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Types of innovation

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Acknowledgements

In my personal life I had the opportunity to know Carl Gustav Jung thanks to one of my doctors, during a therapy. I was fascinated by his theories since the very first moment, since he believed in a collective unconsciousness that expresses itself through archetypes, aside from a personal individual unconsciousness. According to his view, the individual's life can be imagined as a route, called individuation process, consisting of the realization of the personal *Self* in comparison with the collective and the individual unconsciousness. Through his metaphor on alchemy, he explained the beginning of this process with the dissolution phase, when individuals can get familiar with own shadow, the dark side of the psyche. This is crucial for the enrichment of people's personality and, principally, not to let it grow to the point at which it would create psychical disequilibrium. The alchemical psychology demonstrates how implacably melancholies, sadness periods, hurts and lesions that do not properly heal, terminations of love story or of friendships are states representing a beginning, the beginning of the individuation process, as they are ends, dissolutions. I began the thesis project in a moment when I actually realized that the seed of consciousness is hidden exactly behind interior earthquake. And that is the reason why I loved working on it.

It is thanks to Ch. Prof. Carlo Bagnoli and his co-workers of Strategy Innovation s.r.l Beniamino Mirisola and Veronica Tabaglio that I understood how this concept can be applied to every field of life, to corporations too. In the end, even organizations are nothing but groups of people.

I thank Hitachi ABB Comem and its General Manager Luca Vivian, who gave me the possibility to complete this project.

Additionally, I want to thank my parents Cristina and Andrea, who sustained me mentally, emotionally and economically, and who sincerely believe in me always and however.
I also thank my brother Alberto, whose determination, ambitiousness and positivity have always been of inspiration to me.

Finally, I heartly need to devote this milestone to my*Self*, for having learned to be my best friend in the worst moments and for having always found a way to carry on.

In Jungian words, I wish to ever see the light after the darkness of breakdowns, so to continually become the best version of me.

I wish the sensibility to see with the eyes of the soul will push me thinking out of the box and see that box from all the different perspectives, driving me towards brilliant, motivated and gratifying professional career and life.

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Introduction

Thesis' topic: *Types of innovation.*

Objectives: demonstrate that each of the Psychological Types presents characteristics that delineates disruptive innovators. Thanks to a comparison between the Innovator's DNA model by Dyer, Gregersen and Christensens and the eight Psychological Type model by Carl Gustav Jung, it is possible to extrapolate at least eight *Innovation Types*.

For a proof, it will be presented a case study, performed in collaboration with Hitachi ABB Comem.

Research methodologies: MBTI test and Innovation Level questionnaire.

Results and conclusions: contrary to every expectation, Hitachi ABB Comem interviewees show a very strong preference for Feeling cognitive function. Nonetheless, and at the same time, the company demonstrates a good level of innovation. With embryonic tests and their results, it has been possible anyways to arrive to important and verified deductions. As a conclusion, it is possible to say that the company well embodies the example of how all cognitive functions can be basis for disruptive innovators' creativity. The thesis has been verified and the validity of the methodology has been proved.

Innovation is a charming topic nowadays, nonetheless a widely discussed one.

It is generally defined as the process of converting new ideas and inventions into practical products or services that generate value for consumers.

As a process, it can be imposed by circumstances, it can have different sources, several drivers and it may present in different forms and models in distinct fields. However, the process of innovation always starts with creativity. In this way, innovation is presented as a proper person's characteristic.

All the most frequently used innovation's instruments of analysis, unfortunately, lack a critical characteristic: they do not possess the sensibility necessary to examine and inspect individuals. Considering a stereotyped idea of innovation and not able to catch the multitude of nuances that human psychological traits can add to the innovation process,

those tools must at least be coupled with instruments necessary for the analysis of individuals proposed by psychology.

The Jungian theory on the eight Psychological Types will be described and discussed, as well as put at comparison with the Innovator's DNA model introduced by Dyer, Gregersens and Christensen.

As the Innovator's DNA model has been recognized as presenting the behavioural attitudes proper of innovative people, which are Observing, Questioning, Networking, Experimenting and Associational Thinking, and as those skills can be correlated with the Jungian cognitive functions, for categorical syllogism then also the Jungian model can classify innovation. In particular, the eight Psychological Types, resulting from the combination of the four cognitive functions Sensing, Intuition, Feeling and Thinking with the two human attitudes Introversion and Extraversion, identify at least eight types of innovation.

As a consequence, the main tool of analysis considered for the thesis project is the MBTI (Myer-Briggs Types Indicator) test, in the integrated version of Lenore Thomson.

To test the thesis in the real world, a group of key employees selected by the general manager of Hitachi ABB Comem Power Grids has been interviewed; they differ in gender, age, role in the company and business area of belonging. Chasing the fixed objective, the MBTI test and a questionnaire on the level of innovation of the company have been submitted. The two tools are somehow complementary, since one relates to innovation as a person's characteristic and the other to the practical innovation level of the company.

The goal is to effectively determine the group's degree of innovation and to eventually improve it, both at personal and at practical/technological level. The overall aim is to verify whether it is possible to categorize at least eight types of innovation, as many as the Jungian Psychological Types are.

Chapter 1

Innovation

This first chapter will treat of the concept of innovation.
It will process a general introduction to the topic, starting from the standard definition of innovation as a process, clarifying the innovation fields' terminology and categorizing the innovation's main sources, forms and models.
The chapter will then deal with innovation in organizations and innovation as a person's characteristic. For each of these two subjects, respective models will be described.
Chapter 1 will end with a consideration on the fact that all the models and tools of measurement for innovation proposed in this first part of the thesis are not provided with the sensibility needed to catch the various human psychological traits that have the great capability and enormous potential to contribute to the innovation process.

1.1 Introduction to Innovation

Innovation is a charming topic nowadays, nonetheless a widely discussed one.
It is described in many different ways, according to the point of view from which one desires to observe it. In this project, innovation will be discussed broadly speaking, yet strictly linked to the corporations' perspective.
Innovation is generally defined as the process of converting new ideas and inventions into products or services that generate value for the customers.
Being a process, beyond being a person's characteristic, innovation can sometimes be imposed by circumstances.
In the last decade, in fact, it has assumed a key role, in particular for what concerns the firms' strategic management, since the crisis periods led almost all the companies to inevitable processes of change. Under this circumstance, already innovative companies were able to reinforce and affirm their leadership position, many survived by starting

innovative and renewal processes while others did fail due to cultural approach or organizational inertia.

A noteworthy example is provided in the current days by the situations and the conditions brought about by the Covid-19 virus.

Covid-19 crisis doubtless created meaningful challenges, but at the same time indirectly increased most of the companies' resilience. Indeed, the virus imposed heavy threats to corporations, and only those which were able to leverage on the ability of resilience and even enhance it, did find a way not to collapse and fail.

For many companies this had consequences in terms of reorganization: some were obliged to go online and open e-commerce platforms, others had to reformulate the supply and distribution chain, few reinvented the production lines and offers, etc.

In most of cases however digital technologies have helped moving our lives online.

For sure, in terms of innovative strategies it has meant a shift towards openness: opening up allows developments and advancements to quicken. In crisis periods, agility and quickness are key.

In the specific case brought about by Covid-19, openness is contributing and may continue to contribute to find new vaccine; in addition, if manufacturers give access to their intellectual properties temporarily, almost anyone in the world would be able to print a mask with a 3D printer, prepare home-made hand sanitizers, etc. (Chesbrough 2020)

In times of crisis, openness is a must: good ideas can come from anywhere; open innovation is clearly a model facilitating problem solving from anywhere and anyone.

As it emerges, black swan events and all the consequent conditions they create, may force companies to innovate; necessity is one of the main sources of inventions.

Undoubtedly these days innovation is an imperative requirement for organizations to compete and, in its numerous shapes, it has become a crucial driver for every type of company's reality.

For what concerns the field of corporations, many different models proposed by scholars help to categorize innovation typologies according to the object of innovation, identifying so product innovation, process innovation, organizational innovation, business model innovation and many others; other typologies can be defined according to who introduces it, users for instance, or to its drivers: market, technology and design.

Innovation discussion may be rendered tough due to the huge variety of terms that are commonly used as synonyms of innovation; as a first move though, it is necessary to introduce a clarification about the innovation fields' terminology.

Normally, the concept of innovation is strictly linked with the new idea generation process, and the process of new idea generation is usually referred to with the term creativity.

The term creativity has gained particular and increasing attention recently, especially when it has been associated to terms as "productive, inventive, imaginative". (Melucci, 1994)

An interesting and particular prospect on creativity is offered by Albert Rothenberg, an American psychiatrist who spent most of its life studying mainly the creative process in the fields of art, science, literature and psychotherapy.

He discovered few interconnecting psychological mechanisms that constitute the heart of creative thinking and lead to creativity and creative accomplishments, all basically consisting of the use of numerous conflicting thoughts simultaneously and the use of different entities in the same mental space, that gives birth to the articulation of new identities and, using separations and connections concurrently, contributes to integration in creation. (Rothenberg, 2015)

Rothenberg proposed a definition of creativity as the state or production of both newness and value and capable of standing the test of time, characterized by elements like desire, courage and motivation to create, willingness and absence of aversion to risk and fail, intelligence, curiosity, emotional stability and absence of anxiety and stress. (Rothenberg, 2015)

Creativity is different from innovation. Considering creativity as the process of generating new ideas and as a function of imagination, curiosity, evaluation and knowledge, innovation can then be described as applied creativity. It is possible to say then that creativity is a capacity, a quality merely proper of individuals; on the other hand, innovation consists of a process, and as such can be either individual or collective. In brief, the main dissimilarity stands in the fact that creativity is a person's trait, while innovation is a course of actions.

It can also be said that the fundamental difference between innovation and creativity stands in the focal point: creativity, which is subjective and difficult to measure, is about release and free the power of the mind to envision and formulate new ideas; contrarily,

innovation, that implement its creative resources, is about the work "to get creation done" and introduces change. (Business Insider, Primed Associates 2013)

Creativity is only the beginning of the innovation process.

Creativity, the front-end innovation process, is also the principal focus of most organizations. This is due to many facts, as the one that the new idea generation process usually does not produce stress within companies, the fact that while execution is much more boring ideation is more attractive, and finally the fact that businesses take for granted their implementation capabilities. (Govindarajan 2010)

Thus, creativity is a vital component of innovation and allows to generate business value if correctly fostered and developed. For example, it has been shown that the most successful creative companies are composed of people who strongly believe in the firm's aim and its strategy towards it, and this kind of mind-set prioritizes creativity and innovation. (Brodherson, et al. 2017)

In an organizational context, practical and accurate uses of creativity contribute to improvements in the company's performance, especially if it is applied in fields that deal with decision-making, management and communication. In today's circumstances, creativity has become essential to face new scenarios and to find solutions to ever new problems.

The interactionist model proposed by Woodman, Sawyer and Griffin presents creativity as composed of three different organizational levels, as it is characteristic of individuals, of groups and of the organization itself. According to the model, the creative process results from both the person's characteristics and the environment where he/she works. (Woodman, Sawyer, & Griffin, 1993) In particular, individual creativity, intended as individuals' creative behaviours affected by specific precedent and actual working conditions, is the basis of organizational creativity. In other words, organizational creativity raises from the creative work of the single groups of people, considering the context a determinant factor of the final result.

Amabile's componential model of creativity, in addition, connects creativity to innovation.

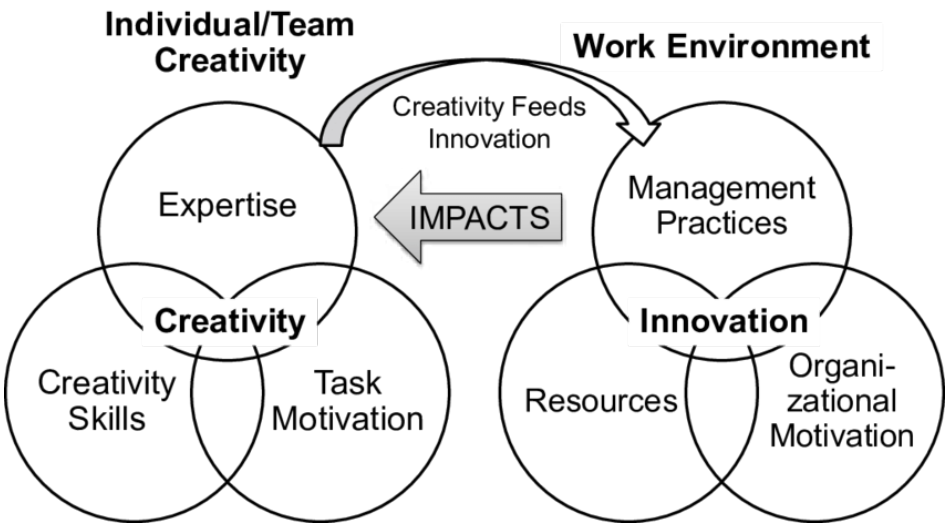


Figure 1 - Amabile's componential model of creativity

(Research Gate s.d.)

In a sort of vicious circle, the work environment impacts on individuals' creativity, which conversely has consequences on the creativity of superior organizational levels.

Individual creativity moves through the group, and it is exactly the interactions between individuals that stands at the basis of innovations. For this reason, a working environment should always stimulate rather than obstacle creativity and, consequently, innovation.

It is important to highlight the fact that the concept of creativity, that leads to novelty of products, is distinct also form the one of (re)invention: in order to be novel, a product must be dissimilar from prior works and from the users' prior experiences. As a consequence, as they are frequently used as transposable substantives, a discernment between innovation and invention is indispensable too.

In fact, the words invention and innovation most of time are considered and used as synonymous, but they are definitely not interchangeable.

An invention consists of the creation of a product or introduction of a process for the first time and can be identified with the transformation or variation it brings to businesses and their processes, and to the customers' behaviour. (Grasty 2017)

Innovation, on the contrary, occurs if someone improves on or makes a significant contribution to an existing product, process or service. (Wyckoff e Auerback 2015)

Inventions are testified by patents, but patents without new adoptions are not innovation. Moreover, not every invention is a successful and outstanding innovation. An example is the iPhone: it was not a disruptive invention from a technical point of view; however, it was an admirable innovation. (Walker 2015) In particular, the introduction of the iPhone was a great cultural innovation, as it changed the meaning of a simple mobile phone.
Joseph Schumpeter specifically detected the difference between innovation and invention and that is the reason why it is not possible to talk about innovation without mentioning Schumpeter.

The origins of today's definition of innovation: Joseph Schumpeter

Joseph Schumpeter was an Austrian economist interested in the innovative role of the firm and how innovation was realized and carried on by the entrepreneur.
The concepts of innovation and entrepreneurship are probably Schumpeter's most distinctive contribution to economics. (Hanush & Pyka, 2007)
As Schumpeter described in *The Theory of Economic Development*, the entrepreneur's main function is to allocate existing resources to new uses and new combinations.

According to the Austrian economist, there exists a clear distinction between invention and innovation.
Invention represents the creative activity that produces ideas which, hopefully, generate value by satisfying economic needs.
Innovation occurs in the moment when the potential value of the invention is realized, so when the inventive idea becomes a product or process that will soon reach the market of interest.
Concisely, according to Schumpeter an invention is a sort of discovery that evolves into innovation when it is realized and exploited.
It is possible to spot two types of sources of innovation, basically with respect to the organization's dimensions.
Regarding corporations of relevant dimensions, the research and development activity is perhaps the most important source of innovation. Nonetheless, even if featuring more small enterprises, another meaningful innovation source is learning by doing, a learning method not formalized in specific procedures. (Laino, 2016) Indeed, the original

Schumpeterian concept of innovation was in contrast with routine and the routinized operation systems. In his point of view, innovation implies change, and so disequilibrium. Economic development is in fact driven by the discontinuous emergence of new combinations – innovations – that are economically more viable than the old way of doing things. (Schumpeter, 1934)

A key focus has been put on the role of components in the studies on innovation. The most appropriate elements and parts must be found and also recombined and reintegrated to generate successful innovation. (Petruzzelli & Savino, 2012)

Somehow, the fact that new combinations can be thought of as innovations is well explained by new technologies. The fact that they are not proper of specific areas or sectors and can easily be adopted and used in more than one, helped the rise of new markets and the reconfiguration of already existing ones.

Specifically, the expression technology bundling refers to the recombination of known technologies to satisfy newer and more challenging market demands. (Laino, 2016)

Schumpeter was the first academic to introduce the role of innovation into the economic system; according to him, indeed, innovations are essential to explain economic growth. He put the entrepreneur at the centre of the economic system, as the principal engine of growth, the central innovator. The entrepreneur, a man of production, is also known as the Schumpeterian hero, who is moved by an interior uncontrollable force, an unbound energy, encouraged by the pleasure of victory and the joy of creating (Amatori & Colli, 2011), but also, the entrepreneur is characterized by traits as intelligence, determination, alertness. (Śledzik 2013)

Specifically, Schumpeter challenged the neoclassical approach to the "standard firm", introducing two main concepts: the competitive nature of the firm as the principal driver of economic growth and disequilibrium among firms, as being more important than homogeneity. (Amatori & Colli, 2011)

As he looks at innovation as a process that interrupts the routine to give birth to a new equilibrium, he introduced the concept of creative destruction. It refers to the incessant product and process innovation mechanism by which new production units replace out-date ones. Creative destruction represents both the negative side of innovation, due to the inability of some firms to adapt and change in the very short term, and a necessary and inevitable step of the innovation process. An example could be provided by travel agencies: due to all the Internet services, and so due to innovation, physical travel

agencies are in crisis; crisis, according to the author, is the result of innovation that destroys employment before creating a new wave. The new wave in this example is represented by the consequently created online travel agencies and platforms like Booking or Airbnb.

In Schumpeter's view, capitalism is nothing but a discontinuity factor created by innovations, altering the current equilibrium, and the entrepreneur is basically the "surfer" of the waves fluctuating among the several equilibriums.

He especially identified two mirror-like but complementary processes, the economic and the technological ones: when the economic cycle is close to zero, the technology phase reaches its apex and, vice versa, when economic growth is at its peak, the technological cycle level is almost null. (Laino, 2016)

It appears sufficiently clear that capitalistic economics is a dynamic process, whose main actors are leaders able to introduce and develop innovations, allowing innovative companies to live periods of monopolistic positions, even though short in term, with extra profits and they can find their greatest incentive to further innovate properly in the fact that those periods are very short term. (Laino, 2016)

In this way, a key essence proper of the innovator has to be found in the ability to temporarily escape competition by the mean of innovation realization. That is also why innovations must be protected.

Schumpeter introduced a classification of innovations that regards different typologies.

The first area defined is product innovation which consists of the establishment of new products or new quality of products; then process innovation, the introduction of diverse ways of production; market innovation which, on the other hand, provides for the commencement of a new market; another area identified by Schumpeter is input innovation, the acquisition of a new point of supply, new raw materials or intermediate input; additionally, he pinpointed resources innovation, the ability of finding new sources of supply; finally, organizational innovation, the realization of a new organization. (Schumpeter, 1934)

Innovation, as it has been explained so far, is not just generating creative ideas. Innovation is translating the creative idea into a useful form, with the combination of resources and expertise.

For instance, as Schumpeter had already introduced, innovation can be thought of in terms of product innovation, based on the outputs of an organization, or can be performed

at a processes level, speeding up or improving the ways in which products are produced, called process innovation. These two typologies may strength each other: new processes may enable the production of new products and new products may develop new ways of production.

When talking about process innovation, the most famous example is Toyota and its way of production. Despite having already captured the world's attention for the Japanese quality and efficiency in 1980s, Toyota invented the "Toyota Production System" (TPS), also known as lean production. By doing so, the company was able to provoke a global transformation in practically every industry.

The TPS is a unique approach to manufacturing: the secrete sauce is understating lean as an integrated structure that impregnates the organization's culture. (Liker, 2004)

Lean manufacturing, as intended by Toyota, necessitates a way of thinking aimed at letting products stream through uninterrupted value-adding mechanisms (one-piece flow) starting from customer's demand; moreover, it requires a culture in which every individual strives constantly to improve and progress.

The Toyota way's 4 pillars include a long-term thinking philosophy, the elimination of waste in processes, respect and strong teamwork attitude among people and partners, and a problem-solving mindset based on continuous improving and learning.

At a merely process level, TPS introduced a pull system with raw materials replenishment initiated by consumption, to avoid the overproduction that usually occurs with mass production. This is also the basis of the just-in-time (JIT), a pillar of the TPS. Indeed, the Japanese phrase «the next process is the customer» pronounced by Kaoru Ishikawa (Gupta 2018) became the most significant expression for JIT, since in a pull system «the preceding process must always do what the subsequent process says». (Liker, 2004)

Many companies then started to switch to lean production strategies, focusing particularly on waste elimination at the processes level. However, it seemed that Toyota's solutions applied by different organizations in different circumstances produced added waste rather than eliminate it, and they failed. They mistook particular lean tools for true and pure lean thinking. Expressly, the failure of those corporations stood in the fact that they under-esteemed the cultural component of the innovation process, the dimension that transcends the process intended as the simple sequence of actions.

The innovative approach Toyota brought to processes with the introduction of the lean production system involves a far deeper cultural transformation.

The Schumpeterian perspective may be summarized as follow: innovation is considered an essential driver of competitiveness (Porter & Stern, 1999) and economic dynamics (Hanush e Pyka 2007); innovation is the centre of economic change causing gales of creative destruction (Schumpeter, 1976); innovation is a process of industrial mutation, that incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.
Additionally and conclusively, it is also possible to extrapolate three main assumptions: in the Austrian economist view, innovation and growth are independent events, technological and structural changes do follow the same evolutional path and, finally, innovation usually born from a crisis. (Laino, 2016)

Sources of innovation

The three principal elements that cause companies to innovate are technology, the market and meaning.
Technology has always been the cause of historical innovations. Technology-Push innovations is a radical innovation born from the materialization of the results of the scientific research to generate needs and wishes on the market. The company, after having explored new technological possibilities, somehow imposes the change and customers simply become the mean of the company's success. The introduction of innovations comes directly from the producer, who "raises" his/her consumers. The goal is to make clients believe the new products introduced are one of their needs, one of their preferences.
On the other hand, if the market is considered as the source of innovation, there are Market-Pull innovations. They are incremental and introduced after studies on consumers' needs and preferences. So, as this kind of innovations arise from users and, more in general, from the market, they will consist of simple changes like improvements in the product performance or changes in the characteristics to low the price.
Lastly, a Design-Driven innovation does not come neither from technological changes nor from the market needs and preferences. Design-Driven innovations lead to changes in the meaning of the product; born from the understanding of actual and future socio-cultural trends and, from this, they offer new visions and meanings to already existent products

and services. Thus, Design-Driven innovations touch emotional and symbolic aspects of products and services.

In other words, a Design-Driven innovation consists of the creation and definition of new messages and meanings that meet the customer's need. (Bettiol & Micelli, 2005)

They can be both incremental or radical: in particular, it is possible to define incremental a Design-Driven innovation when it adopts a language to express and pass to consumer a message that are both in line with the actual socio-cultural model, while the opposite is true for incremental Design-Driven innovations, that use a different language to express a significant reinterpretation of the meaning of the offer.

A charming way of looking at technology-push, market-pull and design-driven innovation is to consider them as the result of a modulation among the technological innovation (functions and performances of the product) with the product's message to consumers.

The result is a framework that identifies four types of innovation based mainly on sense or utility. The framework is shown in the following picture. (Verganti, 2008)

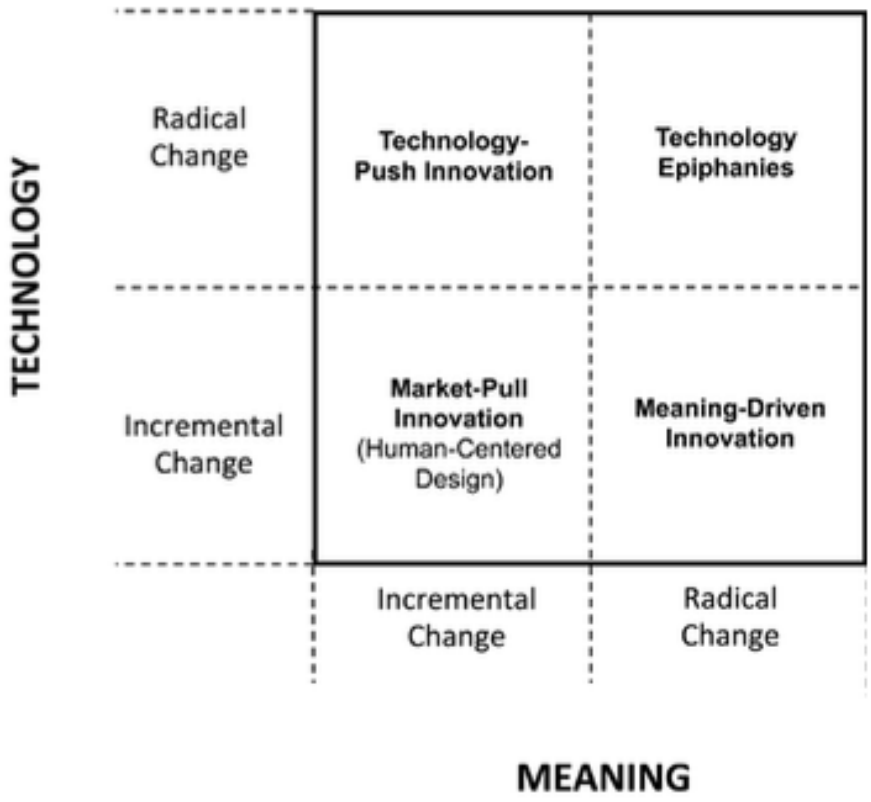


Figure 2 - The two dimensions and four types of innovation

(Verganti e Norman s.d.)

A radical change in technology with almost no change in the meaning of the product produces a Technology-Push type of Innovation.

Incremental changes in both technology and meaning of the product are synonymous of Market-Pull Innovation or Human-Centred Design: in fact, this kind of innovations rise from the analysis of users and their preferences and then, on this basis, products are developed.

Radical changes in technology that allow for radical changes in the meaning of the product instead lead to a Technology Epiphany. The superior utilization of a technology reveals its true improved meaning only after a design tests the current interpretation of what a product is, generating distinct and unasked products. Indeed, "epiphany" is referred to a superior position meaning, a perception of the intrinsic meaning of something.

Lastly, a Meaning-Driven Innovation involves radical change in the meaning of a product, usually implying changes in the socio-cultural regimes.

One of the characteristics of innovation is that it can arise from other several internal or external sources. Individuals, firms, universities, non-profit organizations, government-funded research are all components of the innovation system.

Individuals may be people working in a firm at any level, from employees to top executives, or may be users of the product or service; in the last case, it is possible to talk about a demand-pull model of research and development, driven by the perceived demand of potential users.

At the same way, public research institutions constitute an important source of innovation. This is generally termed science-push approach to research and development. According to current researches, however, the most successful innovator companies are those that are able to involve and utilize a combination of multiple sources of innovation previously described. Innovation's origination no longer depends on individual personalities but comprises the cooperation of many different actors. This requests cognitive abilities that enhance the diffusion and so the understanding of innovation leading to entrepreneurship. (Śledzik 2013)

Chasing innovation, organizations more and more frequently create strategic links and networks, in order to share information or other resources or even to jointly work on some innovation projects. Those collaborations can be useful not only to exchange ideas and pool resources like capital or knowledge, but also to share the risk of the development phase of the innovative product. As a consequence, even companies possessing in-house

R&D department, often engage in linkages with customers or other potential users, with competitors, complementors and suppliers, and finally with governments laboratories as science parks including incubators, and universities, that represent the number one performer of basic research. (Schilling 2017)

The challenges of innovation vary from company to company and depending on the situation, and it is critical that top executives in organizations, when it comes to innovation, recognize and preserve the idea that one-size does not fit all.

An interesting perspective on innovation is offered by directing the attention to the critical role that old knowledge and capabilities may have.

The crucial importance that tradition may have as a source of competitiveness for companies in creating new value for customers is generally underestimated. In fact, it is easy to think that tradition and innovation are two opposite concepts.

A firm's available knowledge is necessarily ingrained in tradition. Traditional knowledge is defined as the established procedures and traditions of specific societies. Paradoxically, tradition could be seen as an asset to be continually investigated and broaden. However, this can be an unexpected source of competitive advantage for a firm only if there is talent and creativity, intended as the capacity to recognize valuable elements of the past and recombine them into new ideas, products, relationships. So, innovation can also start from a profound consciousness of the past.

Particularly in recent times, customers seem to live a certain loss of identity, due to many factors brought up by globalization. Firms have actually to deal with this feeling, as individuals are rediscovering the importance of the sense of affiliation, of being part of a unique territory or age. That explains the current saying «think local, act global». By looking back to the past and tradition, a company would be able to exploit and translate old values and, at the same time, combine it with new ideas, giving birth to a new unique innovative value for consumers. This concept is strongly supported by the marketing effect of the "Country of Origin", according to which buyers perceived value of a territory make them sometimes even overestimated the value of the relative products, as Italian fashion, French perfumes, Swiss watches, German automobiles, and so on.

To appropriate the new value created by renewing the past, through tradition, a firm must create a strong link among its products and processes and the firm's identity too. In this regard, companies could leverage on two predominant drivers, technology and design.

At a product level, applying traditional technologies implies to re-propose certain functionalities which consumer may be more familiar with. Traditional design, on the other hand, is much more related to the essence, significance and worthiness of the product.
A firm innovation strategy based on the notion of tradition, may allow to create new and unique solutions.

Forms and models of innovation

Innovation can be classified in other ways than according to the object of innovation as Schumpeter did, identifying product and process innovations.
For example, innovation typologies may be classified based on who introduces the innovative idea and the fields which the innovation is applied in.
More innovation types may concern the overall architecture of the product or process or only one or few components. In this case, an innovation is said to be modular if it regards changes of one or more components of the product without significant changes in the general layout. On the contrary, it is said to be architectural if changes occur in the general layout or in the way components connect and combine among themselves.
Innovations can be competence-enhancing or competence-destroying, categorized according to the effects they have on the company's previous possessed competencies, on whether they build on the firm's existing knowledge base or not.
A further appealing differentiation in innovation is given by a combination of its degree of newness and differentness, by its intensity: an innovation is said to be radical if it is very new and divergent from prior solutions, otherwise it is said to be incremental. (Schilling 2017)
An incremental innovation consists of advancements and developments within a given framework of solutions, is implemented through shared adjustments made by the product developers and the use community, as a result of a design research strategy.
The user-centred or human-centred design (HCD) is a design exploration method, consisting of cycles of investigation in collaboration with intended users that leads to incremental improvements and progresses of the product. (Norman & Draper, 1986)
Those small improvements in a product help making better its performance, enhance its effectiveness and attractiveness, lower its costs. (Norman & Verganti, 2014)

A radical innovation, instead, involves the change of the frame of solutions, is driven by the introduction of a new technology or new modifications in the product's meaning and uses. To be considered as such, a radical innovation must be novel, unique and adopted. It is typified as competence-destroying or disruptive as it entails a cut-off with the past. It usually takes a significant amount of time to become accepted and adopted and it is hardly ever successful. (Norman & Verganti, 2014)

It is interesting to explain the difference between these two kinds of innovation through the application of the "hill-climbing paradigm".

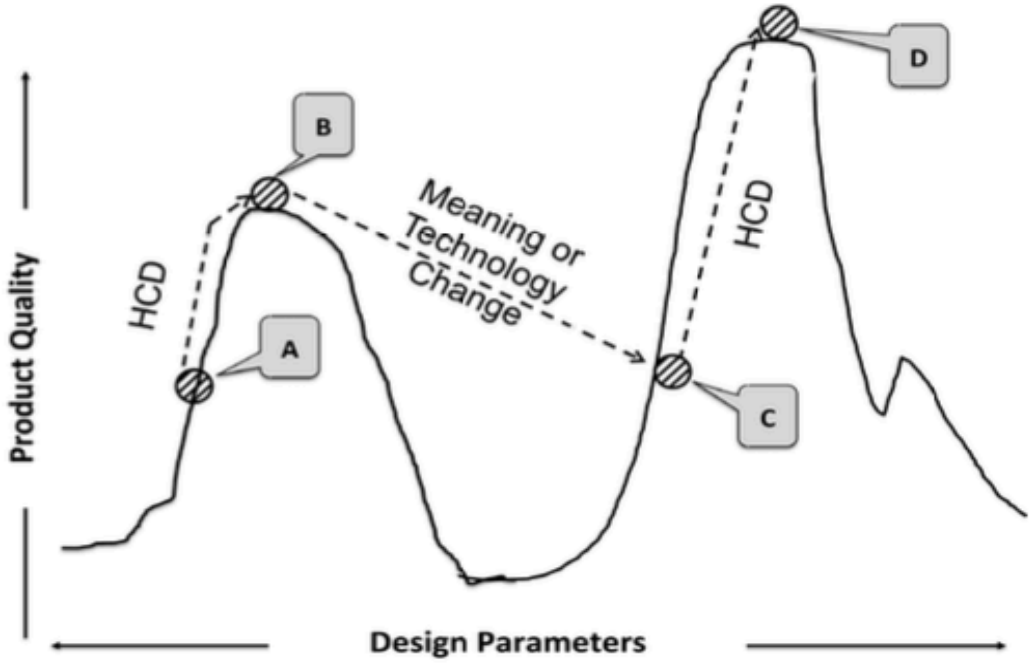


Figure 3 - The "hill-climbing paradigm" applied to incremental and radical innovation

(Verganti e Norman s.d.)

Incremental innovation is depicted as a shift to the highest point of the same hill, as in the figure are moves A-B and C-D. Radical innovation rather looks for the highest hill, so in the figure is represented by the switch B-C.

Business model and strategic innovation

Innovation can additionally be classified according to its object, for example distinguishing among socio-cultural system innovation, ecosystem innovation, business model innovation, etc. (Norman & Verganti, 2014)

Business model innovation and strategy innovation are widely talked topics nowadays. Most of time, people interchangeably use the terms “business model” and “strategy”, but they do not have the same meaning actually.

A business model is a conceptual tool that explicates how the business functions, the business logic of a specific firm. Strategy, on the other hand, also includes competition, and the execution, implementation and management of the business model as a plan, translating it into concrete elements such as business processes, structure, infrastructure and systems. (Osterwalder, Pigneur, & Tucci, 2005)

Competitive strategy process starts from the definition of the business, which answer to the three basic questions of who the firm’s customers are, so identifying the customer segments, what should the company provide them and how can the business be efficient and effective in doing so.

An innovation of the strategy may then occur if a company finds a divergence in the business position map and it decides to solve this inconsistency. Basically, with a strategy innovation, a business model redefinition does follow.

There can be various innovation strategies according to the source which the company decides to start from.

A Market-Pull innovation strategy, as mentioned before, starts with the analysis customers, their needs and preferences, and then delineates the products and services and the methods and processes to be efficient and effective. A Design-Driven innovation strategy instead aims at making sense of a product, and usually arise from the awareness and understanding of socio-cultural tendencies. Likewise, a Technology-Push innovation strategy starts from the question about how a company can be more effective and efficient, to then define customers and goods to be provided.

Differently from a competitive strategy, implementing an innovation strategy means to be a leader company in all the building blocks of a business model: collaborative relationships with suppliers, tangible and intangible resources, internal and external

processes, goods and services to deliver, customers' involvement, society which the company is located in, and the value proposition of the business.

A strategic innovation's objective is to solve competitive paradoxes, in particular the paradox of reducing costs while increasing revenues through a new value proposition in a new market, implemented thanks to a redefinition and reconfiguration of the business model. Somehow, the goal is not to play better than others, but to change the rules of the game.

Noteworthy elements of strategic innovation are, in fact, paradoxes; dealing with paradoxes while dealing with strategic innovation means to understand and consider both the opposite points of view of a problem, to get a complete perspective of the problem.

This philosophy of focusing on paradoxes, so on antithetical prospects, allows to reach a distinctive strategic position, and is also the key to create what scholars call a Blue Ocean Strategy, a spotless and uncontaminated market, proper result of a strategic innovation. In fact, the goal of a company implementing a strategic innovation is exactly the one of creating a blue ocean market by the mean of a radically new business model that satisfies the needs of specific groups of consumers through a product or service different from already existing ones, and making the other consumers feeling the necessity of the new product or service too.

In this way, what categorizes an innovation as strategic is the choice of the right niche of clients. Choosing clients in a strategic way rather than accepting all those who want to buy is key; this implies also identifying consumer segments that the company has never considered before. So, starting from the selection of extreme users, if an innovation is really strategic, it will spread to the mass market.

To do so, begging with the business model reconfiguration, it is possible to use the "value tetrahedron", a visual model that maps the main traits of the organization and that helps doing strategic innovation at business model level, at competitive strategies level and finally at vision and mission level.

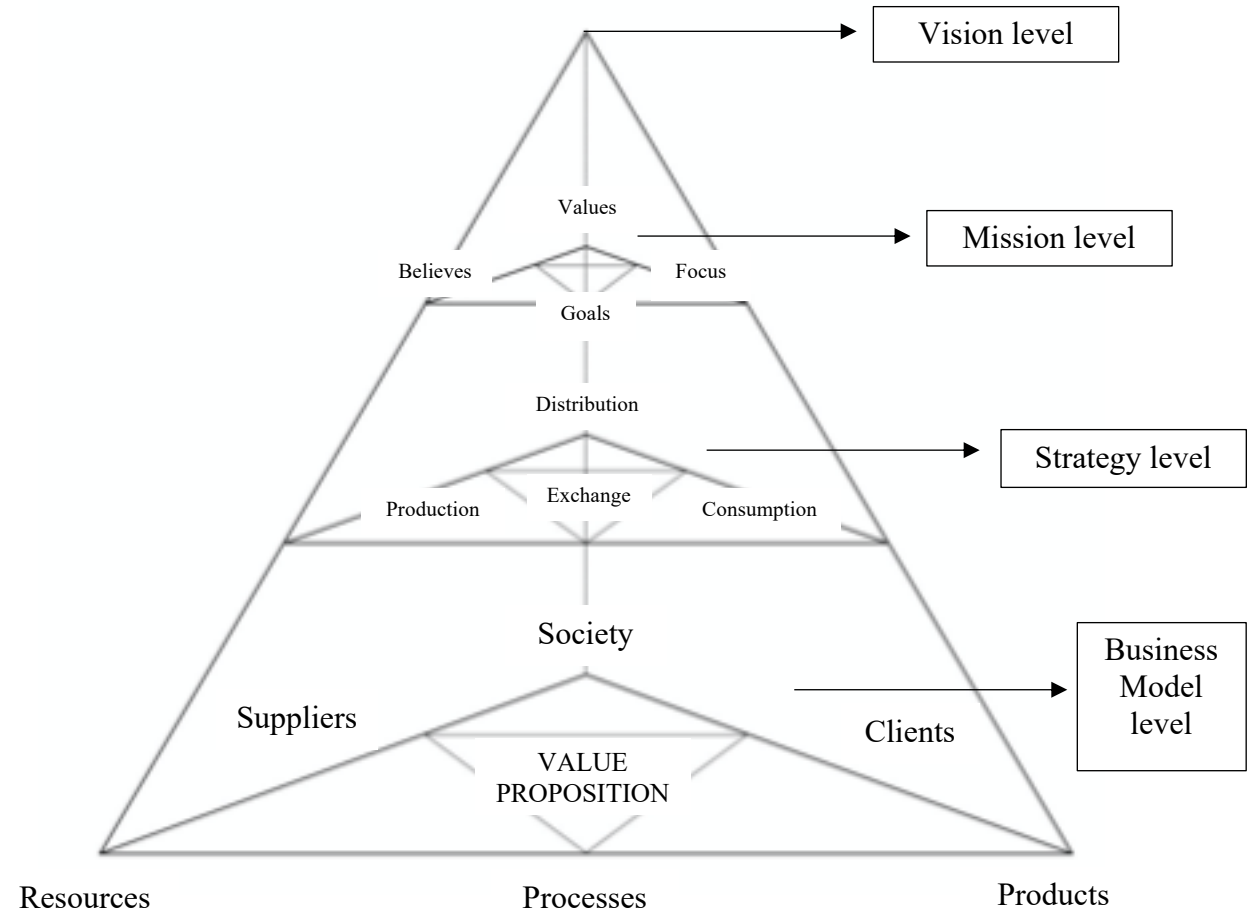


Figure 4 - Value Tetrahedron[1]

The value proposition is composed of all those ideal and intangible elements that are rooted in the organizational culture, strategic direction, vision and mission that create value and profitability to the firm.

At the tetrahedron basis there is the business model Canvas that graphically represents the way in which a company creates, distributes and attracts value. This strategic tool represents all the elements of a business model: suppliers, resources, processes, value chain, products, clients, stakeholders and value proposition. Reconfiguring the business model means act on all those elements.

It then moves towards the organizational competitive strategies, which are generally divided in operational excellence, product leadership and intimacy.

[1] The value tetrahedron graph was patented by Strategy Innovation s.r.l

Operational excellence aims at the maximum efficiency and automaticity in the company's activities. This stage involves mainly three of the building blocks of the business model, suppliers, resources and internal processes.

Product leadership competitive strategy, instead, aims at excellence of the product itself, in terms of performance, quality, reliability, recognizability, uniqueness and exclusiveness. In the pursuing of the product leadership, building blocks involved are now processes, consumers and, obviously, products. Moreover, to succeed with this strategy, a company must be the best offeror of a specific product, be the first to understand and catch market trends, develop the respective innovation, either technological or meaning, be the fastest to introduce them in the market, carefully manage communication channels and maintain flexibility in production processes, so to be adaptable to changes of consumer preferences and needs.

Thirdly, the competitive advantage brought by an intimacy strategy comes from the degree of familiarity emerging in the relationships with the society, meaning all the other actors the company has to deal with.

At the apex of the value tetrahedron there are mission and vision, that somehow define how strategies must be set within the organizational system. Missions and visions are set collectively with a process that delineates company identity. So, mission and vision are the starting point for strategy making. They should both represent the aims and goals of the firm, even though vision involves a futuristic and, in a certain way, unreachable view of entrepreneurs, while mission represents actual and realistic goals. In this way, having a clear and detailed idea of what the basis of the company are and what its essence is, it is easier to share the firm identity, both internally and externally.

Anyway, all these strategies must be coherent among themselves and in all their tangible and intangible elements. It is not a simple matter of organizational internal and external fit, meaning among internal processes and with the external environment; it is the creation of conformity in company's shared values, behaviours and meanings that constitutes the key for a strategic coherence. In fact, companies that have recently obtained success are those that have been able to share and communicate a message that combines together meanings and values that go beyond the simple offered product or service.

In the pursuing of a strategic coherence, corporate identity assumes a critique role, since it embodies the strongest corporate values and meanings. Thus, in particular chasing fit

at the meaning level, recognize and understand organizational identity turns into the vital component.

1.2 Innovation in organizations

Nowadays organizations have recognized the fact that innovation is key for success, and, according to a study done by some researchers, it has been showed that corporate culture is perhaps the most relevant driver of innovation. (Tellis, Prabhu, & Chandy, 2009) The Toyota example previously mentioned is an accurate demonstration of the role and relevance culture has when considered within an organizational context, principally when it comes to innovation.

Defining corporate culture is an arduous undertaking. To do so, it is helpful to start from the definition of individual identity, since organizational identity is a collective one.

In general, identity can be described as something that allow to determine an entity as recognizable and identifiable, as it possesses characteristics or qualities that differentiate itself from other things; in other words, the concept of individual identity expresses the relationship that an entity has solely with itself.

Many researchers had provided several different definitions of individual identity and the relation it has with collective identity. In most cases, they agreed on the fact that individual identity mainly concerns the way and the extent to which a person feels integrated in the social groups he/she pertains to.

Identity

In recent times it is increasingly difficult to define identity-related traits, due also to the fact the there is a general tendency to question the whole world. The Pirandellian character Mattia Pascal already introduced the concept of an inextricable union among identity and action, with the first stopping existing without the second. (Bagnoli, Mirisola, & Tabaglio, 2020)

In order to define corporate identity, it is necessary to start from the definition of individual identity; besides, corporations are groups of individuals. Still, at the same time,

it is indispensable to precisely classify the type of identity considered, since it shows a huge variety of meanings.

Indeed, referring to the occidental philosophy, it is useful to mention three variants of the concept of identity, referred to as predefined identity, constructed identity and narrative identity.

Predefined identity is the result of a metaphysical doctrine resulting from the believes of scholars as Plato, Aristotle, Descartes, Locke and Leibniz, who share an ontological dualism view. In this perspective, the essence is well-defined and unchangeable; the definition of a person's objectives is influenced by a specific nature, which both forms and limits the person. His/her essential individuality is detailed, stable, endless; his/her personal traits are the only means of designing a set of aims and purposes through which attain their essence. (Bagnoli, Mirisola, & Tabaglio, 2020)

Constructed identity, instead, alludes to the fact that, if a person's identity is constructed, it is not feasible for it to be the robustly structured foundation of the person's actions. Identity is constructed and disposed as a person builds and defines himself/herself. Identity is fragile and temporary in a continuous movement and transformation processes. (Bagnoli, Mirisola, & Tabaglio, 2020)

Lastly, the narrative identity tries to introduce a more moderate view, somehow mixing the two previously described typologies.

The French philosopher Paul Ricoeur can be recognized as the father of the concept of the narrative identity. He developed a notion of identity as a reunion of the essence, contrarily to the separation proposed by the ontological dualism approach. The narrative model of Ricoeur refers to a personal totality, elaborating the idea of unity. The essence is not stable nor given or structured, it rather forms through the person's relationship with the external world. The identity model Ricoeur proposed thus recalls an idea of wholeness and integrity; it is a flexible and dialectical model conforming to which identity just results from the equilibrium among the essence's dimensions: these last ones, indeed, need to be reconciled since the essence itself is composed of a finite and constrained part, expressed through the body, the character and the unconscious and a part surrounded by a continuously expanding and developing narrative that makes it subject to the plausible and to unending renovation. (Bagnoli, Mirisola, & Tabaglio, 2020)

Basing on the three recognized types of individual identity, it is now clear enough to understand that a collective identity will easier present traits of the second and third ones, rather than of the first one.

To better delineate the concept of corporate identity, it is possible to start from social scientist Charles Horton Cooley's looking glass-self theory, according to which individuals tend to build the perception they have of themselves based on what and how they feel perceived by others. (Cooley, 1922) Basically, other people's perceptions of a person serve as a mirror for the person in question, and his/her identity will not finally reflect what and how he/she really is. Therefore, the theory of Cooley seems to refer to the concept of predefined identity. However, this is a quite radical view, since it totally associates identity with the relations people have among themselves and, paradoxically, if a person has no contact with others then he/she would not have an identity.

Many researchers had provided several different definitions of individual identity and the relation it has with collective identity. In most cases, they agreed on the fact that individual identity mainly concerns the way and the extent to which an individual feels integrated in the social groups he/she pertains to.

This last definition of individual identity is generally recognized as valid for the concept of organizational identity too: in particular, it refers to how members of an organization perceive themselves and what they represent as organization. (Bagnoli, Mirisola, & Tabaglio, 2020)

Furthermore, many scholars as Whetten and Godfrey (1998), Dutton, Dukerich and Harquail (1994) provided several versions on a clear distinction between the two concepts of organizational identity and organizational identification, while scholars like Schultz, Hatch and Larsen (2000) focus on the dissimilarities among organizational identity and corporate identity.

Despite this, for my thesis project, I agree with the point of view introduced by Bagnoli and Tabaglio (2020) according to which the terms organizational identity and organizational identification are two sides of the same coin, that allows thus to delineate an unitarian concept of corporate identity. Nevertheless, not to act against the complexity concerning identity, it is necessary to deeper explore the concept of corporate culture and corporate image. (Bagnoli, Mirisola, & Tabaglio, 2020)

Culture

As well, corporate culture does not have a clear unique definition.
Many academics did focus on corporate culture's ability to manoeuvre members' actions based on shared values. Hereof, to mention one of them, Hofstede designated organizational culture as the unwritten rules and procedures that govern people's mind, so delineating separate groups of people, and that emerge in practices and values. (Hofstede, 1991) He concentrated on whether national culture does influence organizational culture and arrived at the conclusion that organizational cultures differ in practices, while national cultures differ in values.
Principally, it is possible to explain corporate culture as dealing with people, objects, processes, hierarchies, places and planned actions of a company, meaning its materiality and daily routine.
Of peculiar significance is the interpretation of Schein. He was an American psychologist who believed in a corporate culture ad being composed of three elements: artefacts, declared values and shared tacit assumptions. Artefacts represent all the visible corporate structures and processes, as the physical and social environment, behaviours, rituals, the language and technologies, which, however, are hard to decode. Declared values are strategies, goals and philosophies, both written and oral manifestations which do not always correspond to human behaviours. Shared tacit assumptions relate to unconscious believes, feelings, perceptions, basic thoughts. (Schein, 1985) Schein also formulate a theory, that can be identified as one of the main currents of thought on whether an organizational culture can be intentionally managed or not, according to which artefacts an values can be modified, for example by redefining employees' selection, incentive, promotion and firing systems, by construct new rituals and ceremonies, by incentivizing socialization through the mean of dedicated physical space, planning differently corporate structures. Conforming to a second way of thinking, culture is not modifiable at all, since values are deeply rooted in individuals. The third and last perspective stands in between the previous two, considering managers as able to transmit new values and believes to the other corporate members. (Bagnoli, Mirisola, & Tabaglio, 2020)

Image

Image too shows various scholars' perspectives. It is generally described as a vision generated within the company, but sometimes intended as a perception of members of the firm about how others perceive the company itself, so an internally developed perception but with external basis.

Examining and summarizing the definitions of corporate image proposed by Dutton e Dukerich (1991), Alvesson (1990), Bernstein (1984), indeed, a common trait can be delineated: corporate image is an internally generated vision. Still, there are researchers like Berg (1985) who consider corporate image as externally generated. This definition may recall instead the concept of corporate reputation as proposed by Fombrun (1996), who described company reputation as

> «…the perceptual representation of a company's past actions and future prospects that describes the firm's overall appeal to all of its key constituents when compared with other leading rivals». (Fomburn 1996, 72)

Ordinarily, corporate reputation is based on subjective and collective evaluations about the company's robustness. It can be imagined as the corporate identity's external reflex emerging from multiple corporate images and embodying two major elements of company's effectiveness: the economic performance and the social responsibility. (Bagnoli, Mirisola, & Tabaglio, 2020)

A marked difference between image and reputation can be found in marketing studies, especially when talking about brands. On the other hand, in this thesis the two concepts will be treated as complementary. In this regard, the model introduced by Gioia, Schultz and Corley (2000) can be taken as an example to support this perspective. It integrates corporate image and corporate identity in a dynamic relationship of mutual influence. The only difference between the two concepts, as proposed by the model, stands in the fact that corporate identity is continuously changed and modified, in order to let the company flexible, responsive and adaptable to external needs and requirements, while corporate image is the mean through which this chameleonic process is made achievable.

So, in accordance with the three scholars' belief, corporate image is the compromise among how an organization defines itself, looking at its reflex, and the definition that, on the contrary, emerges form received feedbacks. (Bagnoli, Mirisola, & Tabaglio, 2020)

An integrated model made of identity, culture and image

Two researchers, Mary Jo Hatch and Majken Schultz, proposed a holistic model that connects and integrates corporate identity, culture and image through well-established processes. (Hatch & Schultz, 2002) It is the set of relationships and processes among the three elements to finally describe the organization.

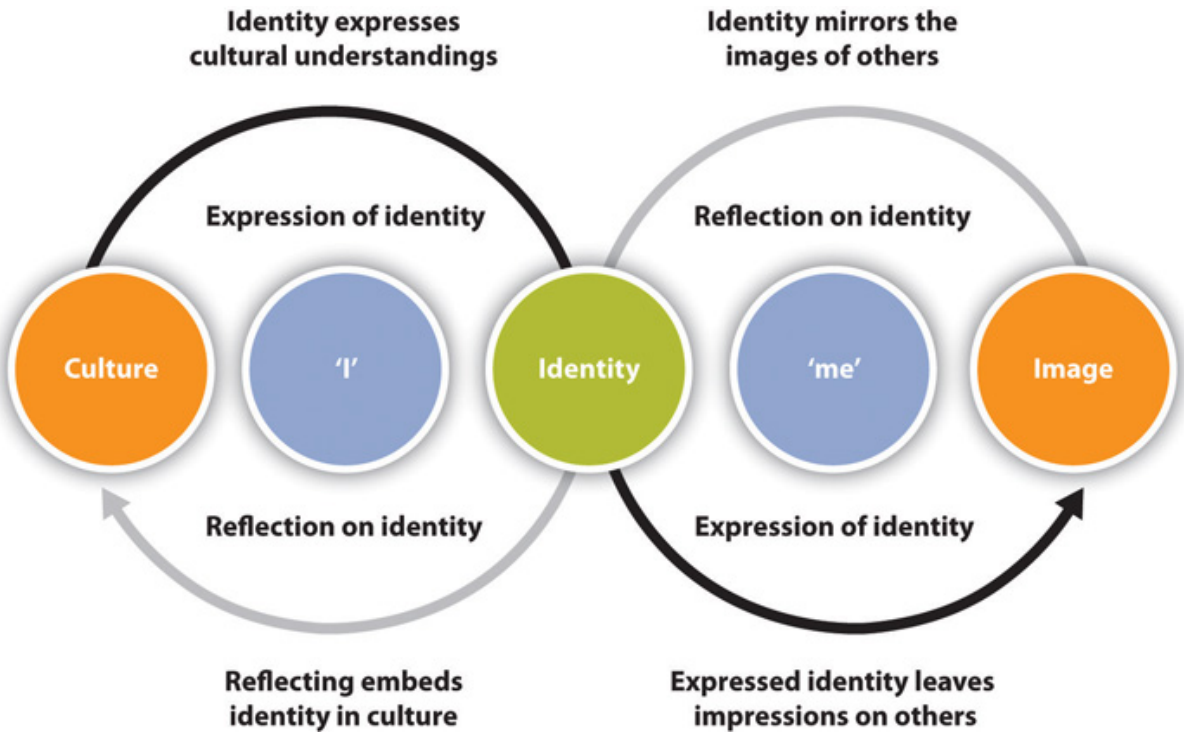


Figure 5 - The Organizational Identity Dynamics model

(Identity And The Organization s.d.)

From Figure 5, it is possible to see the connection that the two researchers made with the theories of Mead about the "I" and the "me" (Mead, 1967): indeed, in the researchers'

opinion, the concept of the "I" is comparable to the culture one, while the concept of the "me" is assimilable to the concept of image. (Hatch & Schultz, 2002)

In Mead's theory, the "me" is the social self, the organized set of attitudes of others which one assumes, while the "I" is the response to me, the response of the organism to the attitudes of the others.

In the dynamic model, corporate identity has a central key role, as it is reflected on both the company culture and image. Vice versa, also corporate identity is influenced by the other two elements.

Four processes emerge from the model: reflecting indicates that corporate identity is reflected in organizational culture; expressing refers to corporate identity as an expression of culture; mirroring consists of how others' images can influence corporate identity; impressing regards the way in which corporate identity influences the images that external people will have about the company.

Through these four processes, a company should be able to build a positive cycle involving identity, culture and image with the aim of pursuing a strategic coherence. (Bagnoli, Mirisola, & Tabaglio, 2020)

The three elements must always maintain an equilibrium, and must be harmonized by the four processes, otherwise there will be dysfunctionalities in the firm behaviour. For example, the so-called "organizational narcissism" may be incurred, bringing to a situation where the company shut in on itself and assumes a self-referential behaviour. On the contrary, it may also be possible to face a "hyper-adaptability" situation, where the company is too focused on external inputs and incentives, submitting its identity to the image created by stakeholders. (Hatch & Schultz, 2002)

Ultimately, it is clear the need to precisely define a corporate identity able to coordinate and maintain balanced and coherent relationships between the internal and external environments of a company, through managers' decisions, and able also to strategically drive the company towards success. (Bagnoli, Mirisola, & Tabaglio, 2020)

<u>The relationship between culture and innovation</u>

Recalling the study done by researchers Gerard J. Tellis, Jaideep C. Prabhu and Rajesh K. Chandy, it classified six dynamically linked building blocks, constituting corporate culture. They can be divided tools-oriented innovation blocks, which are simply to be

measured, and people-oriented innovation blocks, harder to be measured than the first ones.

Among the tool-oriented innovation blocks there are resources, processes and success; resources involve people, systems and projects; processes include paths that innovations follow as they are developed, like the innovation funnel; success instead can be gained at different levels, divided in external, enterprise and personal levels.

In the second group, on the other hand, there are values, behaviours and climate. Values are embodied in people's behaviour and spending decision, so for example what leaders do and invest in, rather than what they say or write in annual reports; behaviours depict people's action towards innovation; climate can be described as the mood of the workplace.

Starting from this framework, it has been developed a test with the aim of allowing managers to study and assess their organization's innovative culture. The test, through a series of questions about values, behaviours, climate, resources, processes and success, studies the innovative propensity of an organizational culture.

Since every building block involves three factors, and each factor is composed of three elements, as a test result, a final average was computed on the base of the 54 elements and called Innovation Quotient. The IQ parameter constitutes a suitable criterion to make comparison on the innovation level among companies, divisions and teams from different regions.

BUILDING BLOCKS	FACTORS	ELEMENTS	SURVEY QUESTIONS	ELEMENT SCORE	FACTOR AVERAGE	BUILDING BLOCK AVERAGE
VALUES	Entrepreneurial	Hungry	We have a burning desire to explore opportunities and to create new things.			
		Ambiguity	We have a healthy appetite and tolerance for ambiguity when pursuing new opportunities.			
		Action–oriented	We avoid analysis paralysis when we identify new opportunities by exhibiting a bias towards action.			
	Creativity	Imagination	We encourage new ways of thinking and solutions from diverse perspectives.			
		Autonomy	Our workplace provides us the freedom to pursue new opportunities.			
		Playful	We take delight in being spontaneous and are not afraid to laugh at ourselves.			
	Learning	Curiosity	We are good at asking questions in the pursuit of the unknown.			
		Experiment	We are constantly experimenting in our innovation efforts.			
		Failure OK	We are not afraid to fail, and we treat failure as a learning opportunity.			
BEHAVIORS	Energize	Inspire	Our leaders inspire us with a vision for the future and articulation of opportunities for the organization.			
		Challenge	Our leaders frequently challenge us to think and act entrepreneurially.			
		Model	Our leaders model the right innovation behaviors for others to follow.			
	Engage	Coach	Our leaders devote time to coach and provide feedback in our innovation efforts.			
		Initiative	In our organization, people at all levels proactively take initiative to innovate.			
		Support	Our leaders provide support to project team members during both successes and failures.			
	Enable	Influence	Our leaders use appropriate influence strategies to help us navigate around organizational obstacles.			
		Adapt	Our leaders are able to modify and change course of action when needed.			
		Grit	Our leaders persist in following opportunities even in the face of adversity.			
CLIMATE	Collaboration	Community	We have a community that speaks a common language about innovation.			
		Diversity	We appreciate, respect and leverage the differences that exist within our community.			
		Teamwork	We work well together in teams to capture opportunities.			
	Safety	Trust	We are consistent in actually doing the things that we say we value.			
		Integrity	We question decisions and actions that are inconsistent with our values.			
		Openness	We are able to freely voice our opinions, even about unconventional or controversial ideas.			
		No bureaucracy	We minimize rules, policies, bureaucracy and rigidity to simplify our workplace.			

Figure 6 - The building blocks of Innovation Survey, people-oriented measures

(Rao e Weintraub 2013)

	Simplicity					
		Accountability	People take responsibility for their own actions and avoid blaming others.			
		Decision-making	Our people know exactly how to get started and move initiatives through the organization.			
RESOURCES	**People**	Champions	We have committed leaders who are willing to be champions of innovation.			
		Experts	We have access to innovation experts who can support our projects.			
		Talent	We have the internal talent to succeed in our innovation projects.			
	Systems	Selection	We have the right recruiting and hiring systems in place to support a culture of innovation.			
		Communication	We have good collaboration tools to support our innovation efforts.			
		Ecosystem	We are good at leveraging our relationships with suppliers and vendors to pursue innovation.			
	Projects	Time	We give people dedicated time to pursue new opportunities.			
		Money	We have dedicated finances to pursue new opportunities.			
		Space	We have dedicated physical and/or virtual space to pursue new opportunities.			
PROCESSES	**Ideate**	Generate	We systematically generate ideas from a vast and diverse set of sources.			
		Filter	We methodically filter and refine ideas to identify the most promising opportunities.			
		Prioritize	We select opportunities based on a clearly articulated risk portfolio.			
	Shape	Prototype	We move promising opportunities quickly into prototyping.			
		Iterate	We have effective feedback loops between our organization and the voice of the customer.			
		Fail smart	We quickly stop projects based on predefined failure criteria.			
	Capture	Flexibility	Our processes are tailored to be flexible and context-based rather than control- and bureaucracy-based.			
		Launch	We quickly go to market with the most promising opportunities.			
		Scale	We rapidly allocate resources to scale initiatives that show market promise.			
SUCCESS	**External**	Customers	Our customers think of us as an innovative organization.			
		Competitors	Our innovation performance is much better than other firms in our industry.			
		Financial	Our innovation efforts have led us to better financial performance than others in our industry.			
	Enterprise	Purpose	We treat innovation as a long-term strategy rather than a short-term fix.			
		Discipline	We have a deliberate, comprehensive and disciplined approach to innovation.			
		Capabilities	Our innovation projects have helped our organization develop new capabilities that we did not have three years ago.			
	Individual	Satisfaction	I am satisfied with my level of participation in our innovation initiatives.			
		Growth	We deliberately stretch and build our people's competencies by their participation in new initiatives.			
		Reward	We reward people for participating in potentially risky opportunities, irrespective of the outcome.			

Figure 7 - The building blocks of Innovation Survey, tool-oriented measures

(Rao e Weintraub 2013)

The strongpoints of the test stand in the fact that it allows to rank factors and elements of a company that support innovation, in its ability to reveal inconsistencies and its applicability at any level. (Rao & Weintraub, 2013)

Examples reported from definitely innovative companies brought out interesting insights for companies which wish to be innovative. First, mistakes and errors incurred in the pursuit of successful innovation should be accepted as part of the process, as the objective is not the punishment, but learning from them and improving. (Rao, 2012)

Also, since innovation initiatives usually arise and happen within a community, so involving employees at any level through games, enrolling them in business innovation courses or allowing them to communicate by the mean of an intranet portal, are all crucial aspects to consider.
To conclude, a certain level of simplicity must be kept within corporations so to permit an ongoing innovation process, in terms of lack of rigidity and bureaucracy.

Innovation as a Value Chain

All the linkages proposed above can be thought of in terms of innovation value chain. Executives should carefully tailor solving to their specific problems, identifying good solutions instead of mainstream ones and determining appropriate flow of notions and concepts form the outside among the huge amount of gathered data. For instance, companies need to perform an as-is analysis of their current innovation creation process, recognize their particular challenges and then develop paths to assess them.
The innovation value chain concept proposes innovation as a continuous and integrated process composed of three phases, named idea generation, idea development and diffusion of the matured considerations. (Hansens & Birkinshaw, 2007)

	IDEA GENERATION			CONVERSION		DIFFUSION
	IN-HOUSE Creation within a unit	CROSS-POLLINATION Collaboration across units	EXTERNAL Collaboration with parties outside the firm	SELECTION Screening and initial funding	DEVELOPMENT Movement from idea to first result	SPREAD Dissemination across the organization
KEY QUESTIONS	Do people in our unit create good ideas on their own?	Do we create good ideas by working across the company?	Do we source enough good ideas from outside the firm?	Are we good at screening and funding new ideas?	Are we good at turning ideas into viable products, businesses, and best practices?	Are we good at diffusing developed ideas across the company?
KEY PERFORMANCE INDICATORS	Number of high-quality ideas generated within a unit.	Number of high-quality ideas generated across units.	Number of high-quality ideas generated from outside the firm.	Percentage of all ideas generated that end up being selected and funded.	Percentage of funded ideas that lead to revenues; number of months to first sale.	Percentage of penetration in desired markets, channels, customer groups; number of months to full diffusion.

Figure 8 - The Innovation Value Chain integrated flow

(Hansens e Birkinshaw 2007)

In many cases companies do have certain weaknesses along the chain of innovation activities, and it is essential that managers focus exactly on the weak links rather than continuing concentrating their attempts on further enhancing their core strengths. Doing so, over time, weaknesses and weak links in the innovation value chain may become strong ones, improving and reinforcing the overall innovation process.

Going deeper into the analysis of powerless links, it is possible to identify three different situations with companies showing deficiencies in distinct stages of the chain. There exist idea-poor companies, conversion-poor companies and lastly diffusion-poor companies.

The first typology of organization identified experience shortages in good new ideas. A possible action to take in order to fix the lack is to build both external networks and internal cross-unit networks. The aim is to tap as many sources of ideas and information as possible, to establish a way of communication to share and exchange knowledge and opinions among people pertaining to different organizational departments, and lastly to consolidate those interaction scheme into a well-established corporate mechanism.

The second case presents companies that have no shortage of idea management formal systems. To address idea conversion issues, multichannel funding that includes ideas coming from outside the boss' immediate purview and allows a regular flow of proposals can be used.

The final kind of pinpointed organizations are those whose new ideas find it difficult to be successful. The "idea evangelist" figure, a person able to persuade networks of people to embrace new business concepts and products, should then be introduced. (Hansens & Birkinshaw, 2007)

Innovation Value Chain		Possible Solution
Idea Generation	In-house idea generation	"How to Kill Creativity," by Teresa M. Amabile (HBR September–October 1998) *Jamming: The Art and Discipline of Business Creativity,* by John Kao (HarperBusiness, 1996)
	Cross-pollination	"Collaboration Rules," by Philip Evans and Bob Wolf (HBR July–August 2005) "Coevolving: At Last, a Way to Make Synergies Work," by Kathleen M. Eisenhardt and D. Charles Galunic (HBR January–February 2000)
	External sourcing	*Democratizing Innovation,* by Eric von Hippel (MIT Press, 2005) *Blue Ocean Strategy,* by W. Chan Kim and Renée Mauborgne (Harvard Business School Press, 2004) *Open Innovation: The New Imperative for Creating and Profiting from Technology,* by Henry Chesbrough (Harvard Business School Press, 2003)
Conversion	Selection	"Bringing Silicon Valley Inside," by Gary Hamel (HBR September–October 1999) *Corporate Venturing: Creating New Businesses Within the Firm,* by Zenas Block and Ian C. MacMillan (Harvard Business School Press, 1993)
	Development	*10 Rules for Strategic Innovators: From Idea to Execution,* by Vijay Govindarajan and Chris Trimble (Harvard Business School Press, 2005) *The Innovator's Solution: Creating and Sustaining Successful Growth,* by Clayton M. Christensen and Michael E. Raynor (Harvard Business School Press, 2003)
Diffusion	Spread of the idea	*Payback: Reaping the Rewards of Innovation,* by Harold L. Sirkin, James P. Andrew, and John Butman (Harvard Business School Press, 2007) "Tipping Point Leadership," by W. Chan Kim and Renée Mauborgne (HBR April 2003)

Figure 9 - The Innovation Value Chain framework

(Hansens e Birkinshaw 2007)

A misalignment among the participant in the chain can influence innovation. Since the value chain includes also customers and users, these kinds of gaps can also lie outside a firm's borders, and the costs to arrange them signify considerably. (McElheran 2016) It

is the relationships among the building blocks of the chain, in particular the one represented by customers, that affect companies' performance in the face of innovation. It has been shown, for example, that since big companies usually have big clients or at least many smaller ones, there are not willing to put their success at risk, so they rather prefer low-cost innovations. It is clear the fact that value chain partners are crucial in promoting or impeding the flows and progresses of innovation. So, for large firms, what delineates the attractiveness of an innovation is the readiness of the value chain to adopt. (McElheran 2016)

Rationalizing the process: the innovation funnel

Worthy of attention is the concept of the innovation funnel introduced before.
The innovation funnel concept is a tough and continuously studying topic. It is a suitable technique for innovation adopted to set up innovative and authentic strategies, as it attempts to reorganize the chaotic stream of ideas and elect efficient and effective plans for action.
Generally, the innovation funnel is described as a series of subsequent steps constituting the path that a fruitful innovation follows, from creation to diffusion.
According to an innovation funnel definition proposed by Dunphy, Herbig and Howes in 1996, the steps can generally be dived in macro level steps, involving the technological foundations, the country's sociocultural habits and infrastructures, being material, human and institutional infrastructures. These macro level steps are fundamental: even if an absolute sequence to respect does not exit, the absence of the top elements might make it implausible for the last steps to be significant for the prosperity of an innovation. Moreover, the advancements in these three systems usually complement each other, driving their simultaneous progression.
The micro level steps dissimilarly cover the industry structure, the nature and size of single companies, the firm's management approach and mindset and the standards issuing for the distribution of the innovation. (Dunphy, Herbig, & Howes, 1996)
It can be represented as follow.

Figure 10 - The Innovation Funnel 1

(Dunphy, Herbig e Howes 1996)

Starting from the global level, concerning the technological prerequisites, innovation could be accelerated by necessity. This occurred, for example, during war periods: when a need is urgent and crucial, the time to innovate decreases significantly, with very rapid creation and diffusion processes of the innovation.

The habits and tradition of societies influence the process of innovation too. Culture has a strong impact on the willingness and ability to innovate of communities. Risk aversion change resistance and conservatism are main obstacles to innovation. It is important that the environment where an innovation is to be implemented is perceived as nonthreatening. (Dunphy, Herbig, & Howes, 1996).

Unfortunately, even if a risk taking and open-minded sociocultural environment is a necessity, it is not enough.

Moving the focus to a national level, also human and institutional infrastructures, the legal system and the industry structure impact the capacity for innovation.

A country's degree of innovation seems to be proportional to the amount of entrepreneurial activity, to the amount of capital at disposal for new ventures and the ease with which it is provided. So, governments have a critical role: type and power, regulations, bureaucracy may have negative effects as inhibitors of innovation, limiting discovery, blocking idea generation, advocating narcissistic attitudes.

The same is true within an industry. Economic standards and rules impact on interfirm competition and ability to innovate; high industry concentration obstacles innovation. (Sahal, 1983) Anyways, in the same industry there exist both winners and losers, and that's why the next step in the innovation funnel considers micro level elements as the firm size and management attitudes.

It has been shown that corporate innovators of success have a tendency to be adamant that elasticity, adaptability and quickness are key, and to be demand or goal oriented. This consequently implies that true entrepreneurs are open and willing to listen to users, suppliers and other precursors of change, as they are those who have critical needs that stimulate innovations.

All the events described constitute the critical path through the innovation funnel, and even if their sequence is not absolute, it is more likely for an innovation to be successful if it goes through all or most of them. (Dunphy, Herbig, & Howes, 1996)

The innovation funnel proposed considers macro and micro level factors that influence the process that an innovation follows. Nonetheless, the innovation funnel can also be represented as the innovation development process.

In its simplest representation, three different tasks can be identified. First, the entrance gate of the funnel has to be stretched, the knowledge base and information gathering have to be extended so to allow a higher number of new product and process ideas. Then, the neck of the funnel has to be tightened, making a selection of the most tempting opportunities identified with the previous challenge. The final task consists of making sure that the picked strategy meets the goals established when it was firstly approved. (Wheelwright & Clark, 1992)

Several and diverse models of the funnel can be identified, but the concept that stands at its basis is always the one of starting from as many ideas as possible and then, through a series of screening, eliminate nonsense ideas and select the best ones, till the optimal final strategy.

Here is an example, in which circles represent new ideas or products, the shading stands for the extent of the development and the size for the scale of the proposal. (Wheelwright & Clark, 1992)

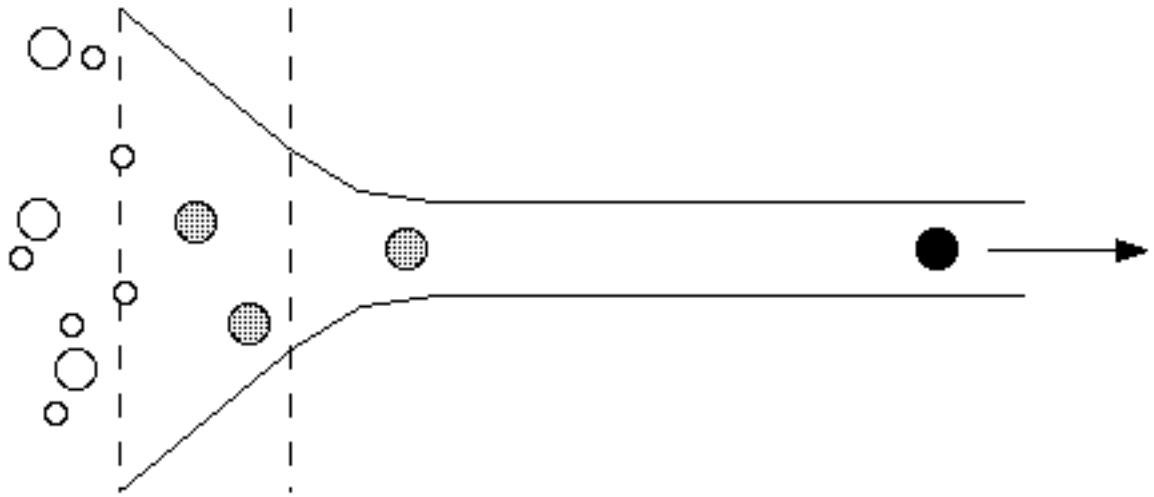


Figure 11 - The Innovation Funnel 2

(Wheelwright e Clark 1992)

In general, the Innovation Funnel model highlights the three interdependent activities which the company's innovative capacity is based on. They are Intelligence, so the ability to detect and understand competitive and social trends in order to figure out current cultural models, technological opportunities, emergent needs and preferences of consumers. The second activity is Discovery, the capability of creating and generating new product or services concepts through ideation, technological experimentation and new value proposition researches. Finally, the last is Development, the back-end innovation, which involves the transformation of concepts in a fruitful portfolio of products and services.

Companies' code for innovation

After having wondered how companies set up a code for innovation and whether innovation really provides companies with a capacity and a position that enhance and strengthen their market value, three scholars named Dyer, Gregersen and Christensen made a study with the aim of uncover the origins of disruptive innovators, interviewing hundred inventors, founders and CEOs of the most successful innovative companies in the world. The study demonstrated that innovative companies are almost always driven by innovative leaders. Innovation in companies is reached when at the top management team there is a strong presence of creativity skills and when the same companies develop processes that mirror the five discovery skills of disruptive innovators, that will be better explained in the next section. Also, the most innovative organizations base their innovation power on three crucial discovery-driven building blocks, which are people, processes and philosophies, a framework that has been called by its researchers the "3Ps" framework. (Dyer, Gregersen e Christensen 2011, 12)

Thus, by asking what causes a firm to be innovative, the first understanding they get was the fact that innovators imprint their organizations with their innovator's DNA.

As stated at the beginning of paragraph 1.2, corporate culture is basically the most important driver of innovation withing organizations; culture rise in the very first steps of the organization, when the first problems have to be solved. In this phase, the firm's founder has a decisive impact on the methodologies chosen to deal with these challenges. For this reason, the DNA of founders is reflected in their companies' DNA. In particular, innovative founders illustrated the significance of giving life to a company with people similar to them, processes that boost the creative skills they need to be innovators and philosophies intended as firm's cultural values that stimulate the courage-to-innovate attitudes, including a certain tendency towards taking smart risks. (Dyer, Gregersen e Christensen 2011)

Conclusively, innovation clearly is an investment: in the company, in people working within it and in own self. On the flip side, organizations are simply groups of people. For this reason, understanding and mastering individual innovators' DNA leads to more successfully ways to develop future growth of companies.

1.3 Innovation as a person's characteristic

So far, it has been clarified that the ability to innovate is a secret ingredient to the elixir of success of a business. A crucial step not to miss is trying to understand how innovation truly happens.
As formerly seen, innovation starts with the process of idea generation, and the process of idea generation is carried out by people. Basically, corporations are nothing if simply groups of people.
As mentioned by Eric Schmidt, Google CEO,

> «The characteristic of great innovators and great companies is they see a space that others do not. They don't just listen to what people tell them; they actually invent something new, something that you didn't know you needed, but the moment you see it, you say, 'I must have it'». (Bagley 2014)

Additionally, the famous Apple cofounder and CEO Steve Jobs stated that «Innovation distinguishes between a leader and a follower.». (Bagley 2014)
These quotes of two of the most famous business actors of the last years highlight the fact that there exist some traits characterizing innovators.

<u>The innovator's DNA model</u>

What distinguishes an innovator is the creative intelligence, a combination of creativity, intuition, perception, innovation and intellectual curiosity.
Five "discovery skills" that together make up the innovator's DNA and that identify the most creative people had been determined by three researchers previously mentioned, during a six-year study performed on exceptionally innovative organizations. They five skills identified are Associating, Questioning, Observing, Experimenting and Networking. It basically consisted of carefully examining innovative entrepreneurs, trying to figure out how and when they come up with brilliant ideas and how they differ and distinguish themselves from other entrepreneurs or managers. (Dyer, Gregersen, & Christensen, 2009) In this regard, one of the most captivating result shows that executives feel

responsible for the innovation process' facilitation, while they do not consider themselves in charge of originating and materializing strategic innovations.

In line with the DNA metaphor, Associating is one of the five discovery skills and it constitutes the backbone structure of the DNA, while the other four, Questioning, Observing, Experimenting and Networking, represent the pattern of action winding around the backbone. (Dyer, Gregersen, & Christensen, 2009)

Associating is the capability to connect ideas, complications and questions ranging among disparate fields and that may seem unconnected. Associating allows the generation of notions and schemes than can be recombined in different and new ways, and the higher the number of experiences and knowledge gained by a person, the easier is to fuel this sort of mental muscle.

Questioning is perhaps the most difficult among the five skills, since, starting from «Question the unquestionable», as the chairman of Tata and Sons Ratan Tata said (Dyer, Gregersen e Christensen 2009, 65), the decisive goal is to find the right question. Innovative thinkers embrace constraints and limitations, envisage opposite and divergent scenarios, and challenge hypothesis by asking questions as "Why? Why not? What if?". They ask infinite questions, preferring absurd and improbable ones, to comprehend what may and what may not be. They possess the capability to envisage reversed ideas and, even more, to build a superior final combination of the two. Unexpectedly, creative thinkers also accept and welcome constraints, that somehow force them to think out-of-the-box.

Dyer, Gregersen and Christensen found out that radical innovators' main effort stands in defining the right question rather than in finding the right answer.

The challenge for innovators then is not only to ask challenging and inspirational questions, but also to regularly try to demand improved and advanced ones.

Observing, the third skilled identified, involving looking out for implicit and small details in people's behaviours, how they live and work, may provide many new business insights. Observers attentively examine the functioning of things, how they work, but especially what does not work. Observing can lead to insights about superior ways to solve problems and to infrequent surprising ideas thanks to their ability to link similar details and arrangement among disconnected or detached data and events.

With different types of Observing, like watching people and what they really want to get done or observing organizations, technologies, processes and look out for modified

solutions to be applied in distinct contexts, disruptive observers are fruitful when they heartily watch consumers and what kind of products they buy to do what, when they understand how to catch revelations and deviations in the neighbouring environment and when they have the possibility to observe in unfamiliar surroundings.

Experimenting is the fourth skill. Innovative people passionately experiment, create prototypes, try to bring about unusual and way-out results to study whether and which new observations emerge.

Innovative experimenters come out with the realization that innovator's skills Questioning, Observing and Networking, in particular, determine data only about the past and the present, while it is just through Experimenting that they may get data about the future, about what could be, answering somehow to the what-if questions. (Dyer, Gregersen e Christensen 2011, 133-134) Experimenting is identified as the best characteristic of differentiation of innovators and non-innovators. Indeed, they usually engage in minimum three types of experimentation: experimenting by exploring, experimenting through disassemble and dissect things both materially and mentally, experimenting by the mean of mocks-up and models. A hypothesis and testing mind-set is key to be successful experimenters.

As previously stated, allowing mistakes and failures and set up an organizational culture that encourage experimentation is central to the process of innovation.

Last skill of the innovator's DNA is Networking. Certainly, grouping people coming from the most disparate background and with radically different perspectives permits to extend the knowledge domain, and the larger the network the more insights may rise. Indeed, most of times new solutions arise outside the field of interest.

As the three researchers wrote in their book, the primary assumption of Networking is to establish a link among disparate fields of knowledge by the mean of cooperation and intercommunication between individuals who do not usually relate. (Dyer, Gregersen e Christensen, The Innovator's DNA - Mastering the five skills of disruptive innovators 2011, 116) Powerful productive idea networking allows disruptive innovators to generate new products, processes, business models bringing beneficial outcomes.

The Christensen model offers an appealing and engaging prospect on how people get outstanding ideas and intuition, in other words, how innovation really happens. Nonetheless, this is just a model. Even people who did not born with all the five skills of

the innovator's DNA already structured have the possibility to be excellent ground breakers.

Beyond the DNA: Goleman's emotional intelligence

Luckily, the human ability to think in a creative way comes one-third from genetics, while the remaining two-thirds of the innovation skills may be developed and trained through leaning. (Dyer, Gregersen, & Christensen, 2009)

Goleman, for example, in 1995, introduced the concept of emotional intelligence. By doing so, he focused the attention not only on the rational part of human intelligence, but also on the use and management of emotions, both in the private area and in the working field. (Lake & Baldo, 2009)

Goleman himself describes emotional intelligence as the ability to recognize own's and others' feelings and to govern emotions effectively and fruitfully.

Up-to-date, emotional intelligence is a key characteristic looked for by recruiters as well as a talent to be stimulated and developed within the working environment.

Indeed, emotional intelligence is considered to be even more important than the intelligence quotient. Each time people reunite to work together, a palpable and authentic sense in which they have a group IQ emerges. However, the group intelligence's most relevant element is emotional intelligence, as it provides the group itself with qualities such as talent, productivity, success. Thus, in order to take maximum advantage of the members' visionary and proficient skills, a state of internal harmony must be created.

As long as human and intellectual capital become of increasing importance to corporations, it is necessary to revise and improve the way people work together; boosting the collective emotional intelligence will become a prerequisite for organizations to thrive, if not to survive. (Goleman, 1996)

During the day, a person lives more than 500 emotional experiences, of which there is almost no consciousness, and which determine and set the tone to human interactions. (ANSA 2018) That's why there is the necessity to study emotions in the workplace and organizations and leaders consider it a vital capability.

As Goleman stated, the main domains delineating good leaders and the best teams are self-awareness, self-regulation, empathy, motivation and social skills.

In environments focused on the person, people feel appreciated and strongly involved in the organization, are more willing to express and share their emotions and, as a consequence, their work is address also to benefit other people, teams and the whole organization. So, creating working spaces where employees can have a break, for example, is a way to build an emotionally intelligent climate. (ANSA 2018)

Integrating the individual and the relational/dynamic perspectives

In the current days the complexity of business processes and other dynamics require an improved response in terms of relational skills.

Relational leadership is receiving more and more attention recently. Leadership is not domination. Leadership rather stands for the art of inducing people to operate and collaborate towards common objectives.

The kind of relationships with colleagues, collaborators, customers and suppliers can facilitate or obstacle the achievement of professional goals.

Innovation's origination no longer depends merely on individual personalities but comprises the cooperation of many different actors. This requests cognitive abilities that enhance the diffusion and so the understanding of innovation leading to entrepreneurship. (Śledzik 2013)

All the innovation's instruments of analysis seen till now lack a critical characteristic: they do not possess the sensibility necessary to examine and inspect individuals.

For sure, measures such as the Key Performance Indicators identified in Figure 3 or the many dimensions considered by the test in Figure 6, even if divided into people-oriented and tool-oriented measures, provide useful information about certain types and levels of innovation, as, for example, they allow to understand whether the strength of innovation of a company is located within or outside itself, if it regards the product attributes and design or its applications, and so on. Still, they merely consider a univocal and stereotyped idea of innovation, as they are not able to catch the multitude of nuances that human psychological traits can add and contribute to the innovation process.

Unfortunately, those tools are not enough. They must at least be coupled with instruments necessary for the analysis of individuals proposed by psychology.

Chapter 2

Psychological Types

The second chapter introduces the model that has been chosen for the development of the thesis project: it consists of one the most important psychological model, the Jungian Psychological Types model.
Today, the test resulting from Jung's model, the Myer-Briggs Type Indicator (MBTI), is probably the most used tools for the evaluation of personality's profiles thanks to its features of universality, independence from cultural influences and especially for its flexibility and positivity, thus positively valuing different personalities. (Lake & Baldo, 2009)
In particular, it has been decided to use the version proposed by Lenore Thomson, who was able to confer to the MBTI the dynamicity of the four cognitive functions of Jung, that the Myer-Briggs' model was missing.
In order to better understand the patterns of the development of this model, it is necessary to firstly introduce Carl Gustav Jung and his initial hypothesis on personality typologies.

2.1 Jung: history and theoretical basis

The theory of the Psychological Types has been developed in 1921 by the father of analytical psychology Carl Gustav Jung. The swiss psychiatrist, psychoanalyst, anthropologist, philosopher and academic, in his most representative work, introduces the theory with one of Heine's quote:

«Platone e Aristotele! Non solo due sistemi ma anche due tipi diversi di natura umana, che da tempo immemorabile, in tutte le civiltà, si elevano più o meno ostili l'uno contro l'altro». (Jung, Tipi Psicologici 2003, 15)

Plato and Aristotle present opposite types of human nature, which can be nothing but two archetypes.

The description of the Psychological Types, however, takes place only in the last chapter of the book. The other chapters highlight how the issue of the Types has been treated in fields as poetry, aestheticism, psychopathology, *Anima* history, etc.

Jung assumes the human personality to be composed of two general attitudes: Introversion (I) and Extraversion (E); they differ in the direction which the psychical energy of a person is oriented in: introversion means this energy is oriented towards the person himself/herself, the subject, while with extraversion it is oriented towards the external world, thus towards objects (that are not intended as merely physical objects, but also people).

Furthermore, Jung identifies four fundamental cognitive functions that stand at the basis of the human psyche: two are Perceiving (P) functions, Sensing (S) and Intuition (N), and concern how people get in contact with and perceive reality; the other two are Judging (J) functions, Feeling (F) and Thinking (T), and concern the way people elaborate the information they got form the external world.

It is crucial now to introduce the concept of *preference*. A preference is the innate tendency to choose to behave in a certain way, even unconsciously. As this behaviour is perfectly aligned with the person's deeper characteristics, provokes him/her well-being, energy and satisfaction, will thus be adopted whenever possible. (Lake & Baldo, 2009) An example of preference, for instance, is the hand which people write with.

However, it is necessary to remember that people's preferences are not people's competencies. People can choose to do whatever they want and choose to do despite their preferences. Preferences do not determine professional skills and abilities. In other words, the surrounding environment, family and socio-cultural influences, as well as people's personal choices will determine how people are going to play roles in personal and professional lives.

It is for this reason, indeed, that using the MBTI in the organizational field for human resources selection is not to be considered the unique tool which to base selection on nor a hundred percent reliable test.

It is not true, for example, that only an extraverted person will be a good salesman. Everyone can be a good seller or whatever else: depending on the person himself/herself,

he/she could only need more energy or a strongest effort, but he/she can obtain excellent results too. (Lake & Baldo, 2009)

In terms of preferences, Sensing (S), one of the perceiving functions, is the preference focused on information coming directly from the five senses. A *sensor* pays attention and believes only to facts and details of real situations, trusts only practical information that have useful applications, and is generally immersed in the present and focused on living life as it comes.

Intuition (N), the other perceiving function, is instead the preference that knows the world through the so called sixth sense. An *intuitive* pays attention to insights and to the different meanings, relations and possibilities of development of situations. Intuitive people are future oriented and change friendly.

Moving to judging functions, Thinking (T) is the preference of taking into account the logical consequences of a choice or action. *Thinkers* usually feel the need to become mentally estranged to the situation itself, becoming in a way emotionally detached to it, to objectively analyse pros and cons. Their approach favours analysis and evaluations to determine logic and rational solutions.

Finally, the other judging function, Feeling (F), is the preference of evaluating elements starting from personal values rather than from the process logic. *Feelers* are motivated to totally "enter" and immerse in a situation, to live it personally. To them, it is important to maintain a positive and harmonic relationship with others and an attitude of acceptance and sharing. Their first instinct is to reinforce the empathic engagement with other people to make them understand they are feeling their state of mind; feelers love the possibility to sustain and others and look for the positive side of every person.

According to Jung, every person in the world prefers one of the two perceptive functions and of the two judging functions, as well as introvert or extraverted attitude. In this way, combining the four cognitive functions with the two types of attitude, it is possible to obtain Jung's Eight Psychological Types: the type extraverted thinker, the type extraverted feeler, the type extraverted intuitive, the type extravert sensing and, on the other hand, the type introvert thinker, the type introvert feeler, the type introvert intuitive, the type introvert sensing.

The extraverted thinker reaches intellective conclusions based on objective data, facts and ideas. This Type needs laws and rules to respect and follow at any time in any place.

According to the extraverted thinker, the pure objective reality can be nothing but a universally valid truth.
The extraverted feeler instead is moved by Feelings oriented towards objective data.
The extraverted sensor is the most concrete Types identified by Jung: to this Type, perceiving objects, living emotions and enjoying them is essential.
The extraverted intuitive lives in the possibilities' world.
The introvert thinker hypothesizes and builds theories starting from real facts, even if tends to shift from the ideal to the pure imagination.
The introvert feeler appears to be silent, unintelligible: externally, this type seems to be a peaceful and quiet person, gifted with a balance that does not want to impress nor create engagement; however, when this apparency is too evident, it makes people understand the real internal detachment, dispassion and apathy. The emotional harmony does exist until it is forced too much. (Jung, Tipi Psicologici 2003)
The introvert sensor has a strong subjective component in the perception of objects.
The introvert intuitive focuses on the internal reactions caused by the external world.
The most interesting and innovative aspect proposed by Jung's model stands in the dynamicity, element that can be precious in looking for individual identity.
In fact, functions' categorization and their dynamicity stand at the basis of the attempt to a typological reading of organizations; this is the aim of the book "Alla ricerca dell'impresa totale – Uno sguardo comparativo su arti, psicoanalisi, management" written by Carlo Bagnoli, Beniamino Mirisola and Veronica Tabaglio, which will be taken as a starting point for the following discussions.
The continuous dynamic movement among the cognitive functions leads to the identification process aimed at reaching the totality archetype. In this way, correctly applying Jung's Psychological Types theory is efficient in individuating the personal myth of people.

The Jungian personal myth

The Jungian personal myth has been introduced by the swiss psychoanalyst since a myth represents real life with much more accuracy than science: subjectivity cannot be introduced by the too general concepts treated by science. (Jung 2001)
According to a researcher, the personal myth has to be interpreted as:

> «la scoperta delle immagini che fondano il proprio agire, immagini che hanno una radice archetipica e che vengono arricchite e plasmate sulla base delle proprie esperienze personali». (Carotenuto 1993, 66)

In Jung's point of view, men cannot have clear and defined opinions on themselves, since they cannot observe themselves from the extern. He believed humans to be a psychical process impossible to be controlled, only partially managed. Humans are like flowers: it is possible to see the flower that lives and dies, outwardly the flower passes, but under it, inwardly, the rhizome continues.

It is when this invisible world emerges that humans have access to their most interior and deeper parts of the psyche, moments in which humans understand their dreams and visions. So, people can understand who they really are only looking at their internal stories, to the real episodes that have characterized their life, their myth.

Once people are aware of the personal myth, the understand it and learn how to dialogue with the interior images, and this establishes the basis for a condition in which people are able to live their myth, not only to know its existence. In other words, people will thus move from a condition of passive absorption of happenings to the possibility to personally and actively live their life, becoming the artificers of their story. (Bagnoli, Mirisola, & Tabaglio, 2020)

To do so, and do not let the personal myth crystallize, it is absolutely necessary that the identification process takes place.

The identification process

The Jungian identification process can be described as a therapeutic program consisting of the evolution from the conscious *Ego* to the *Self*, reaching a psychical totality.

The Self is, in fact, the final destination of the identification process; it serves as a glue that grants unity and equilibrium to each individual's personality. The Self has many definitions, but it is possible to generally say that it represents the full achievement of the psychical realization, the psychical totality. The Self, and all around it the other psychical systems, has a central position in Jung's perspective.

To better explain the identification process, Jung introduced a sort of metaphor by the mean of alchemy. He genially guessed how alchemy can be a reading key to understand the deeper layers of human personality. His reflections on alchemy too, as the personal myth, are not a scientific truth nor systematic general theories; rather, they are useful tools to better investigate and look into the complicated and intriguing process that psyche functioning is.

According to a scholar, the alchemical language is characterized by its concreteness and tangibility: by associating the fundamental components of personality, traits and states of the soul to concrete materials and events, it is possible to get the materialization of abstract phenomena. This practical fulfilment is a fundamental step, as it allows to paraphrase the specific behaviours and experiences of the psyche in almost precise images of alchemy. (Hillman, 2013)

An alchemical process starts with the dissolution, calcination and purification of a material. Jung connects this phase to the meeting with the "shadow". Everybody has a shadow, the dark side of psyche, that is darker and stronger the more it is immerged in the unconscious. Contrarily to what generally believed, the shadow does not involve bad elements. It cannot be dangerous for what it is composed of, but rather for the degree to which it is surrounded by the unconscious. It is crucial to get familiar with the proper shadow since some contents pertaining to it are precious for the enrichment of personality and, principally, not to let it grow to the point at which it would create psychical disequilibrium. The alchemical psychology demonstrates how implacably melancholies, sadness periods, hurts and lesions that do not properly heal, terminations of love story or of friendships are states representing a beginning, the beginning of the process, as they are ends, dissolutions. (Hillman, 2013) It must be recognized that even the shadow functions can show up in positive ways. The shadow is critical in maintaining the psyche balanced. Without the shadow functions, primary functions would be biased and dominant. Shadow functions, even if they usually present in bad manners, provide indispensable comparable points of view. The important thing is to be aware of these functions and notice when and how people use them. (Storm 2017)

Additionally, during highly stressful periods or illness periods, the functional system is weakened and inferior functions, the barbaric one in particular, may easily get in the game. Still, being inferior functions and so not being well-developed, the person can result

assuming immature behaviours. According to Jung, it is exactly thanks to the evolution period of the inferior functions that the individual personality develops and matures.
Personality starts consolidating during the teenage years and inferior functions begin growing during the second phase of life, raising doubts on whether people are changing their personality, as the focus of attention changes even in surprising ways.
An example is the mid-life crisis. Jung was the first to notice it, especially among men. The mid-life age is a turbulent and transitional period and, in order to continue growing and maturing without any kind of problems, it is necessary to have the possibility of receiving and listening to other people's feedbacks and to reflect oh those comments. (Lake & Baldo, 2009) Not everybody is open to this type of experience: introspection and auto-critique are not easy steps at all. To introspect means somehow to accept an own fragility and vulnerability, to accept the possibility of not being perfect.
In some cultures, moreover, men are educated not to show emotions, demonstrate vulnerability nor difficulty, only showing power and angry is admittable. Under this perspective, men must be strong, self-reliant; unfortunately, ask for and listen to other people's feedbacks require much more courage than negate them.
Also, with the arrival of the mid-age the fear of death may come together too. Some will be scared of moving towards future and its uncertainty and will start focusing their attention to the past and get attached to their youthfulness: they buy sportive cars, travel to exotic countries, stay with younger women, etc. They seem not to accept the shift to the new phase, the new chapter of their life, automatically precluding the advantages of having acquired a certain position, regard and respect in the community. (Lake & Baldo, 2009)
Another phase is the meeting with the *Anima*, the light after the darkness. The *Anima* represents the vehicle and the image of totality. Indeed, according to Jung, the *Anima* represents the complementarity principle governing the psyche. (Bagnoli, Mirisola, & Tabaglio, 2020)
There are more steps identified and explained by Carl Gustav Jung; however, just two of them have been described as there are important to understand the proceeding of the thesis project.

2.2 MBTI and Thomson interpretation and reworking

Starting from the Jungian model of the Psychological Types, Katharine Briggs and her daughter Isabel Myers developed a Sixteen Psychological Types model, the Myer-Briggs Type Indicator, commonly called MBTI.

The actual Psychological Types questionnaire has been developed and perfectioned at the beginning of World War II, when Katharine and Isabel wanted to help managing the assignment of military posts to men and to value and exploit the introduction of production roles for women within factories.

The MBTI is currently used in different environments and situations; nonetheless, one of the areas where it is most popular is the organizational field, where it is used for corporate development, especially in support of the firm's changing phases, the analysis and the strengthening of work groups, the coaching for the development of leadership skills, the development of communication, relational and influencing abilities, the management of conflictual situations.

So, the MBTI is currently one of the most used tools especially in big corporations for the selection of human resources; in fact, despite the validity and ethical worthiness of such a reductive approach in the working field, for this scope it is really effective, as it allows to immediately get an idea on the attitudes and personality traits of a person. As a con, instead, if not applied in a working circumstance, the MBTI just provide an acronym and a short and general profile description, resulting from the way the person filled the test at the specific moment and under the specific circumstance.

There exists another psychological tool which is frequently used as a valid alternative to the MBTI, called Keirsey's Temperament Sorter (KTS II). Always based on Jungian Psychological Types, it studies and categorizes people's temperament and draw up four divisions: Artisan, Guardian, Idealist and Rational. As a basis, it uses pairs of preferences on word usage, Concrete versus Abstract, and tool usage Cooperative versus Utilitarian. (Yan, Childes, & Hall, 2013)

		Words	
		Abstract	Concrete
Tools	Co-operator	***IDEALIST*** NF	***GUARDIAN*** SJ
	Utilitarian	***RATIONAL*** NT	***ARTISAN*** SP

Table 1 - Keirsey's Temperament model

(Yan, Childes, & Hall, 2013)

The four temperaments pointed out by Keirsey can be further divided in sixteen Intelligence Roles.

GUARDIANS	ISTJ (Inspector)	ISFJ (Protector)	ESTJ (Supervisor)	ESFJ (Provider)
ARTISANS	ISTP (Crafter)	ISFP (Composer)	ESTP (Promoter)	ESFP (Performer)
IDEALIST	INFJ (Counsellor)	INFP (Healer)	ENFJ (Teacher)	ENFP (Champion)
RATIONALS	INTJ (Mastermind)	INTP (Architect)	ENTJ (Fieldmarshal)	ENTP (Inventor)

Table 2 - Keirsey's Intelligence Roles

(Yan, Childes, & Hall, 2013)

According to a scholar, the MBTI and the KTS II measure analogous and highly connected psychological elements, even though their results may present dissimilar scores in distinct dimensions. (Boyar, 2007) Still, Keirsey himself declared that the two tools

generate very much alike conclusions (with almost .75 correlation). (Cheng & Hee Kim, 2010)

Given the similarity existing among the two psychological tools of analysis, for the thesis project it has been chosen to adopt the MBTI rather than the KTS II. In fact, working with cognitive functions instead of specific roles is less bounding and static. Moreover, the MBTI test as a psychological measurement tool, with respect to other tools like the KTS, is more suitable since talking about innovation, so about something that breaks the patterns, it would be nonsense and contradictory to use models that fix the result of individual predilections into a specific role, like the Keirsey's Temperament Sorter does.

For this reason, a more detailed analysis of the KTS II sixteen Intelligence Roles will not be performed.

Worth mentioning, the MBTI's reliability and validity is considered satisfactory to measure individuals' personality. (Cheng & Hee Kim, 2010)

To make the MBTI a precious tool, it is necessary to provide it the dynamicity proper of the Jungian theory, and in this the approach of Lenore Thomson seems to be satisfactory and valid.

Lenore Thomson assigned to the sixteen Type identified with the MBTI the four cognitive functions, highlighting how in every person's psyche those four different forces constantly act.

The following table show the dynamic of the four cognitive functions for the sixteen Psychological Types.

ISTJ	**ISFJ**	**INFJ**	**INTJ**
Introvert Sensing Extraverted Thinking Introvert Feeling Extraverted Intuition	Introvert Sensing Extraverted Feeling Introvert Thinking Extraverted Intuition	Introvert Intuition Extraverted Feeling Introvert Thinking Extraverted Sensing	Introvert Intuition Extraverted Thinking Introvert Feeling Extraverted Sensing
ISTP	**ISFP**	**INFP**	**INTP**
Introvert Thinking Extraverted Sensing Introvert Intuition Extraverted Feeling	Introvert Feeling Extraverted Sensing Introvert Intuition Extraverted Thinking	Introvert Feeling Extraverted Intuition Introvert Sensing Extraverted Thinking	Introvert Thinking Extraverted Intuition Introvert Sensing Extraverted Feeling
ESTP	**ESFP**	**ENFP**	**ENTP**
Extraverted Sensing Introvert Thinking Extraverted Feeling Introvert Intuition	Extraverted Sensing Introvert Feeling Extraverted Thinking Introvert Intuition	Extraverted Intuition Introvert Feeling Extraverted Thinking Introvert Sensing	Extraverted Intuition Introvert Thinking Extraverted Feeling Introvert Sensing
ESTJ	**ESFJ**	**ENFJ**	**ENTJ**
Extraverted Thinking Introvert Sensing Extraverted Intuition Introvert Feeling	Extraverted Feeling Introvert Sensing Extraverted Intuition Introvert Thinking	Extraverted Feeling Introvert Intuition Extraverted Sensing Introvert Thinking	Extraverted Thinking Introvert Intuition Extraverted Sensing Introvert Feeling

Table 3 - The Psychological Types dynamics by Lenore Thomson

As it emerges from the table, every Type has a Dominant function, the first in list. The Dominant function is the one which everybody mainly recognizes in and the function that everybody learned to govern.

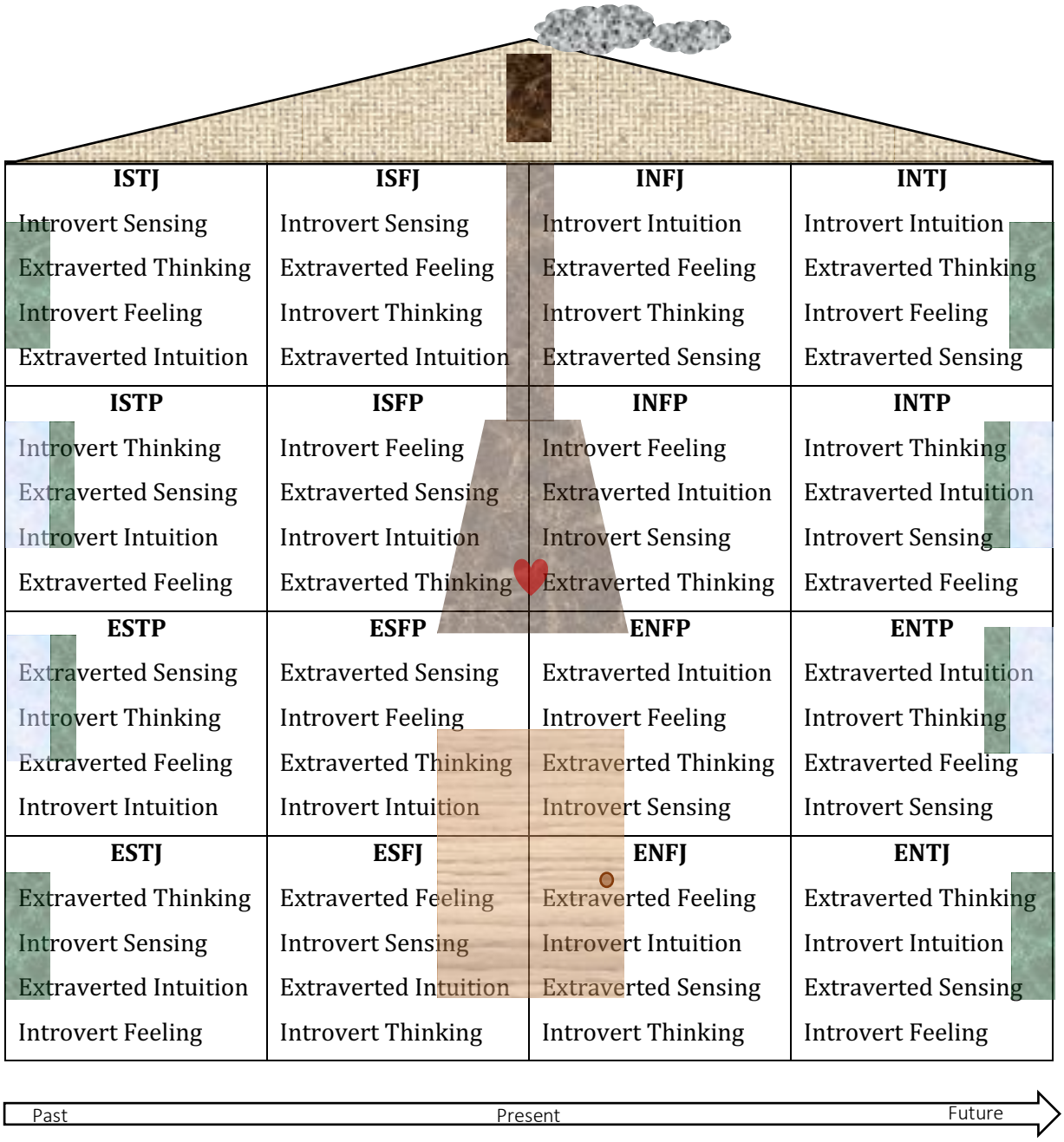
There is then an Auxiliary function, the second one. The Auxiliary function balances and sustains the Dominant function: generally, if the first function is extraverted, then the second one is introverted (and vice versa) and if the first is a perceptive function, then the second one is judging (and vice versa).

However, this counterbalanced and fair condition does not always realize when the first and the second functions are in contrast, the majority of identity-related problems arise.

The last two functions are inferior functions controlled by the unconscious and, for this reason, hard to be governed and managed. In particular, the last function is called by Jung the Barbaric function: it is the exact opposite of the first function, it is not developed, and it is totally uncontrolled by the Reason. As Thomson mentioned, the Barbaric function is the enemy of every person since it continually puts a strain on people; still, this function can also be the incentive pushing people recovering from the crisis and elaborating solutions never thought of before. (Thomson, 1999)

It is important to remember that Types are not imprisoned in a rigid and impersonal table; people have the key to access every Type block, for example to achieve specific desired results. It is the personal natural preference that makes people shifting back to their original “comfort zone”, especially in moments of tiredness and exhaustion. (Lake & Baldo, 2009)

An interesting view about the table is proposed by Ann Ruth Lake and Andrea Baldo (Lake & Baldo, 2009): the passkey is to imagine it as a house, in which, as just explained, people can move from one room to another.



ISTJ	ISFJ	INFJ	INTJ
Introvert Sensing	Introvert Sensing	Introvert Intuition	Introvert Intuition
Extraverted Thinking	Extraverted Feeling	Extraverted Feeling	Extraverted Thinking
Introvert Feeling	Introvert Thinking	Introvert Thinking	Introvert Feeling
Extraverted Intuition	Extraverted Intuition	Extraverted Sensing	Extraverted Sensing
ISTP	**ISFP**	**INFP**	**INTP**
Introvert Thinking	Introvert Feeling	Introvert Feeling	Introvert Thinking
Extraverted Sensing	Extraverted Sensing	Extraverted Intuition	Extraverted Intuition
Introvert Intuition	Introvert Intuition	Introvert Sensing	Introvert Sensing
Extraverted Feeling	Extraverted Thinking	Extraverted Thinking	Extraverted Feeling
ESTP	**ESFP**	**ENFP**	**ENTP**
Extraverted Sensing	Extraverted Sensing	Extraverted Intuition	Extraverted Intuition
Introvert Thinking	Introvert Feeling	Introvert Feeling	Introvert Thinking
Extraverted Feeling	Extraverted Thinking	Extraverted Thinking	Extraverted Feeling
Introvert Intuition	Introvert Intuition	Introvert Sensing	Introvert Sensing
ESTJ	**ESFJ**	**ENFJ**	**ENTJ**
Extraverted Thinking	Extraverted Feeling	Extraverted Feeling	Extraverted Thinking
Introvert Sensing	Introvert Sensing	Introvert Intuition	Introvert Intuition
Extraverted Intuition	Extraverted Intuition	Extraverted Sensing	Extraverted Sensing
Introvert Feeling	Introvert Thinking	Introvert Thinking	Introvert Feeling

Figure 12 - The Psychological Types house

(Lake & Baldo, 2009)

In the two superior floors there are Types with a preference for Introversion (I), who, having their own energy source in themselves, do not need to search for it outside. On the other hand, in the first two floors there are Types preferring Extraversion (E), close to the door, so they can exit to recharge their energy in the external world.

Furthermore, in the first two columns, starting from the left side, there are Types with a preference for Sensing (S), while in the two columns to the right it is possible to see Types preferring Intuition (N). Imagining a sort of timeline in front of the house, consisting of past on left side, present in the middle and future on the right side, it results that sensors are more attached to a concrete and tangible world, where objects were built in the past and that do materially exist in the present too. Sensors observe through all their senses what surround themselves. On the other side, intuitive people live projected to the future, in the world of possibilities, love to imagine to what can happen, new possible scenarios ideas and process innovations. By focusing on the future, in fact, they are able to establish new interpretations and key to understand the world.

In addition, Types preferring Thinking (T), the so-called thinkers, can be found in the first and last columns of the house. They represent the load-bearing walls of the house, those who sustain the logical structure of the house itself, based on concrete facts (ST, in the very first column) or on conceptual facts (NT, the last column). Those two pillars symbolize the logical and rational frame that preserve the stability of the house, since its rooted in the ground in an objective way by the mean of analytical decisions taken by thinkers.

Feelers instead reside in the heart of the house, where it is possible to imagine a warming chimney, so where decisions are taken based on values and, more personally, on subjective beliefs, with a particular attention on impacts and consequences on others and on the harmony of interpersonal relationships.

Finally, looking at the house scheme it is also possible to notice the pattern of the two dichotomies about the orientation towards life, Judging (J) for judgers and Perceiving (P) for perceivers.

Judgers stay at the first and last floors of the house, building the conditions of concrete and strong decisions. Somehow, they close the vertical dimension of the house, as the foundations and the roof do.

Perceivers, on the contrary, stand in the central floors of the house, where windows are more often open, allowing external stimulus to enter.

Some researches show a distribution in percentage of MBTI concerning the managerial population. David Coleman in 1998 – 2003 did a research on a population of around a thousand -mainly Europeans- managers; according to this study, there are Types more common in the managerial population than in the general population, particularly the typologies shown in the four corners of the following table. (Lake & Baldo, 2009)

ISTJ 15,15%	**ISFJ** 2,5%	**INFJ** 1,17%	**INTJ** 5,66%
ISTP 4,58%	**ISFP** 1,58%	**INFP** 2,00%	**INTP** 5,83%
ESTP 5,50%	**ESFP** 2,50%	**ENFP** 7,24%	**ENTP** 9,24%
ESTJ 16,90%	**ESFJ** 5,25%	**ENFJ** 2,83%	**ENTJ** 12,07%

Table 4 - This table is taken from a David Coleman research on 1201 participants from several European nations to the Management Centre Europe Program "Managing People", 1998 – 2003 (Lake & Baldo, 2009)

In the four corners, where the percentage is higher, Types share the "T" and the "J". People pertaining to these categories are so oriented towards rational decision making and taking, based on the logic analysis of costs and benefits ("T") and on a structured and planned approach to every situation ("F"), and that's why they are also known as *tough-minded managers*. (Lake & Baldo, 2009)

It is in fact almost obvious that those people showing a preference for the four profiles are exactly those who are promoted to high managerial levels, especially in big companies where it is necessary to have a developed ability to structure and organize work. Furthermore, those characteristics can be more easily found in scientific, technological and manufacturing firms, where procedures require a certain degree of precision.

In such companies the lack of feelers and perceivers may create a rigid and cold environment, merely task oriented and not considering people, with consequences on employees' motivation level and on the low degree of innovation.

However, and once more, it must be reminded that every Type may form excellent managers.

Every room has its own characteristics and even profiles inside them may change in terms of gradation.

The Psychological Types' dynamics offer a framework of the possible combinations of the four preferences and help explaining the personality profile of every person.

Some Types are more common in managerial positions and in certain industrial sectors. For example, in traditional industries like engineering or manufacturing it is common to find "ST" profiles (first column), oriented towards the measurable and concrete world and with a "here and now" oriented attitude; in sectors like IT services, consulting, marketing or fashion "NT" profiles (fourth column) are more frequent. (Lake & Baldo, 2009)

Once discovered the proper Type, it is possible to use this knowledge to move within the company to find a more "welcoming room" that allows the person to better exploit his/her preferences.

Hereafter, a brief and general description of each of the Psychological Types divided by their dominant function; the descriptions have been taken from the book *Leadership Relazionale* of Ruth Ann Lake and Andrea Baldo. (Lake & Baldo, 2009)

It is extremely important to remember, once again, that the Psychological Types descriptions that will follow are not universal truths, they do not want to determine absolute aspects of people. The cognitive functions develop differently in every individual, deriving from an alternance between Introversion and Extraversion; the swing between the two extremes does determine the manifestation of the different Psychological Types, in a process of transformation and metamorphosis that leads to the personality unity.

Psychological Types are not intended to categorize people as right or wrong in the choices they make every day, they are rather conceived to demonstrate how the numerous mental processes of human beings connect and integrate to constitute distinct ways of understanding reality. (Thomson L. , 1998)

The Introvert Sensing types: ISTJ and ISFJ

ISTJ

ISTJ

Introverted Sensing (S)
Extraverted Thinking (T)
Introverted Feeling (F)
Extraverted Intuition (N)

Methodical, precise, reliable and detailed-oriented, they take seriously their tasks and always complete them. They love planning work in order to carefully monitor and control progresses and results. Good in implementing procedures or systems in a practical way, especially when they can apply in a direct way to tangible and concrete tasks. Conservative, pretty resistant to radical changes, they prefer a gradual approach, step by step.

This Type is definitely common in many managerial positions in several Italian companies.

As it can be imagined, those people with a preference for ISTJ feel more comfortable in doing accounting and finance tasks, as well as computer science and engineering tasks, since these jobs require attention to details and precision. Highly responsible in concluding tasks, they can stay in office also after the end of the work schedule to complete assignments or to control and make sure that the other people achieve their duties.

Sometimes, their working place too communicates a sense of mental order: the space is clean, tidy, functional and logic.

ISTJ people do not love changes, they could also be reluctant and resist to new technologies and innovations, following the philosophy “if a thing works and is not damaged or broken, why should we change it?”.
They do not love interruptions too, being introverted, and when it is time to meet them for any reason, it is recommended to make an appointment and anticipate the conversation topic by e-mail.
They can be valid supporters of concrete new projects, displaying valid data and information, essential to promote investments of time and cash in new ideas and activities. To convince ISTJ bosses to do so, the new project proposal must be carefully studied and detailed, showing reliable data, ordered and structured facts, ideally in tables or spreadsheets; in fact, they really want to know technical details, budget, pros and cons, etc.
The boss ISTJ has an “offstage” controlling style and frequently uses emails or other IT tools to monitor the progress of projects and processes, both incoming and outgoing.

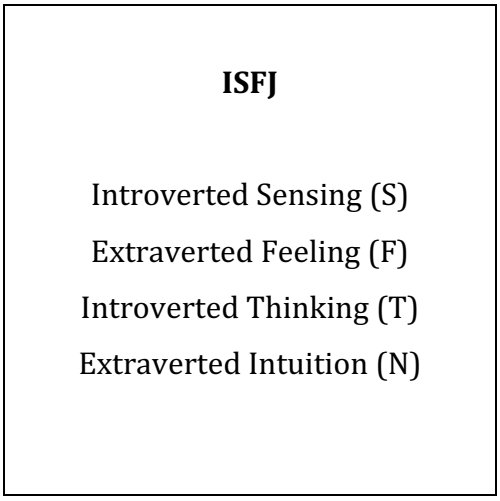
Summing up, it is possible to say that for what concerns:

- company’s contribution, they orderly complete their tasks respecting the deadlines and are trustworthy and detailed-oriented;
- communication, they precisely display information and use logic and realistic claims;
- leadership, they are good organizers, respecting and ensure respecting of rules and procedures and are an example of efficiency and reliability;
- approach to change, they prefer what can realistically be realized to what is hypothetically supposed to be realized;
- approach to problems, they consider all the details and peculiarities of facts and situations before taking decisions;
- conflicts management, as being deeply task-oriented, they could fail in considering the interpersonal aspects of conflicts;
- weaknesses, they could be too much present-oriented and not considering consequences on future or on other people and could become too much strict and picky, pretending others to adapt and comply to their standards;

- personal development, they should remember to spend few moments to consider future developments and implications involved, on people too, and should try to be open to behaviours different from their own one.

Fundamentally introverted sensors and stereotypes as “establishment” types due to their task-orientation and strong focus on details and standard procedures, their self-experience comes from the imminence of the dominant function Introverted Sensing. Indeed, this dominant function pushes ISTJs to gather data but does not provide them with a method for assessing and evaluating the data reasonably. As a consequence, they need to strongly develop their secondary function, Extraverted Thinking, to master situations and to get additional information with the aim of making adequate decisions. ISTJs tertiary function, Introvert Feeling, causes them to withstand and be inflexible, in the conviction that their ideas about important things are unequivocable and decisive.

ISFJ



Focused on things they can concretely do to help others. They tend to work in a structured way to organize support systems for internal or external services. They notice details, put lot of efforts in creating a friendly and warm environment in their workplace. Humble and modest, they do not love to be the protagonists of situations and rather prefer to be the organizers, granting safety and predictability.

The SF types too are detail-oriented but with a concern for other people. They also consider important the impact they have on others.

Summing up, it is possible to say that for what concerns:

- company's contribution, ISFJ are able to gain others' engagement, participation and commitment;
- communication, they listen to others' needs and pay attention to information, both received and provided;
- leadership, they are able to motivate and encourage colleagues and are faithful to their duties, requiring others to do the same;
- approach to change, they actively support change by considering others' needs;
- approach to problems, they demonstrate practical, organized, oriented sense to tasks and duties, working with the aim of finding solutions that accommodate everybody;
- conflicts management, they look for solutions that please all the parts and privilege relationships over results;
- weaknesses, they can lose their priority in the constant search for others' satisfaction and they can be slow in proceeding with tasks, as they are always detailed-focused;
- personal development, they should give their selves some time, even alone, to reflect on their own future.

As dictated by Introverted Sensing, ISFJs' devotion, trustworthiness and engagement, often resulting in dwelling too long on circumstances, may be one of their merit, or may be a sign that their secondary function, Extraverted Feeling, is not working properly; they need to develop and strengthen this secondary function not to lose the importance of their own needs and purposes in the external world. However, instead of relying on Extraverted Feeling to balance their dominant function, they may found in the tertiary function a support for their usual behaviour: Introverted Thinking, indeed, may assure INFJs that their activity is part of a larger system whose principle should be altruism.

The Introvert Intuition Types: INFJ and INTJ

INFJ

INFJ

Introverted Intuition (N)
Extraverted Feeling (F)
Introverted Thinking (T)
Extraverted Sensing (S)

They work on a conceptual level trying to create a positive impact on people, with particular attention focused on values, professional ethics and service quality. They are able to forecast and see trends and to find ways to align the team towards a common goal. During individual coaching moments, they are able to obtain the collaboration of colleagues and have a personal touch when they deal with people.

Summing up, it is possible to say that for what concerns:

- company's contribution, INFJ gather approval in a discrete way, with empathy and comprehension and work aimed at creating a human and welcoming environment;
- communication, they love to highlight the values and the vision and also the creative and innovative ideas that can contribute to people's wellbeing;
- leadership, they are source of inspiration for others thanks to their effort, so not needing to ask collaboration, and do care about others' long-term needs;
- approach to change, they are constantly pursuing change, even fighting against obstacles;
- approach to problems, they try to get an overall view before acting;

- conflicts management, they prefer to avoid discussion, applying their comprehension and listening skills, and find solutions through the creation of common interests;
- weaknesses, they could be seen as cold, detached and silent and do not fight to have resources for their team, as they are accommodative;
- personal development, they should improve their attention to details and assertiveness, defending their own and team's interests.

The Introverted Intuition dominant function carries INFJs into psychological areas not even familiar to the other types. The field where their Intuition is more noticeable is in their struggle to balance their declared ideology and their actual attitude. They put a lot of effort in training the secondary function, Extraverted Thinking, to balance the dominant one and make sense and establish order to their intuitions; however, they sometimes finish employing Introvert Judgement in self-defence and protection, to claim their right "to feel what they are feeling as they are feeling it" (Thomson L. , 1998) or to get emotionally detached.

INTJ

INTJ

Introverted Intuition (N)
Extraverted Thinking (T)
Introverted Feeling (F)
Extraverted Sensing (S)

They are able to visualize future scenarios, assume tendencies and explore new possibilities. They reflect on links and logical consequences of conceptual phenomena, foresee strategies and succeed in pointing a direction to follow. Their ability to get an

overall view and to create a general plan forecasting future makes them effective and efficient in identifying new visions and objects and in strategical planning.
INTJ is of the Types at the corner of the house, so one of those most common in the management community. In the right column of the table, those people look at the future, imagining and visualizing what could be and conceptually organizing all the processes or systems that could lead to this future in a structured way.

Summing up, it is possible to say that for what concerns:

- company's contribution, INTJ are calm and rational, analyse pros and cons, are able in strategic planning and create systems for the future;
- communication, they try persuasion through logical and clear topics and to engage others by showing and sharing a final vision of solutions;
- leadership, they know how to be rigid, if necessary, and clarify objectives and results to be achieved while maintaining the team focused on them;
- approach to change, they offer new perspectives and points of view on possible developments and pursue change in a calm and determined way;
- approach to problems, they synthetize and organize ideas and look for innovative solutions;
- conflicts management, they have an almost no-empathy approach, and try to understand logics, connections and possible solutions;
- weaknesses, they love to solve problems alone and could remain isolated, with underdeveloped networks;
- personal development, they should look for challenging solutions and new fields of knowledge, find occasions to work autonomously as well as in team, by the mean new
  communication technologies.

Strongly relying on Extraverted Thinking, the secondary function, to deal with the external world, they usually have a doubtful approach to it, but are nonetheless driven by their Intuition. As INTJs follow Intuition, they create connections among many elements pertaining to several fields, so among distinct areas of knowledge, and connections themselves may be enough to assure them they are following the right path.

Paradoxically, INTJs can get in touch with their Feeling and Sensing by strengthen Extraverted Thinking: indeed, this secondary function provides them a feeling of stability and belonging to the outer world and connects them to other people.

The Introvert Thinking Types: ISTP and INTP

ISTP

ISTP

Introverted Thinking (T)
Extraverted Sensing (S)
Introverted Intuition (N)
Extraverted Feeling (F)

They understand and catch pragmatic aspects of the situations and can consequently act, leading to concrete solutions based on key aspects, in crisis or challenging situations too. They also know how to move under emergency conditions, focusing on objective facts. Their internal logic permits them to concentrate on observable aspects to find practical and measurable solutions.

Concrete problem-solving oriented, ISTP are the first to launch in a solution, identifying actions to do. They concentrate on details, and on situations analysis. While others may rest paralyzed in front of emergencies, ISTP's pragmatism and natural call to action galvanize them, allowing this kind of people to face situations with a certain detachment.

Summing up, it is possible to say that for what concerns:

- company's contribution, ISTP are practical, concrete, determined, facing problems with these three characteristics and develop their competence beginning famous experts;
- communication, deeply detail-oriented, sometimes shows and explains situations in a fastidious way;
- leadership, they quickly respond to problems, promoting maximum autonomy and independence to their collaborator;
- approach to change, they ensure change is reasonable and with its roots in reality and the real world, but always offer their effort so that change results to be efficient and effective;
- approach to problems, they have a logical approach to problems, ensuring that facts always support analysis and hypothesis and want to be able to act in immediately;
- conflicts management, to them a conflict is a challenge to win;
- weaknesses, they could have almost no sensibility for interpersonal facts and could not gather nonverbal signals coming from others; moreover, they tend to ignore abstraction and conceptual ideas;
- personal development, they should delineate their plan with a bit of fantasy, in a natural and funny way, and should take some time to explore their own values and develop sensibility in interpersonal relationships.

ISTPs get in contact with their feelings and emotions just when operating with the subjective logic, proper of the Introvert Thinking dominant function. They need to know the Extraverted Sensing function to adapt to circumstances they cannot handle in their favourite way, so to continue getting information and so keeping their perceptual logic knifelike.

INTP

INTP

Introverted Thinking (T)
Extraverted Intuition (N)
Introverted Sensing (S)
Extraverted Feeling (F)

Strategist, able to see schemes and trends underlying facts and events, drawing consequences. They love conceiving new ways to invent the future, building models to complete projects. Sometimes absent-minded, lost in their abstraction, and forget to pay attention to people surrounding themselves and to the material reality. Ideal in foreseeing and communicating original solutions to problems, also able to even improve their ideas by the mean of genial intuitions.

Summing up, it is possible to say that for what concerns:

- company's contribution, INTP are analysers of complex models, able of great synthesis and open to new ideas, reflecting on alternative scenarios;
- communication, they listen carefully in order to catch the logical point of the question;
- leadership, they define general rules and make sure everybody respects them, appreciating independent and determinate colleagues;
- approach to change, they analyse current situation and consequently study methods for the changes, if necessary;
- approach to problems, they demonstrate a critical spirit in the situation analysis;
- conflicts management, they may result cold and detached and do not willingly provide support to fragile members of the team;

- weaknesses, they may be ironic and cynic towards people they do not consider s being at their same intellectual level and may irritate others for being too much theorical;
- personal development, they should investigate social aspects of business situations and use the theorical know-how development ability to understand conceptual models of the emotional intelligence.

INTPs' dominant function, Introvert Thinking, works with direct information, and they use it to understand circumstances' structural arrangement; however, they face the external reality to verify the influence of situations' pattern in the outer world by the mean of their secondary function, Extraverted Intuition, and this is the reason why their need for immediate contact is sometimes not so apparent.

The Introvert Feeling Types: INFP and ISFP

ISFP

ISFP

Introverted Feeling (F)
Extraverted Sensing (S)
Introverted Intuition (N)
Extraverted Thinking (T)

They act taking care of others' interests: colleagues, collaborators, clients, etc. They are open to possibilities and are able to generate admiration through the organization of pleasant events oriented towards people's needs. They found themselves in their comfort place when they offer practical services or assistance.

ISFP aim at offering a service that helps others in a practical and tangible way, even though they prefer to do so by remaining behind the scenes. The sensorial inputs focus makes them able to notice important details to make things harmonic and adapt to the needs of the moment. They also notice the impacts of their actions and decisions on surrounding people, demonstrating empathy and affection in tangible ways.

Summing up, it is possible to say that for what concerns:

- company's contribution, ISFP pragmatic and flexible, help people staying in the backstage and solve practical problems with creativity;
- communication, they carefully cure their vocabulary and modality of communication so that people always feel understood and supported, and provide for concrete, practical and detailed information;
- leadership, they favour cooperation among the team and respect the different ways of working of people;
- approach to change, they care about others' needs and try to accomplish them with attention, flexible and tolerant to changes;
- approach to problems, try sincerely to put in others' shoes and look for details and facts;
- conflicts management, usually ISFP try to avoid conflicts or have a passive attitude, hoping and waiting things to solve by themselves;
- weaknesses, under conflicts or tension conditions they may isolate and sometimes, helping others in even less important projects, they may lose time control;
- personal development, they should find a tutor supporting their objectives and exercise the verbalization of their ideas and values, contributing in a tangible and visible way to the team.

When ISFPs face situations they cannot solve with their dominant function, the barbaric function Extraverted Thinking makes them loosing connections with their nature through a strong and unconscious force. So, they tend to use their auxiliary function Extraverted Sensing for self-defence and claim their self-entirety and experiential freedom. If even the secondary function is not well developed, they use their tertiary function Introvert Intuition to increment their opposition to others' impacts on themselves and to acknowledge their reality perception is true and original.

INFP

INFP

Introverted Feeling (F)
Extraverted Intuition (N)
Introverted Sensing (S)
Extraverted Thinking (T)

They love to work in the conceptual world focusing on the impacts their ideas and choices have on other people. With a reasoning deeply rooted in values, they try to create environments facilitating personal and professional growth and offering a value service to humanity.
Being subject to creative inspirations natural curiosity and their ideals, they can also have an artistic profile.
The tendency of INFP people is to find the ideal job, so it is not easy for them to find a precise position in a standard role.

Summing up, it is possible to say that for what concerns:

- company's contribution, INFP are passionate in their ideals while maintaining a clear value vision and are excellent listeners and coaches, especially in small groups;
- communication, they listen with empathy and answer considering other people's needs and tend to present situations and the ideas that could improve it generally rather than in a detailed way;
- leadership, they create a human and personalized environment that facilitates people to solve their problems autonomously;
- approach to change, they promote innovations and encourage people to look at things from different perspectives;

- approach to problems, they promote a climate that tries to offer solutions satisfactory for everybody, and contribute to discover connections among different parts;
- conflicts management, they try to avoid conflicts by accommodating others' needs, even though in this way they may lose objectives;
- weaknesses, they can forget things to do due to their very deep concentration and find it difficult to follow a structured and ordered process;
- personal development, they should develop a greater critical attention towards concrete and measurable facts of situations and should exercise more assertive behaviours.

Introverted Feeling as a dominant function establishes in INFPs subjective convictions and values about life and how to live it. If this kind of people are balanced and have well-developed cognitive functions, their life does not change from other types' life, the only aspect changing is the point of view, as INFPs values and actions may result not recognizable by others. They need their Extraverted Intuition to get in touch and handle the real and existing world, to start seeing new options for action. Moreover, they need their barbaric function Extraverted Thinking to become self-aware and to protect themselves from others' first concern and preferences.

The Extraverted Sensing Types: ESTP and ESFP

ESTP

ESTP

Extraverted Sensing (S)
Introverted Thinking (T)
Extraverted Feeling (F)
Introverted Intuition (N)

They love adventures and enjoying life. They focus their energies on practical stuffs, analysing details through a logical approach. Spontaneous, ready to seize the day and follow pleasant distractions. Able to manage emergencies with a noticeable ability of thinking and processing information minute by minute. Realistic but impulsive. Able negotiators.
ESTP are always ready to face risky situations and have the courage to try. They are strongly detail oriented. Their "P" makes them efficient in spontaneous moments, allowing them to surf the wave of uncertainty. They tend not to support already planned procedures, as they feel imprisoned.

Summing up, it is possible to say that for what concerns:

- company's contribution, ESTP are able to take the reins of every type of situations;
- communication, they are enthusiastic, open to suggestions and present situations with reality data;
- leadership, they take the responsibility to intervene, analyse facts and consider alternatives;

- approach to change, they look for action, facing problems and organizing resources; however, they are resistant to too much conceptual ideas and prefer to act concretely;
- approach to problems, they do not love losing time in theoretical aspects, they listen to opinions and suggestions and are open to compromises, provided that situations will go on;
- conflicts management, they may create disagreements among the parts, damaging relationships;
- weaknesses, they are impatient, do not respect authority and may end in troubles when they ignore intangible aspects as corporate values or variables of interpersonal relationships;
- personal development, they should learn the emotional intelligence and revisit their inappropriate behaviours towards others, as well as improving organizational and time management aspects, both in professional and personal life.

Realist, quintessential adventurers, ESTPs dominant function Extraverted Sensing is moderated by Introvert Thinking, which provides them with the capacity to evaluate information in critical situation seemingly through a sixth sense and then take actions. When their barbaric function Introvert Intuition moves to higher levels of unconsciousness, they may feel unsatisfied and this may consequently make feel them anxious and unstable; in turn, ESTPs will try to solve this condition by looking for new challenges or do something different. Instead, they should focus on the secondary function Introverted Thinking to end determining what they can obtain from life and move the focus on what they are actually contributing to it. Lastly, they may use their tertiary function Extraverted Feeling to win others' blessing.

ESFP

ESFP

Extraverted Sensing (S)
Introverted Feeling (F)
Extraverted Thinking (T)
Introverted Intuition (N)

Enthusiastic, they live in the present and are people-oriented, ready to help in practical and tangible ways. Social, they love harmonious situations and colleagues and friends' presence. They focus on the positive side of people and, in a short and spontaneous way, they can create a friendly environment or a social occasion using present resources.

Summing up, it is possible to say that for what concerns:

- company's contribution, ESFP are excellent PR and social event organizers to improve business;
- communication, they encourage communications and reciprocal interactions and are pleasant interlocutors;
- leadership, they know how to motivate others and clearly define people's roles and responsibilities in order to arrive fast to productivity;
- approach to change, they are energetic, spontaneous, flexible and know how to catch the moment, embracing with enthusiasm news and changes;
- approach to problems, they must consider all the opinions and points of view before proceeding to solutions research;
- conflicts management, they can be too much sensible and suffer, and for this avoid conflicts or accommodate others to maintain harmonious relationships;
- weaknesses, they may miss problems while avoiding conflicts and could put others' priorities before their own projects;

- personal development, they should learn to right prioritize events and objectives, surrounding themselves of encouraging and supporting people, and should build a flexible and practical development plan, in which values and focus on people are evident.

Extraverted Sensing as dominant function is responsible for ESFPs' interest in people, often resulting in ESFPs knowing more than they think about others' ideas, emotions, intentions. Still perceivers, ESFPs connection with other individuals is worthy while it is occurring, since then their concentration is attracted by something else. They go through period of dissatisfaction too, especially when they have confidence in their Sensing capacity with the omission of their Introversion. Introverted Intuition, ESFPs inferior function, makes them perceive this situation as depression and disorientation, consequently trying to solve the problem by disengaging with the other people. With the help of Extraverted Thinking, their tertiary function, they try to start again looking for new lease on life. However, they need to train Introverted Feeling, the auxiliary function, to end dealing with life as it comes and consider what they can actually do to improve it.

<u>The Extraverted Intuition Types: ENFP and ENTP</u>

ENFP

ENFP

Extraverted Intuition (N)
Introverted Feeling (F)
Extraverted Thinking (T)
Introverted Sensing (S)

They operate with natural human warmth, pay attention to others' needs, and at the basis of their action there is a strong trustworthiness in human value. They love to follow their own ideals and work to assure a harmonic future through creative ideas. They are happy to follow the development of situations, in particular to enjoy others' presence.

Summing up, it is possible to say that for what concerns:

- company's contribution, ENFP are open and flexible to others' needs, resulting good in interpersonal relationships;
- communication, they appreciate others' contributions, valuing the different perspectives and promote enthusiastically values and future possibilities;
- leadership, they impel people's opinions and eventually find an accommodating solution to the differences;
- approach to change, they support and adopt news favourably;
- approach to problems, they care about the inclusion of people and value related aspects when it comes to decision-making;
- conflicts management, they have great communication ability and empathy, and always find solutions for both technical and relational problems;
- weaknesses, too much flexibility or lack of structure may result in disorganization;
- personal development, they should improve their knowledge about practical aspects of work, production, finance, time management, etc.

Introverted Feeling auxiliary function invites ENFPs to think in terms of human values and to account for responsibility of the choices or actions they take. ENFPs do need a strong connection with Introversion to sympathize with diversity and differences in people's values beliefs. This function has a great relevance for this Psychological Type, as it also embodies ENFPs with self-consciousness and help them recognize and set their limits. If well-managed, it allows to the tertiary function Extraverted Thinking to help establishing rational priorities and to respect others' ones.

ENTP

ENTP

Extraverted Intuition (N)
Introverted Thinking (T)
Extraverted Feeling (F)
Introverted Sensing (S)

Creative, they love abstract ideas and work in the conceptual world of ideas and theories. Among the first to challenge the actual way of doing things, they invent alternative systems and generate new paradigms. Energetical in expressing their point of view, they can also be ironic and cynical towards more traditional realities and authorities.
Their future-oriented approach (N) makes the ENTP one of the most creative profile, even if, due to the "NT", a bit rigid under certain circumstances. They love to generate new ideas and create new way to approach to new projects. However, they sometimes need the collaboration of other types, like ISTJ or ESTJ, who are more focused on realization and detailed approach to ideas, to implement their ideas and plans.
They live in the world of concepts, and so it is common to find this kind of profile in consulting companies. They love to liven up discussions and there are no slow times.

Summing up, it is possible to say that for what concerns:

- company's contribution, ENTP are future-oriented and have an admirable creative intuition, and tend to concentrate on a general overview;
- communication, they listen their interlocutors and try to engage them through a positive perspective;
- leadership, they well embody the entrepreneurship attitude, challenging everybody with objectives beyond the expectations;
- approach to change, they are able and fast to recognize the value of change;

- approach to problems, they look for and offer different perspectives in problem analysis;
- conflicts management, their tendency to feel superior makes them hard in making compromises;
- weaknesses, the fact that they continually generate new ideas makes the time management a tough task for them and can also become offensive when they remain sticky to their own ideas;
- personal development, they should develop personal relationships and hobbies, so to be able to better manage time and consider meditation in order to calm the continuous stream of ideas.

Introvert Thinking, that help ENTPs understand themselves as part of a continuum process and to modify their behaviour accordingly, when combined with Extraverted Intuition, their dominant function, may result as highly cerebral. When ENTPs understand how to use Introverted Thinking and apply it to their attitudes, they are able to enter in contact with their inner part, to develop self-discipline and moderate their need to be in control even at the cost of disarming people.
Nonetheless, since they strongly depend on Extraverted Intuition, they may be very scarce in Feeling and Sensing. Introverted Sensing barbaric function, when used, bring ENTPs the willingness to maintain inner priorities, free to change direction whenever.

The Extraverted Thinking Types: ESTJ and ENTJ

ESTJ

ESTJ

Extraverted Thinking (T)
Introverted Sensing (S)
Extraverted Intuition (N)
Introverted Feeling (F)

Expert in implementing action projects and plans, they actively manage groups, taking the reins and coordinating "to do" tasks. Able to control details and structure plans to respect the several deadlines, they rapidly complete every task. Their technical excellence sometimes misses empathy and comprehension. Indeed, sometimes ESTJ may seem too much demanding, critical on actions completed not in a perfect manner and reluctant to provide positive feedbacks.

ESTJ is one of the most common profile in companies. Usually this kind of people are head of production or of services' coordination in the region. Their energy level is high, and they motivate the team to reach desired goals, so they usually find in positions of leading. This dynamic profile facilitates them the shift to managerial positions.

Extraverted, they feel comfortable assuming noticeable roles, making plan of actions and assigning tasks to others. Their Sensing function (S) makes them beware to details, as budgets or economics plans and technical characteristics and quality of products. They take decisions based on cost/benefit analysis in a logical (T), structured and planned (J) way.

Summing up, it is possible to say that for what concerns:

- company's contribution, ESTJ are very hard-working, logical and rational, structured so to transform ideas in tangible products;
- communication, they communicate in an open and direct manner, basing speeches on practical, concrete, results-oriented topics;
- leadership, they clearly define roles, responsibilities and tasks of colleagues and their team;
- approach to change, they act with determination and try to put order and a structure to change;
- approach to problems, they consider all the aspects involved in a problem and they to define a logical structure of the problem itself, based on which finding solutions;
- conflicts management, they again concentrate focus on facts and, due to their strong tendency to control details and actions' structure may result as being too much dominant;
- weaknesses, task-oriented, they may be impatient and critics towards members of the team and result careless about interpersonal relationships;
- personal development, they should put effort in understanding others' feeling, developing empathy and emotional intelligence.

Introvert Sensing as auxiliary function is their main source of subjective data and information, making ESTJs aware and able to use them when thinking their plans. If this secondary function is employed only as a support of the primary function Extraverted Thinking, they may confuse impersonality and logic with objectivity and realism, not seeing anymore the variables which do not make logical sense to them. In this case, the barbaric function Introverted Sensation starts working in the opposite direction.

ENTJ

ENTJ

Extraverted Thinking (T)
Introverted Intuition (N)
Extraverted Sensing (S)
Introverted Feeling (F)

Natural leaders, they create and communicate the vision and the final goal, loving to drive the group. They work on a conceptual level to get close to future in a structured and visionary way, proposing new logical and rational paradoxes. They challenge the actual system, present a general plan to go on, delegating details-focusing to others.
ENTJ are almost scenically present in front of their groups, clearly stating their vision of the future and the strategical direction to follow. This profile is particularly adapted to create and communicate objectives and its usually proper of strategic planning managers, marketing managers or new products and services sectors.

Summing up, it is possible to say that for what concerns:

- company's contribution, ENTJ privilege logical and rational approaches, based on conceptual aspects; they take control of groups, communicating the vision and the strategy;
- communication, they conduct the discussions, liven up participants to state their opinions and take a position;
- leadership, after having presented the vision, they encourage people to follow it and fight for determination in goal achievement;
- approach to change, they create models explaining the required change in a clear way and do actively work until the change has been completed;
- approach to problems, they use a direct and strict logic;

- conflicts management, they could be seen as aggressive and dominant, trying to impose their ideas and obliging others to accept them;
- weaknesses, they may not realize people see the mas demanding and frequently forget to influence in positive ways, not only ordering and commanding;
- personal development, they should consider the impacts of their behaviour on others, develop empathy and sensibility; furthermore, they should also improve their introspection and reflection abilities.

Due to the primary function of ENTJs, they have a straight approach to objectives and decisions, as they are conformed to the logical Judging attitude of Extraverted Thinking as well as inspired by its collective nature, looking at knowledge as power. Moreover, the more rational they become and the less down-to-earth they are: Introverted Feeling, their barbaric function, submerges them with reasons they do not recognize, and ENTJs live the resulting discord as happenings caused by other people. To maintain their Thinking undamaged, they try to detach from their tertiary function Extraverted Sensation, which however can inundate them with unknown impulses that, in the end, make them even more anchored to their dominant function. ENTJs who, on the other hand, cultivate Introverted Intuition, their secondary function, do not receive those impulses that are at odds with their logical attitude towards life.

The Extraverted Feeling Types: ESFJ and ENFJ

ESFJ

ESFJ

Extraverted Feeling (F)
Introverted Sensing (S)
Extraverted Intuition (N)
Introverted Thinking (T)

They have a natural ability to host events and people, ensuring everything is fine and everybody feels comfortable. Experts in detailed planning, with a strong capacity of social interaction, they are able to take into account eventual needs of others. They demonstrate their feelings also in a practical and tangible way. They are oriented towards an idea of creating harmony and to be useful for others in constant and concrete ways.

Summing up, it is possible to say that for what concerns:

- company's contribution, ESFJ offer practical and social support to teams, clients, colleagues;
- communication, they liven up others' opinions and comments;
- leadership, they look for cooperation and consensus;
- approach to change, they base on past experiences to offer practical and coherent perspectives and problems management;
- approach to problems, they share personal knowledge and experience to find solutions;
- conflicts management, they try to avoid conflicts but, when involved, the understand with empathy others' points of view;

- weaknesses, they are very sensible to critiques and may react significantly if values are not respected;
- personal development, they should surround of people offering support and develop flexibility.

ESFJs' Extraverted Feeling enhances the interest for social cooperation and functions when they do not look after Introverted Sensing, the secondary function. Without developed Sensing, ESFJs use Extraverted Feeling for self-defence, to bypass information that do not correspond to their logical structure. Indeed, those people need Introvert Sensing to accept objectionable declaration of fact without defining it an assertion of disagreement. However, if they have too much confidence in Extraverted Feeling, their barbaric function Introverted Thinking get away from intentional objectives and aims. Introverted Thinking becomes stronger and stronger as ESFJs' focus deviates from questions that really needs to be considered; at this point, there is no remedy but involving Extraverted Intuition, the tertiary function, to deal with the internal struggle. This function assures ESFJs that issues come from the outside and that they need to be solved immediately, creating a necessity to change things.

ENFJ

ENFJ

Extraverted Feeling (F)
Introverted Intuition (N)
Extraverted Sensing (S)
Introverted Thinking (T)

Enthusiastic and people-oriented, they love to work at a conceptual level for an aim that is, for them, a profound value. The work on the overall view, try to structure plans

considering the group's needs. Idealistic and diplomatic, they could lose contact with few important details and not see the negative side of people. Their positivity is sometimes contagious.
Situated close to the fireplace of the house, so to the heart of the house, the ENFJ manager puts great emphasis on human aspects and ethical organizational values when making decision.

Summing up, it is possible to say that for what concerns:

- company's contribution, ENFJ are people- and value-oriented;
- communication, they are beware to its clarity and look for interlocutors' consensus through cooperation and collaboration;
- leadership, they try to build organizations considering everybody's contribution;
- approach to change, they make sure that change will bring value to people and help them during the transition phase;
- approach to problems, they consider inviolable values and assess impacts on people and on the future;
- conflicts management, they try to avoid conflicts, but when they find themselves within, they are accommodating and understand others' points of view with empathy;
- weaknesses, they could be so involved in interpersonal aspects not to considering business aspects or the rational side of decisions;
- personal development, they should comprehend and develop the rational aspects, financial aspects or any other logical principle of an issue.

ENFJs' Extraverted Feeling involves everything that is proper of a specific social system, boosting universally suitable aims. Feeling in this aim is seen as a gift, as they possess the capability to introduce subjective perceptions into the common scheme, pursuing social harmony.
Every time ENFJs face issues that cannot be solved by the mean of Feeling skills, their barbaric function Introverted Thinking comes into play, directing ENFJs' attention from human concerns to rational aspects in instantaneous solutions.

Studies on Types

In the organizational field, the MBTI is mostly used to facilitate people's communication and comprehension within teams. Indeed, the presence of different Psychological Types within groups may be source of debates and contrasts and may obstacle the team's functioning and working towards a common goal. Adopting the MBTI tool in suck kind of circumstances would help to better known oneself and others.

It is ordinary to believe that groups composed by personality-alike members, so homogeneous groups, are a good solution bringing more efficiency and effectiveness in working towards a goal. However, having similar employees within the same team will lead to a group presenting the same strengths as well as the same weaknesses, leads to a huge disequilibrium; by nature, in fact, a homogeneous group is a real unbalanced one. The tendency to hire similar people brings the risk of unintentionally creating a "group think", a too standardized way of seeing situations and perceiving the multiple possibilities to act.

Strength lies in diversity. (Lake & Baldo, 2009) A good leader should learn how to manage a crew of dissimilar personality-type individuals, the content of tasks and roles as well as the dynamic process of the group itself.

The concept of creativity introduced in the very first pages of the thesis project, was not introduced by chance. There is in fact a strong linkage between creativity and the personality types. So, being creativity the first step of the innovation process, as previously explained, the connections with the Psychological Types may help in identifying the most innovative personality types, the most innovative people. Consequently, understanding personality preferences is crucial for a great approach to innovation.

Two researchers, Killen and Gareth, in their book entitled *Introduction to Type and Innovation* (Killen & Williams, 2009), explain innovation as the process of both generating ideas but also of implementing them divided into four consequential steps. The first step consists of the definition of what is to be resolved; then there is the discovery phase, meaning the discovery of as many resolutive ideas to what is to be resolved as possible (most of time, by the mean of brainstorming); following is the decision step, the choice of the best ideas and so a reduction of options for solutions; finally there is the delivery step, composed by the implementation of the ideas previously chosen. (Lane, 2016)

Each person behaves differently with respect to innovation, according to and basing on the proper personality type, interests, values and even culture: a scholar deduced that cultural influences affect its progress and expression, defining the creativity level prevalent in a culture. (Satrko, 1995) Unfortunately, the incidence of culture on creativity is not a small thing. Therefore, as already explained in the previous chapter, set up environments that favour freedom of opinion and psychological safety are necessary requirements for unrestrained creativity. (Rothenberg & Hausman, 1976)

Studying the Psychological Types is a warmly recommended first task to perform while chasing innovation, since different types are more comfortable in covering specific roles than many others. Particularly, it may also be that some personality types may found themselves more comfortable in performing innovation in distinct steps of the innovation process.

In Jung's opinion, Psychological Types do not change, even if the self-report of them may change with the passing of time, as people develop and mature, so implementing distinct mental processes according to the different lifetimes. (Cheng & Hee Kim, 2010)

Related to the innovation process, Killen and Williams identified four categories of approaches attitudes which can be seen as more proper of some personality types. In particular:

- People with a SJ attitude, so with preferences for Sensing and Judging functions, demonstrate to have an attitude oriented towards efficiency. In fact, thanks to their five-senses gathering of data and to their structured way of reorganizing and elaborating those data (J), when SJ do innovate they focus on doing the right thing, the right way, building plans on correct and definite information, scheduling and techniques. (Lane, 2016)
- People with a SP attitude, so with preferences for Sensing and Perceiving functions, show a refining attitude: still gathering information through the five senses, they favour a more flexible and soft resolution (P) in dealing with life, work, personality type values, etc. Chasing this philosophy, when it comes to innovation, SP people concentrate on doing things better, basing on the information accumulated from the external world by the mean on the five senses and by refining current realities. (Lane, 2016)
- People with a NJ attitude, so with preferences for Intuition and Judging functions, manifest an adopting propensity. By obtaining data through their sixth sense or

their gut and thanks to Judging, they are oriented towards a more organized attitude (J) to work, life, personality type values, etc. Pursuing innovation, they take advantage of what others did, adopt external ideas that they further elaborate and apply to their organizational structure according to their values and believes. (Lane, 2016)

- People with a NP attitude, so with preferences for Intuition and Perceiving functions, present an elastic and adaptable method (P) with respect to work, life, personality type values, resulting in a different attitude. NP people may feel more comfortable in the creative front end, when more solutions and prospects are flying around. (Drenth, s.d.) Concerning innovation, they delve into what nobody else is doing, by associating people and ideas with unexplored opportunities and prospects. (Lane, 2016)

As it is possible to understand, each person completes the innovation process in several manners. What the two researchers Killen and Gareth advocate for and promote is to recognize and study own strengths and to fill the gaps of missing aspects with others' concepts and programs. Indeed, leveraging on psychological types' diversification and powers, it is possible to reach a creative process producing original opinions and schemes for the evolution of a particular and definite implementation plan. (Lane, 2016)

Many researches have demonstrated how Intuition (N) is strongly associated with creativity, for example.

Creativity is also firmly associated to Extraversion (E): this last function's traits as positivity, enthusiasm, energy, newness and originality searching, all correlate to creativity and few of them play an important role in inspiration.

In addition, it is believed that people with a preference for Perceiving (P), showing more unruly and turbulent behaviours, are correlated to idea generation, originality and divergent thinking.

Also A. J. Drenth offers his point of view on personality types with a higher propensity towards creativity, openness and innovation than others.

Drenth is mentioned in the capacity of Personality Junkie founder and owner, a website aimed at providing observations and experts' investigations by the mean of a Psychological Types key of lecture. Particularly interested in individuals' mind structure and how this can affect people's values, beliefs, etc. By understanding the own personality traits and psychological type, people would know themselves much better, being able

subsequently to live their lives in reliance with their identity and purpose. Being a writer, Drenth wrote four books on typologies, especially two best sellers on INTP psychological type. (Personality Junkie, s.d.)

According to Drenth, NP people (INFP, ENFP, INTP, ENTP) are the most curious and open-minded. People with a propensity towards openness prove several and distinct activities, habits, conducts and mindsets. As a priority both in personal life and work, they choose variety and flexibility, since in this way NPs can broaden opportunities and explore new adventures and gain experience. Moreover, their future-orientation feed themselves with the energy necessary to carry on with their hunt for a superior lifestyle. (Drenth, s.d.)

All this does not mean that introverts are not curious, but that curiosity seems to be more frequent and ordinary to extraverted people.

As a matter of fact, although it is true that some types tend to be more creative than others, every type has its own manner of getting creative; each person is born with creativity capabilities, but at dissimilar levels. Fortunately, individuals' creativity is composed many elements, involving cognitive abilities and personality factors. (Feist, 1998)

Considering a more specific study on the correlation between creativity and the personality types based on a population of Innovative Design Engineering master students, of the three hypothesis that intuitive, extraverted and perceiving functions are positively correlated with creativity, the first two are confirmed, while concerning the third one, the number of creative perceivers did not exceed the number of judgers. (Yan, Childes, & Hall, 2013) Many corporations, exceptionally engineering ones, did comprehend the relevance of creativity as a competitive advantage and started to concentrate on the deficiency of creative thinking and, consequently, innovation, in engineers and in alumnus. (Yan, Childes, & Hall, 2013)

Few crucial results of the study are now reported. As already mentioned, Intuition in the MBTI test is firmly related to creativity. Indeed, and firstly, in the study it has been found that students showing an intuitive personality type outperformed, in terms of final grade, students having a sensing personality type. Generally, engineers demonstrate a stronger degree of intuition with respect to a normal population. (Shen, Prior, White, & Karamanoglu, 2015)

Perception is considered to be strictly linked to creativity too, and the study once again demonstrated that engineering students with inclinations towards intuition and perception beat their colleagues. (Carr, de la Garza e Vorster 2002)

For what concerns extraversion, on the other hand, although in the engineering area Extraversion seems to be positively tied to creativity (Ohnmacht, 1970), the study shows no clear evidence of the level of creativity as correlated to extraverted and introvert engineering students.

Further, Gough's research on the MBTI-Creativity Index suggests that with regard to Meyers-Briggs personality types, creative individuals tend to be more intuitive (N) rather that sensory (S); more perceiving (P) than judging (J); more extraverted (E) rather than introverted (I); and more thinking (T) rather than feeling (F). (Thorne & Gough, 1991) MBTI-Creativity Index is calculated by taking MBTI scores and placing them into a formula that has been developed based on 30 years of creativity research at the Institute for a personality Assessment and Research (IPAR). (Gough, 1981)

The most heavily weighted factor in the MBTI-CI is the preference for intuition. Twenty-six additional studies of creativity involving the MBTI have all found correlation between a preference for intuition and creativity. (Briggs, Myers, & McCaulley, 1992)

To sum up, it is now more than evident that, in order to detect creativity and so possible innovation traits in people, by the mean of the MBTI test, expected results are to be identified firstly in Intuition, Perception, Extraversion. Nonetheless, it will be shown that also other personality type people can significantly contribute to the innovation process of a company, and even that the presence and cooperation and collaboration of mixed personality type teams is a core factor to be innovative nowadays.

2.3 The Psychological Types and the innovative attitude

A comparison between two models

Now that also the cognitive functions model has been introduced and explained, it is interesting to introduce a comparison between the Innovator's DNA model, proposed by Dyer, Gregersen and Christensen in the first chapter and the cognitive functions model itself.

To make a briefly recall, the Innovator's DNA model represents the prototype of a disruptive innovator, one possessing the four fundamental skills, Observing, Questioning,

Experimenting and Networking, that make it possible the fifth function, Association, the associative thinking capability.

Comparing these skills with the Jungian cognitive functions, few noteworthy considerations can be made.

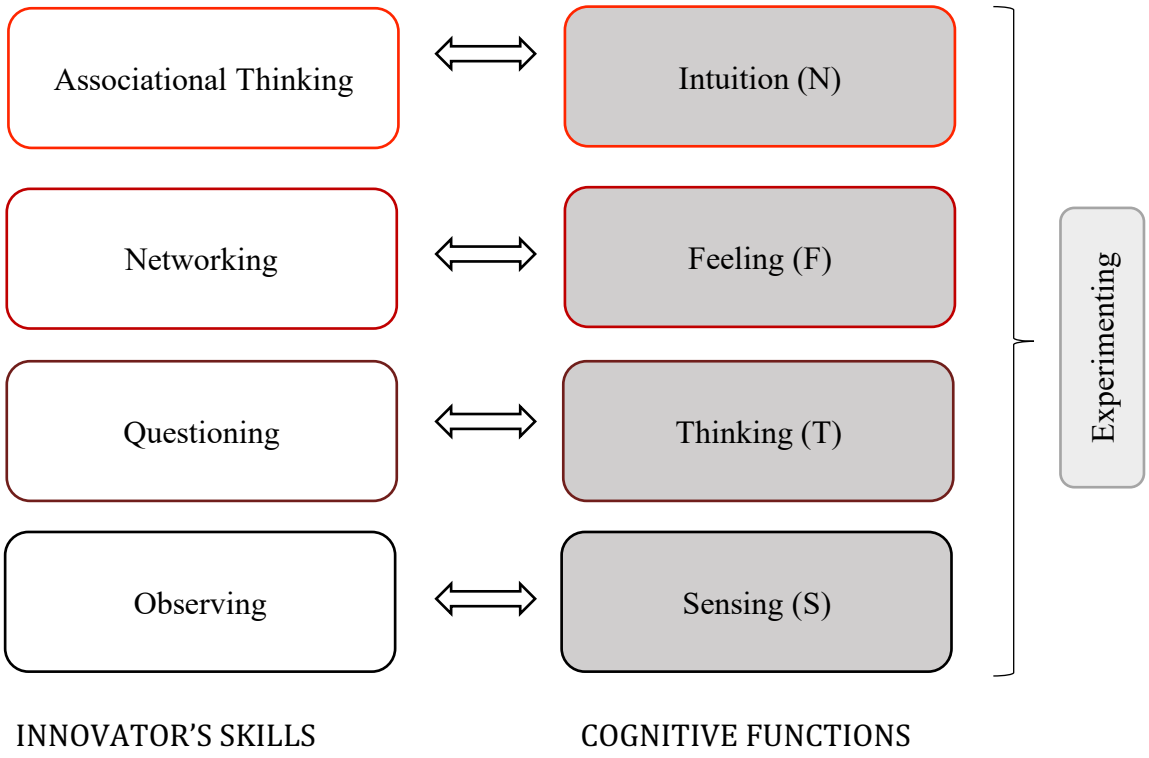


Figure 13 - A comparison between the two reference models

Since the Innovator's DNA model introduces five skills or personal characteristics that effectively distinguish "common" people from people with a propensity to be creative and innovative, and since it is possible to observe intriguing overlays between the skills and the cognitive functions, it can be deduced that also the cognitive functions themselves identify different styles of and attitudes towards innovation.

Comparing the two models, indeed, it should be finally possible to identify four fundamental styles of innovation, each of which shows the characteristics of both the skill and the cognitive function of reference.

The Experimenting skill is not considered for the comparison, as it is a characteristic proper of every cognitive function and every innovator's style.
If, according to the Jungian perspective, the four cognitive functions are combined with the two attitudinal criteria, Introversion and Extraversion, the four innovation styles should multiply, becoming eight.
The thesis project is aimed at testing the hypothesis that, nowadays, it is possible to distinguish among eight types/styles of innovation, corresponding to the eight Jungian cognitive function and, backward, to the four innovator's recognized skills.

The eight Psychological Types and the eight innovation styles [2]

The concept of innovation can so be declined in accordance with each of the eight cognitive functions. (Bagnoli, et al. 2021)
The simplest and most traditional function that is directly traceable to innovation, is Extraverted Intuition. Innovation, for how it is intended nowadays, is perfectly connected to Extraverted Intuition.
Extraverted Intuition drives people to look for and connect to sensory data and information from the immediate surrounding environment. Extraverted Intuition specifically allows for pattern identification and get the whole picture of a situation very quickly and this is why many people use it to get all the details of immediate happenings very quickly.
With Intuition, the focus is oriented towards the future, and once people do recognize a pattern, they can envision options that do not exist yet. This capability makes them able to conceive a possible future even before they know completely about the present, by combining the several visions they get by looking at the outer world in a bigger pattern of significance and interpretation. This is the aspect that makes them immediately recognizable as great innovators; however, since most people frequently use their Intuition in random ways, it may seem impossible to comprehend how rarely refined and selective this function is. Intuitive innovators are charismatic, hypnotic, credible and convincing; a great example of this kind of people is Steve Jobs, a visionary and idealistic

[2] Information and examples presented in this section refer to a book which will be published in 2021. I had the opportunity to check it out thanks to Ch. Prof. Carlo Bagnoli, thesis supervisor and co-author of the book.
C. Bagnoli, R. Biloslavo, D. Edgar, B. Mirisola. 2021. *Business Transformation – Jungian Paradoxes and Enterprise Within Total Enterprise*. London: Palgrave Macmillan.

man who was able to convert the stuffs of a hacker into a new revolutionary industry, Apple, thanks to his attention to the environments he found himself in and catch the essence of what happened around him. (Thomson L. , 1998)

So, as it is clear that extraverted intuitive people tend to be innovative people by default, here are few considerations on how to use this evidence to our benefit.

For sure, the easiest way to foster innovation in organization, may be possible to look for people with Extraverted Intuition as dominant or auxiliary function and verify if they have a role or are located in framework where they can effectively innovate; it may be also possible to look for people having Extraverted Intuition as tertiary or barbaric function and teaching them how to get on well with it in order to bring their best (in terms of innovation) out.

However, the other Psychological Types should not be underestimated: they have their considerable capital of innovation too.

Introvert Intuition, indeed, is a cognitive function with a very high potential for innovation too. It recalls the attention to direct sensorial phenomena but inciting another interest in perception itself: the mechanism of identifying and making sense of the data and information people gather from the outer world. This introvert function spurs people to detach and free sense impressions from their vast framework, generating more opportunities for perception itself. Introverted Intuition function is usually linked to inklings and premonitions, and thus its conceptual nature may be hard to adore. This kind of function is distinct, making people conscious and familiar with their sensorial impressions, although preferring categories of knowledge. Still, INJ Types need to have conceptual control over the external world and are specifically concerned in correcting and upgrading it, making it become better. Introverted Intuition allows to see and interpret situations in more than one way, from many – even though sometimes conflicting – perspectives. (Thomson L. , 1998)

Thus, the same predictive capability proper of Extraverted Intuition is also part of Introvert Intuition, with the difference that the focus is not on external processes but on interior ones. So, if with Extraverted Intuition it may be possible to have an immediate and fast kind of innovation, with Introvert Intuition the type of resulting innovation is much more long-term and durable: in fact, Introverted Intuition teaches people that changing their mind set may change the whole world; this perceiving function lets tangible information stay the same, but allows people to arrange them in definitely

restored and improved visionary patterns that alternate their meaning and so delineating new behaviour's choices. Einstein, Freud, Jung himself are all introvert intuitive figures who comprehended something that is interior, proper of human beings, and that made them profoundly think about the universe, the human race and so on, reaching radical conclusions.

Extraverted Sensing is also known as sensory awareness due to the physical engagement it pushes with the external world. When situations and events are shifting and modifying speedily, so quickly that even no linear analysis are possible, it comes to Sensing: in this way, people do respond promptly on the base of visual and touchable information. Extraverted Sensing implies a strong and solid link between sensorial perception and neural response.

Types like these two are either physically intense and socially engaged, affected by what happens nearby them and with a certain apprehension for the atmosphere. (Thomson L. , 1998)

Concrete, action oriented and attached to reality, Extraverted Sensing creates a sort of Darwinian entrepreneur, supporter of challenges and confrontations. An example for this cognitive function is Gianni Versace, who was able to use its creativity to translate the baroque style, the most extraverted sensorial style existed, in art and fashion. He was a considerable innovator, as he was able to convert his Extraverted Sensing skills in business.

Introvert Sensing is a Perceiving function; it focuses the attention to information and data gathered through the senses. It further allows to balance and fix the immediate sense impressions by incorporate them with the ones people remind and highly regard. This introverted function permits to collect the data people really care about, but they can be considered even more than simple data, as they become part of individuals' self-experience. Selective acquisition is so the immediate referee of understanding. When self-experience remains anchored in people, knowing what really counts and signifies, it provides them with an ongoing sense of safety and protection, helping to stay focused on own direction and not to lose faith. (Thomson L. , 1998)

By definition, Introvert Sensing is the cognitive function that is least traceable to innovation or to the classic description of innovative people, a those who present this preference prefer to act behind the scenes and not to grandstand. However, an example of introverted sensorial innovator can be found in Gandhi: with his strong attitudes

oriented towards Introversion and Sensing, with his pacifist revolution, he did find a way to follow his believes and change the rules of the game, and this is perhaps one of the most far-reaching innovation. Another example is Seiji Tsutsumi, the founder of Muji. Introverted sensor, so with an innate tendency to link and combine old and recent information, he was able to open a business based on the Japanese tradition. The importance of the tradition, of the craftmanship, supported but this cognitive function, is definitely not directly connectable to modernity and innovation. Instead, Suiji Tsutsumi created, on an industry scale, a series of innovative product embodying the Japanese tradition of minimalism and simplicity.

Extraverted Thinking pushes people to recognize the constant or frequently occurring sense impressions in order to delineate and understand them as specific objects or situations. When Thinking is used, people rely on objects' common standards to systematize numerous objects and authenticate logical and rational connections between them. As Thinking reconcile people with generic concepts about reality, most of those standards are collectively established. (Thomson L. , 1998)

Extraverted Thinking perfectly and directly delineates the figure of managers. In this case, it is possible to talk of "second degree" kind of innovation rather than radical or extraordinary innovation. The second level innovation is the result of the analytical and synthetic capabilities of extraverted thinkers, which allow them to see problems in a detached way, easily individuate the weaknesses of a process or a project, both productive or managerial, and to find solutions that involve a more reasoned use of human and organizational resources. Extraverted thinkers' innovation potential stands in their ability to bring order to change. So, even if they are not the source of the innovation, they can formalize and systematize the initial chaos.

Introverted Thinking, as Extraverted Thinking, drives people to reason rationally and in an impersonal manner. Introverted Thinking follows a subjective logic, a way to logically coordinate people's behaviours with direct sensorial data and information.

When Introvert Thinking is combined with Extraverted Sensing, as for ISTPs, it is almost referable to instinct; when, instead, it is mixed with Extraverted Intuition, as for INTPs, the cognitive nature is more evident, resulting in attraction for patterns and architectural relationship to direct circumstances. (Thomson L. , 1998) Introverted Thinking's innovation propensity stands in its critical spirit which puts everything under discussion, also reality foundations. Introverted Thinking is detached from universal or common

thinking, it is somehow subjective, so thinkers can offer different points of view. IKEA is totally based on Introvert Thinking: products are extremely simple, modular, small spaces fitting, all characteristics thought by an introverted person, for other people.

The last function to be considered is Feeling. When talking about Feeling, the type of innovation considered is social innovation. Social innovation starts from the principal concept of the alignment between the economical and the social interests. Indeed, there exist many innovative models of economic growth which go hand in hand with the societal commitment.

Extraverted Feeling is the Judging function that makes people reorganizing data and information according to their own personal values. Still, Extraverted Feeling is theoretical and logical: through this function, people take rational and coherent decisions, even though they are not linked to impersonal consideration but to individuals. Extraverted Feeling does not automatically imply that individuals behave driven by their feelings: to better explain, all the cognitive functions are mental processes and even though people are emotionally involved when using them, also Extraverted Feeling, being focused on the external world of perceptible events, is an objective function. (Thomson L. , 1998) An innovation example is represented by Muhammad Yunus, the inventor of the modern microcredit, a system of limited loans to small entrepreneurs who are too poor to get credit from traditional banks. Yunus is a Bengalese economist and banker, who won the Nobel Peace Prize in 2006 thanks to his efforts in this field. (Wikipedia s.d.)

Introvert Feeling is the cognitive function that pushes people to think and make sense of happenings. It is similar to Introvert Thinking, as they both make people reasoning on events, but with differences: Thinking follows a systemic logic, while Feeling foster a personal involvement in the progressing pattern, a way to know situations by subjective life experiences. Further, it is properly these experiences of being human, of putting human values first, that the morality and the moral choices of introverted feelers derive from.

Introverted Thinking operates at consciousness level, making people logically adapting to happenings and situations. (Thomson L. , 1998) On a more individual level, it is very difficult to make a link with the organizational activity framework. However, it is possible to catch the innovative aspects if this intense individual feeling is considered as an ongoing research of own style and identity. A great example is Coco Chanel, who totally revolutionized her sector, creating an extremely persona, unique and unmistakable style.

Chapter 3

Case study

With the aim of making the thesis project consistent and more reliable in terms of people beliefs and perception about such a complicated, psychological and way too theorical topic, it is now presented a case study.

The reported case basically consists of the submission of the Lenore Thomson's version of the MBTI test and a questionnaire on the presumed level of innovation of the company to a selected group of key employees. The test and the questionnaire are reported in Appendix A and Appendix B.

3.1 Company presentation and objectives of the study

The company selected for the thesis work is Hitachi ABB Comem.

Figure 14 - Hitachi ABB Comem, Montebello Vicentino (VI), Italy

The Comem organization has been found in 1962 in Montebello Vicentino (Italy), when it started with the production of porcelain bushings and liquid level indicators. Lately in 1985, Comem decided to expand its business scope, establishing epoxy resin engineering and production department.

Comem was able to fund a subsidiary in Sao Paulo (Brazil) in 2000 and one in Anhui, (China) in 2007, before being acquired by Asea Brown Boveri, the electro-technical Swiss-Swedish multinational corporation, in 2010. In 2014, moreover, ABB Comem did acquire Terman, an Italian company producing temperature indicators.

Asea Brown Boveri (ABB) has its headquarter in Zurich, Switzerland, and operates in the energy, automation and robotic industries.

In 2001 ABB is officially quoted in the New York Stock Exchange (NYSE). For three consequent years the group awarded the top step of the podium in the Dow Jones Sustainability Index (DJSI), the worldwide index for corporation social responsibility, consisting of a set of benchmarks assessing the sustainability performance of publicly trading companies, which has become nowadays the fundamental reference point for investors and similar corporations in sustainability investing.

In 2005 the group established its business sectors, defining the five divisions of Power Products, Power Systems, Automation Products, Process Automation and Robotics.

More freshly in times, still chasing sustainability goals, in 2018 ABB signed a multi-annual deal with FIA Formula E Championship, becoming the contest title partner and making the designation changing in ABB FIA Formula E Championship.

Always in 2018, the Swiss-Swedish group gave up the 80,1% of the Power Grids division to the Japanese society Hitachi, yielding the unit specialized in energy and automation products and service systems, basically involving the whole electrical grids division.

The transition has ended recently, in August 2020, resulting in ABB still possessing the 19,9% of the resulting joint venture.

The end outcome is the currently named Hitachi ABB Power Grids division.

Nowadays, finally, Comem is part of the Hitachi ABB Power Grids group, assuming the name of Hitachi ABB Comem.

Hitachi ABB Comem has a horizontal organizational structure, counting the general manager and the controller at the top level, and all staff members divided by core functions, Marketing and Sales, Operations and Planning, After Sales, Business Process, Engineering and Quality, for a total number of around a hundred and twenty (120) workers. With such a low barrier between the executive level and the staff level, staff members are more empowered with the decision making power not necessarily constrained to executives' approval and, at the same time, they are encouraged to use their creativity and imagination, idea exchange, teamwork and collaboration skills.

To follow, a graphical representation of Hitachi ABB Comem's employees and their categorization.

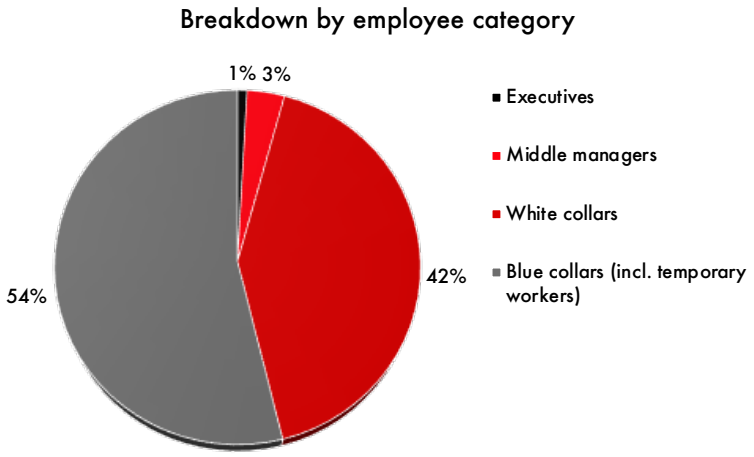


Figure 15 - Hitachi ABB Comem classification by employee category

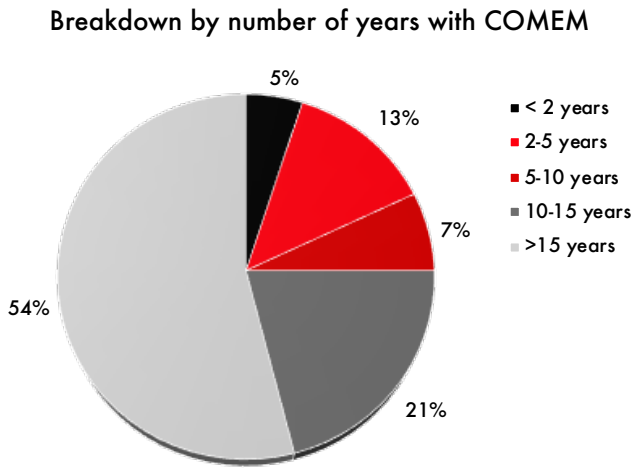


Figure 16 - Hitachi ABB Comem classification by number of years within the company

People at Hitachi ABB Comem are valued, regarded as true resources and thus well-treated. The company does continuously invest in learning and development actions to its employees, since trainings are seen as key pillar for competences improving and sharing. Furthermore, the firm is faithful to the Lean Six Sigma program, with the 86,45% of its employees certified professionals. This because the company strongly believes in eliminating problems through a deep root causes analysis and hardly tries to remove

waste and inefficiency and improve working conditions to provide also a better response to customers' needs.

Hitachi ABB Comem's sales account for more than a hundred (100+) factories all over the world, meaning approximately two hundred fifty-three (253) clients, of which forty-four (44), so roughly the 17% of customers, constitute the 80% of the total revenue.

Its main channel of distribution is composed of third-party original equipment manufacturers, consisting of around a hundred twelve (112) customers and representing the 46% of total revenue. The second in order of importance are distributors, eighteen companies generating the 10% of revenues. Finally, Hitachi ABB Comem goes to market through engineering, procurement and construction channel, in which ninety-three (93) companies provide for the 6% of revenues. Afterwards, there is a graph representing the go-to-market.

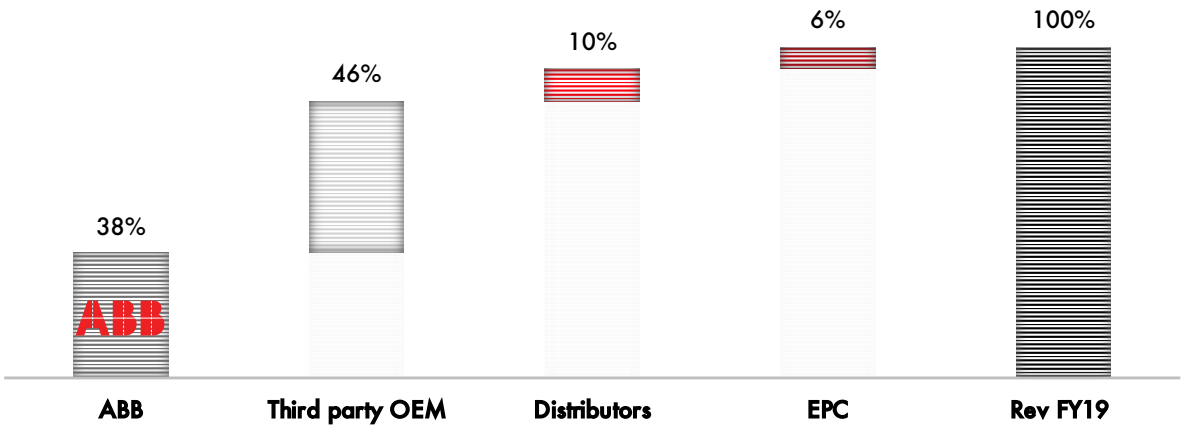


Figure 17 - Hitachi ABB Comem Go-To-Market classification by channel 2019

The major sales of the company are constituted by conventional devices, followed by smart devices, resin and silicon bushings, porcelain bushings and finally other bushings and components spare parts.

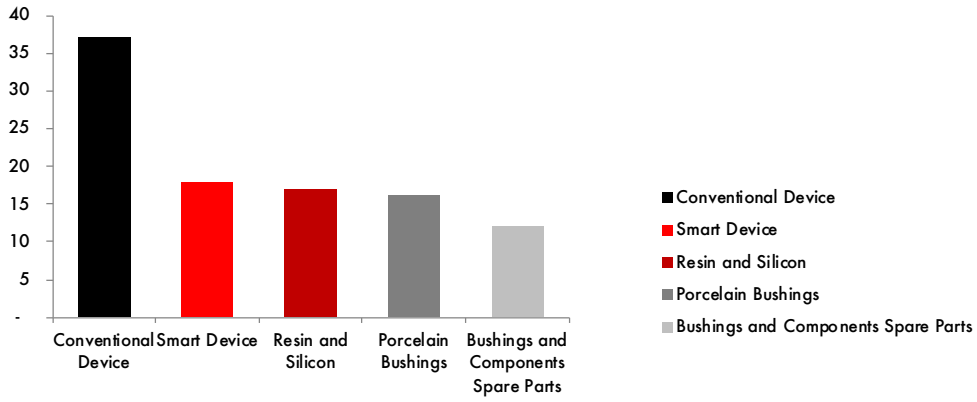


Figure 18 - Hitachi ABB Comem sales 2019

The Hitachi ABB Comem's product portfolio is unique and complete with respect to the one of its competitors. It comprises measurement and safety components, non-condenser bushings and spare parts.

It includes Power Transformer application, Distribution Transformer application and Dry Transformer application.

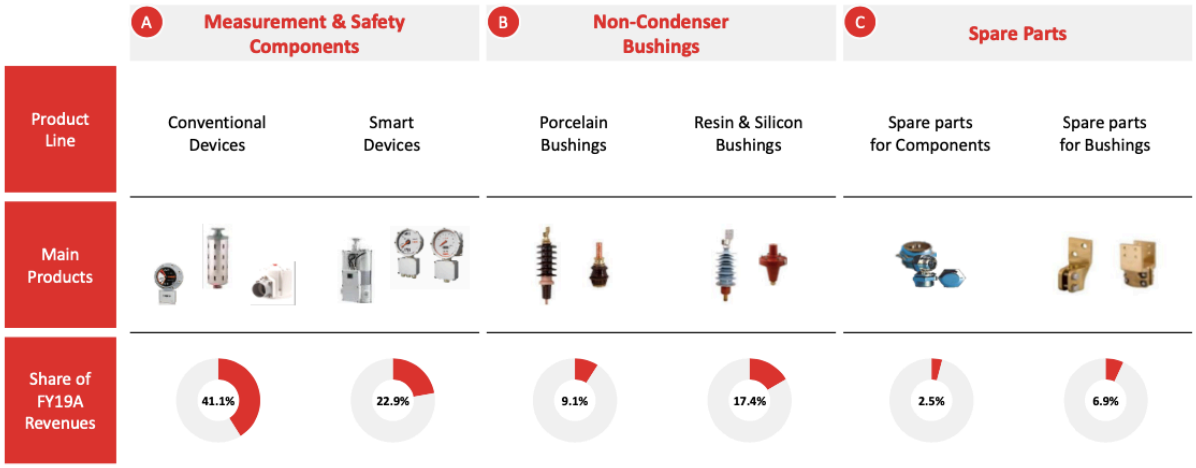


Figure 19 - Hitachi ABB Comem product portfolio

The first category, measurement and safety components, as it can be seen form the figure above, comprehends conventional devices and smart devices.

Conventional devices were introduced in the market in 1970 and have developed in agreement with the power transformer and reactor fittings standards, as protective devices, and with other standards related to the Chinese market.
Conventional devices consist of:

- dehydrating breathers (DB), used in a transformer to dehydrate the air that is entering into the conservator. Breather is a tank filled with silica gel which changes colour when is saturated of moisture absorbed from the air. This colour change signals the replacement of silica.
- Buchholz relays (BR), that are used in a transformer to detect both gas accumulation and sudden oil flow variation.
- Shutter valves (SV), used to detect sudden oil flow increase from the transformer conservator to the transformer tank and, if the case, SV seals the pipe and blocks the oil passage. This is relevant to prevent oil dispersion in the environment or a fire accident in the transformer due to the oil in the conservator.
- Integrated Safety Detectors (RIS2) which are used in distribution transformer to detect and signal: Oil leakage/Oil level, Oil Temperature and Oil Pressure.
- Temperature Indicators (OTI/WTI), used to indicate, detect and signal: Liquid Temperature or Winding Temperature (indirect measurement with thermal model production).
- Liquid Level indicators (OLI) that are used in the transformer conservator to monitor the liquid level and detect leakage or malfunctioning.
- Pressure Relief Devices (PRD) finally are used to relief over pressure in the transformer tank. They are designed to prevent any transformer explosion as a consequence of abnormal pressure development.

Smart devices, on the other hand, have been introduced in the market more recently, in 2009. They are a new generation of devices including add-on features for analogue and digital communication, connected to any data aggregator and enabling continuous asset health monitoring as well as transformation of the traditional grid into a smart grid.
They have been developed in agreement with power transformer and reactor fittings standards, as device suitable for use in communication network.

They are:

- Self-Dehydrating Breathers (eSDB), non-maintenance breathers where the silica gel, used to dehydrate the air entering in the transformer, is automatically regenerated with no need of gel replacement as in the conventional breather.
- COMEM eBR, a new generation of Buchholz Relay that allow to monitor the main features remotely and continuously.
- Temperature Indicators (eOTI/eWTI) that, adding to the feature of the Conventional Devices, allow to monitor the temperature (oil/winding/ambient) remotely and continuously.
- Liquid level indicator COMEM (eOLI), with digital and analogue output offers reliable, accurate and continuous monitoring of the liquid level inside the conservator.
- Contactless ultrasonic sensor based liquid level indicator (CUeOLI), with digital and analog output enables continuous high accuracy measurement of liquid level in transformer conservator or transformer tank, without movable part inside conservator.
- Remote Gauge (eVIEWER) to visualize the oil level at men height.
- Pressure Relief (ePRD) with digital and analogue output, provides continuous control and monitoring of the pressure inside the transformer tank.
- Dry Temperature Indicators, the COMEM DTI family devices which use PT 100 temperature probes for constant monitoring of dry transformer temperatures.

Following, a figure summing up the conventional and smart devices products and their application.

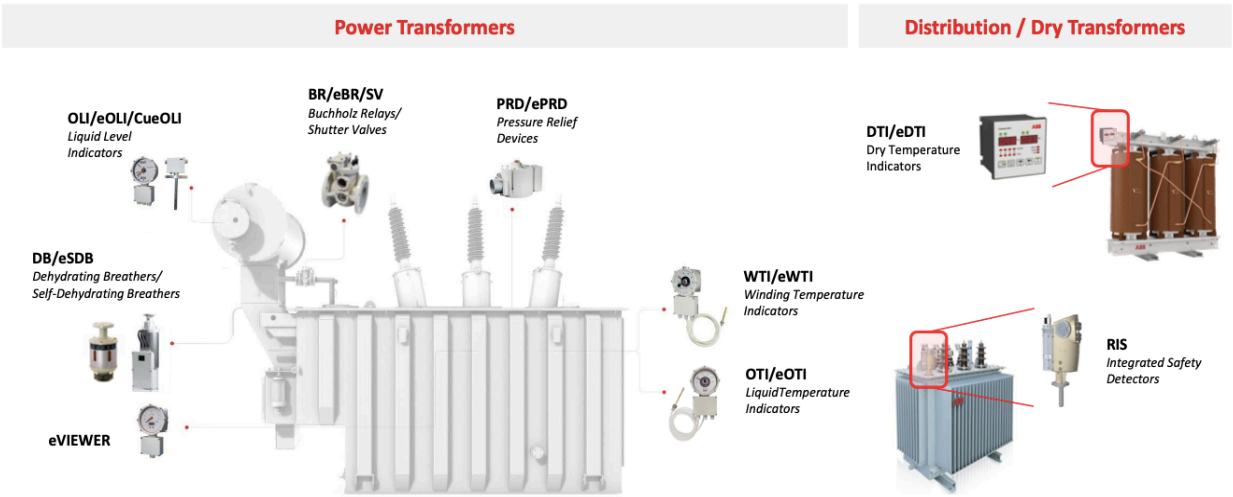


Figure 20 - Hitachi ABB Comem conventional and smart devices

Concerning non-condensing bushings instead, Hitachi ABB Comem offers products like

- Porcelain Bushings, insulated devices that allow an electrical conductor to pass safely through a grounded conducting barrier such as the case of a transformer. Insulated part is made of ceramic material.
- Epoxy resin or Combined resin silicon bushing COMEM CRS, a non-graded dry bushing, which enables customer to benefit from the advantages of silicone rubber insulator by getting rid of brittle porcelain and oil explosion risks.

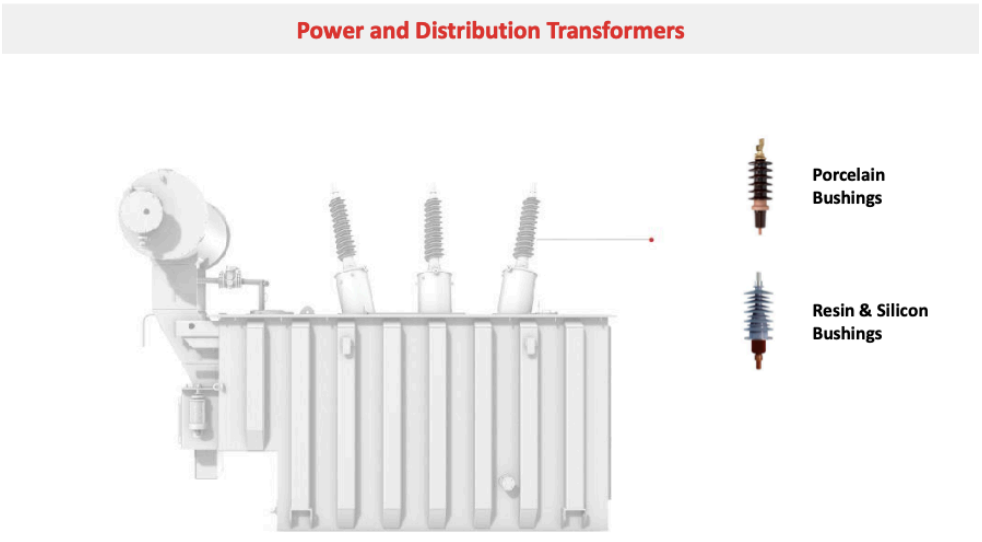


Figure 21 - Hitachi ABB Comem bushings

Hitachi ABB Comem products are designed for numerous applications and, below, is a very simple and very clear representation of the possible applications and where it is possible to find them, from energy production to energy delivery to final consumers.

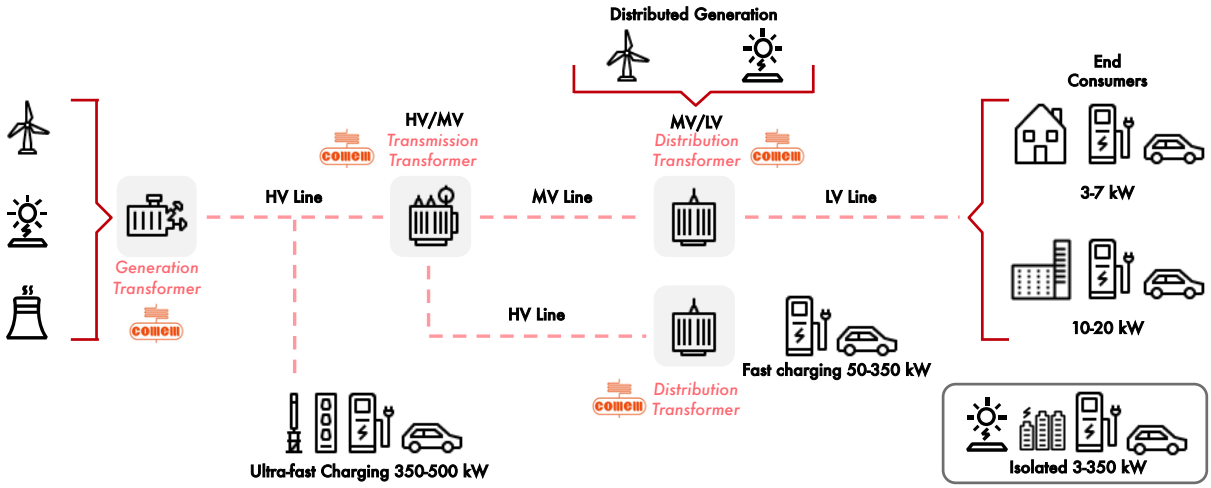


Figure 22 – Hitachi ABB Comem grid network

With respect to its main competitors, Hitachi ABB Comem possesses a complete and wide product portfolio. Neither one of the main competitors, being MR Messko, ABB Elmek, Qualitrol and others, has the same broad and exclusive offerings that the Italian company has.

The sector in which Hitachi ABB Comem operates is the power grid sector, also called electrical or electric grid. Power grid consists of an interlinked system of connections to transfer and distribute electricity from producers to consumers.

Specifically, the company operates in the transformer market. According to a research performed by the Hitachi ABB Comem itself, based on management estimates, *Goulden report 2019, Allied market research* and *EIA Market Study*, the global transformer market is foreseen to grow with more than 70% of its current market size over a ten-year time horizon.

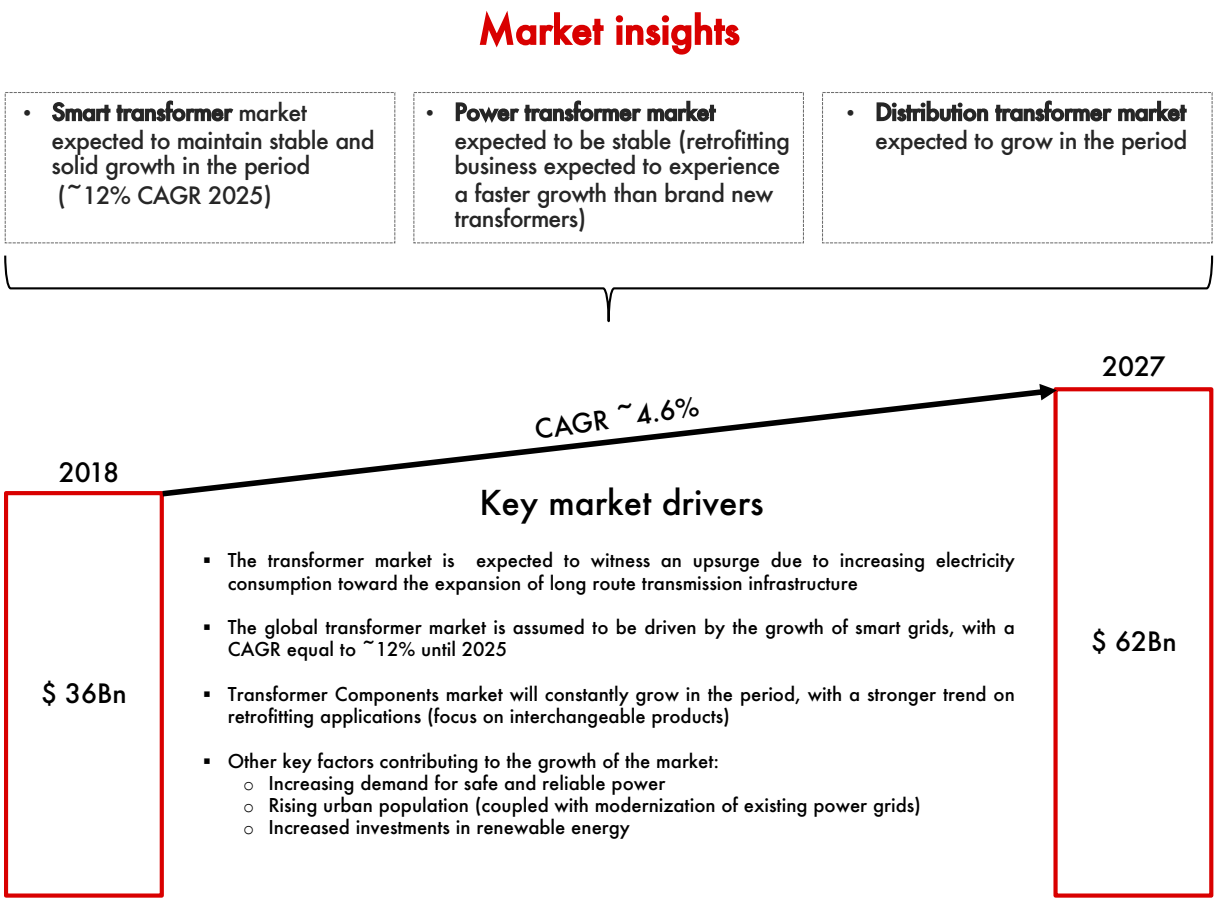


Figure 23 - Hitachi ABB Comem forecast of global transformer market trends

Mentioning some of the most important strengths of the company, so that to have a general overview of it, it is possible to say that more than 160,000 units of Measurement & Safety devices and more than 700,000 bushings (cast resin, porcelain and composite bushings) have been manufactured and sold.

For what concerns innovation, the company launches 2-3 new products every year; in terms of Intellectual Properties, Comem has 34 patents and IP active registrations. Finally, the company has a global market coverage, with full portfolio of measurement and safety devices developed according to IEC, BS, IEEE and JB standards.

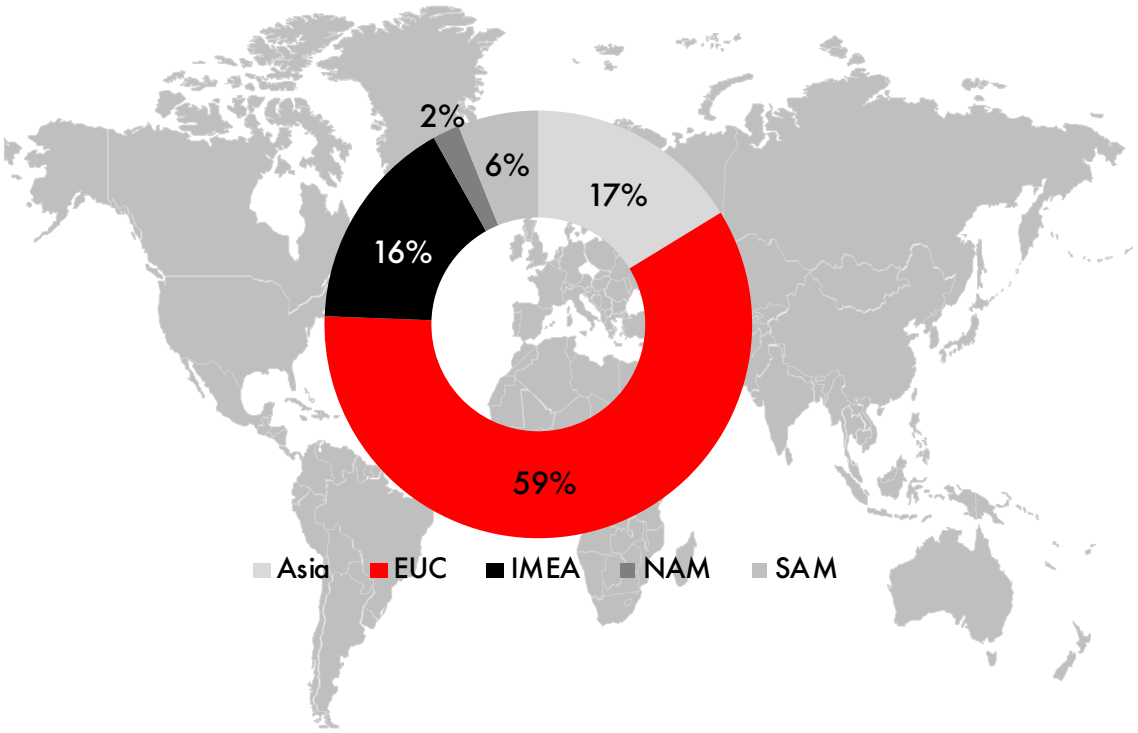


Figure 24 - The Hitachi ABB Comem global market presence

IMEA = India, Middle-East, Africa; SAM = South America; NAM = North America

Hitachi ABB Comem sees any opportunities to grow its business over the coming years by implementing few business model improvements and by taking advantage of the favourable circumstances available in the reference market.

Here is an example of how the business could grow by the mean of value creation opportunities.

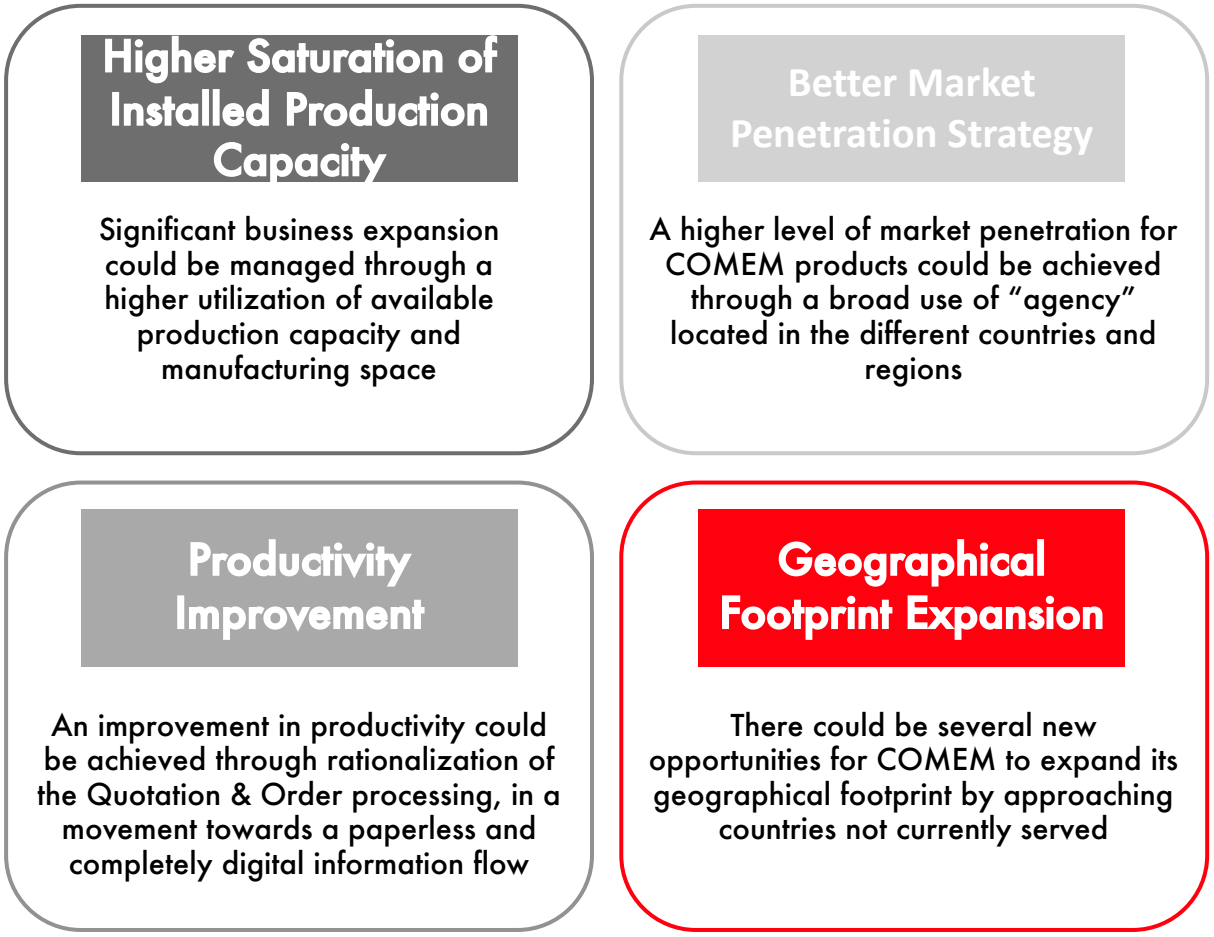


Figure 25 - Hitachi ABB Comem value creation opportunities

The project consists of the subordination of the MBTI test and a questionnaire on the innovation level of the company to few selected key employees with different roles and pertaining to different business functions.

Employees have been selected by the General Manager of Hitachi ABB Comem. They are eleven (11) employees, a mix of both males and females of different ages and qualifications, working in Controlling, Engineering, Marketing and Sales, Operations and Quality and After Sales functional areas. They are mainly engineers and managers; for this reason, remembering the studies carried on by Coleman (study on distribution in percentage of MBTI Types concerning managerial populations), Shen, Prior, White, & Karamanoglu as well as Carr, de la Garza, & Vorster (who performed studies of the preferences of groups of engineers), some results may already be expected.

3.2 Tools implemented and results' descriptions

MBTI test

As stated in the previous chapter, it has been chosen to use the MBTI test with the implementations of Lenore Thomson since it does not bind results to a single specific category or role, as for example the KTS does. This fact, while talking about innovation, which is an extremely wide and unconstrained topic, is essential.

The test submitted to the Hitachi ABB Comem interviewees is the original MBTI test elaborated by Lenore Thomson, that, on the basis of normal psychological behaviours, identifies sixteen basic attitudes, manner of action and face the world.

The MBTI test helps people get to know and understand their Psychological Type. The test results are not absolute and objective truths; its results should simply reveal and express the preferences of each person, the way a person naturally see himself/herself. Aware of this, individuals may disagree with their type designation, not recognizing themselves in the type's description: this may happen, in fact, when particular situation does not facilitate the natural spill of functions. Those too are results that should not be undervalued: they may suggest changes in individuals' character or status, variations of circumstances, etc. Therefore, even though people may not actually mirror themselves or neither what nor how they would like to be, they should still select the answer that reflects them the most in that moment. The more one is sincere and transparent with himself/herself and the more the test's results will be helpful and reliable. (L. Thomson 1998)

The test consists of fifty-six questions divided by each of the four dichotomies Introversion/Extraversion, Sensing/Intuition, Thinking/Feeling and Judging/Perceiving. Each question has just two options for answering, so that nobody can give impartial and in between answers, with no answer being neither wrong nor right. The questions are thought on a base of fourteen points score for each dichotomy, so that, once again, there cannot be people lying in between two functions.[3]

[3] See appendix A.

Innovation Level questionnaire

In addition to the personality test, it has been chosen to submit to the same interviewees a questionnaire on the level of innovation they perceive to chase in the organization. It has been submitted in Italian language, so to make it easier and faster to fill it for the interviewees.

The questionnaire has been created on the basis of IMP^{3}rove, the initiative of the European Commission, DG Enterprise and Industry designed to improve the Innovation Management capabilities and performance in Europe as a pre-requisite for the competitiveness of Europe itself. (Europe INNOVA 2012) It has built the basis for a European model to advance the Innovation Management capacities in Europe.

IMP^{3}rove offers an inclusive batch on Innovation Management support services for each distinct actor in innovative eco-systems, integrating Innovation Management assessment and benchmarking for SMEs, consulting services, training and certification, all provided in several languages so to simplify the access to such services for SMEs all over Europe.
Innovation is thus conceived as a growth tool. The increasing market competition obliges more and more European corporations to acquire knowledges necessary to the management, in an autonomous form, of the whole innovation process, from idea generation to product delivery. Innovation Management concretely represents a tool to develop and organize those knowledges in sight of a future transformation of themselves into competitive advantages and profits, thus into innovative products, services, business models that allow corporations to improve in efficiency and effectiveness.

IMP^{3}rove has been developed properly for SMEs, as a simple tool of own degree of innovation management evaluation. Through its holistic approach, IMP^{3}rove covers all the aspects of innovation, as innovation strategy, organization and culture of innovation, innovation life cycle management, knowledge management.
This tool highlights strengths and weaknesses of innovation management within companies. Corporations, in fact, receive an objective evaluation of their level of innovation management as well as a personalized support to develop techniques and methodologies oriented towards the improvement of the eventual findings resulting. It is mostly adopted in sectors such as biotechnologies, chemicals and pharmaceutics, ICT,

electrical and electronic engineering, mechanical and civil engineering, spatial and aeronautical engineering, automotive, textile, food and services.

The questionnaire is composed by nine questions. The first six questions do each concern one of the main building blocks of the Canvas Business Model: suppliers, clients, products, internal and external processes and finally resources. For these six questions it has been decided to use a sort of closed answer model, where people could put in an order of importance the given options, with 1 meaning "most important" and 5 meaning "least important". Moreover, an answer option named "altro" gives the possibility to respondents to explicate if, in their own opinion, there was something more important than the selected answers and, if yes, what it is and how much important it is in their perception.

This methodology has been preferred with respect to others, like multiple-choice answers, since it gives the possibility to take into account all the options, that were clearly all important for a company like that; multiple-choice method, on the contrary, would have required the selection of just one option and the exclusion of all the remaining ones.

A further open question has been asked with respect to employees, as well as to society. This because human resource management, as the name itself makes clear, involves a more human trait, and so it maybe more important and complicated to explain through fixed answers. Regarding society, instead, founding specific and detailed fixed answers was even more challenging and restrictive, thus an open question resulted to be more proper and fitting. Lastly, it has also been asked to employees to establish the position of their company with respect to the innovation model proposed by Verganti, in a graph indicating the four types of innovation according to the intensity of their change in technology (vertical axis), incremental or radical, and their change in meaning or design (horizontal axis), incremental or radical too.

The questionnaire on the perceived innovation level helped, first of all, to delineate and analyse the level of innovation of the company or, at least, the level perceived by the key employees, and to verify if the two parameters did coincide; to see whether the perceptions changed and, if yes, according to what: role, business area, gender, age, etc.;

finally, similarly, to verify if every person's innovation concept does somehow correspond with his/her personality and psychological traits.[4]

The first step is to get useful insights from the simple analysis of the results of the MBTI test and the Innovation Level questionnaire, also at a general organizational level. Then, it is tried to catch connections between the Psychological Type and the innovation opinions of each person or group of people sharing similar personality characteristics. On this basis, it will be looked for additional linkages between Psychological Types, innovation level's opinion and the role or business area of belonging.
It has to be remembered and kept in mind that the interpretations proposed in the thesis are based on embryonic tests' results: due to the difficult conditions brought about Covid-19, the test and the questionnaire have been submitted online, with no previous presentation nor explanation of the whole project; moreover, the test and the questionnaire have not been investigated further, there was no possibility to investigate and confirm the correctness and accuracy of answers neither individually nor face-to-face.

Additional interviews and questions

Hitachi ABB Comem culture

Hitachi ABB Comem shows up in all its pioneering spirit and its culture of innovation.
The culture of innovation is the result of the company experience in avant-garde technologies, while the pioneering spirit nowadays is alive more than ever: it continually moves its limits, beats records and never stops surrendering, frequently evolving its work to face the challenges of the moment.
Culture is shaped by the firm's talented experts, clients, partners, universities and research centres who, all together, are pathfinders and co-creators of new generation of sustainable solutions: they work and think globally, offering technical solutions for cities, countries and continents. The company gives energy to the biggest wind farms in the world, brings energy to mass transportation systems and protects cities from blackouts.

[4] See appendix B.

The open collaboration and the attention oriented towards clients are the key dimensions of the power grids culture. Rooted in values, attitudes and behaviours, the collaboration allows the company to co-create innovative solutions that guarantee customers' success and society's progress, obtaining more social, environmental and economic value.
Diversity and inclusion are key integrated element of the organizational strategy. As a modern and progressive company, it believes that the most brilliant ideas can come from wherever and by whoever: everybody can make the difference. This believe and perspective is supported also by the leadership philosophy; they work with leaders to develop and reinforce correct behaviours of the role model of leadership, touching topics as unconscious prejudices and endowing leaders with the necessary competences to support and encourage their teams.
Nonetheless, Hitachi ABB Comem culture has been put under enormous pressure during the passing of years. In particular, the first traumatizing event can be found in the acquisition by the Swiss-Swedish multinational corporation Asea Brown Boveri in 2010. With the coming of new, foreign and certainly much more massive heads, the Italian business had to face several challenges.
The second shocking event happened four years later, when the R&D function of the Italian subsidiary has been detached from the Vicentine plant and transferred into a bigger R&D Corporate Centre composed by several ABB's subsidiaries, with the aim of creating a stronger and cross-cultural knowledge centre of research and development.
Lastly, in July 2020 ABB caved the 80,1% of the power grid activities to the Japanese group Hitachi, with Comem becoming Hitachi ABB Comem.
The two "invasions" of the "bigs" had certainly and significantly tested the Italian business' resilience.

As it was possible to understand from the several interviews, the company culture, the most important driver of organizational innovation, may be actually oriented towards a more social type of innovation.
Social innovation describes a change, a different way of doing things, a proper innovative practice, an innovative element in the collective context. It presents a constructive solution to economic and social problems, contributing thus to the improvement of individuals and communities, by the mean of an optimal use of resources.

Being oriented towards social innovation nowadays is synonym of a concrete way to face the challenges and the difficulties of the moment and try to solve societal problems. Social innovation is the creation of ideas, products, services that satisfy social needs and, at the same time, build on new collaborations and relationships. The term social innovation, indeed, expresses a double meaning: innovation intended as the use of technologies and innovation as realized by a community rather than an individual or an entity. That is why it becomes a collective result needing agreements, sharing, co-adaption and dialogues. Social innovation occurs when individuals and organizations play an active role and collaborate and co-work in the concrete realization of innovative processes. (Foundation 2016) The more involvement of communities is actualized in an innovation process and the higher is the impact of an innovative practice in the social context. Thus, mobilizing human resources generate a widespread activism, that multiplies energies and initiatives oriented towards social improvements. Social innovation practices may be adopted in every sector; usually, the most interesting ones born from the collaboration among actors pertaining to different worlds: in fact, it is possible to find those practices at the turn of public and private sectors, civil society and non-profit organizations, etc.

Social innovation should not be reduced to the pure economic value, but at the social improvement it is able to generate. Indeed, it reaches good results both in output production and in the new relations of the generated share capital, indirectly creating social value. (GTechnology 2019) Social innovation leads not only to innovative outcomes, but also to a more crucial result, that is social improvement.

In the case of Hitachi ABB Comem, through additional interviews it has been possible to discover that the topic of social innovation has lately taken hold.

Hitachi ABB Comem social commitment

As was to be expected, the company is active in this field of social innovation too.

It is possible to specifically talk about social innovation after the union of the Italian based company with the Japanese group Hitachi, recently in time. Indeed, Hitachi was already leader in the social innovation field. Guided by the willingness to pursue the welfare, they now try to unlock values for the society and to contribute improving everybody's quality of life.

Regarding community, the aim of the company is to promote social innovation and contribute to reach the United Nations' SDGs (Sustainable Development Goals), measuring and managing progress. Generally, for a company, fixing objectives and goals and being accountable for them with respect to stakeholders is normal; however, the singularity of the SDGs stands in their important impact in all the components of a society. In particular, Hitachi ABB Comem, with the believe that access to clean and modern forms of energy is essential to the sustainable growth the global society and that digitalization is a key enabler of this, is involved in and committed to the realization on five UN SDGs (United Nations s.d.):

- SDG 7 – Affordable and Clean Energy – To ensure access to affordable, reliable, sustainable and modern energy for all.
- SDG 8 – Decent Work and Economic Growth – To promote inclusive and sustainable economic growth, employment and decent work for all.
- SDG 9 – Industry, Innovation and Infrastructure – To build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
- SDG 11 – Sustainable Cities and Communities – To make cities inclusive, safe, resilient and sustainable.
- SDG 12 – Responsible Consumption and Production – To ensure sustainable consumption and production patterns.

The company also developed a model based on three main pillars, which are society, environment and economy. The application of the model is more difficult than imagined, as the social and environmental impacts of projects may be tough to measure, may vary according to the context and the place. However, being able to demonstrate the obtained progresses and recognize results achieved by both companies and governments is crucial to improve future decision making. This is something that benefit economies as well as the whole world, which is the biggest and most decisive one.

For what concerns energy, the company offers solutions as smart grid, power grid for electrical vehicles and artificial intelligence for energetic efficiency. It is especially thanks to emergent countries, which are driving the technological development in the energy field to face new challenges of clean energy, that it is possible to more easily experiment technological innovation in the production and distribution of electrical energy.

Technology is perhaps the most obvious field of innovation of the company, in the social dimension too: it is aimed at creating technology that fosters the social welfare.

The company social innovation is Powering Good. Powering Good is the creation of a society that puts environment on the first place of the podium and that helps partners to economically grow. It is the creation of a sustainable society starting from three basic values: social, environmental and economical values.

Figure 26 - Hitachi Powering Good

(Hitachi s.d.)

Industry, finance, mobility, healthcare, agriculture, urbanistic development are all sectors in which the company operates to make the world smarter, safer and healthier.

Recall, when talking about Feeling, the type of innovation considered is social innovation. Social innovation starts from the principal concept of the alignment between the economical and the social interests. Extraverted Feeling does mean individuals are emotionally involved when elaborating data and making decisions, which is the source of their creative and innovative power. Extraverted Feeling focuses on the outer reality of perceptible events and on their elaboration by the mean of human values. Introvert Feeling pushes people to think and make sense of happenings, fostering a personal involvement in the progressing pattern, a way to know situations by subjective life experiences. It is these experiences of being human, of putting human values first, that the

morality and the moral choices of feelers derive from, as well as their creative and innovative trait.

It can be also possible to get the idea of social innovation within Hitachi ABB Comem by looking back at the picture showing where the company's products are located in the chain from energy production to energy delivery to final users.

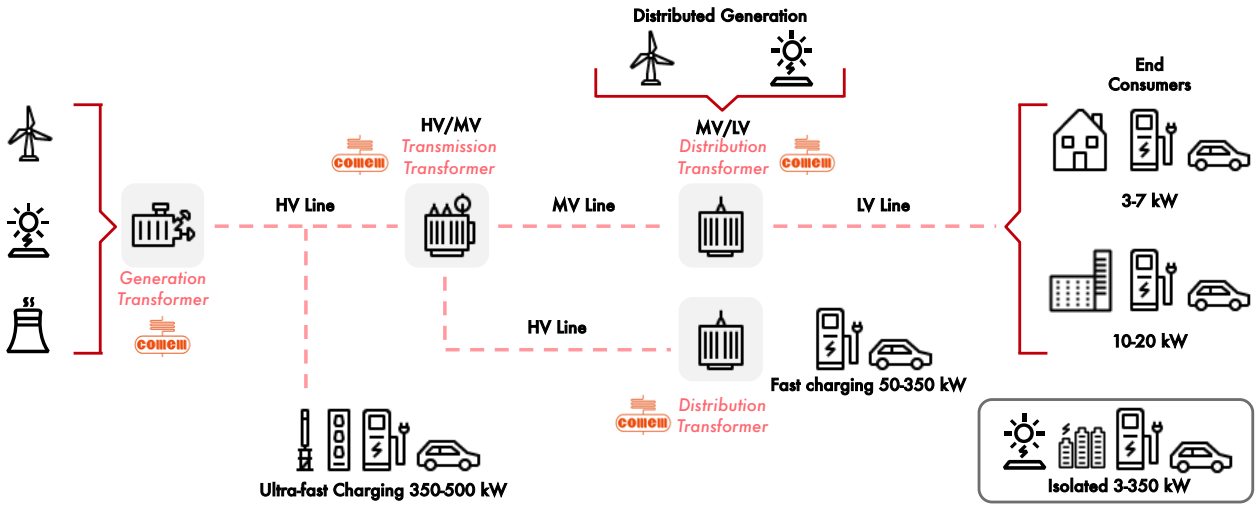


Figure 27 – (Figure 22) The Hitachi ABB Comem grid network

It is not strange that Hitachi ABB Comem thinks about end users when trying to innovate. In the end, it is people using energy at home, perhaps to switch on or off the light, cooking with the oven, heating or cooling the environment, washing dishes or clothes, watching television, simply living the ordinary life, but also other companies, eventually the whole world using and consuming energy.

In a wide-angled mindset, the company has impacts on the entire planet, somehow. Acting with commitments to safeguard both social, environmental and lastly economic values sounds a great and suitable strategy.

To bring an example, Hitachi ABB Comem's sense of responsibility with respect to society has also been proved by small but truly significant charity activities: since few years, it sustains Team for Children, a non-profit association that assists the Paediatric Onco-haematology departments, in particular at the Hospital of Padua. Every year, the company

buys Christmas cakes from Team for Children as gifts to their employees and actually, after the pandemic crisis of Covid-19, Comem also bought a stock of surgical masks.

Results description

Reporting now a quote introduced in the second chapter, it is useful to remember that in traditional industries like engineering or manufacturing it is common to find “ST” profiles, oriented towards the measurable and concrete world and with a “here and now” oriented attitude; in sectors like IT services, consulting, marketing or fashion, instead, “NT” profiles are much more frequent. (Lake & Baldo, 2009)

As the company of reference’s interviewed group is a team composed mainly by engineers and managers, according to the studies reported in the previous chapter, preferences for Intuition, Perceiving and Extraversion are anticipated. Interviewed people are also expected to show more inclination for Perceiving and Extraversion than Judging and Introversion.

Even though the test has been submitted to a very small number of people and has not been studied more specifically by individual interviews with the group members, at least three interesting interpretations can be given to those results.

Introversion/Extraversion – Thinking/Feeling

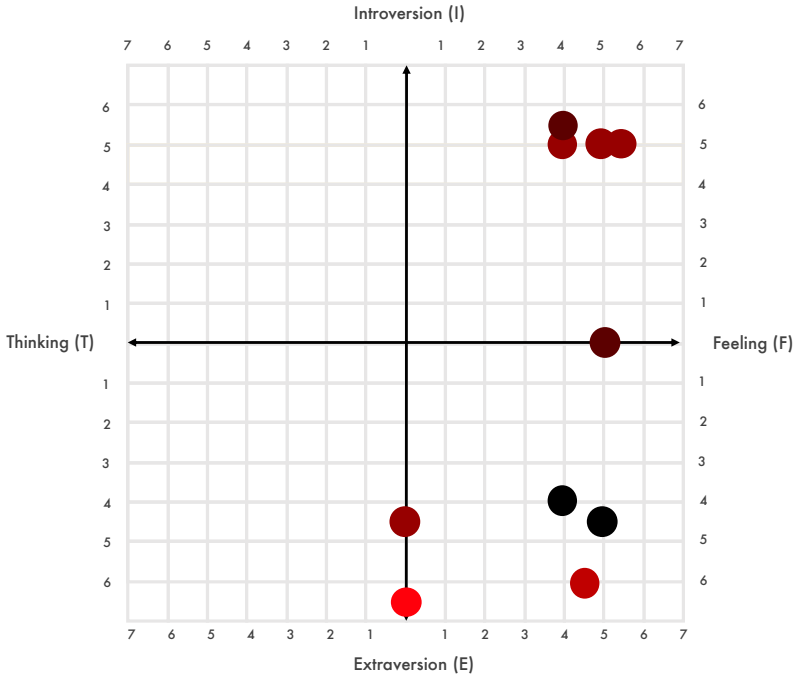


Figure 28 - Results of the MBTI test reported in a graph that expresses the individual levels of Thinking (T) and Feeling (F) functions

This first graph presents the correlation between the two human attitudes, Introversion and Extraversion, and the two judging cognitive functions, Thinking and Feeling.

At first glance, a relevant and weird fact immediately catches the eye: Thinking (T) area, is completely empty. Apart from two persons who seem to have no preferences neither for Thinking nor Feeling, who stand so exactly on the vertical axis of the graph, all the other interviewees have a clear and pretty definite preference for Feeling (F).

At the same time, there is a person who is indifferent to both Introversion and Extraversion attitudes, standing consequently on the horizontal axis, although he/she present a preference for Feeling.

Besides those three, it is possible to identify mainly two groups: one composed by three people, showing preferences for Extraversion and Feeling, and the other composed by five people oriented towards Feeling and Introversion.

The result is a graph with the left dials being completely empty.

Considering the acquisitions by the big multinationals ABB in 2010 and Hitachi in 2020, it is possible to conclude that the dominance of the Feeling function within Hitachi ABB Comem is not so strange. When ABB took control over Comem, it has imposed its own way of doing business, importing its practices, procedures, rules and so on. Doing so, Comem has been somehow deprived of its Thinking function. The thinking ability of Italian engineers was progressively turned off, as the practices of Thinking and Intuition would have been ruled by the Swiss-Swedish team. Italians became puppet, just performing and implementing what they were told to do.

Comem employees were shocked by this event, as they had to give up to one of their main cognitive function, as Thinking is. However, despite the impactful happening, the employees' turnover remained low.

This is a clear and strong sign as well as a positive confirmation of the test's results: indeed, it may explain why the Feeling function is actually so developed within the company. As the complementary judging function of Thinking, once this last one has been abolished, employees had nothing but the chance of increasingly relying on their Feeling function. So, although it was already one of the most important values of the company, Feeling got venerated more and more.

When six years later the R&D departments of the company has been moved away, in an intercultural ABB's centre for research and development, the Thinking function has been further attacked and removed.

Recently in time, with the last acquisition by the Japanese group Hitachi, ABB Comem had to face the umpteenth threat.

The effort of surviving those inclemencies additionally strengthen the Feeling function within the firm, with employees solidifying relationships to resist and get through the numerous jolts.

It is comprehensible, at this point, that a prevalent preference for Feeling rather than Thinking can be expected as a result, despite the engineering and managerial nature of the interviewed population.

Introversion/Extraversion – Intuition/Sensing

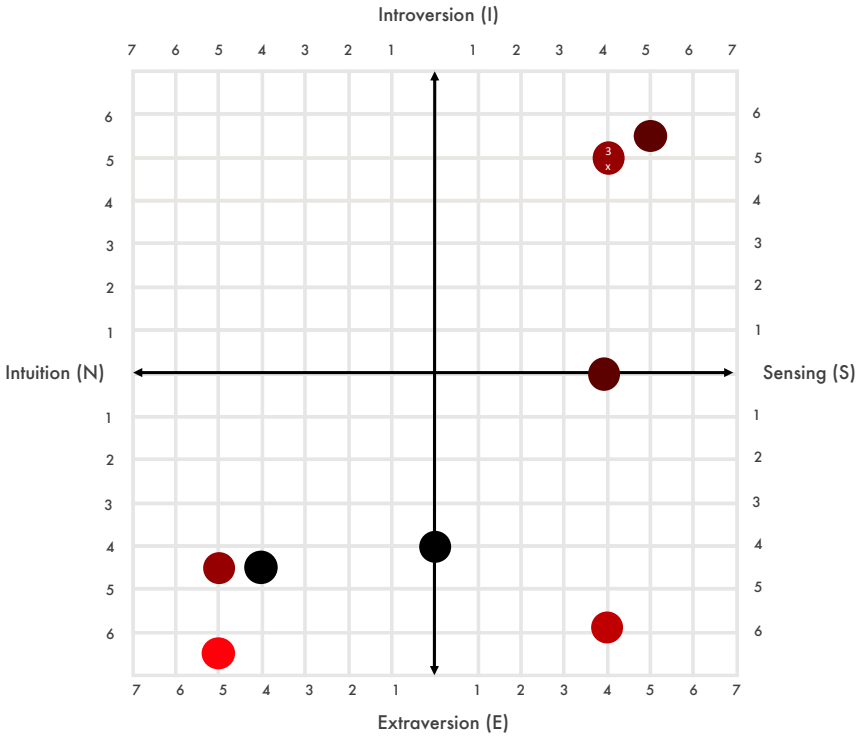


Figure 29 - Results of the MBTI test reported in a graph that expresses the individual levels of Intuition (N) and Sensing (S) functions

The second graph, instead, shows the correlation between the two attitudes Introversion and Extraversion and the two perceiving functions, being Intuition and Sensing.

Once again, few interesting facts can be highlighted. The person who is indifferent between Introversion and Extraversion still remains on the horizontal axis in the right-side area, as he/she shows a preference for Sensing (S). Further, there are now two persons, one introvert and one extraverted, who do not have specific inclination for Intuition or Sensing, finding themselves standing on the vertical axis, respectively in the Introversion and Extraversion directions.

Generally, it is possible to categorize two groups of people here, one pertaining to the first quadrant, the one of Introversion Sensing predilections, and the third one, the opposite dial of Extraversion and Intuition choices.

Lastly and perhaps most importantly, an "outlier" can be diagnosed: in the fourth quadrant, there is a person with strong orientation towards Extraversion and Judging.

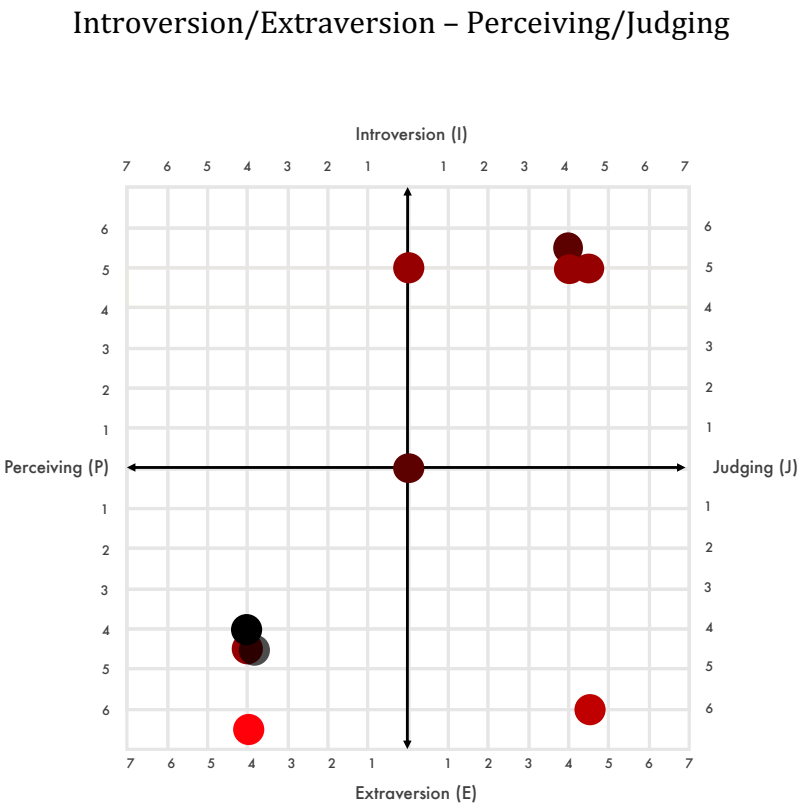


Figure 30 - Results of the MBTI test reported in a graph that expresses the individual levels of Perceiving (P) and Judging (J) functions

In this last representation, the separation of the population sample is even more evident. The two resulting clusters position themselves at the opposite quadrants, defining introvert judgers versus extraverted perceivers.

Nonetheless, a person with no defined introvert or extraverted attitude and indifferent between perceiving functions or judging functions, is represented by the dot positioned exactly at the two axis' intersections.

Conclusively, the outlier person still remains in the fourth quadrant, showing extraversion and judging preferences.

Basing on the studies exposed in the second chapter about the correlation between Psychological Types and creativity and innovation, it is possible to develop few considerations.

The first thing that jump to eyes is the fact that the area of Thinking (T) is completely empty, apart from two people who, although, stand in between Thinking and Feeling, lying on the vertical axis.

Apart from the third MBTI graph, which present a member exactly in the intersection of the axis, it is possible to track a circle with the centre coinciding with the axis intersection and see that the circle is empty. The unoccupied area around the intersection means nobody seems to be a person not able to take a position, neither preferring a function nor its opposite. Very positively, interviewed members positioned themselves at extreme points, showing a great courage to expose and stick their neck out. This quality to go out on a limb and to take a position may validate the fact that Hitachi ABB Comem members spend themselves, put heart and soul in everything they do and care to both other people and the whole world. As it sounds, all these tendencies are characteristic of the Feeling function. Already from this first shallow analysis, performed at first sight, may justify the affirmed Feeling beating Thinking.

Complementary to the MBTI test's results are the answers to the questionnaire evaluating the interviewees' opinions on the level of innovation of the company.

As said before, the survey questions have been developed taking into account each of the building blocks of the business model: suppliers, clients, products, internal and external processes, resources and society.

The following graphs represent each question's options of answer and the degree of importance that has been assigned to them.

1. Question 1 – SUPPLIERS – What does your Company privilege when choosing suppliers?

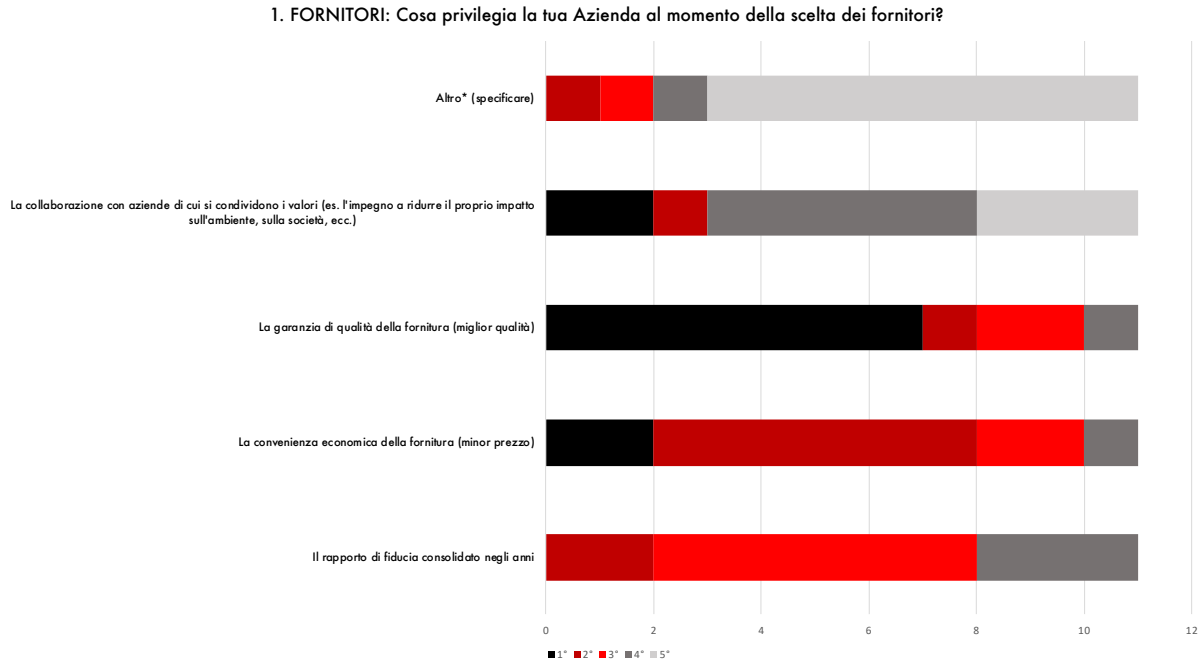


Figure 31 - Innovation level's questionnaire - Question 1

Concerning suppliers, most people agree on quality assurance as the most important aspect to consider when dealing with them, followed by an economic convenience, collaboration with companies sharing similar values and the trustful relationship developed with the passing of years.

Question 2 – CLIENTS – What is considered to be most important by your Company in the relationship with customers?

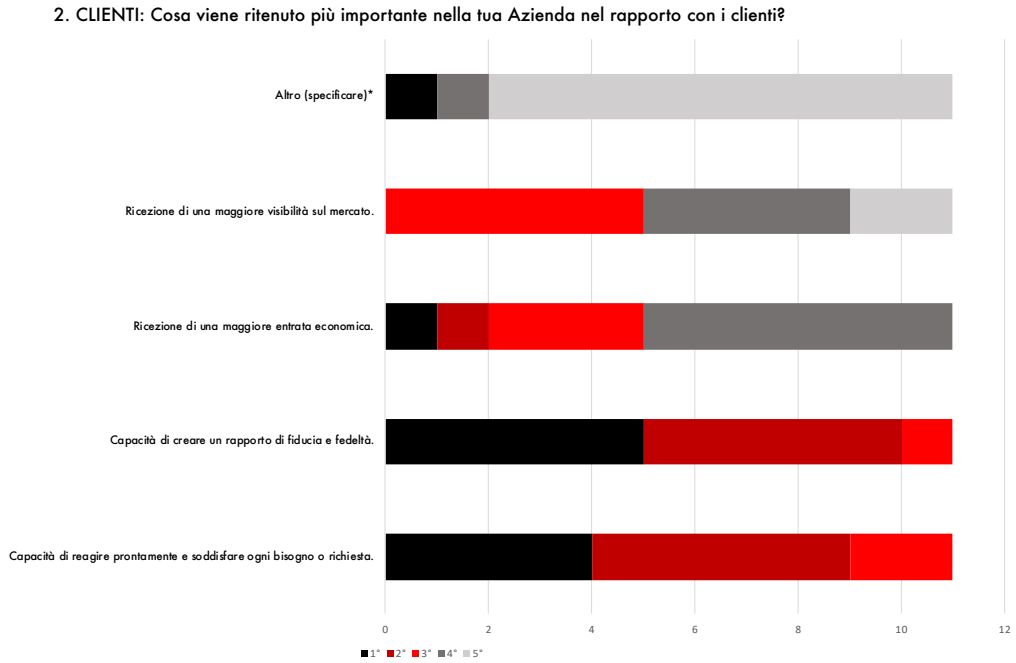


Figure 32 - Innovation level's questionnaire - Question 2

For clients, on the other hand, it is much more evident how the most important feature is the ability to engage them in a trustful and loyal relationship, immediately followed by the capacity to satisfy each of their requests in a time as short as possible.

Question 3 – PRODUCTS – What is more evaluated by your Company at a product leve?

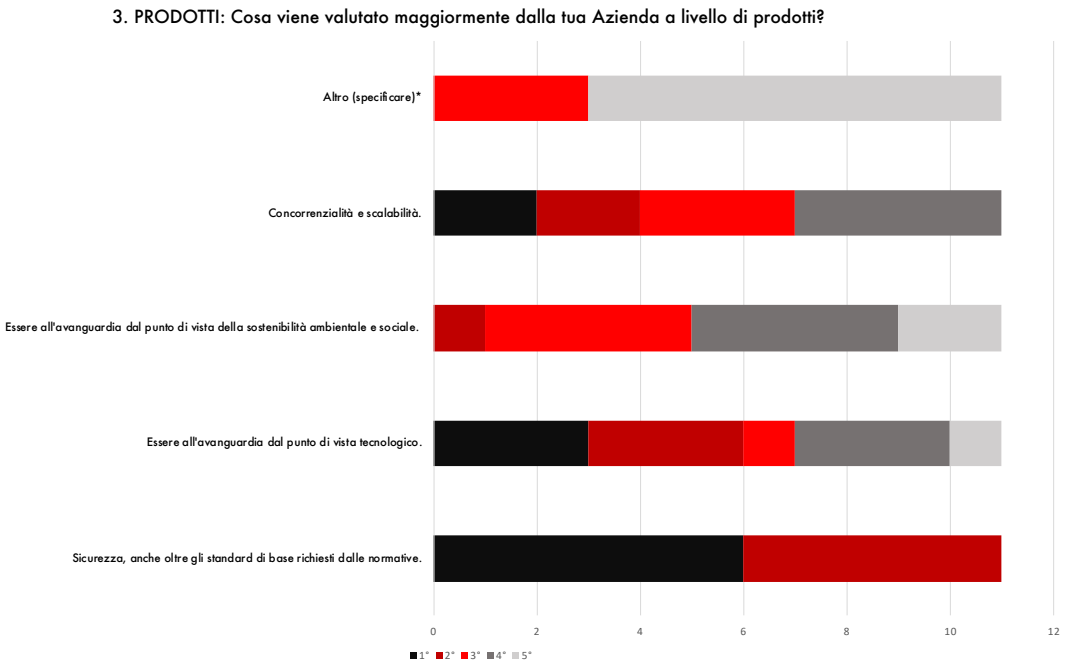


Figure 33 - Innovation level's questionnaire - Question 3

Regarding products, again it is more than obvious that the most relevant element to consider is safety, a level of safety even higher than the one required by standards and rules. This may be not surprising, being Hitachi ABB Comem a company producing such powerful and potentially dangerous electrical products. At the second place, there is a cutting-edge level of technology.

Question 4 – PROCESSES (INTERNAL) – What is the key for success of the internal processes of your Company?

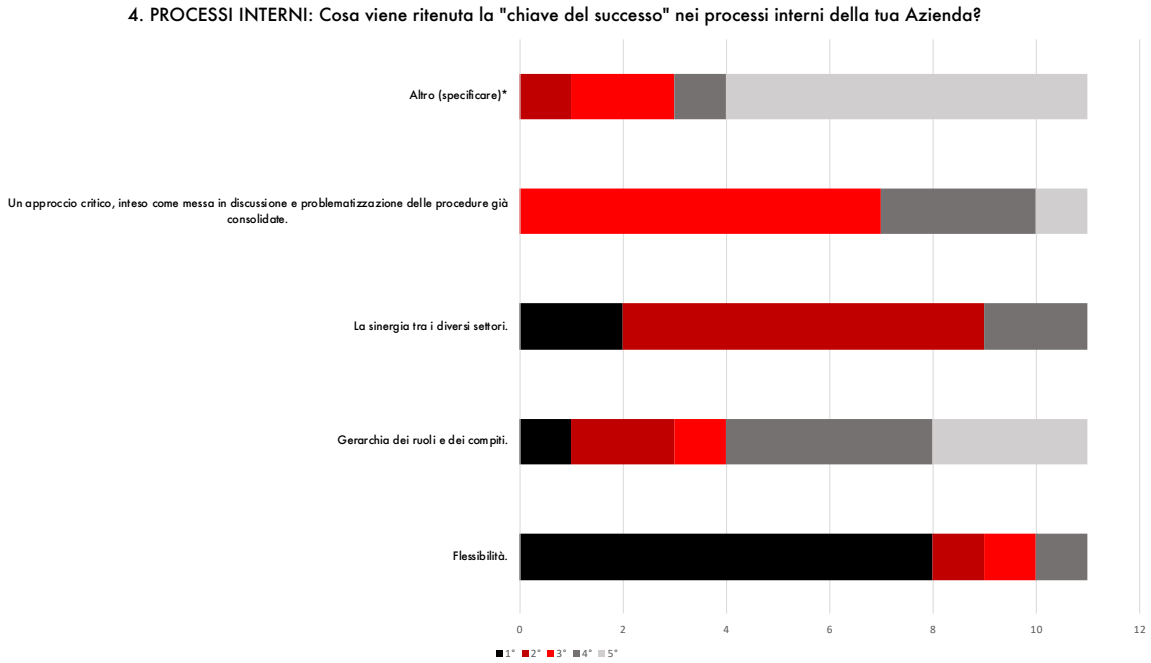


Figure 34 - Innovation level's questionnaire - Question 4

Once again, it immediately jumps to eyes flexibility as the essential component of internal processes, succeeded by synergy among the different business area and a specific and detailed hierarchy in roles and tasks.

Question 5 – PROCESSES (EXTERNAL) – In order to get an efficient communication, it is important to:

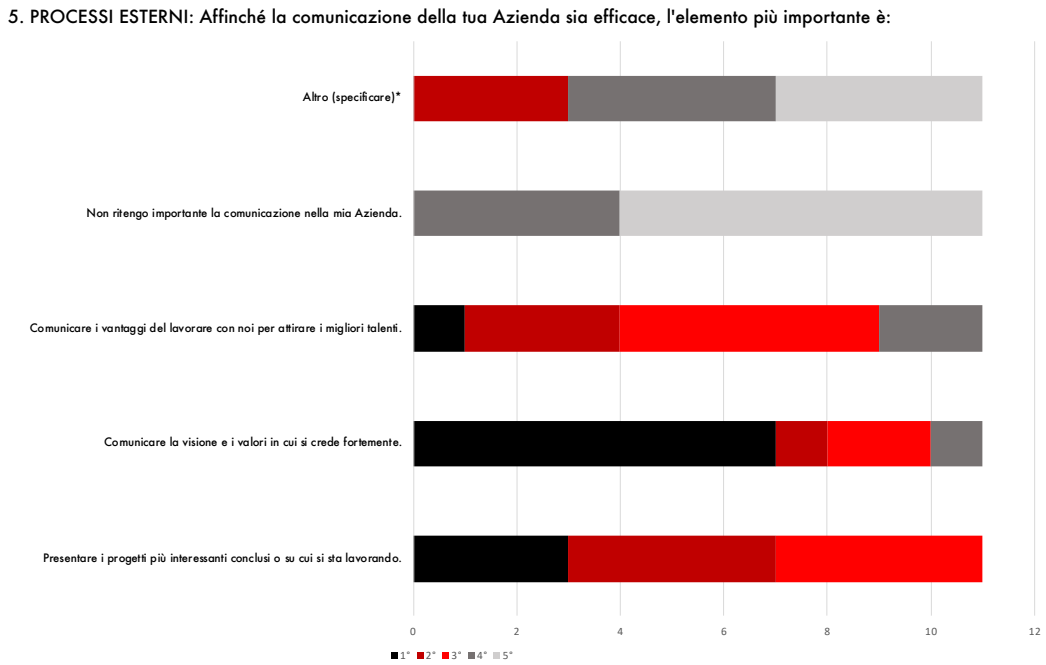


Figure 35 - Innovation level's questionnaire - Question 5

When dealing with communication, in order of importance, the company prefers to highlight and state the value and the vision which it strongly believes in, present the most interesting projects (both already concluding or in progress) and communicate the main advantages of working within its teams.

Question 6 – RESOURCES – What is more evaluated among the internal resources of your Company?

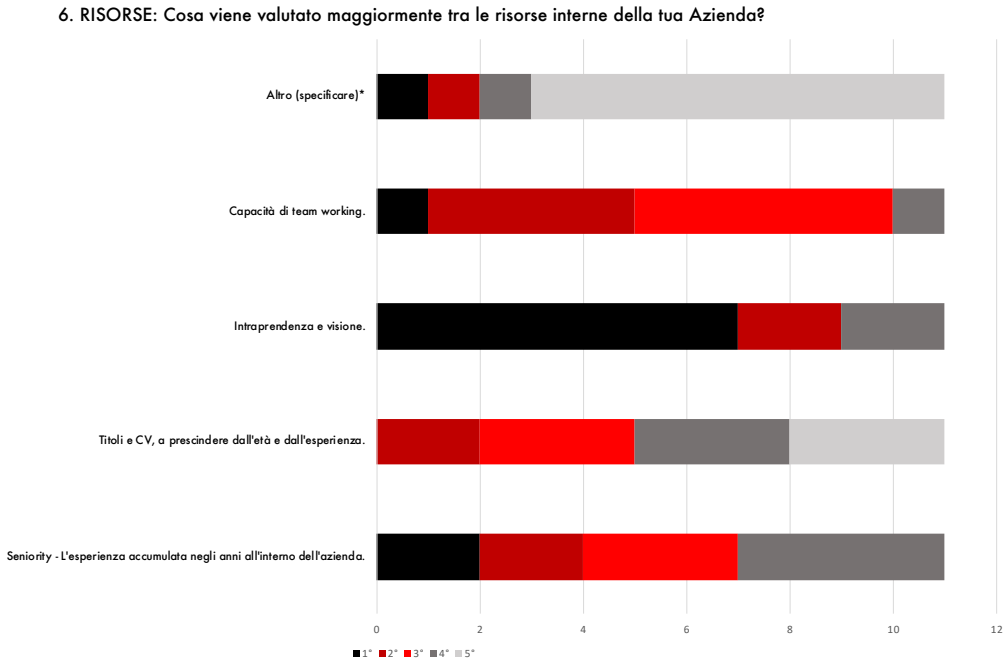


Figure 36 - Innovation level's questionnaire - Question 6

Resources within the company are more valued according with their vision as well as their ambition and initiative level, followed by the experience built up during years in the company, a team working propensity and ability.

Question 7 – RESOURCES – Do you think your Company is innovative in respect of its employees? If yes, which are the key traits distinguishing it?

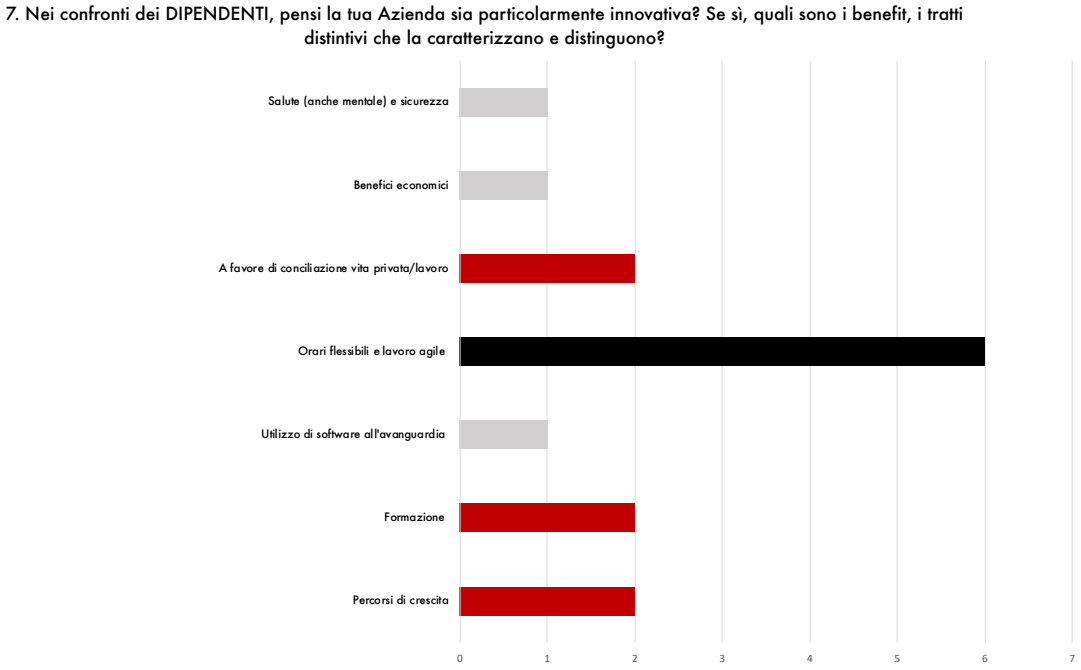


Figure 37 - Innovation level's questionnaire - Question 7

Still concerning employees, it can be seen that Hitachi ABB Comem distinguishes itself by being comprehensive and permissive with its employees; it has always allowed for smart or flexible working, even before the Covid-19 crisis, creating reciprocal respect, trustworthiness and gratitude.

Question 8 – According to the innovation model proposed by Verganti, where would you position your Company basing on the type of chased innovation and why?

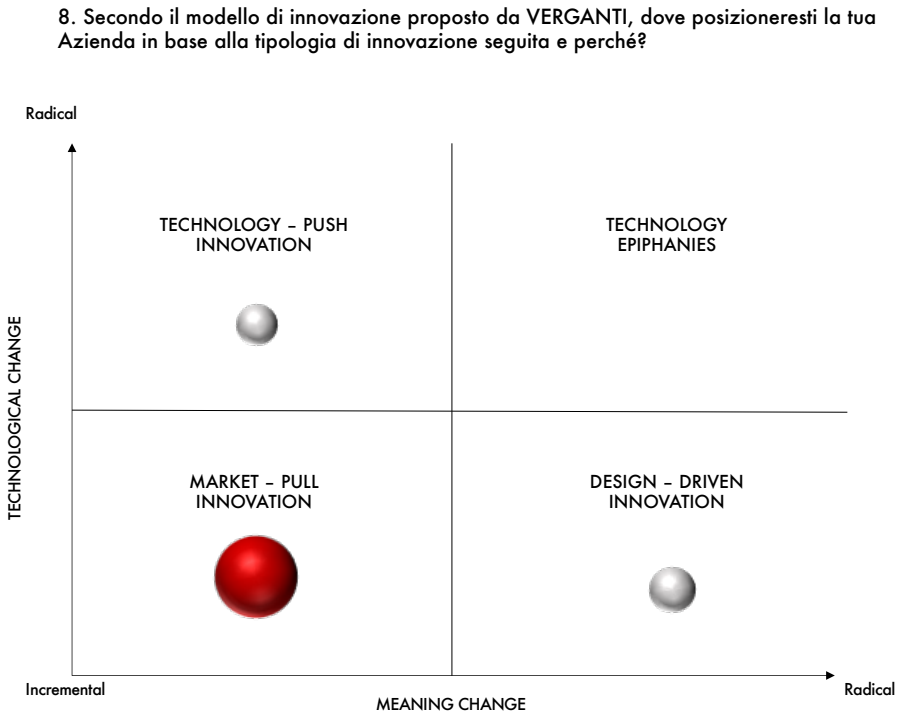


Figure 38 - Innovation level's questionnaire - Question 8

Most people in the company feel they are following a market-pull type of innovation. In fact, as it is possible to read in one of the answers, the innovations brought about by the company are almost always coming from market requests or from the necessity to adapt the product families to competitors' moves. In the past, the company used to follow a technology-push innovation model, however the problem was the fact that products were so innovative not to be matured or accepted by the old power grid markets; nowadays, instead, those products are the breakthrough products of Hitachi ABB Comem.

Question 9 – SOCIETY – Which impact do you think your Company has on society? Are there innovation elements that have not been mentioned until now and which you believe being important, for example in respect of other stakeholders?

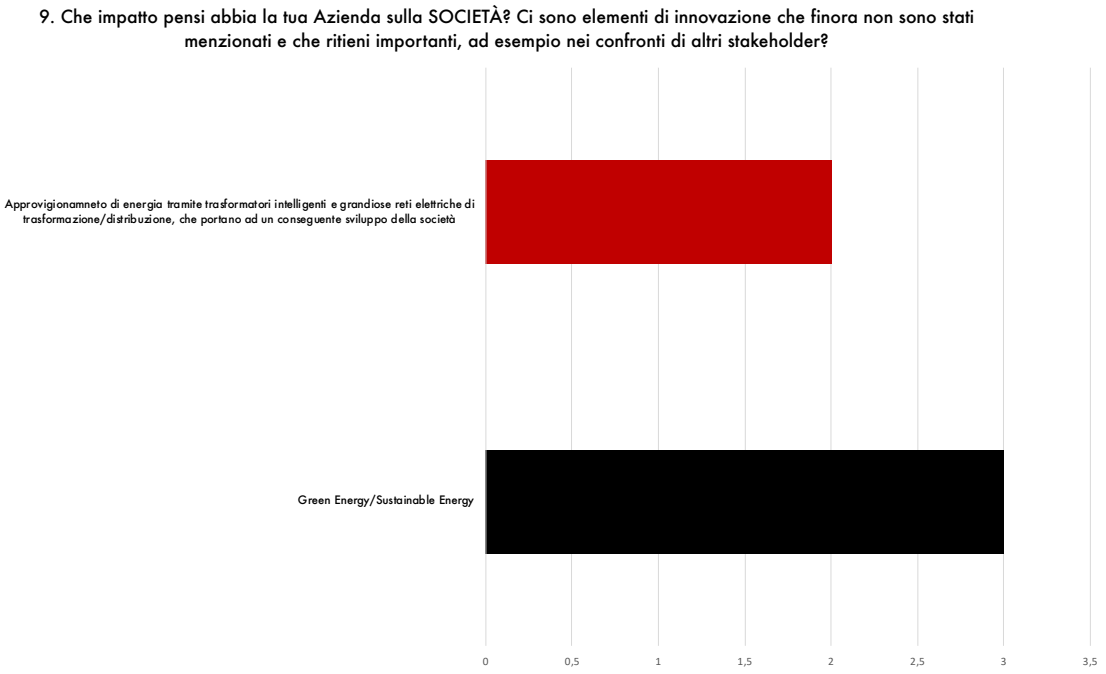


Figure 39 - Innovation level's questionnaire - Question 9

From the several answers given to this open question on society, it has been possible to deduce that the company, due to the sector it operates in, has always had an impact on society, and clearly over years it has tried to improve them. In particular, the attention can be focused of the concept of "intelligent transformer of energy" that can significantly improve the efficiency of the transmission and distribution power grids, thus society at large: where there is energy and electricity there is society development, otherwise regions will not be developed at all.

Few observations emerge at this point; however, it is still necessary to be aware of the fact that the tests are merely tests, they do not have the aim of demonstrating an absolute truth. Tests themselves have been submitted in elementary way: one reason was linked to voluntary submission of tests in this form, so that interviewees would have been

obliged to answer the first thing that came to their mind, the one they believed being right or most important to them, without other constrains or implications; the second reason instead is due to the difficulty of the historical period and the consequent impossibility to physically meet interviewees. It is known that test and questionnaire demands are misleading and that they would have required individual meeting with each interviewee. Nonetheless, even though the test and the questionnaire would be submitted to interviewees once more, after having received more notions and information and so being more conscious about what there are doing, results would not drastically change: although people may then find themselves in Thinking rather than in Feeling preference, for example, the general preference of the whole group will still remain Feeling. There are preferences that are difficult to get off.

First, by looking at both MBTI test results and answers to the innovation level questionnaire, it has been possible to notice some similarities among people pertaining to the same business area, according to their type and their opinion on innovation within the company.

In particular, those people are ISFJ types. Shortly calling up, ISFJs are usually pleasant with concrete data, facts and information, despite they approach the external world in a determinedly personal manner, due to their second function Extraverted Feeling. The ISFJs alertness to people's body signals, expressions and attitudes that hint emotions, necessities and prospects and that allows INFJs to of assistance and supporting, well fit the role those people cover within their company. Those traits are reflected also in their opinions emerged from the innovation level questionnaire: regarding suppliers, for example, they believe quality and economic convenience of the furniture to be more valued than the relationship of trust build during years or the collaboration with suppliers sharing the same values; on the other hand, for clients, they give more importance to the creation of a confidence and fidelity relationship and the ability to quickly respond to every needs, rather than the revenue to get.

Still looking at the results of the MBTI test, as already anticipated, the company group of key employees does not present preferences for the Thinking function.

To briefly remember, Thinking (T) is the preference oriented towards the logical consequences of a choice or action. Thinkers are those who need to be emotionally

detached to things and situations, to objectively analyse pros and cons, to favour analysis and evaluations to determine logic and rational solutions.

Thinkers represent the load-bearing walls of the house of the Psychological Types, those who sustain the logical structure of the house itself, based on concrete facts or on conceptual facts. Those two pillars symbolize the logical and rational frame that preserve the stability of the house, since its rooted in the ground in an objective way by the mean of analytical decisions taken by thinkers.

Moreover, according to the researches of Lake and Baldo, in the engineering industry expected results would have commonly included ST profiles, oriented towards the measurable and concrete world and with a "here and now" oriented attitude. (Lake & Baldo, 2009)

Even according to the study of Coleman, the most commonly found personality types among populations of managers would have been ESTJ for the 16,90% and ISTJ for the 15,15%. ENTJs are absent too; ENTJs are considered to usually be the Psychological Types 12,07% of the managers (Lake & Baldo, 2009).

On the other hand, apart from two people standing in between Thinking and Feeling, they seem to be all Feeling Types.

Reporting what is anticipated in chapter second: Feeling is the preference of evaluating elements starting from personal values rather than from the process logic, to enter and immerge in a situation, to live it personally. To them, it is important to maintain a positive and harmonic relationship with others and an attitude of acceptance and sharing. Their first instinct is to reinforce the empathic engagement with other people to make them understand they are feeling their state of mind; feelers love the possibility to sustain and others and look for the positive side of every person.

The fact that in a group of mainly males, engineers and managers, there is no Thinking function at all in use, is the most interesting case. Every interviewee shows a preference for Feeling.

Feeling is the function that masks a social kind of innovation, according to what has been revealed by the connections between the eight psychological function and innovation tendencies.

As the general manager confirmed, the results reflect the actual condition of the company: Hitachi ABB Comem is solidly devoted to the respect of human principles, values and

rights. It also mirrors this proper characteristic in considering not only employees, but mainly final users of energy and electricity: the whole world.
As a consequence, even if in a traditional and not disruptive manner, social innovation is anyways implemented.

3.3 Final thesis

After having investigated and clarified something more about the Hitachi ABB Comem company culture and its commitment towards social innovation, it is possible to make some thesis. The following thesis have the exact goal of every thesis: they are just emerging hypothesis, they do not want to be exact and unquestionable truths nor certainly demonstrating specific results.

First thesis

By looking at the results of the MBTI test and the questionnaire on the level of innovation it is possible to conclude a first immediate hypothesis.
The fact that the expectations about Thinking, Extraversion and Perceiving function as being more proper of engineers and innovative people in general are not verified, immediately opens up a reasoning.
So, the first, most direct and easy deduction emerging at first sight from the results previously described is that, knowing the pioneering position of Hitachi ABB Comem in its field in terms of products' technology and innovation, and given the interviewees' strong preference for Feeling cognitive function, it may be concluded that this company is the perfect example of how all functions, not only Thinking, Intuition or Perceiving with an Extraverted orientation, can innovate, no matter the kind of innovation that is pursued.
In the specific case of Hitachi ABB Comem, the majority of interviewees declared their company is following a market-pull innovation model, while some others stated in the past it used to follow a technology-push innovation model. A market-pull innovation model refers to small, incremental changes in both the technology and the meaning or design of the product or service.

By carefully looking at the individual answers of the questionnaire on the level of innovation, it is possible to understand why the company is now positioned in the market-pull innovation area: the market is itself a traditional one, and energy transformers cannot be profoundly innovated neither in technology nor in meaning. Despite the moderate kind of innovation that is dictated by the nature of the market, Hitachi ABB Comem does introduce an average of three new products every year.

Furthermore, in the past Comem did introduce an extraordinary technology-push innovation in the field of transformer, the eSDB (the Self Dehydrating Breather with digital tracking), which led a radical change in the technology of the product.

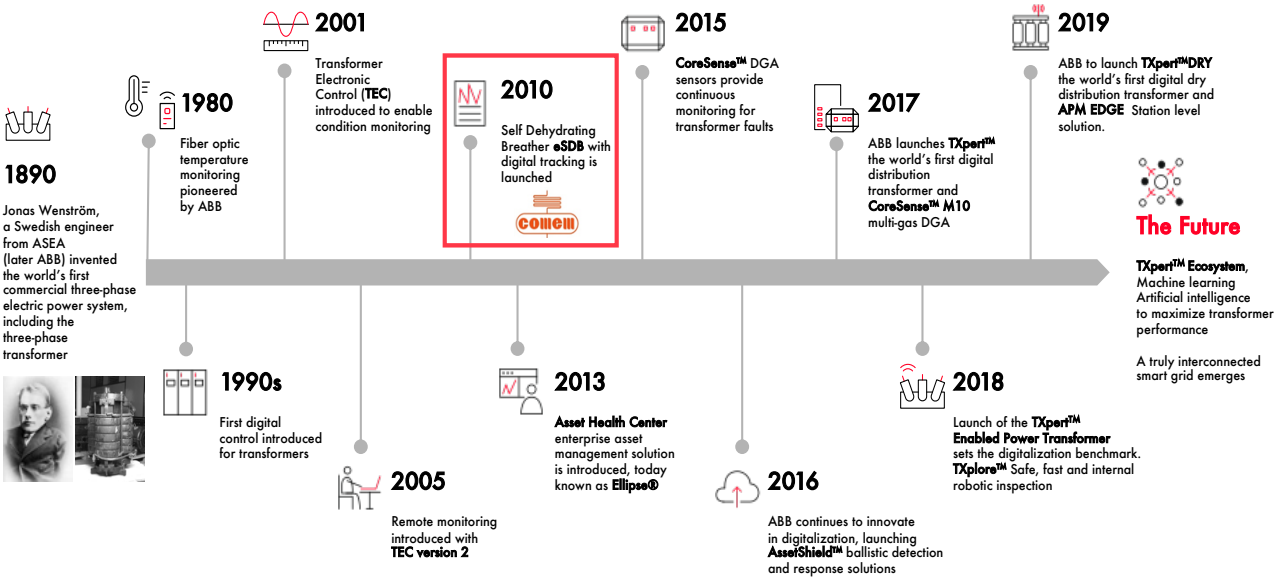


Figure 40 - Comem technology-push innovation, 2010

It was so disruptive and so innovative that they were not mature for market, and so not accepted by it. The introduction put Comem and consequently the whole ABB group in an incredible competitive advantage position, and it is still the innovative product which Hitachi ABB Comem is now generating value from. Employees were able to exploit their creativity and invention at their maximum whilst not being neither purely Thinkers, nor Extraverted or Perceivers.

Second thesis

Totally opposing to the first hypothesis, is the consecutive second thesis.
If, at a very first glance, it may be possible to say that the company seems to be well-performing despite the type of innovation model imposed by the market itself, that is very traditional, and despite the dominant Feeling function, the antagonistic view may be true too.
In other words, the level of innovation of Hitachi ABB Comem may be externally perceived as being in a calm phase, as it is not pursuing any kind of radical innovations, and that this may be traced back to the prevailing Psychological Types of employees: the dominant Feeling preference within the company, in fact, is not a direct synonym of innovation nor a characteristic straight traceable to managers. Indeed, one would have been expected a high level of Thinking as a result.
It may then transpire that the apparent innovation profile of Hitachi ABB Comem is linked and maneuvered by the strong presence of Feeling Types within it.
However, since it is known that the company is basically head in its field, this may be not the right lecture.
Please note, the fact that the company appears relaxed and stationary about innovation, not producing radical changes, does not mean the company is not innovative.
Again, prima facie, one may say this is due to the fact that the company introduced a fundamental technological change with the eSDB, instituting such a great innovation in the previous years, that now it is almost like the company is living off the interest. Since the level of innovation that the company members reached in the past was so high for the whole market, they could enjoy the competitive position they got until nowadays, where that innovation is now more accepted and adopted by the power grid sector.
This reality makes them great innovators in their area, able to precede and forecast future trends and technologies, anyways.
Finally, it may be reasonable to reject the second thesis.

Third thesis

As discussed before, it is clear that Hitachi ABB Comem is continually carrying forward moderate market-pull innovations. Also, it is able to do so with a prevalent number of feeler employees.

After wondering where the focus that is somehow linked to Feeling of Hitachi ABB Comem really is, it has been decided to deeply investigate the company culture by the mean of additional questions and interviews.

As it has been reported in section 3.2 and also according to the general manager of Hitachi ABB Comem, who really agrees oh the thesis, Hitachi ABB Comem is carrying on moderate innovation concerning the technology and the meaning of products, due to the market and to the product type itself, and, at the same time, had always put and is actually continuing to put a huge effort in developing and maintaining human principles and personal relationships within the firm as fixed and established company values.

He is aware that the level of product innovation they purchase as a company is incremental and moderate and admits the focus has moved, in the recent past, towards a social dimension, leading the company to concentrate on social innovation. Despite the convinced orientation directed to safeguard and fully respect individual values and rights and a more recent effort aimed at achieving green and sustainable energy results, like the previously cited SDGs, Hitachi ABB Comem is nowadays implementing a conventional social innovation, with very traditional manners and strategies; as it has emerged from the questionnaire on the level of innovation of the company, this mainly consists of the allowance for smart working, with very flexible timetables and schedules, safety and health cherishing, personal and professional development, training courses and job rotation programs, open dialogues across different organizational sectors and levels, employees' empowerment and accountability, economic benefits, etc.

Even though Hitachi ABB Comem is heartily appreciated by its members for the care it gives to them, and it is solidly characterized by the sense of family, camaraderie and union power among workers, it is not pursuing disruptive social innovation.

For this reason, the suggestion for Hitachi ABB Comem is to push on a revolutionary type of social innovation.

An excellent example is represented by Muhammad Yunus, mentioned in the previous chapter, and the case Danone.

Yunus vigorously believes in the power of exploiting social business to change the world. Everybody in the world can make the difference, have an impact on the environment and start a revolution to change the world. Organizational leaders, especially, can manage for-profit activities while creating social activities to solve problems strictly linked to the organizational mission. In 2005 Yunus collaborated with Emmanuel Faber, the CEO of Danone: aimed at solving malnutrition in Bangladesh, they made a joint venture between the social companies Grameen-Danone Foods. The goal was to create a yogurt containing all the nutrients that Bangladeshi children were missing, while making it feasible for all families. A social company may hugely reduce the cost for products that do not necessitate of advertising, chills or gimmicks. Following this direction, Danone created a social organization complementary to its already existing activities, which is providing power to social investors targeting nutrition and drinking water to reach a social impact sustainable worldwide. (YPO 2018)

Social innovation within for-profit organizations starts from the top level according to Yunus. The chief who wants to find a way to exploit its company resources not only to make profit, but also to solve social problems, paves the way to an enormous potential to grow exponentially in terms of impact and magnitude. As Danone did, it has grown at its pace, gathering commercial benefits while creating and bringing innovation in other company fields.

In Yunus' opinion, making money is happiness, but making other people happy is super happiness. (YPO 2018) People should all follow super happiness and make sure they get enough of it. Being and feeling enthusiastic of own capabilities, own role in society and in the whole world is a mesmerizing experience.

Also Hitachi ABB Comem, given its profound and apparently deeply-rooted preference for Feeling which is however something extraordinary for a company of its kind, if it should decide to chase a social innovation strategy and to unlock the potential masked behind the Feeling dominant cognitive function, it would probably generate a true quantum leap. The key is to find disruptive social innovation Hitachi ABB Comem members totally believe in, to reach unique breakthroughs.

With a dominant preference for evaluating elements starting from personal values rather than from the process logic, to fully immerge in a situation and to live it personally, to maintain positive and harmonic relationships with others and an attitude of acceptance and sharing, to reinforce the empathic engagement with other people to make them

understand they are feeling their state of mind, to sustain others and look for the positive side of every person, as Feeling allows for, with people reorganizing data and information from the outer world according to values, or with other people trying to make sense of the gathered data with a personal involvement in the pattern, great innovations can yet happen, despite the field of application or the working environment.

All the Psychological Types can lead to innovation, in particular to as many types of innovation.

Conclusions

The Innovator's DNA model introduced by Dyer, Gregersen and Christensen in 2009 precisely identifies five skills, Associational Thinking, Observing, Questioning, Networking and Experimenting, which have been shown to be proper of creative people, of innovators.

By comparing this model with the Jungian eight Psychological Types model, it has been possible to highlight strict connections between the innovator's skills and the four cognitive functions.

Principally:

- Associational Thinking → Intuition: both involve the ability to make mental connections, to recognize pattern in the external world and to see situations from a detached point of view, being able to get a general idea, an overview, and so to be able to foresee future conditions starting from it.
- Observing → Sensing: observing the external world implies living and experimenting it through all the five senses.
- Networking → Feeling: networking, the establishment of linkages among disparate fields of knowledge by the mean of cooperation and intercommunication between individuals, the capacity to deal and get on well with other people, certainly is an attitude and a behavioural competence allowed by Feeling.
- Questioning → Thinking: at the same exact time when people start questioning, they have already started to think. Assuming critical attitude and approach, challenging and disputing the current way of behaving, acting, reasoning do all need Thinking to be initiated. The key to disruptively innovate, is to formulate the right question.

In this way, for categorical syllogism, each of the four cognitive functions embodies innovator's characteristics. If they are then combined to the two natural human attitudes, Introversion and Extraversion, the result is the Jungian model of the eight Psychological Types. Again, each of the eight Psychological Types too present traits proper of the innovator's personality.

Summing up:

- Extraverted Intuition is the easiest function recognizable as innovator's function; allowing for fast pattern identification and understanding, an ability that

subsequently allows for the perceptibility of the general overview, the whole picture over happenings and events. Extraverted Intuition's innovative potential lies in the possibility to envision future and forthcoming arrangements and models.

- Introverted Intuition's innovation power relies on this type's intellectual and conceptual capacity to think out of the box and even to see the box from different perspectives; changes in mindset can lead to decisive, long-term and durable changes, or innovations, in the real world.
- Extraverted Thinking leads to a so called second level innovation: its strongest capability is to bringing order to the initial chaos created by the idea generation phase.
- Introverted Thinking finds its propensity towards innovation in the critical approach the cognitive function constantly adopts: putting everything under discussion may open several paths for innovation.
- Extraverted Feeling, with its preference for people-orientation and its precious respect for human values, leads to a social kind of innovation.
- Introverted Feeling presents a substantial tendency to make sense of happenings and pushes people to be personally and emotionally involved in them. Innovation stands in passing the emotional experiences to customers through products and services.
- Extraverted Sensing, with a solid link between sensorial perception and neural response, allows to respond promptly on the base of visual and touchable information to rapidly changing events, creating a sort of Darwinian entrepreneur.
- Introverted Sensing is the cognitive function least traceable to innovation; instead, with its deep focus on data gathered through senses and with those data becoming a life experience for introverted sensor, it provides a sense of safety and trust that help them not losing faith in their believes.

Through an elementary experiment, due to the difficult historical context brought about the Covid-19, with obstacles in interviewing company's employees and submitting tests online, and by the mean of a very small number of results, it has been possible anyways to state the following.

In the study case presented about the Italian company Hitachi ABB Comem, after having submitted the MBTI test to verify the Psychological Types and the questionnaire on the

presumed innovation level of the company, it has been discovered a resolute preference for Feeling and a very good level of innovation, as high as the kind of market which the company operates in allows for.

Thus, with the hypothesis that Feeling can lead to a social kind of innovation, it has been verified the company position in respect of this field, discovering its dedication and loyalty for the society at large. The personal suggestion is to push further on this field, to become pioneer in the wake of Muhammad Yunus.

The thesis may be demonstrated and the methodology may be provided with validity.

Appendix

A. Questionnaire on company's innovation level

Livello di Innovazione aziendale

Questo questionario ha come obiettivo la verifica dell'attuale livello di innovazione dell'Azienda e di cosa e come l'Azienda stia facendo o farà per muoversi verso un livello di innovazione più avanzato.
Il questionario funge da complemento al test sui Tipi Psicologici che hai appena svolto.
*Campo obbligatorio

1. Indirizzo email *

2. Nome e Cognome: *

3. Ruolo in Azienda: *

4. FORNITORI. Cosa privilegia la tua Azienda al momento della scelta dei fornitori? *

Metti in ordine di importanza le opzioni di risposta fornite sotto. Ad ogni risposta devi attribuire un unico grado di importanza, quindi nessuna risposta deve avere lo stesso grado di importanza. Attribuisci 1 alla risposta che ritieni essere più importante e 5 a quella meno importante.

Seleziona tutte le voci applicabili.

	1	2	3	4	5
Il rapporto di fiducia consolidato negli anni.	☐	☐	☐	☐	☐
La convenienza economica della fornitura (minor prezzo).	☐	☐	☐	☐	☐
La garanzia di qualità della fornitura (miglior qualità).	☐	☐	☐	☐	☐
La collaborazione con aziende di cui si condividono i valori (es. l'impegno a ridurre il proprio impatto sull'ambiente, sulla società, ecc.).	☐	☐	☐	☐	☐
Altro (specificare)*	☐	☐	☐	☐	☐

5. *Altro (specificare)

6. CLIENTI. Cosa viene ritenuto più importante nella tua Azienda nel rapporto con i clienti? *

Metti in ordine di importanza le opzioni di risposta fornite sotto. Ad ogni risposta devi attribuire un unico grado di importanza, quindi nessuna risposta deve avere lo stesso grado di importanza. Attribuisci 1 alla risposta che ritieni essere più importante e 5 a quella meno importante.

Seleziona tutte le voci applicabili.

	1	2	3	4	5
Capacità di reagire prontamente e soddisfare ogni bisogno o richiesta.	☐	☐	☐	☐	☐
Capacità di creare un rapporto di fiducia e fedeltà.	☐	☐	☐	☐	☐
Ricezione di una maggiore entrata economica.	☐	☐	☐	☐	☐
Ricezione di una maggiore visibilità sul mercato.	☐	☐	☐	☐	☐
Altro (specificare)*	☐	☐	☐	☐	☐

7. *Altro (specificare)

_____

8. PRODOTTI. Cosa viene valutato maggiormente dalla tua Azienda a livello di prodotti? *

Metti in ordine di importanza le opzioni di risposta fornite sotto. Ad ogni risposta devi attribuire un unico grado di importanza, quindi nessuna risposta deve avere lo stesso grado di importanza. Attribuisci 1 alla risposta che ritieni essere più importante e 5 a quella meno importante.

Seleziona tutte le voci applicabili.

	1	2	3	4	5
Sicurezza, anche oltre gli standard di base richiesti dalle normative.	☐	☐	☐	☐	☐
Essere all'avanguardia dal punto di vista tecnologico.	☐	☐	☐	☐	☐
Essere all'avanguardia dal punto di vista della sostenibilità ambientale e sociale.	☐	☐	☐	☐	☐
Concorrenzialità e scalabilità.	☐	☐	☐	☐	☐
Altro (specificare)*	☐	☐	☐	☐	☐

9. *Altro (specificare)

_____

10. PROCESSI INTERNI. Cosa viene ritenuta la "chiave del successo" nei processi interni della tua Aziend *

Metti in ordine di importanza le opzioni di risposta fornite sotto. Ad ogni risposta devi attribuire un unico grado di importanza, quindi nessuna risposta deve avere lo stesso grado di importanza. Attribuisci 1 alla risposta che ritieni essere più importante e 5 a quella meno importante.

Seleziona tutte le voci applicabili.

	1	2	3	4	5
Flessibilità.	☐	☐	☐	☐	☐
Gerarchia dei ruoli e dei compiti.	☐	☐	☐	☐	☐
La sinergia tra i diversi settori.	☐	☐	☐	☐	☐
Un approccio critico, inteso come messa in discussione e problematizzazione delle procedure già consolidate.	☐	☐	☐	☐	☐
Altro (specificare)*	☐	☐	☐	☐	☐

11. *Altro (specificare)

_____

12. PROCESSI ESTERNI. Affinché la comunicazione della tua Azienda sia efficace, l'elemento più importante è: *

Metti in ordine di importanza le opzioni di risposta fornite sotto. Ad ogni risposta devi attribuire un unico grado di importanza, quindi nessuna risposta deve avere lo stesso grado di importanza. Attribuisci 1 alla risposta che ritieni essere più importante e 5 a quella meno importante.

Seleziona tutte le voci applicabili.

	1	2	3	4	5
Presentare i progetti più interessanti conclusi o su cui si sta lavorando.	☐	☐	☐	☐	☐
Comunicare la visione e i valori in cui si crede fortemente.	☐	☐	☐	☐	☐
Comunicare i vantaggi del lavorare con noi per attirare i migliori talenti.	☐	☐	☐	☐	☐
Non ritengo importante la comunicazione nella mia Azienda.	☐	☐	☐	☐	☐
Altro (specificare)*	☐	☐	☐	☐	☐

13. *Altro (specificare)

_____

14. RISORSE. Cosa viene valutato maggiormente tra le risorse interne della tua Azienda? *

Metti in ordine di importanza le opzioni di risposta fornite sotto. Ad ogni risposta devi attribuire un unico grado di importanza, quindi nessuna risposta deve avere lo stesso grado di importanza. Attribuisci 1 alla risposta che ritieni essere più importante e 5 a quella meno importante.

Seleziona tutte le voci applicabili.

	1	2	3	4	5
Seniority - L'esperienza accumulata negli anni all'interno dell'azienda.	☐	☐	☐	☐	☐
Titoli e CV, a prescindere dall'età e dall'esperienza.	☐	☐	☐	☐	☐
Intraprendenza e visione.	☐	☐	☐	☐	☐
Capacità di team working.	☐	☐	☐	☐	☐
Altro (specificare)*	☐	☐	☐	☐	☐

15. *Altro (specificare)

_____

16. Nei confronti dei DIPENDENTI, pensi la tua Azienda sia particolarmente innovativa? Se sì, quali sono benefit, i tratti distintivi che la caratterizzano e distinguono? *

_____

_____

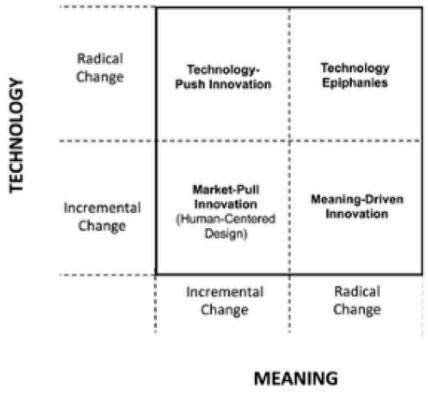
_____

_____

_____

17. Secondo il modello di innovazione proposto da VERGANTI, dove posizioneresti la tua Azienda in bas alla tipologia di innovazione seguita e perché? *

Molte innovazioni si ottengono modulando l'entità dell'innovazione tecnologica (le funzioni e le prestazioni dei prod offerti) con quella relativa al messaggio comunicato dal prodotto (il significato), e possono portare a innovazioni basate principalmente sull'utilità o sul senso. MARKET-PULL INNOVATION = nasce da un'analisi dei consumatori e d loro bisogni e preferenze, e porta ad innovazioni incrementali sia dal punto di vista tecnologico che del significato. TECHNOLOGY-PUSH INNOVATION = nasce da un cambiamento radicale a livello tecnologico e da cambiamenti incrementali dal punto di vista del significato. MEANING-DRIVEN INNOVATION = quando un'innovazione implica cambiamenti nei regimi socio-culturali, quindi non caratterizzata da un cambiamento radicale a livello tecnologico n piuttosto un cambiamento radicale a livello di significato. TECHNOLOGY EPIPHANY = nasce quando un cambiament radicale dettato dalla tecnologia è accompagnato da un altrettanto radicale cambiamento nel significato: una tecnologia superiore che cambia l'attuale interpretazione del prodotto, generandone uno differente e imprevisto.



18. Che impatto pensi abbia la tua Azienda sulla SOCIETÀ? Ci sono elementi di innovazione che finora n sono stati menzionati e che ritieni importanti, ad esempio nei confronti di altri stakeholders? *

B. MBTI test by Lenore Thomson

Test dei tipi psicologici

Ogni domanda è obbligatoria. Se non dovessi riconoscerti in nessuna delle due opzioni, scegli comunque quella che ti sembra meno scorretta per te.

*Campo obbligatorio

1. Indica per favore il tuo nome e cognome o le tue iniziali: *

Estroversione / Introversione

Da 0/14 a 5/14: introverso/a
Da 6/14 a 8/14: mediatore/tric
Da 9/14 a 14/14: estroverso/a

2. Quando incontri persone nuove: *

- ascolti più di quanto non parli
- parli e ascolti nella stessa misura

3. Preferisci una vita sociale: *

- con molti amici e conoscenti
- con poche persone che senti vicine

4. Se un'abbondante nevicata ti impedisce di andare a lavoro: *

- ti godi l'inatteso momento di solitudine
- ti chiedi cosa ti stai perdendo

5. Quale delle seguenti affermazioni faresti tua? (1) *

- Di solito, penso lì lì mentre parlo
- Di solito, prima di parlare, rifletto su quel che dirò

6. (2) *

- Se non mi sento vicino a una persona, non dico quali sono le cose importanti per me
- Chi mi conosce, in genere, sa cosa è importante per me

7. (3) *

- Quando non riesco ad avere abbastanza tempo per me stesso, divento irrequieto
- Quando rimango solo troppo a lungo, divento irrequieto

8. (4) *

- [ ] Quando sto a lungo insieme agli altri, mi ricarico di energia e non smetterei mai
- [ ] Quando sto a lungo insieme agli altri, mi scarico e ho bisogno di spazio

9. Quando sei in vacanza, cosa ti viene più naturale? (1) *

- [ ] Passare il tempo a leggere, passeggiare o fantasticare
- [ ] Passare il tempo a fare cose con gli altri

10. (2) *

- [ ] Visitare località celebri
- [ ] Passare il tempo in luoghi più tranquilli

11. Quale dei seguenti aggettivi descrive meglio il modo in cui ti vedi? (1) *

- [ ] Riflessivo
- [ ] Socievole

12. (2) *

- [ ] Espansivo
- [ ] Intenso

13. (3) *

- [ ] Profondo
- [ ] Equilibrato

14. (4) *

- [ ] Schietto
- [ ] Riservato

15. Cosa preferisci, in genere? *

- [ ] Fare un buon lavoro ma rimanere anonimo
- [ ] Riscuotere ammirazione per un lavoro di cui non sei pienamente soddisfatto

Sensorialità o Intuizione

Da 0/14 a 5/14: intuitivo/a
Da 6/14 a 8/14: mediatore/tric
Da 9/14 a 14/14: sensoriale

16. Quale delle due affermazioni corrisponde meglio alla tua modalità di affrontare la vita in generale? *

- ◯ Fare e basta!
- ◯ Controllare le alternative possibili.

17. Quando cerchi di capire una cosa: *

- ◯ Ti fai un'idea generale e consideri i dettagli in un secondo momento
- ◯ Insisti per conoscere i dettagli

18. Quale delle seguenti affermazioni faresti tua? (1) *

- ◯ Mi interessa l'esperienza delle persone: quel che fanno, chi conoscono.
- ◯ Mi interessano i sogni e i progetti delle persone: dove stanno andando, cosa pensano.

19. (2) *

- ◯ So sempre, più o meno, che aspetto hanno le cose.
- ◯ Tendo a non notare che aspetto hanno le cose.

20. (3) *

- ◯ Una volta che mi sono impratichito di una certa attività, desidero cambiarla o fare altro.
- ◯ Se mi piace una certa attività, mi ci impegno di frequente fino a che non arrivo a svolgerla bene

21. (4) *

- ◯ Mi piacciono le idee in sé e mi piace giocarci con l'immaginazione.
- ◯ Non mi interessano le idee astratte che non abbiano applicazione pratica.

22. (5) *

- ◯ L'ambiente che mi circonda influisce sul mio umore.
- ◯ L'atmosfera non è importante, se sono concentrato.

23. Quando sei in vacanza, cosa ti viene più naturale? (1) *

- ◯ Tornare a trascorrere le vacanze in un luogo che ami.
- ◯ Andare in un luogo dove non sei mai stato prima.

24. (2) *

- Provare nuovi piatti.
- Concederti un buon pasto in un ristorante che ti piace veramente molto.

25. Quale aggettivo descrive meglio il modo in cui ti vedi? (1) *

- Pratico.
- Teorico.

26. (2) *

- Fantasioso.
- Concreto.

27. (3) *

- Impetuoso.
- Ricco di esperienza.

28. (4) *

- Realistico.
- Utopista.

29. Cosa preferisci in genere? *

- Avere molte possibilità tra cui scegliere.
- Maturare una grande esperienza in un campo che ti piace.

Pensiero o Sentimento

Da 0/14 a 5/14: riflessivo/a
Da 6/14 a 8/14: mediatore/tric
Da 9/14 a 14/14: emotivo/a

30. Che cosa ti piace di più di te stesso/a? *

- I tuoi modi comprensivi.
- I tuoi modi razionali.

31. Che cosa ti interessa di più? *

- Sapere come la pensano gli altri.
- Sapere quali sono i sentimenti degli altri.

32. Quale delle seguenti affermazioni faresti tua? (1) *

- Sono capace di elaborare un programma che funzioni.
- Riesco a convincere gli altri a sottoscrivere un programma e a collaborare.

33. (2) *

- Mi interessa la gente e mi preoccupo di quel che le capita.
- Tendo a essere analitico, forse anche un po' scettico.

34. (3) *

- Nel prendere una decisione, valuto l'esperienza altrui in circostanze analoghe.
- Nel prendere una decisione, valuto attentamente i pro e i contro.

35. (4) *

- Quando faccio un accordo, conto sulle cose che so e sulle mie capacità tattiche.
- Quando faccio un accordo, stabilisco un terreno d'intesa con l'altra persona.

36. (5) *

- [ ] Le persone sanno che quando hanno bisogno di me possono contare sulla mia presenza.
- [ ] Le persone contano sul mio senso di giustizia e sulla mia capacità di trattarle con rispetto.

37. Quando sei in vacanza, cosa ti viene più naturale? *

- [ ] Rinverdire i rapporti che sono importanti per voi.
- [ ] Portarvi dietro un progetto che ha a che fare con il lavoro.

38. Quale aggettivo descrive meglio il modo in cui ti vedi? (1) *

- [ ] Equilibrato.
- [ ] Idealista.

39. (2) *

- [ ] Acuto.
- [ ] Comprensivo.

40. (3) *

- ◯ Indagatore.
- ◯ Polemico.

41. (4) *

- ◯ Giusto.
- ◯ Compassionevole.

42. (5) *

- ◯ Sensibile.
- ◯ Imparziale.

43. Quale dei seguenti slogan corrisponde meglio al tuo punto di vista? *

- ◯ La logica è l'arte di sbagliarsi tutti convinti.
- ◯ La gente tende a confondere la forza dei sentimenti con la forza delle argomentazioni.

Percezione o Giudizio

Da 0/14 a 5/14: percettivo/a
Da 6/14 a 8/14: mediatore/tric
Da 9/14 a 14/14: giudicante

44. Che cosa ti riesce meglio? *

- Cambiare marcia quando è necessario.
- Concentrarti su un compito finché non è ultimato.

45. Che tipo di lavoro preferisci? *

- Un lavoro che ti permette di fissare degli obiettivi precisi e i passi necessari per realizzarli.
- Un lavoro che consente reazioni pronte e fulminee.

46. Quale delle seguenti affermazioni faresti tua? (1) *

- Prima d'intraprendere un'azione voglio conoscere le possibili conseguenze.
- Mi capita di provare a fare qualcosa d'impulso, solo per vedere che cosa succede.

47. (2) *

- Mi piace lasciarmi spazio per nuove possibilità, anche dopo che si è stabilito un programma.
- Una volta stabilito un programma, voglio che sia quello.

48. (3) *

- Mi piace apprendere dall'esperienza personale, e quindi spesso faccio le cose a modo mio.
- In genere, imparo seguendo le istruzioni e adattandole alle mie necessità.

49. (4) *

- Quando lavoro a qualcosa, non voglio essere interrotto.
- Quando lavoro a qualcosa, ho bisogno di fare diverse pause.

50. Quando sei in vacanza, cosa ti viene più naturale? (1) *

- Prendere le cose come vengono, facendo quel che ti senti sul momento.
- Programmare in linea di massima le cose che vuoi fare.

51. (2) *

- Pensare alle cose che dovrai preparare quando le vacanze saranno finite.
- Dimenticare tutte le abitudini quotidiane e pensare solo a divertirti.

52. Quale aggettivo descrive meglio il modo in cui ti vedi? (1) *

- Sistematico.
- Spontaneo.

53. (2) *

- Adattabile.
- Organizzato.

54. (3) *

- Entusiasta.
- Determinato.

55. (4) *

- Diretto alla meta.
- Aperto alle possibilità.

56. Cosa preferisci in genere? *

- Toglierti subito il pensiero delle incombenze spiacevoli.
- Rimandare le incombenze spiacevoli fino a che non sei dell'umore giusto.

57. Quale dei seguenti slogan corrisponde meglio al tuo punto di vista? *

- Chi esita è perduto.
- Prima di spiccare il volo, guarda giù.

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