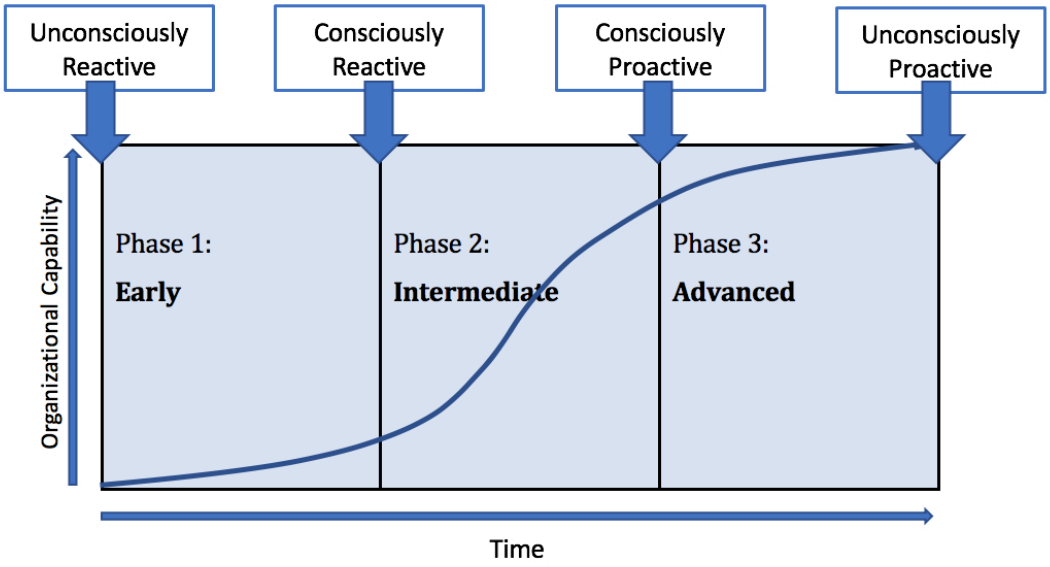
Not too long ago, sustainability was not taken into consideration by companies worldwide; today, on the contrary, many of them see sustainability as a strategic opportunity and pursue it "as an operational competence" (Lueneburger & Goleman, 2010). The implementation of sustainable change relies on a series of steps, easily inscribable into Kotter's eight step model for change. As mentioned in chapter two, Kotter himself argued, in 1996, that environmental pressures would increase in the close future, causing organizations to transform accordingly. This statement does not necessarily mean that the eight-step model he describes has to be applied to social and environmental issues, but it certainly can. In order to successfully implement and drive sustainability initiatives through an organization, there has to be a clear path composed of different stages. Lueneburger and Goleman propose a three-step model to do so.
The first phase consists of making a clear case for change. Before an organization first faces environmental challenges (or decides to face them), it has a reactive approach at best, being unaware of the opportunities that can derive from them. Reactivity is unconscious at first, but it has to become conscious later on, thanks to the effort of a leader who is open to cooperation and is able to influence other actors. Even if the company starts engaging with sustainability, it usually does not have a solid understanding of its true meaning. This is why in the first step it is crucial to identify key – even though somewhat imprecise – risk and opportunities. Along with collaboration capabilities, the *sustainability leader* must possess change leadership competences: vision, dedication, open-mindedness, communication skills, empathy to understand the involved stakeholders' needs and motivations, as well as the ability to instill change into the very fabric of the organization. Ultimately, the leader must have the cleverness to identify barriers and perseverance to overcome them. There might not be a completely clear direction, yet; the leader has therefore the task to deal with ambiguity and still guide the change process. It becomes clear that the leader cannot act on his own; a sustainability committee can be instituted, composed of key members identified by some essential prerogatives; the members should be in a position within the organization where they can influence others, they should all belong to different functions, they should be decision makers, they shouldn't be too soft and, of course, they must share the vision. The leader, together with the sustainability committee and driven by the need for change, has to frame and advocate change, translating it into issues that matter to managers, pointing out the sustainability-related factors that can – and will –

bring commercial or economic rewards.

The second step is represented by the alignment between the sustainability initiative and the actual economic value creation. The ultimate goal is to deliver results through a strong awareness of the potential of the sustainability-oriented change. Tangible projects and real initiatives have to deliver measurable improvements, through the action of the sustainability leader, whose vision in translated into a comprehensive program with singe steps that can be tracked through clear metrics. One of the main difficulties that could be encountered is represented by the fact that a sustainability initiative, being long-term oriented and forward-looking, may not deliver instant and measurable results. However, it is easy to step into the fallacy of failing to recognize the ineffectiveness of the initiative itself; if the forecasted performance falls well short of expectations, corrective action must be taken. Moreover, even the smallest of short-term wins, as described in Kotter's model, can have a huge impact on areas not directly referring to financial matters. Even though the sustainability committee is composed of members who understand the need for change and are driven by it, the generation of short-term wins is one of the very few ways through which it is possible to keep the belief in the sustainability-oriented change high, since its progressive decrease after the initial enthusiasm is not uncommon by any means. Furthermore, as Kotter points out, the existence of positive even though small results have the important consequence of the discouragement of critics on behalf of people within the organization who do not understand or accept the change, or even worse they actively obstruct it. This phenomenon is often linked to the issue of people being irreplaceable described in chapter one, and it is part of the reason why irreplaceable resources are difficult to manage; of course, the above statement is made upon the assumption that especially in small and medium-sized enterprises the reason for a person being irreplaceable is connected to the fact that they have been within the organization for year, often decades; they have therefore fallen into their own competency trap, where change is seen not only as unnecessary but even an obstacle to the firm's survival. Their perception of a well-functioning and sustainable company is set in stone and does not contemplate any divergence from the ways that have worked in the past up until now. These people, who are paradoxically enough among the most valuable: hard-working, experienced, loyal, knowledgeable and passionate, are the same ones who potentially represent the greatest barrier to change and innovation, since their virtues do not

comprehend the ability to explore new knowledge, new ways nor different strategic directions. The second step of a sustainability-oriented initiative therefore goes further than just being a better corporate citizen with regards to sustainability. Instead, it is about proactive implementation, internal efficiency and commercial gains through the creation of differentiated value for customers or end consumers (Lueneburger & Goleman, 2010).

The third and last phase consists of the strengthening of the commercial orientation, accompanied by a long-term strategic approach, leveraging sustainability to further reach competitive advantage, anticipating sustainability trends, evaluating the unfold of future opportunities. All the above implies a possible further transformation of the organizational assets, capabilities and partnerships as well. The sustainability leader has to keep finding ways to run the business and generate profit while not having to fear environmental degeneracy nor social issues, anticipating, benefitting and even influencing sustainability-related regulatory changes. This approach fits the concept of open innovation described in chapter one, in which a deeper engagement with external stakeholders and institutions can generate new change and innovation capabilities. As mentioned before, decisions are taken in favor of optimal solutions also commercially speaking, but the expanded time horizon brought by a longer-term approach to sustainability initiatives can significantly reduce the burden of the costs faced during the early stages, making it possible to engage in initial investments and favor returns in the long run over short term benefits that would lead to probable backlashes down the road. These investments can for instance consist of the adoption of PLM (Product Life cycle Management) systems to conduct life-cycle analysis of products, thereby reaching internal efficiency, the obtainment of third-party environmental certifications and claim-verification, and even collaborate with environmental standard-setting bodies.



Systemic Challenge	***Create*** **Sustainability Vision** Cultivate receptiveness Persistently build business	***Translate*** **Vision into Action** Embed sustainability for operational impact Relinquish central control	***Anticipate*** **Future Needs** Build long-term partnerships Foster innovation
Key Executive Competencies	Change Leadership Collaboration and Influencing	Result Delivery Commercial Orientation	Strategic Orientation Commercial Orientation
Vernacular	Data → Information → Knowledge → Insight → Foresight		

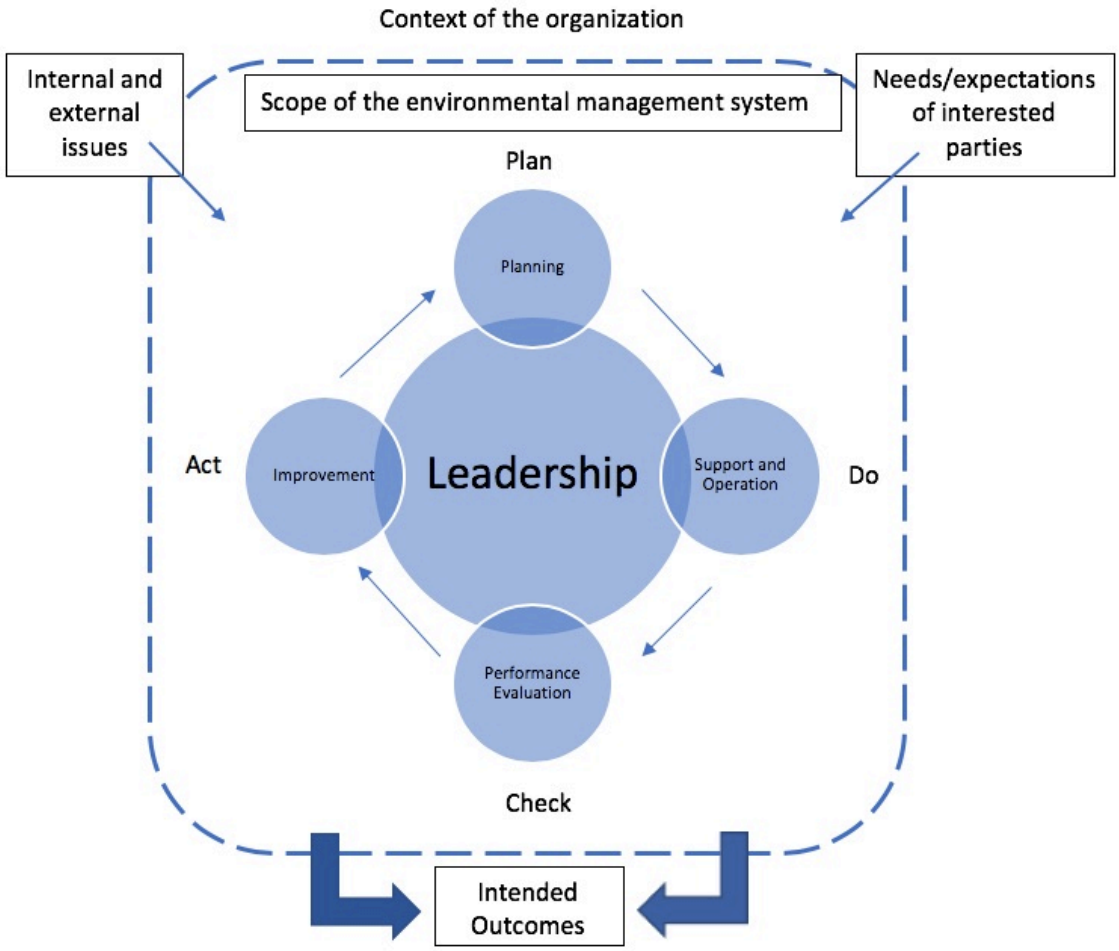
Based on "The Three Phases of a Sustainability Initiative", *The Change Leadership Sustainability Demands*

MEP has started indeed a green initiative, recognizing the multidimensional nature of value creation, embedded within the broader drive for firm-level sustainability.
A sustainability leader was identified: the HSE (Health Safety Environment) Sustainability manager, who has the task of developing environmental and social solutions within the company, under the strategic vision and guidance of top management and from both a corporate and operational perspective. The case for sustainable change has not only been made, but it has in recent years shifted towards an alignment between environmental value and economic value. This is testified by the obtainment of the UNI EN ISO 14001 Certification, released by Bureau Veritas, specifying the requisites of the environmental management system an organization must possess in order to develop its environmental performance. The certification has the aim of setting a framework the adopting organization can to follow in order to

implement an effective environmental management system. It guarantees the company's internal management, workers and external stakeholders that the environmental impact of the organization's daily activities is not only being effectively measured, it is constantly improved as well (www.iso.org, 2015), allowing the access of previously untapped resources and partnerships. The better environmental performance is achieved through more efficient use of resources, reduced waste production or more efficient and ecological waste disposal; all this directly impacts the company's image and trustworthiness towards external institutions, suppliers, clients and stakeholders at large. The ISO 14001 standard can be applied to any type of organization, in an indiscriminate manner, independently from its nature (for-profit, non-profit, governmental) or size (International Organization for Standardization, ISO 14001 - Key benefits, 2015). It requires an organization to consider the environmentally relevant matters with regards to processes and operations, such as polluting emissions, waste and sewage management, soil contamination, resource use and resource efficiency. Furthermore, much like the other management system standards, it is deeply rooted into the concept of constant improvement (*kaizen*), *lean* practices (e.g. waste reduction), and Deming's PDCA model, which are described in chapter two. The most recent version of the standard (2015) further deepened strategic aspects to be influenced, like for instance the strategic planning process, a greater input from leadership and an increased commitment to the engagement in initiatives improving overall environmental performance. There are many positive impacts the adoption of the ISO 14001 environmental management system certification has proved to have, as the demonstration on behalf of the organization of the compliance with current and future regulatory requirements, increased employee engagement and leadership involvement, financial gains and competitive advantages through cost reduction and efficiency increase, improved corporate reputation towards the stakeholders and the community, better environmental performance on behalf of the suppliers integrated into organization's network: "Whenever we have to choose a supplier, quality and price are not the only variables taken into consideration; environmental factors play a role, too. We look at factors such as certifications or the adoption of formal management systems on behalf of actual and potential suppliers. Similarly, there have been instances in which certain clients of ours have asked about us being certified. The market is developing a

perceptiveness and sensibility towards environmental factors" (Mr. Claudio Miconi, HSE – Sustainability Manager of MEP).

As mentioned before, the ISO 14001 certification is associated to Deming's Plan-Do-Check-Act cycle, to which it explicitly refers (International Organization for Standardization, committee.iso.org, 2015).



ISO 14001:2015 PDCA model (committee.iso.org)

The PLAN phase consists of the implementation and observance of procedures to identify environmental aspects within the organization, by defining the way through which processes and activities impact the environment. To do so, a set of evaluation criteria has to be defined, specifically for the industry taken as reference. In the case of MEP, operating in the mechanical industry, the factors having a direct impact on the

environment are polluting emissions deriving from the welding and painting processes. Environmental goals need to be set, along with the environmental programs to allow actual implementation.

The DO phase consists of the definition of resources, rules, responsibilities and authorities; in addition, a management representative has to be nominated, who becomes responsible for the environmental management system: MEP's HSE Sustainability manager. Moreover, procedures must be put in place in order to maintain the alignment between environmental goals and the competences, education and awareness of the people within the firm whose activities have some kind of repercussion of said goals. This is made possible thanks to the constant and continuous education provided by the MEP Business School, through tens of courses each year, destined to people belonging to all organizational levels. An efficient communication must be established, too, both internally and externally-oriented. All procedures have to be formalized in order to be accessed, tracked, modified and updated, and all operations and activities have to be controlled. Factors with a negative environmental impact can therefore be discovered and reduced accordingly.

The CHECK phase consists of surveillance and monitoring of all the above through the implementation of monitoring procedures of operations with possibly significant environmental impacts, whereas the ACT phase consists of the re-examination process on behalf of the company's top management.

Within the above framework, MEP was able to conduct several environmentally-oriented changes from an operational perspective. An example is represented by circular economy, which even becomes *industrial symbiosis:* a collective approach to circular economy involving the "physical exchange of materials, energy, water, and/or by-products. The keys to Industrial Symbiosis are collaboration and the synergistic possibilities offered by geographic proximity" (Chertow, 2000). Specifically, the ferrous material deriving from the tests conducted on the produced machines is delivered to an external actor who melts it and reuses it within the same industry, producing outputs to be sold. Industrial symbiosis not necessarily implies an economic compensation: materials such as wood and paper are much less valuable, for instance. In the case of iron, however, the material's value is acknowledged and paid for, confirming the coexistence of environmental and economic value generation. Another example is represented by the use of water-based varnish when painting the machines'

components, which is not only environment-friendly since it implies the reduction of polluting emissions in the atmosphere, but it even improves workers' safety, allowing them to work in a more salubrious environment thanks to the reduced presence of solvent and it drastically reduces the hazard of fire.

Social sustainability plays a great role, too. As shown earlier in this chapter, MEP was awarded the first antitrust star of the legality rating in 2014, released by Autorità Garante della Concorrenza e del Mercato; the third star was awarded in 2018. The legality rating was introduced in 2012. It has the aim of promoting ethical behavior within Italian companies through the assignment of a rating based on the level of legal compliance and the attention placed on the correct business management: ethical corporate behavior is judged and rewarded. Being awarded three stars has implications that go further than the improvement of the company's image: the access to financial resources granted by financial institutes is facilitated as well, perfectly displaying the coexistence of social and economic sustainability.

Conclusions

The increased complexity of the global economic conditions as well as the social and environmental pressures are shaping organizations worldwide, forcing them to respond and transform accordingly. Medium-sized companies composing the Italian economic fabric make no exception. The analyzed case study has been conducted to investigate whether the peculiar management model adopted by medium-sized Italian champions can be the right answer to the new strategic requirements and whether it is sustainable over the long run as well. To do so, two main aspects were taken into consideration and described from a theoretical perspective by conducting a review of the relevant literature on the matter: the distinctive traits of the Italian medium-sized Enterprises (chapter one) and the description of a variety of change management models as well as their evolution over time, which have been – and can be in the future – used to guide organizational change within small, medium and big-sized companies (chapter two).
The Italian medium-sized champions are identified by some distinctive qualities, many of which – almost all of them – are found in the company the empirical study has been conducted in. The strong international character is demonstrated by some key numbers exceeding the Italian average: foreign sales account for 87,5% of the whole turnover; business is conducted in 128 countries worldwide; the market of reference is a niche, in which the company is the main leader holding a 23-24% market share, and as far as the governance structure is concerned, the founding family's participation within the firm is strong, accompanied by a significant managerial presence. Change management models provide a framework through which organizational change has been conducted and can be conducted in the future, regarding corporate governance, financial management, human resources management, the relationship with stakeholders, the approach towards innovation and sustainability-oriented organizational change. Specifically, far-Eastern managerial influences such as the concept of *kaizen*, Deming's cycle, lean practices and Kotter's eight-step model have guided the implementation of a variety of transformations.
The evidence gathered during the internship and the following work experience in M.E.P. Macchine Elettroniche Piegatrici, medium-sized Italian company operating in the Business to Business industry, testifies a steady growth that has taken place in recent years. Specifically, as graphically represented in chapter three, sales have increased

steadily, along with other key figures (Earnings Before Interest, Taxes, Depreciation and Amortization, Net Financial Debt/Shareholders' Equity). Business and financial figures are not the only evidence supporting the hypothesis of the company's growth and sustainability. Corporate governance supported by a strong managerial presence has represented the key to the firm's internal and external development, as testified by the recent accomplishments listed in the last chapter.

The sum of both the unique business model of the SMEs and the successful management of organizational change had as a result the generation of multidimensional value and sustainable growth and development.

The empirical analysis, however, displays a potentially criticality, which is represented by the personal involvement within the studied organization: the three-month internship conducted in M.E.P. was followed by an actual hiring. On one hand, the possibility presented itself to conduct further research and direct observation of the studied phenomena. On the other, one could argue that the deeper involvement could generate a bias affecting research objectivity and conclusions. Specifically, the risk of describing the findings in a celebrative way rather than an impartial one exists. However, the awareness of such potentially critical factor led to the effort of controlling and therefore containing the bias itself.

To conclude, the business and management model of the Italian small and medium-sized enterprises has proved to be sustainable from a multidimensional perspective. The evidence suggests that the key to success is also strongly related to the ability of managing the increasing complexity that derives from economic, social and environmental matters, testifying the key role of competent managerial figures in firm sustainability.

Appendix

Interviews conducted during the internship in M.E.P. Macchine Elettroniche Piegatrici

Interviewees:

- Dr. Vito Rotondi: CEO & Managing Director of MEP;
- Ms. Michela Del Fabro: member of MEP's founding Family and CEO of ACM, MEP's R&D partner;
- Mr. Andrea Marino Cerrato: ICT & MGNT Systems - MEP Business School Director;
- Dr. Anna Pizzale: Quality Manager;
- Mr. Claudio Miconi: HSE Sustainability Manager.

Interview 1: Dr. Vito Rotondi
Il significato di Governance è divenuto negli ultimi anni sempre più complesso ed articolato, includendo una nozione di Valore composita/multiforme, che si spinge oltre al significato economico. Qual è la posizione di MEP in merito?

Credo sia vero che il tema della *Governance* sia divenuto complesso e articolato. D'altro canto, il mondo è diventato anch'esso complesso ed articolato. Governare, che è la radice di *governance*, significa esprimere delle regole, fare delle istruzioni, dei principi e delle linee guida non necessariamente stringenti per il piacere di esserlo, ma stringenti perché la *governance* – questa è un'opinione che riguarda MEP – è il tema di sinapsi e di correlazione emotiva, organizzativa, normativa, amministrativa diretta fra l'azienda ed i propri obiettivi. Legame vincente, per quanto riguarda MEP, per quanto riguarda la *governance* di MEP, è che in questi anni, in seguito a delle difficoltà, siamo riusciti a legare il comportamento individuale dei singoli e dell'organizzazione al raggiungimento di determinati obiettivi che hanno consentito il riconoscimento di *rating* e l'ottenimento di una serie di riconoscimenti formali sulla base dei quali l'azienda ha ritrovato l'identità organizzativa.
Per cui le risposte sono due: sì, MEP ha preso consapevolezza della *governance*. La seconda risposta è che la stessa *governance* per MEP non sia adempiere a delle

normative, ma è il riconoscersi nelle modalità con cui si raggiungono determinati obiettivi che riconoscono a loro volta determinati rating e meriti creditizi e quindi reiterano positivamente questo circuito, divenuto un circuito emotivo: le persone gioiscono del rating "A+" di Moody's. Ma la *governance* non è questa. La *governance* è il fatto che l'azienda si riconosca nei processi elementari misurabili per arrivare a determinati obiettivi. Se poi succede che gli obiettivi non si raggiungono perché il mercato non c'è, se c'è una crisi senza precedenti, la *governance* impostata solo sul riconoscimento del rating perde di contenuto.

Il tessuto economico italiano è composto (oltre che dalle microimprese e dalle poche grandi aziende) da imprese di dimensione "media", con carattere fortemente internazionale ma con radici profonde nel territorio d'origine. Qual è il rapporto di MEP con il territorio e le sue istituzioni, cultura, tratti distintivi?

Per MEP il suo territorio è fondamentale. Io parlo con le persone, vedo la robustezza emotiva dell'azienda, mi riconosco; cioè riconosco nell'azienda quella tipologia di persona, appartenente a questa tipologia di territorio.
In Italia il tema dimensionale spesso è stato fuorviante perché è diventata letteratura del "piccolo è bello". Avere 80 milioni di fatturato in un mercato da 600 milioni di euro secondo me è meglio che avere un fatturato di 1 miliardo di euro in un mercato infinitamente più grande. Invece il tema delle radici e della caratteristica internazionale dell'azienda, quello sì, è pesante, perché significa saper interagire con la propria cultura e con le sue istituzioni e tratti distintivi, servendo e frequentando mercati – 128 Paesi - che vanno dal Brasile alla Russia, all'Australia, alla Corea. La MEP è questo. Come ci si arriva? Inizialmente con grandi ambizioni, poi per abitudine, e poi per resistenza.

Parte fondamentale delle logiche d'impresa è rappresentata dal rapporto con i portatori di interesse nella loro integralità: clienti, fornitori, partner, istituti di credito, società, comunità… Qual è la posizione di MEP a riguardo, e quanto è complessa la gestione ed il mantenimento dell'equilibrio tra stakeholder value e shareholder value?

La domanda non è semplice. Nel momento in cui si riesce a far convergere gli interessi degli Stakeholder, non è difficile generare ricchezza. I portatori di interesse, fra *stakeholder* e *shareholder* debbono trovare una misura per esprimere i loro interessi

come clienti, fornitori, partner, istituti di credito, società e comunità, collocandosi quali migliori interlocutori. *Stakeholder value* e *shareholder value* sono legati dal fatto che ciascuno di essi possa esprimersi come *best in class*. Se io ho il miglior fornitore e lui va a pareggio su una fornitura per me sulla quale io vado a pareggio non vi sono margini di miglioramento per nessuno; io non potrei fare a meno di lui, né lui potrebbe fare a meno di me. Però questo va a danno dei suoi *shareholder*, dei miei e dei rapporti fra noi. Poter offrire quello che noi riteniamo sia idoneo come posizione di MEP a riguardo, i migliori indicatori – nonostante la complessità della gestione e del mantenimento dell'equilibrio fra gli stakeholder e i *shareholder* – assicura i margini a tutti.

La crisi del 2007-2008 ha accresciuto l'urgenza di pensare ad un business model nuovo, capace di conciliare obiettivi economici e benessere sociale, superando "le contraddizioni del modello socio-economico precedente che ha visto la disgiunzione tra economia e società" (Cappelletti, Serio, 2017). In che modo MEP ha superato la crisi? Quali cambiamenti sono stati necessari?

La crisi ha rappresentato forse il primo momento della storia di questa azienda nel quale si è trovata di fronte al dilemma sulla propria identità reale. Chi sono io veramente? La riposta non poteva essere dentro i prodotti. Quando la Coca-Cola si chiede chi sia la Coca-Cola, la risposta è: "la Coca-Cola". Per MEP è diverso. MEP non aveva raggiunto quegli obiettivi di identificazione, neanche in termini organizzativi. La *brand loyalty* non era diventata la *loyalty* dei dipendenti.
La crisi del 2007-2008 ha offerto un'interpretazione più attenta a come gestire l'organizzazione e a riconoscersi. Non ha creato un'urgenza di ridefinire il business model, perché il mercato è abbastanza sonnacchioso, abbastanza lento nell'acquisire modifiche da business model. Abbiamo fatto un'operazione di produttività ed efficienza. La crisi ci ha insegnato anche qualcos'altro, però. Ci ha insegnato la capacità di conciliare obiettivi economici e benessere sociale. Le persone prima venivano in azienda, prendevano lo stipendio considerato quasi una rendita, andavano a casa e vivevano socialmente felici. Il lavoro non costituiva per loro un obiettivo attraverso il quale offrire a sé stessi la migliore vita. La passione per il lavoro nasceva più dall'identificazione con un contenuto tecnico che non la trasformazione del proprio ozio in un negozio capace di creare soddisfazione personale. E questo è stato il principale punto.

Andando indietro nel tempo per fare anche un passaggio ordinato, io non ho visto la "disgiunzione tra economia e società". Non c'è. L'economia non è disgiunta dalla società. E' pericoloso affermare questo. Non si deve cadere nella trappola emotiva di Cuccia che diceva che noi con le imprese piccole rappresentiamo il "capitalismo straccione", per usare termini suoi. No, perché probabilmente lui era il salotto buono della gestione d'impresa. Sono lontano dall'idealismo attraverso il quale potersi rappresentare in borsa senza avere i contenuti per meritarlo sia comunque una patente di eccellenza.
La riflessione non può nemmeno divenire il rancore della società nei confronti di un'impresa laddove questa non porti la ricchezza, perché ci saranno delle ragioni per cui un'azienda possa essere andata male, no? Sto facendo una giusta riflessione intorno al compromesso economia/società laddove siano distinte e dove possano trovare dei punti di equilibrio.

La complessità dell'ambiente competitivo e la condizione di uncertainty nella quale le imprese operano hanno reso fondamentale la presenza di figure professionali formate, competenti e capaci, poste ad amministrare le attività d'impresa. Quali sono gli strumenti/modelli manageriali che sono stati o sono di ausilio nel processo di cambiamento (menzionato nel punto precedente)?
Quali le criticità/difficoltà che si incontrano?

Sicuramente la prima riflessione deve essere di carattere emotivo. Le figure professionali formate devono essere capaci di reggere uno stress e un'ansia che si confronti con i VUCA (i volatili, incerti, complessi e ambigui) strumenti o profili della vita professionale. Alcune si formano sul campo di battaglia; altre, competenti e capaci, derivano dalla formazione esterna, parlo per me. Io non sarei così se non avessi fatto l'esperienza di una grave crisi in un'azienda importante e mi avessero mandato a studiare la gestione della crisi a Londra. Più ci si spaventa, più si impara.
Gli strumenti e modelli sono fondamentalmente due: il portafoglio ordini e la cassa. Non si vive di conto economico chiuso un mese dopo che il mese si è completato, perché lì siamo tutti morti. Gli strumenti e modelli manageriali, per quanto mi riguarda sono la *supply chain*, il *CRM* e l'*ERP*.
Difficoltà e criticità: fondamentalmente derivano dall'utilizzo di vocabolari e linguaggi che questa azienda o altre aziende prima della crisi non avessero vissuto. La difficoltà sta nel far passare l'idea che non ci sono alternative. C'è purtroppo sempre un individuo

che cerca una zona di conforto nella quale collocarsi. Poi le collettività devono trovare anche degli equilibri per sé stesse, perché mentre è vero che un interlocutore può non cercare la propria emancipazione sociale nel lavoro, è altrettanto vero che gli individui cercano di riconoscersi status emotivi, organizzativi e culturali a prescindere dalla loro reale competenza. Quindi l'organizzazione deve essere in grado di riconoscere il merito oggettivo, non la conquista del risultato a prescindere. E' un tema di etica, di morale e di disciplina difficilissimo. Poi bisogna soggettivare continuamente, riconoscere se un risultato è episodico, cosa che può non capitare quando si sono fatti i soldi; il compromesso non può essere un compromesso del *laissez-faire,* perché a quel punto si distrugge l'azienda. L'autoritarismo spietato è pericoloso perché ci si isola, la *governance* a prescindere dagli elementi umani è pericolosa altrettanto perché disimpegna le soggettività alternative rispetto ai canoni di formazione classica, e diventa difficile. Questi sono i nostri argomenti, la nostra attività quotidiana.

Internazionalizzazione: dalla analisi empiriche, un tratto che accomuna le medie imprese italiane è la forte presenza nei mercati esteri. Luigi Serio (2017) parla di una percentuale di fatturato sviluppato all'estero spesso superiore al 70%. In MEP tale percentuale supera addirittura l'85%.
È una situazione che persiste dal passato, o è una tendenza di tempi più recenti?

E' una situazione che nasce nel momento in cui si è bloccato il mercato italiano, stimo parlando del 2011-2012, ed il mercato spagnolo. Si erano create due grandi bolle dell'edilizia che avevano favorito la vendita delle nostre macchine, quindi le macchine vendute avevano polarizzato il fatturato in due mercati, Spagna e Italia. La polarizzazione è pericolosa. Quando la bolla prima in Spagna e poi in Italia è crollata, questa azienda ha visto perdere circa 40 milioni di euro di fatturato. E' stata una crisi tremenda. Oggi siamo tornati (bilancio 2018) a un fatturato importante, ma distribuito in 128 paesi (127 più l'Italia). Come spiegarlo? E' facile. Nessun mercato domestico può consentire ad un'azienda come la nostra di rappresentare il 100% del fatturato. L'Italia è un paese troppo piccolo per avere aziende in equilibrio e con un utile vendendo solo sul mercato italiano, eccezion fatta per settori e mercati protetti (le ferrovie, ad esempio).

Interview 2: Ms. Michela Del Fabro

Le persone nella ricerca e sviluppo in un'azienda sono naturalmente predisposte ad affrontare il tema della sostenibilità o devono essere educate a questo nuovo pensiero? Da chi? Come si fa a sviluppo una coscienza? Implica un lasso di tempo, quindi come amministratore delegato ho due *gap*: primo sono una donna in un ambiente maschile, il secondo è quello di essere una sognatrice. Ad esempio, io e Vito ci completiamo quando parliamo di queste cose. Lui è un manager puro, io no. Svolgo funzioni manageriali ma ho anche un altro compito perché rappresento la proprietà. Forse le cose migliori tra me e lui sono nate quando abbiamo dovuto unire le forze.
Si tratta della classica separazione tra proprietà e imprenditoria e la gestione e il management. È una necessità avere un pensiero fuori dagli schemi, creativo, ambizioso, astratto, al futuro. Questa è la prerogativa dell'imprenditore e non forse della figura professionale che amministra.
Io non sono imprenditrice nel senso totale del termine, ma sono cresciuta in una famiglia di imprenditori e dentro di me c'è il rischio.
Il rischio deve essere calcolato in questo momento storico. Gli errori del passato erano compensati da un'enorme finanza che da 15 anni ad oggi non c'è più; la crisi ha spazzato via tutto il surplus che ci permetteva di sbagliare. Oggi uno sbaglio impatta in maniera importantissima sull'organizzazione. Condivido un pensiero di Matteo Marzotto, la cui famiglia è tra quelle che hanno trainato la ricchezza del nordest del paese, con un'attività che poi si è ramificata. Oggi essere figli di imprenditori è un peso sulla schiena e non si può replicare il modello della generazione passata perché non sostenibile. Si hanno gli occhi puntati addosso e c'è un momento di scontro con la generazione di prima perché ci sono dinamiche che non conosce, ha paura, contrasta e blocca. In più in seno alle famiglie ci sono altre problematiche, ci sono altri elementi che interagiscono sugli equilibri. Oggi le aziende familiari sono un modello che ancora funziona, che all'estero ci guardano. Forse dobbiamo lavorare su quello che abbiamo ma facendolo evolvere. Oggi le aziende familiari devono rimanere tali per tanti aspetti; sono un modello vincente, ma non basta più e la commistione tra manager esterno e la famiglia sarebbe assolutamente ottimo. Il problema del manager in aziende familiari è che teoricamente non può scindere le due cose, dire "è solo lavoro" o gestire anche le interferenze della proprietà.

Se il manager riesce ad avere entrambe le funzioni l'azienda riesce a sopravvivere, altrimenti la vedo difficile.

Mi torna in mente un riferimento di un libro in cui viene analizzato il modello italiano di management che è quello della piccola ma soprattutto media impresa; la letteratura manageriale ha considerato da decenni la fase media come una fase di passaggio dal piccolo al grande, invece Serio riconosce il fatto che la dimensione del piccolo non ha come evoluzione quella del grande, è una categoria a sé stante che funziona e continuerà a funzionare se viene innovata.

Ma sai perché funziona? Ha un elemento che è un tesoro, che è la flessibilità. Una struttura grande non la cambi così facilmente. Oggi nel mondo sopravvivi se sei flessibile. Guarda cos'è stato il gruppo Benetton in Veneto e guarda che disastro hanno fatto quando hanno deciso di delocalizzare. Loro sono potenti perché hanno una mente come Mion al loro interno, hanno diversificato in settori strategici. Oggi Benetton include un universo e tutto quello che hanno creato è stato creato da Mion per Alessandro. Esperimento tuttora valido a distanza di anni. Acquisiscono quote di piccole aziende che credono possano avere uno sviluppo. Un amico mio, che ha fatto business con loro negli anni '90, ha detto che ha imparato a fare l'imprenditore più in 2-3 incontri del gruppo Benetton e di come si muovevano che non negli studi. Lo aveva affascinato la velocità nel prendere le decisioni e lo fanno tuttora.

ACM è un'entità legalmente distinta da MEP. Qual è il suo ruolo nel gruppo?

Per rispondere a questo devo riepilogare la nascita di ACM. ACM è stata istituita nel 1988, per volontà della mia famiglia e dell'amministratore delegato dell'epoca. L'idea era di creare un luogo delle idee e della progettazione autonoma e distaccata dalla realtà della produzione in serie; le logiche della ricerca e dello sviluppo, della progettazione e innovazione si discostavano da quelle della produzione in serie. La commistione delle due cose non era compatibile. Quindi inizialmente si era deciso di creare un piccolo ufficio di progettazione di massimo 5 persone con l'unico scopo di creare e innovare il prodotto. Io sono stata scelta per essere a capo della gestione amministrativa di questa area. Mi sono diplomata nel 1985, avevo seguito alcune aree dell'azienda, soprattutto

quelle riguardanti l'estero; dopo 3 anni ero da sola a gestire questa cosa nuova. Ero giovane, inesperta, ma la mia paura iniziale è stata trasformata in un contagioso entusiasmo. Poi ACM cresce, le persone aumentano e negli anni si decise di affrancare alla prototipia la realizzazione di una pre-serie di macchinari che venivano da essa, anche perché quella fase ha un'importanza notevole. Una sorta di operazione a lungo termine del collaudo del prototipo su cui abbiamo interferito aggiungendo parti nuove, tutto questo coadiuvati da clienti storici che si prestano ad acquisire primi prototipi che fanno crescere insieme a noi. Oggi ACM conta 23-24 persone, è un'azienda abbastanza strutturata, 8 milioni di euro di fatturato, centro unico di ricerca e progettazione meccanica e aerodinamica del gruppo MEP. Le nostre macchine vengono nutrite da un apparato di natura elettronica gestito in MEP; originariamente vi era un piccolo laboratorio elettronico in ACM, ma poi economicamente non si è dimostrato vantaggioso creare un doppione. Oggi cos'è ACM: un contenitore in cui c'è la holding di famiglia (40% MEP), è il centro di prototipia del gruppo e anche un think tank e molte altre cose, anche se per scelta abbiamo deciso di vivere questo ruolo in silenzio e lontano dai riflettori.

Il company motto "the history of innovation" ed il business motto "A tradition of innovation" evidenziano l'importanza dell'innovazione in MEP. Quanto è importante nel gruppo la parte di ricerca e sviluppo?

Voglio sottolineare l'aspetto della centralità dell'innovazione che caratterizza il passato, il presente ed il futuro. È un elemento che ci caratterizza fin dagli esordi non solo in ACM ma MEP, azienda con 2 caratteristiche fondamentali: l'innovazione ed il fatto che fu presentata non nel territorio ma all'expo di Parigi di quegli anni. Quindi al contempo è un'azienda nata per essere internazionale e lo è da 55 anni ad ora. Sono elementi determinanti anche nel momento di crisi; l'innovazione passata ha creato un patrimonio brevettuale importantissimo. Quando abbiamo affrontato la crisi l'innovazione e il patrimonio brevettuale e la presenza in tutto il mondo hanno fatto sì che ci salvassimo, per questo voglio ricordare il passato e spero di poter traghettare qualcosa oltre il presente. L'innovazione è nel nostro DNA e la sfida per il futuro sarà un'evoluzione di un'innovazione che sia sostenibile sia per l'uomo che per l'ambiente; opportunità unica e stimolante ed elemento non presente nel passato e nemmeno 15 anni fa. Noi abbiamo sempre innovato il prodotto e siamo sempre stati attenti alle esigenze del momento

storico; ora dobbiamo poterlo congiungere al discorso della sostenibilità nei limiti del possibile nel futuro e pensare a forme alternative di sostenibilità, legate ad una nuova cultura (es. imprimere nelle persone che lavorano qui un nuovo modello di azienda e di sentire le cose in una determinata maniera; puntare anche ad un'evoluzione di un macchinario sempre valido che con opportuni accorgimenti sia più consono ai nuovi obbiettivi). Sono passi obbligati ma cambiamenti che devono avere un loro tempo, per coinvolgere l'intera comunità; cambiare il pensiero comune non è semplice, soprattutto quando non tocca elementi di sopravvivenza e quindi non sembra una necessità immediata e bisogna educarlo a vedere oltre. Per cui mi sento di dire che per il futuro che è già iniziato desidero fortemente un'innovazione a 360 gradi.

Le attività di ricerca e sviluppo sono rivolte solo all'innovazione del prodotto o anche del processo?

Sono rivolte all'innovazione di prodotto in primis ma anche di processo. I cambiamenti degli ultimi anni sono stati totali e totali saranno anche le innovazioni in futuro. Studieremo nuove soluzioni per l'evoluzione del nostro prodotto ma avremo sempre più un occhio di riguardo per l'ambiente in cui i macchinari dovranno lavorare. Saremo in grado di proporre soluzioni per il processo lavorativo e l'efficacia della componentistica sarà monitorata, assistita e ottimizzata. È un'innovazione di processo che riguarderebbe anche noi ma che vogliamo anche portare fuori dall'azienda, quindi anche come lavorano i clienti con le nostre macchine. C'è anche il discorso dell'industria 4.0 che ho seguito da anni quando ancora era quasi sconosciuto; all'inizio mi ha affascinato tantissimo, poi è una cosa che apre molti orizzonti ma oggi non è ancora regolamentata dal diritto, è come un modo per entrare in un'azienda altrui e controllare cosa sta facendo. Forse attraverso l'innovazione di processo vi è un modo per entrare in altre aziende in punta di piedi, facendosi amare e non odiare.

Innovare è migliorare in maniera incrementale o disruptive; è rivolto più all'efficienza o alla flessibilità?

Innovare per me significa migliorare in maniera incrementale ma al tempo stesso in maniera disruptive. Il miglioramento è rivolto a tutte e due le sfere, è un momento

storico in cui le verità assolute non esistono. Penso che vedere le cose da entrambi i lati sia la cosa migliore per cercare di capire cosa è meglio fare, andare avanti con miglioramento e creare qualcosa che nel mercato non c'è. Noi lavoriamo in un mercato di nicchia, dove ci sono logiche diverse da quelle normali, siamo da 55 anni nel mercato e i nostri competitors sono sempre quelli; al momento c'è un equilibrio che funziona, ma verrà prima o poi un momento storico in cui questo cambierà. Ben venga un'innovazione che rivoluzioni il tutto, ma dev'essere ragionata.

Nello svolgimento dell'attività in ACM, considerate le necessità di MEP o anche del cliente a valle? Se è vero il secondo caso, il passaggio a Technology Solution Provision implica una nuova attenzione alle necessità del cliente? Quanto incide questo passaggio sull'attività di ricerca e sviluppo?

In azienda, parlo anche per quanto riguarda MEP, l'attenzione alle necessità del cliente a valle ha sempre avuto una notevole e necessaria importanza, ma al tempo stesso vengono considerate anche le necessità di MEP dal punto di vista commerciale; nella maggior parte dei casi le necessità convergono, ma in alcuni casi vi sono state soluzioni separate. Questo vuol dire che tantissime evoluzioni di prodotto sono nate spesso da esigenze del cliente, che è la cartina tornasole per la ricezione del mercato. Non sono momenti storici in cui si può mettere nel mercato qualcosa di discutibile o si può fare in percentuale limitata. Bisogna essere visionari ma anche sopravvivere. Ci sono stati colpi di testa, ad esempio quando abbiamo messo nel mercato macchine che subito non sono state capite, ma che dopo 10 anni abbiamo dovuto tirare fuori nuovamente, ad esempio il concetto della staffa lavorata in 3D era nata in ACM, era un programma durato parecchi mesi ma non aveva trovato riscontro sul mercato e quindi inizialmente accantonato; poi è arrivato un momento storico in cui è nata questa esigenza, quindi ci siamo lanciati sul mercato con qualcosa che già avevamo nel cassetto.
Un altro esempio di progetto è quello di un macchinario pensato per lavorare un certo tipo di materiale, che in un futuro molto vicino l'America chiederà. Non ho mia pensato che i soldi spesi in questa azienda siano stati soldi persi; quando partiamo, partiamo con idee e prospettive vicine alla realtà, quindi il cliente ha sempre fatto parte di questo processo.

La produzione è anteceduta da ideazione, progettazione e prototipazione; sono corretti i passaggi? Quanto dura mediamente un ciclo produttivo del genere?

Sì, sono corretti. Un ciclo produttivo dura mediamente da 6 mesi a 1 anno, poi può durare anche due. In questi 6 mesi, parlando del progetto meno impegnativo ci metto dentro anche l'approvvigionamento dei materiali. Diciamo che generalmente l'idea è veloce, la percepiscono anche frequentando le fiere importanti nel mondo, captano lo spunto, parlano con clienti e l'idea parte. Poi, a livello progettuale - parlo di un progetto di piccole medie dimensioni - due mesi, poi bisogna considerare che attualmente abbiamo bisogno di due mesi per i materiali per il prototipo in quanto sono particolari meccanici non codificati: abbiamo una selezione di fornitori disposti a interrompere cicli produttivi per mettere in produzione un particolare mai fatto. Poi c'è una percentuale di errore, la progettazione non è infallibile. Il pezzo che non funziona o lo modifichiamo o torna dal fornitore; poi oggigiorno i fornitori non tengono più in magazzino materie prime per la produzione di particolari meccanici quindi devono a loro volta recuperare la materia prima, che entra in azienda, viene trasformata nel particolare meccanico che poi viene spedito a noi, quindi i tempi si dilatano. Le macchine poi vengono testate, e in questo i tempi sono ristretti.

Qual è il ruolo della tecnologia e quale quello della competenza umana?

La mia risposta nasce da una serie di considerazioni, è complicata. Appartengo ad una generazione la cui vita è stata cambiata dalla tecnologia, ma questa è stata immessa nel mondo in un momento storico in cui c'erano i tempi per assorbirla. La tecnologia è uno straordinario mezzo con cui si possono risolvere e migliorare tantissimi aspetti della nostra vita, ma le persone sono sempre e comunque il fine. Non riesco a concepire la tecnologia come fine a sé stessa, trovo sempre un collegamento con l'uomo; se rimane fine a sé stessa vengono vanificati anche tutti gli sforzi che sono stati impiegati nella sua creazione. Non è sempre neurale, produce ibridi che incorporano una visione morale e sociopolitica; vincolano l'utilizzatore a comportamenti in un certo modo. La tecnologia pretende di sapere meglio di noi stessi cosa è bene per noi, bisogna star attenti all'uso che se ne fa. È difficile comprendere la moralità delle tecnologie perché non ha senso valutarla al di fuori del contesto, ma è solo in un contesto d'uso concreto che si

comprende il ruolo e l'impatto delle tecnologie. Quello che nasce in laboratorio è allo stato puro, poi viene inserito in un contesto, per cui è un punto importante da approfondire. Tanto più la tecnologia si incarna in una routine quotidiana, tanto più la moralità diventa paradossalmente invisibile. L'urbanista e sociologo Lewis Mumford negli anni '60 parlava del carattere democratico e al tempo stesso autoritario delle tecnologie contemporanee; possono darci tutto in quantità impensabili anche per una minoranza, alla condizione che non chiediamo nulla al di fuori di quello che ci offra il sistema e accettiamo tutto ciò che il sistema, anziché la persona, richiede. La velocità porta alle scelte incaute, non bisogna pensare troppo, ma il giusto, bisogna essere flessibili.

L'argomento del finanziamento alla divisione ricerca e sviluppo è complesso ed è stato spesso problematico per diverse aziende. Qual è o quali sono le fonti di finanziamento delle attività di ACM e l'eventuale discontinuità di fonti di finanziamento è motivo di difficoltà dal punto di vista gestionale?

Domanda indispensabile per capire come funziona una realtà che fa attività di ricerca e sviluppo. Ovvio che le dinamiche cambiano in base alla dimensione dell'entità e alla tipologia dell'attività. Ad esempio, il campo medico e farmaceutico ha una finanza che arriva da molteplici fonti, perché è un prodotto strategico dove interferisce anche la politica, così come il militare. La finanza in un contesto di innovazione conta tantissimo, soprattutto nel mio ambito in cui la ricerca costa; lo sviluppo di un'idea costa, anche la sua realizzazione. Tra i miei compiti c'è quello di reperire fonti di finanziamento; viviamo in un paese dove non ci sono aiuti concreti perché non c'è la cultura, la mentalità, e viviamo in un paese molto complicato in cui i soldi a disposizione sono stati usati da molte persone per altri scopi. Questa azienda è stata sempre autofinanziata negli anni d'oro; la crisi in cui siamo entrati ha generato difficoltà, non vi è più la finanza di prima. Chiaramente in una parte abbastanza importante siamo finanziati da istituti bancari a cui è molto difficile far passare il pensiero che qui viene fatta ricerca. Oggi gli affidamenti sono concessi, ma si ragiona su parametri europei, che non rispecchiano quelli di una realtà dove si fa ricerca e sviluppo; magari prima di arrivare al prototipo finale ho dovuto costruirlo due o tre volte, un rientro economico non sempre c'è. Il finanziamento non viene capito. Paradossalmente ci hanno finanziato anche i fornitori,

concedendoci la dilazione di pagamento che è una forma di finanziamento. Quindi anche questo è un aspetto interessante, fornitori coinvolti in qualcosa di più grande; nelle macchine che fanno il giro del mondo c'è anche il prodotto del fornitore. È una specie di pubblicità occulta, eppure c'è. La discontinuità dei flussi di finanziamento è motivo di difficoltà perché interrompere un processo di ricerca è un guaio, durante momenti di crisi abbiamo fatto in modo che la ricerca venisse sempre portata avanti, ottimizzando i processi, gli ordini eccetera. Si parla tanto di finanziamenti agevolati, a tassi percentuali da parte dello stato, CEE. In ambito CEE ci sono tantissimi soldi ma indirizzati a specifiche tematiche, come ad esempio all'ambito farmaceutico e generalmente ad ambiti strategici in cui non rientriamo; inoltre dei soldi che arrivavano se ne poteva usufruire a progetto già fatto, quindi bisognava avere la capacità di finanziare il progetto prima, e in ogni caso i finanziamenti coprivano solo il 10% dei costi, non costituendo l'elemento vincente per il decollo di una ricerca. Inoltre, c'era e c'è una documentazione immane da capire, che presuppone che l'azienda sia molto strutturata. Il problema poi delle piccole aziende di ricerca e sviluppo è come divenire strutturate, perché se si riesce a tracciare tutto il processo, dall'idea alla realizzazione del prototipo, serve una buona amministrazione dell'azienda, analisi dei costi, preventivazione di un futuro progetto, reperimento delle risorse sul mercato; quindi è importantissimo ma difficile gestire e tracciare così tanto un'azienda che fa ricerca e sviluppo: devi cambiare la mentalità delle persone. Devi innanzitutto far capire il perché sia necessario questo cambiamento; sono 2 anni che ci sto lottando, ho raggiunto risultati di cui vado fiera, che servono alla programmazione futura, che è una parte fondamentale. Vi sono due punti da approfondire: uno è il modello organizzativo delle aziende che fanno attività di ricerca e sviluppo, ambito PMI; poi mi chiedo spesso se le persone addette alla progettazione siano naturalmente predisposte ad affrontare il tema della sostenibilità o devono essere educati a questo nuovo pensiero. Educati da chi? Allora io poi ho scritto una frase in questo tempo ibrido in cui il confine della creatività non può ammettere sovranismi, o è fusione di conoscenze o è fatica in futuro. Il futuro sarà faticoso e noi dovremmo avere il tempo di riprenderci da anni in cui abbiamo vissuto la rinascita del paese; l'esplosione degli anni '80 ci ha in qualche modo adagiato, adesso siamo costretti ad affrontare il futuro ad una velocità supersonica. Un altro pensiero è che la macchina sia una rivoluzione antropologica: la sfida della società nell'era digitale risiede nella comprensione e gestione dell'evoluzione dell'interfaccia uomo-macchina, l'evoluzione

adattiva dalla interazione conflittuale ad un adattamento passivo dei movimenti dell'uomo alle inezie delle macchine. Importanti investimenti in IT non si sono tradotti in un miglioramento della produttività; si è compreso che la differente velocità di cambiamento che caratterizza la tecnologia costituiva un fattore inibitore che generava un disallineamento tra tecnologia e organizzazione. Ora stiamo vivendo un momento ancora diverso, ma l'elemento dell'interfaccia uomo macchina è ancora presente; forse non l'abbiamo analizzato bene, ci siamo concentrati solo sulla macchina. Difficile trovare l'equilibrio, ci stiamo adattando, ma il mondo si comporta come se avessimo già digerito tutte queste problematiche, quando in realtà non è così. Il conflitto si è generato perché non si è predisposto il necessario prima di far partire un discorso del genere. Sta succedendo così anche nella tecnologia troppo spinta; gli utilizzatori dovremmo essere tutti, ma che percentuale è realmente in grado di interagire con questi strumenti? Tagliamo fuori una fascia di popolazione importante, che non sono solo gli anziani; è una parte dei giovani. E' un elemento preoccupante, perché se un giovane rimane lontano dalla gestione delle cose, che persona sarà nel futuro? Sarà emarginato. I risultati dell'INVALSI (Istituto nazionale per la valutazione del sistema educativo di istruzione e di formazione) fa vedere lacune preoccupanti; o educhiamo in maniera sbagliata o c'è un gap a livello intellettivo. Come ci si interfaccerà con un sistema tecnologico avanzato? L'ultimo pensiero per quanto concerne le problematiche di creare un modello organizzativo nelle aziende che fanno attività di ricerca e sviluppo è la gestione delle risorse umane; sono oggi il vero gap competitivo delle aziende. Scegliere di posizionare le persone giuste non è un'attività improvvisabile, è un processo delicato che porta al cambiamento dell'organizzazione dei team che solitamente sono creati dalla casualità o dalla commistione "randomica" tra turnover e percorsi di crescita personale. Ci vuole un approccio scientifico e di questo sono convinta. Mi ha incuriosito un articolo del caso di un'azienda di Brescia, Metallurgica San Marco, che ha introdotto in azienda due strumenti comunemente usati in campo biomedico. Il primo è quello che viene chiamato naso elettronico, che è in grado di analizzare i metaboliti emessi dal corpo, variabili a seconda dei diversi stimoli sensoriali e delle situazioni di contesto, che permette di rilevare la reazione fisiologica e di valutare l'apertura o chiusura emotiva che ogni persona ha nei confronti dell'altra. Il secondo è il neurobiofeedback, che serve a captare i segnali fisiologici indicatori dello stress, il che determina il quadro descritto prima. La neuroscienza in fabbrica. Umana analytics, spin-off dell'Università di Chieti, ha portato

in questa azienda la sperimentazione, ma è bello capire come sono entrati in azienda. Prima hanno studiato il processo produttivo eliminando le criticità; il miglioramento tecnologico conseguente ha reso necessaria una ridefinizione dei ruoli organizzativi interni. A questo punto sono entrate in capo le neuroscienze; hanno individuato le relazioni di fiducia e i rapporti intercorrenti tra le funzioni trasversali e poi importato un percorso volto alla formazione di un gruppo di responsabili, manager e dirigenti ad alte prestazioni. Se riuscissimo ad arrivare vicino alla soluzione prospettata avremmo delle aziende perfette dove tutti trainano. È un'epoca storica in cui non tutti hanno voglia di lavorare e questa cosa fa paura, perché siamo fisico e cervello; parti del nostro corpo che vanno gestite, altrimenti scaturiscono disastri anche nella vita privata. Mai la società si è rivelata così debole e incapace di affrontare le problematiche; le stesse problematiche sono state portate in azienda. Mi sono trovata a gestire anche problemi personali, ma non posso entrare nella vita delle persone, è un ruolo che non è il mio.

Interview 3: Mr. Andrea Marino Cerrato

In qualità di direttore della MEP Business School, quale pensa sia il ruolo della formazione aziendale? Pensa che possa essere promotrice di cambiamento organizzativo, non solo in termini di conoscenza e competenze delle risorse umane ma anche di clima, cultura, valore e visioni?

La scuola di formazione è stata fondata più d 3 anni fa e per sua stessa natura non è solo una fabbrica di competenze, è stata istituita proprio perché doveva essere un momento di condivisione delle esperienze quotidiane di lavoro in un ambiente che sia più favorevole alla collaborazione ed alla condivisone di pensieri, idee, suggerimenti che altrimenti nella quotidianità lavorativa avrebbero potuto disperdersi, coperti dalla contingenza, ansia o concitazione, e dalla corretta necessità di raggiungere i risultati quotidiani. Nella scuola di formazione invece noi vorremo che si potesse -tutti, chiunque- cooperare in una maniera più aperta, rilassata, costruttiva e meno autoregolamentata dalla quotidianità non scritta dei rapporti aziendali. Perché riteniamo che lo sviluppo di relazioni di alto livello tra tutte le competenze aziendali sia la chiave per l'innovazione futura ed il cambiamento. Ritentiamo che il cambiamento non sia unicamente raggiungibile tramite la competenza; il fatto di essere a conoscenza di una tecnica nuova non mi dà la sicurezza che mi dia risultato senza prima fare i conti con le persone, che dovranno applicarle, viverle e portarle avanti. Ecco perché la scuola di formazione è contenitore di competenze, di formazione classica ma è soprattutto un luogo in cui tutti i collaboratori aziendali possono confrontarsi in una maniera differente da quello che accade ogni giorno a livello di stabilimento, officina, ufficio amministrativo. Quindi è un posto in cui le competenze aziendali possono manifestarsi a livello un po' più alto, possono astrarsi dalla quotidianità per tentare di dare risposte nuove. In questo crediamo che la scuola di formazione debba essere necessaria all'interno del corpus aziendale

Uno dei tratti distintivi della media impresa del tessuto italiano è il legame con il territorio e le sue istituzioni. La formazione interna può essere vista come risposta alle lacune del sistema o è piuttosto un'integrazione che continua il percorso formativo delle istituzioni del territorio? Si percepisce una mancanza formativa al di fuori del contesto aziendale?

Siamo alle soglie di una nuova necessità formativa *tout court* della persona, che parte sicuramente dalla scuola dell'obbligo fino a quella avanzata, ma una formazione continua che non è stata recepita né dal tessuto formativo istituzionale, ma nemmeno dall'impresa. Riteniamo che la scuola di formazione aziendale, come tutte le altre Accademy aziendali, non risponda ad un paradigma antico per cui risponde a delle lacune della formazione in ambito obbligatorio, ma ad una lacuna che né l'università né l'industria hanno percepito, ed è quella di poter garantire alle persone in ambito sia lavorativo che sociale una formazione necessaria continua dovuta al fatto che il livello di complessità in cui la persona si trova ad agire sia a livello lavorativo che personale è arrivata ad un tale livello di compenetrazione di tecnologie e di complessità che la formazione relegata ad un solo periodo della vita è insufficiente. Certo è che però la formazione industriale e di azienda non può essere intesa come un continuum con quella universitaria, nel senso che vado a ripianare quello che l'università non ha dato. La formazione industriale in ambito aziendale deve poter garantire una crescita strutturale che non sia mai interrotta, perché un tempo il livello di complessità poteva essere controllato, arrivando ad un livello minimo di conoscenza. Il livello di complessità attuale, che si confronta adesso con il parametro tempo, cosa che invece una volta non succedeva, non può essere relegato a questo livello minimo di conoscenza. Non esistendo più questo livello, c'è la necessità che la formazione sia costante e continua: se non apprendo nuove tecniche giornalmente io sono già indietro. E non possiamo pretendere che l'università faccia questo per una questione temporale. Quindi deve esserci un altro ente che prosegue la formazione, quindi non risponde alle lacune del sistema, perché il sistema ha un suo compito: formare, strutturare l'individuo. Dopodiché la struttura deve essere rielaborata costantemente, confrontandosi sempre con l'attività formativa, che deve per forza di cose fare il paio con l'attività professionale, quindi è normale che venga continuata all'interno dell'attività aziendale. Quindi è un continuum rispetto alla formazione istituzionale ma anche qualcosa di completamente diverso perché fatta in ambito in cui il formato deve confrontarsi immediatamente con il risultato. Mentre nella formazione istituzionale i risultati sono nell'ambito formativo stesso, il contesto aziendale è qualcosa di più complesso, è operativo. Non può essere la stessa cosa, ma non è neanche un andare a completare quello che la formazione istituzionale non ha fatto. Quindi l'evoluzione sarà quella di creare interdipendenza tra i due sistemi; dunque la formazione istituzionale dovrà dialogare con quella aziendale e

viceversa. Avranno sempre connotazioni diverse. L'unica cosa sicura è che sarà necessario che questa formazione non sia interrotta. Sicuramente l'università potrà dare molto alla formazione aziendale, ma la formazione aziendale potrà dare molto a quella istituzionale, pur rimanendo entrambe nel loro alveo principale.

La MEP Business School è stata il frutto di una necessità attuale o di una previsione lungimirante?

E' sicuramente cogente gestire le nuove competenze attraverso una organica e ordinata individuazione e condivisione, ma è altresì importante pensare all'attività formativa come qualcosa che si confronta con il risultato quotidiano ma anche sul lungo periodo. Forse la formazione sulle risorse intangibili e il capitale umano è quella più lungimirante che può fare un'azienda anche nel pensare a sé stessa.
Come abbiamo detto, la formazione continua non risiede esclusivamente nell'azienda; la complessità del mondo in cui viviamo e lavoriamo non può che trarre profitto da una formazione che viene fatta in ambito aziendale. Le competenze, il modus operandi della scuola di formazione è un luogo di condivisione, non di somministrazione di nozioni, è un luogo di condivisione di esperienze. Questo non può che far bene e far paio con la parola progresso che abbia a che fare con il territorio in cui tutti noi collaboratori ci troviamo a relazionarci una volta fuori di qui. È per questo che la scuola di formazione non è una cosa diversa rispetto a quella istituzionale perché garantisce il mantenimento di una struttura ricettiva cognitiva che poi può essere scaricata non solo in azienda ma in tutte le fasi esperienziali di una persona.

Quindi mi sembra di capire che anche le risorse umane abbiano comunque un ruolo centrale; per MEP le risorse umane sono viste come un fattore di produzione, mera forza lavoro o come un capitale da valorizzare? I corsi sono volti solamente ad uno sviluppo professionale o sono paralleli ad una crescita personale?

Sicuramente il capitale umano inteso come un organismo complesso che possa crescere di giorno in giorno è sempre stato importante, che questa crescita sia costante e che sia riconosciuta come il reale potenziale produttivo della nostra impresa. L'unico macchinario reale che ci consente di essere leader nel settore è la capacità di questo organismo vivente di continuare ad innovarsi giorno per giorno. Per noi quello che è

interessante è fare in modo che la macchina vivente continui ad elaborare ed innovare; per far questo riteniamo che la formazione sia una delle più importanti leve, quindi lo strumento principale di risultato è il capitale umano.

Nell'ambito del cambiamento è fondamentale il background culturale, valoriale e una vision condivisa. Quanto è difficile la diffusione nell'organizzazione di una vision e di nuovi valori aziendali? E la formazione è uno strumento sufficiente o è di ausilio ma non sufficiente del tutto?

Viviamo in un punto di passaggio tra due epoche che verranno studiate come cesure importanti dell'evoluzione. Per fare una digressione, non accadeva dalla fine dell'Impero Romano in Europa che la superficie boschiva di anno in anno si incrementasse come adesso. Sappiamo benissimo, soprattutto per l'Italia, che per noi il paesaggio e il territorio sono cultura. Quindi siamo all'interno di un guado che vede due approcci culturali differenti. Questo ci fa capire quanto sia difficile cambiare questo paradigma culturale nella mente dei nostri collaboratori, quindi la consapevolezza che una persona può acquisire solo formandosi è la maggiore arma attraverso cui il cambiamento sarà reso possibile. Non pensiamo che la formazione in quanto tecnica nuova possa stimolare o essere cambiamento, ma la consapevolezza che può dare, ed è per questo che deve essere trasversale; confrontandosi con il diverso, può garantire il cambiamento, che altrimenti è difficile, in quanto epocale. Non è una rivoluzione solo industriale quella che stiamo subendo, ma anche umanistica e culturale che sta cambiando totalmente il contesto in cui si svolgono le nostre aziende, le vite, le famiglie e tutto ciò che ci circonda. Quindi la formazione è uno strumento di consapevolezza, non il cambiamento di per sé. Il cambiamento si otterrà quando le persone si saranno rese conto di quello che sta realmente accadendo intorno a noi. È un importantissimo esercizio di democrazia; la democrazia si sviluppa non tramite azione, ma la consapevolezza, e la stessa cosa accade per il cambiamento aziendale.

All'interno della scuola di formazione vengono organizzati corsi inerenti ai temi di sostenibilità sociale e ambientale? Eventualmente ne valuterebbe lo svolgimento in futuro?

I corsi di sostenibilità e impatto ambientale li abbiamo tenuti perché siamo certificati come azienda (sistema integrato) e abbiamo dovuto confrontarci con il mantenimento

dei parametri ambientali e di gestione del possibile impatto negativo che può avere l'attività aziendale sull'ambiente circostante. Sicuramente dovranno essere inseriti in una più ampia visione di sostenibilità di tutta la filiera, quindi la compartecipazione degli stakeholder a monte e a valle della nostra attività. Pensiamo che nel breve futuro sarà una necessità imprescindibile per dare continuità all'azienda stessa, per cui tutte le aziende dovranno considerare la sostenibilità non come orpello organizzativo quanto come profonda struttura di fondazione di qualsiasi attività.

Interview 4: Dr. Anna Pizzale

La qualità rappresenta per molte aziende italiane di piccola e media dimensione un concetto cardine, tanto importante quanto complesso, che non si riferisce soltanto al prodotto finito ma permea i processi ed i flussi aziendali. In che cosa si concretizza la Qualità in MEP? E in cosa consiste la sua gestione?

A Novembre 2016 il Sistema di Gestione della Qualità presente in MEP è stato ritenuto dall'ente certificatore Bureau Veritas idoneo secondo la norma UNI EN ISO 9001: 2015, così anche la saldatura secondo la norma UNI 3834 parte 4 del 2006.
Tale traguardo si è concretizzato grazie al lavoro attento e partecipe di tutti i Responsabili di Funzione non solo per l'analisi delle procedure in essere ma anche per la redazione della parte documentale e il reperimento e formalizzazione di quelle informazione che secondo la nuova norma vengono definite "documentate".
Attualmente il Sistema, proprio perché di recente implementazione, è continuamente in divenire sotto molti aspetti e viene monitorato costantemente e proattivamente.
Alla base della definizione di Sistema Qualità c'è il concetto di "Sistema" quale insieme di oggetti (parti, componenti, funzioni ecc.) legati tra loro da relazioni di interdipendenza. Interdipendenza che integra e lega l'intervento effettuato solo per una singola parte al tutto, per cui quando si parla di sistema l'approccio necessario deve per forza di cose essere trasversale, onnicomprensivo ed esperto.
Con l'approccio sistemico non si vuole assolutamente sminuire l'importanza dei singoli componenti ma si intende considerarli e studiarli in ragione del loro essere "parti di un Sistema" integrato e resiliente.
Per ottenere questo importante risultato è necessario pianificare e organizzare le attività, i ruoli, le responsabilità, i supporti operativi in modo da coinvolgere tutte le funzioni aziendali.
In base alle considerazioni fatte, emerge che il Sistema Qualità interessi tutte le fasi operative e tutta la filiera a partire dal primo contatto con il cliente e le sue esigenze fino all'implementazione e mantenimento di una soddisfacente e sostenibile risposta.
Riassumendo, per Qualità in MEP si intende:

- attenzione al cliente in primis,

- pianificazione delle azioni e dei procedimenti,
- miglioramento continuo,
- partecipazione e coinvolgimento a tutti i livelli aziendali,
- formazione attraverso la nostra MEP Business School.

Vi è un rapporto tra Qualità e Sostenibilità? Ad esempio, tra Qualità ed ambiente? In che cosa consiste il sistema integrato qualità e ambiente?

Da Febbraio 2019 il nostro Sistema di Gestione è diventato "integrato" questo vuol dire che alla ormai consolidata norma ISO 9001:2015, che riguardano i sistemi di gestione della qualità e UNI 3834 per i processi di saldatura si è aggiunta la gestione della norma ISO 14001:2015 relativa alla gestione di sistemi ambientali.
Nati come sistemi ISO indipendenti l'uno dall'altro, la loro fusione in un'unica prospettiva ha permesso di gestire al meglio il processo produttivo d'impresa, grazie a una visione d'insieme delle peculiarità di ciascuno.
Una gestione integrata risulta utile per avere a disposizione procedure di snellimento concrete per molti aspetti dell'amministrazione aziendale: è infatti importante ricordare che l'adesione a queste norme rimane volontaria e pertanto MEP, aderendovi, ha scelto di conferire un valore aggiunto ai propri processi aziendali.
L'attenzione alla sostenibilità è sempre più parte integrante e determinante nella formulazione delle strategie aziendali, per tale motivo impone inevitabilmente un ripensamento e adeguato cambiamento dei processi e delle funzioni. Il criterio sistemico di sostenibilità è una presa di posizione chiara sia riguardo gli effetti del business aziendale sull'ambiente sia sulla necessità di integrare, replicare e implementare sé stesso a tutti i livelli della catena del valore condivisa con tutti gli stakeholder (sia interni che esterni). Anche per tale motivo abbiamo chiesto ai nostri fornitori di adeguarsi ad alcuni standard ambientali (prevalentemente riferiti alla normativa cogente) ed internamente abbiamo adeguato i processi affinché rispondessero agli obiettivi che MEP si è data per far fronte alla sostenibilità ambientale.

Gestire la Qualità significa mantenere gli standard da sempre presenti in Azienda, o crearne di nuovi? Quindi, la Qualità deve essere mantenuta o creata ex novo?

Il concetto di qualità ha assunto nel tempo maggiori significati e nuove implicazioni cercando di raggiungere la massima affidabilità e soddisfazione del cliente, fino a farlo divenire sinonimo di eccellenza propositiva. La qualità è lo strumento globale dell'impresa, necessario per mantenersi competitivi nel mercato attraverso l'evoluzione di prestazioni e risultati misurabili, sottoposti a continuo miglioramento nel tempo. Non è più vista come un punto d'arrivo in un contesto statico, quanto come un percorso di crescita strutturata, intenzionale e misurabile ma soprattutto continua e in un contesto dinamico. Per noi la qualità è un impegno quotidiano, una sfida continua nel definire standard, modelli, processi e procedure, è continuo miglioramento dei servizi e dei prodotti, consapevoli di non poterli mai considerare perfetti e consolidati, ed è questo tipo di approccio che vogliamo offrire al mercato. Per tale motivo cerchiamo di rispondere alle norme soddisfacendo gli standard, monitorandone gli indicatori di performance contemporaneamente accettando le sfide che nascono internamente e dal mercato su nuovi obiettivi che determinano nuovi indicatori di performance in ottica di miglioramento continuo.

Quali sono le circostanze più problematiche e difficoltose che si incontrano in termini di controllo e mantenimento della Qualità? Qual è l'importanza della Qualità all'interno della filiera? Quanto incide nelle scelte dei fornitori/partner? È fonte di vantaggio competitivo per MEP?

Attualmente ci stiamo confrontando con una gestione molto più puntuale delle Non Conformità. Nello specifico stiamo acquisendo maggior dimestichezza nell'individuazione dei costi della Non Qualità generata dalle Non Conformità sia di processo che di prodotto.
Internamente, stiamo sensibilizzando tutte le funzioni con il concetto che la gestione della Non Conformità non è mera indagine della causa e ricerca del colpevole quanto invece preziosa opportunità di analisi dei processi interni e loro imprescindibile possibilità di miglioramento.

Analizzando proprio le NC (Non Conformità) Fornitore ci rendiamo conto quanto la gestione delle Non Conformità sia ancora bisognosa di ulteriore implementazione. La qualità dei singoli prodotti da noi acquistati impatta decisamente nella operatività del nostro prodotto finale: per questo riteniamo molto importante educare i fornitori critici alla qualità ed alle specifiche richieste di MEP; il fornitore diventa un prezioso partner che lavora fianco a fianco con MEP. Ci siamo cimentati in diverse collaborazioni con grossi partner per sviluppare nuove soluzioni che siano sia migliorative che innovative anche partendo dall'analisi puntale delle NC rilevate: tale approccio sembra funzioni pertanto riteniamo che questa sia la strada giusta!

Interview 5: Mr. Claudio Miconi

Cosa significa per Lei Sostenibilità d'impresa, e in che cosa si concretizza in MEP? (In che cosa si concretizza la sostenibilità sociale? E quella ambientale?)

E' un tema che è stato sviluppato a suo tempo dalla commissione mondiale per l'ambiente per lo sviluppo delle Nazioni Unite, parliamo fine anni '80 – inizio anni '90, in cui si sono concretizzate tre tematiche che afferiscono alla sostenibilità. Parliamo di sostenibilità ambientale, sostenibilità sociale e sostenibilità economica. Il mio ruolo in azienda è limitato alla sostenibilità ambientale e sociale. Per quanto riguarda la sostenibilità sociale uno degli aspetti più importanti sul quale l'azienda si sta impegnando già da molto anni, è quello di fare formazione molto spinta ai dipendenti, tramite una istituzione aziendale che è la MBS (MEP Business School). Poi garantiamo contributi e garanzie a tutti i lavoratori che operano in azienda, abbiamo dato dei contributi ad esempio al comune di Reana per importanti lavori che stanno avvenendo sulla strada. Vi sono delle opere di riqualificazione molto importanti della via comunale di questa zona industriale. La MEP ha fornito dei contributi al comune di Reana. Queste opere di riqualificazione consentiranno di essere molto più funzionali sia per l'azienda che per il territorio; la zona sarà molto più presentabile, vi sarà finalmente una pista ciclabile, aiuole, e soprattutto queste opere garantiranno anche una maggiore sicurezza sia per la veicolazione stradale sia per i dipendenti della MEP, perché operiamo su entrambi i lati della strada ed è importante garantire la sicurezza sui passaggi pedonali. L'azienda sta portando avanti importanti attività di sponsorizzazione, ad esempio con la fondazione *Telethon*; siamo associati ad *Animaimpresa*, una associazione di imprese che promuove la cultura della sostenibilità, e poi siamo legati al territorio. Le magliette dei ragazzi delle squadre di calcio juniores fino alla squadra più importante della società calcistica del comune riportano sulla maglietta il marchio MEP. Per quanto riguarda la sostenibilità ambientale, la MEP ha fatto in questo ultimo periodo degli importanti sforzi. In primis in materia di rifiuti, nel senso che stiamo attuando la massima differenziazione dei rifiuti, che significa poi massimizzare la possibilità di riciclaggio degli stessi, entrando nel concetto di economia circolare. Con il supporto del consorzio di smaltimento rifiuti di alcuni comuni limitrofi della provincia di Udine – consorzio A&T 2000 – abbiamo promosso anche una differenziazione dei rifiuti di tipo non industriale ma assimilabile ai rifiuti domestici. Abbiamo anche con il loro supporto cercato di

trovare delle forme per differenziare il più possibile. Ad esempio, il residuo secco, difficilmente riciclabile e che una volta costituiva una quota veramente importante dei rifiuti dell'azienda, è stato adesso ridotto alla minima parte.
Stiamo utilizzando già da alcuni anni le vernici all'acqua, riducendo così le emissioni in atmosfera riducendo la quantità di solvente all'interno delle vernici che utilizziamo regolarmente per verniciare le nostre macchine. Questo ha effetti benefici sì sull'ambiente, ma anche sulla sicurezza delle persone, siccome lavorare con vernici che presentano un tenore basso di solvente significa anche garantire un ambiente più salubre e anche meno pericoloso dal punto di vista dei possibili incendi, in quanto tali vernici non sono infiammabili.
Stiamo effettuando anche importanti interventi sul fronte della limitazione dei consumi energetici, cercando mese per mese nuove soluzioni che implichino l'utilizzo di risorse naturali, nella fattispecie l'acqua. Tutte queste attività ci hanno permesso il riconoscimento di alcune certificazioni che attestino gli sforzi sostenuti. In particolare, per quanto concerne l'ambiente, l'azienda ha ottenuto la certificazione ambientale ISO 14001, nel febbraio del 2019. Con riferimento alla sostenibilità sociale, abbiamo ottenuto il massimo punteggio ottenibile (tre stelle) afferente al rating di legalità, rilasciato dall'Autorità Garante della Concorrenza e del Mercato, e consente alle aziende di ottenere 3 livelli di rating. Dopo un percorso di circa 2-3 anni siamo riusciti a ottenere il massimo punteggio ammissibile. Questo ci ha permesso di avere un'ottima visibilità sul mercato, e ciò può anche avere dei ritorni dal punto di vista finanziario, nel caso in cui l'azienda decidesse di ottenere dei prestiti.

Quali sono le principali fonti energetiche?

Le principali fonti energetiche sono l'energia elettrica ed il gas metano. Quest'ultimo ci permette di alimentare la cabina di verniciatura, aumentando la temperatura al suo interno per permettere l'essicazione della vernice applicata. Queste due forme di energia vengono acquistate dal Consorzio Friuli Energia, il quale tiene conto di aspetti ambientali lui stesso nell'acquisto delle fonti energetiche. Nel 2015 abbiamo fatto una diagnosi energetica aziendale (DEA) molto spinta per andare a verificare e valutare tutti i consumi energetici, anche per capire dove è possibile ottenere dei miglioramenti. Non siamo un'azienda energivora – secondo i requisiti del decreto italiano che ne definisce i tratti. Inoltre, io stesso effettuo delle verifiche periodiche sui consumi energetici, per

controllare che non vi siano dei discostamenti importanti, e per verificare che le soluzioni adottate in azienda continuino ad essere efficaci.

Quali i materiali sostenibili? Tali scelte seguono una logica anche economica, oltre che socio/ambientale?

I benefici ambientali e quelli economici vengono messi allo stesso piano. Già in fase di progettazione viene valutata la possibilità di utilizzo di materiali riciclabili, oppure di acquistare componenti della macchina che riducano ad un minimo i consumi. Questo ci può permettere, grazie anche alle nuove tecnologie, di essere competitivi sul mercato grazie alla proposta di prodotti con un limitato consumo energetico durante il loro utilizzo.
Sempre in ambito di materiali verdi, anche la carta che viene adoperata negli uffici è certificata FSC (Forest Stewardship Council), il che significa che proviene esclusivamente da foreste certificate; inoltre utilizziamo imballaggi in legno per spedire le macchine, che è a sua volta certificato con trattamenti fitosanitari ISPM 15 della FAO (Food and Agriculture Organization) che limitano la possibilità di produzione di organismi nocivi e infestanti per le foreste. Anche per il ciclo di vita del prodotto pensiamo non solo ai processi produttivi ma anche al prodotto stesso. Quando forniamo una macchina al cliente, questa è accompagnata dal manuale dove è specificato come si smaltisce la macchina per garantire la salvaguardia dell'ambiente.

Vi è possibilità di sfruttamento dell'economia circolare e di simbiosi industriale?

Riusciamo ad applicare efficacemente la gestione dei rifiuti con una forte differenziazione. Trattiamo in azienda dai 20 ai 30 codici CER (Catalogo Europeo dei Rifiuti); differenziare più rifiuti significa poter poi gestire meglio la loro riciclabilità. Tra i rifiuti che ricicliamo vi sono carta, cartone, plastica, legno, materiali ferrosi (scarti del tondino per collaudare la macchina, che vengono scartati e raccolti in un deposito temporaneo per poi essere smaltiti tramite società autorizzate e poi riciclato tramite fusione in acciaierie). Questo è un esempio di economia circolare. Un altro esempio è il legno, che è affidato a delle importanti aziende italiane nel realizzare pannelli truciolari e in MDF (Medium Density Fiberboard). Tutti questi rifiuti vengono poi riciclati e quindi gestiamo una certa economia circolare. Anche la plastica viene riciclata con uno sforzo

condotto cercando di differenziare al meglio il secco residuo dalla plastica stessa; anche l'organico umido viene gestito in maniera rigorosa permettendoci di utilizzare humus o fertilizzante per l'applicazione agricola.

Il materiale ferroso viene fornito ad acciaierie che fondono il materiale. Viene fornito all'acciaieria a titolo gratuito o con un corrispettivo?

Per fortuna questo tipo di rifiuto ha ancora un valore. È un materiale pregiato ed ha un valore. Il cliente è un fornitore, le società di smaltimento sono fornitori concettualmente. Lo smaltitore recupera il materiale e lo consegna alle acciaierie che poi lo trattano e lo fondono per riprodurre poi quello che serve per le industrie. Tempo fa (dieci anni fa circa) lo stesso discorso valeva per legno e carta, poi questi materiali hanno perso valore per varie questioni di mercato quindi attualmente le aziende pagano per smaltirli.
Fino a un anno fa era in vigore un sistema elettronico di tracciabilità dei rifiuti SISTRI, mai entrato in vigore, portato avanti per circa dieci anni, ma le aziende vista la difficoltà operativa non lo hanno quasi mai utilizzato, quindi lo stato ne ha sospeso l'impiego.
Recentemente, partecipando ad un corso, mi è stato riferito che verrà ripristinato un altro sistema di tracciabilità dei rifiuti molto più semplice e si spera che questo permetta una gestione più efficace ed economica dei rifiuti (ad esempio, ora la normativa prevede gestione manuale della contabilità dei rifiuti). Ben venga un sistema di tracciabilità più semplice ed efficace dei rifiuti, che permetta di contenere i costi della contabilità manuale.

Parlando di certificazioni e compliance, quali sono le difficoltà nel dimostrare i requisiti necessari per ottenerle? Qual è il procedimento?

L'azienda ci è riuscita in tempi brevi (5-6 mesi), ma non è stato semplice; non è semplice perché i prerequisiti per le certificazioni ambientali richiedono la garanzia della conformità normativa, la quale non è semplice e abbraccia molte tematiche. Grazie anche al supporto di un consulente siamo riusciti a trovare la strada maestra per la sintesi. La parte difficile è stata essere certi di avere la conformità alla normativa, che deve essere ufficializzata. Poi l'altro grande lavoro è stato trovare un sistema di gestione aziendale, che noi avevamo, ma frammentato. Abbiamo dovuto predisporlo e ora sta dando i suoi frutti.

Le logiche sociali e ambientali rappresentano per MEP un criterio di scelta dei fornitori e viceversa? Per i clienti è un criterio di scelta di MEP?

Il mercato è molto sensibile al concetto di sostenibilità e ambiente. Anche MEP quando deve fare la scelta delle fonti di approvvigionamento tiene conto di qualità, prezzo e questioni ambientali. È una logica condivisa da molte aziende nel territorio, e ha una rilevanza. Abbiamo anche una certa sensibilità per il fatto di approvvigionarci con fornitori certificati dal punto di vista ambientale o che abbiano già installato un sistema di gestione. Per quanto riguarda la clientela possiamo fare le stesse considerazioni; spesso i colleghi dell'area commerciale segnalano richieste di approfondimento del mercato dei clienti sul fatto se siamo certificati o meno. Il mercato è quindi molto sensibile all'argomento della sostenibilità, specialmente ambientale.
La certificazione è la ciliegina sulla torta, è un'ufficializzazione di qualcosa che hai già fatto. E' fondamentale perché garantisce formalmente che l'azienda segue tutte le procedure e le normative che portano al rispetto dell'ambiente.

La figura dell'HSE Sustainability manager in MEP è avvenuta per libera scelta o necessità?

La figura non rappresenta un obbligo normativo ma è nata da un'esigenza avvenuta un anno fa, nata dalla lungimiranza della direzione aziendale che ha capito di dover dare organicità e respiro a quello che era il mio ruolo; quindi un anno fa mi è stato detto che era giusto espandere le mie funzioni perché erano cose già fatte ma mai ufficializzate, aggiungendo la parola *Sustainability* perché non ci si occupa più esclusivamente di sicurezza. La direzione punta al lavoro di gruppo, al lavoro in sincronia nell'ambito del sistema di gestione, a livello fisico ma anche di comunicazione, per garantire in maniera più efficace tutti gli obbiettivi che ci siamo posti.

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