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**Strategic management of Transformative
Competences: a Gioia empirical study**

**Management strategico delle Competenze
Trasformative: uno studio empirico
secondo il metodo Gioia**

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Abstract – Italian version

La tesi riguarda uno studio abduttivo su quelle competenze individuali che generano cambiamenti su due livelli: a livello individuale, permettono all'individuo di evolvere continuamente il proprio bagaglio di conoscenze; a livello aziendale, innescano trasformazioni nell'intera organizzazione. Si tratta di competenze fondamentali per navigare le complesse sfide odierne in ambito digitale, sostenibile e organizzativo. La crescente rilevanza delle "Grand Challenges", problemi complessi dettati da fattori quali crisi climatica, le disuguaglianze sociali e le nuove tecnologie emergenti, richiedono approcci multidisciplinari e collaborativi. Tali sfide generano pressioni sulle aziende per adottare nuovi modelli sostenibili e flessibili, richiedendo al contempo un adattamento costante da parte delle risorse umane. Il principale punto di forza dell'elaborato è che il termine "Competenze Trasformative" non appare in letteratura scientifica, in quanto si tratta di un argomento particolarmente nuovo. Alcuni stralci sono reperibili solo in forma di letteratura grigia. Per questo motivo, la literature review ruota attorno a termini simili quali individual dynamic capabilities, transformative skills, readiness to change, meta-competences etc. Riguardo la parte analitica, è stata scelta un'analisi qualitativa sotto forma di video-interviste individuali semi-strutturate, che sono state successivamente rielaborate utilizzando la Gioia Methodology. Il fine ultimo, che giustidica anche la scelta della metodologia, è quello di creare nuova letteratura sull'argomento fondata su l'esperienza di professionisti del settore HR, definendo un concept di "Competenze Trasformative" generico che mette le capacità dell'individuo come driver principale di trasformazioni.

Abstract – English version

This thesis presents the findings of an abductive study into the individual competencies that drive change at two levels: firstly, they facilitate the continuous evolution of the individual's knowledge base; secondly, they trigger transformations within the entire organisation. These competencies are instrumental in navigating the multifaceted challenges of the contemporary digital, sustainable and organisational landscape. The increasing significance of the "Grand Challenges", intricate issues driven by factors such as the climate crisis, social inequalities and novel emerging technologies, necessitates multidisciplinary and collaborative methodologies. These challenges exert pressure on companies to adopt new sustainable and flexible models, while requiring constant adaptation on the part of human resources. The principal strength of the thesis is that the term "Transformative Competences" is absent from the scientific literature, as it is a particularly novel topic. Only excerpts can be found in the form of grey literature. Accordingly, the literature review encompasses related concepts such as individual dynamic capabilities, transformative skills, readiness to change, and meta-competencies. With regard to the analytical component, a qualitative analysis was conducted in the form of semi-structured individual video interviews. These were subsequently subjected to a process of reworking in accordance with the Gioia methodology. The overarching objective, which also justifies the selection of methodology, is to generate new literature on the subject matter based on the experiences of HR professionals. This will entail defining a generic Transformative Competences concept that places the individual's capabilities at the core of the transformation process.

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1. Introduction

"Every 15 years, 99% of our cells change so that we can survive, giving us an image of change as a natural condition, the very essence of living. Embracing it with courage and determination allows us to look at our reality with new eyes and become agents of change that can only be sustainable and, in this, vital. Innovation is the tool, sustainability – thus survival – is the goal, and if one does not change, one dies." – Ernesto Ciorra.

According to this quote, if people do not transform, they are destinated to obsolescence and decline. How much change is crucial for the single human being reflects on the whole society in an amplified way. In recent times, the significance of change for companies, and so people, is explained by different reasons.

In today's rapidly changing world, the ability to adapt and transform has become essential for both individuals and organizations. Faced with grand challenges such as technological disruption, environmental concerns, and evolving social expectations, organizations must cultivate not only adaptive strategies but also individuals who are prepared to drive sustainable change. This need has given rise to the concept of transformative competences a set of skills and mindsets that enable people to initiate and sustain transformation within themselves and, by extension, within their workplaces. While not yet defined in academic literature, transformative competences are increasingly discussed in grey literature as crucial for addressing complex, global issues.

Since such term does not exist in literature, this study examines individual competences from two interconnected perspectives. First, it focuses on individual competences that enable individual skillset evolution. Such individual transformations are often the starting point for larger shifts within organizations. Thus, second, it considers how these individual transformations can then drive organizational change. The hypothesis is that by fostering transformative

competences at the individual level, organizations can catalyze broader, sustainable transformations that align with long-term strategic goals.

To investigate this, since a general concept lacks, the study employs the Gioia methodology. Through qualitative research made of semi-structured interviews, the study aims to provide insights on what transformative competences are according to HR professionals and how they can be utilized by individuals in real-world organizational contexts. By examining these competences from both a theoretical and practical perspective, this research aims to contribute a framework for understanding how every single individual can contribute to organizational transformations needed to deal with contemporary challenges. This work seeks to bridge the gap between theory and practice, offering insights that inform the strategic management of transformative competences as a valuable asset in today's dynamic landscape.

2. The scenery

2.1 Grand challenges of our time

The organizational environment is increasingly characterized by instability and crisis, as noted by Mailhot & Lachapelle (2024). In recent years, the global landscape has become increasingly challenging to navigate due to the prevalence of conditions described by the acronym "VUCA," which stands for Volatility, Uncertainty, Complexity, and Ambiguity (Bennett & Lemoine, 2014). The VUCA definition manifests across a range of domains, including societal, technological, and economic (Cernega et al., 2024). Firstly, Volatility can be observed in rapid technological advancements that upend industries before they can adapt, forcing organizations into a state of continuous innovation to remain competitive. This rapid evolution complicates long-term planning, requiring agility and strategic flexibility (Saleh & Watson, 2017). Secondly, uncertainty is an inherent and pervasive aspect. Traditional forecasting models struggle to keep pace with new dynamics such as global digitization and cybersecurity risks. These new variables destabilize established patterns and call for more adaptive approaches to decision-making (Ferraro et al., 2015). Thirdly, the complexity of the contemporary world is due the presence of "interconnected parts, networks and procedures within the organization and with the external business environment," which may be "unidentifiable and/or contradicted with each other" (Saleh & Watson, 2017). Thus, developments in one sector, such as technology, have the potential to disseminate across borders, influencing markets, social systems, and even individual behaviors in ways that are not immediately apparent. Lastly, Ambiguity is not even an abstract condition but a daily challenge that impact decision makers, who are required to navigate conflicting information and shifting priorities (Bennett & Lemoine, 2014).

Management studies address these issues using the concept of Grand Challenges that is defined as complex, broad, systemic issues that require multidisciplinary and collaborative approaches to address effectively (George et al., 2016). They extend well beyond sustainability and include pervasive concerns such as global public health crises, the cybersecurity of interconnected digital networks, ethical dilemmas posed by emergent biotechnologies, and the implications of economic inequalities in a globalized society (Ferraro et al., 2015). Complexity of Grand Challenges differ from other conventional problems, since often they go beyond national borders and traditional disciplinary boundaries. For instance, managing global health pandemics demands coordinated international responses that leverage technology, policy frameworks, and medical resources to ensure equitable access to healthcare solutions (Praveen Raj et al., 2024). Additionally, the integration of digital technologies raises complex questions around privacy and ethics, emphasizing the need for collaborative policy development to protect data security (Saeed et al., 2023).

As a result, Grand Challenges require people to change and evolve their skills, knowledge and attitudes. In light of the literature that will be presented subsequently, which has a particular focus on competencies for digital transformation and sustainable transitions, these two areas will be explored in greater depth.

2.2 Grand Challenges and the need for Sustainability transition

The ongoing deterioration of the natural environment (Steffen et al., 2015) and the concomitant rise of social problems (UNI, 2015) are increasing pressure on the dominant fossil-fuel-based and linear economic models. The current state of global environmental degradation, characterized by climate change, biodiversity loss and pollution, has reached a critical juncture, with severe implications for human and ecological well-being (Steffen et al., 2015). The effects of climate change have

been showed by unprecedented shifts in temperature, weather patterns, and sea levels, which have destabilized ecosystems and threatened agricultural productivity and water availability worldwide (IPCC, 2021). Similarly, biodiversity loss has been accelerating, with significant impacts on ecosystem services essential for human survival, including pollination, soil fertility, and water purification (Dasgupta, 2021; Díaz et al., 2019).

Concurrently, the deepening of social inequalities is intensifying the vulnerabilities of marginalized populations, who frequently bear the brunt of environmental degradation despite contributing the least to these issues (Newell et al., 2021). The rising global inequality, coupled with the environmental stresses, has become an urgent concern as the uneven impacts of climate change and resource scarcity widen the existing socio-economic divides (Piketty, 2019). The interconnectivity of these social and environmental crises has prompted scholars to designate the current era as the Anthropocene, a period characterized by a pronounced human impact on Earth's systems, frequently with destabilizing consequences (Steffen et al., 2015).

These presence of these Grand Challenges, by being often intractable and resistant to simple solutions (Ferraro et al., 2015) prompt organizations and scholars to develop new conceptual frameworks and actions for ecological and social issues (Mailhot & Lachapelle, 2024). A societal and economic transition is needed, and necessitates that corporations and entrepreneurial organizations transform their businesses, business models, and societal roles (Schaltegger et al., 2023). Companies are often seen as major contributors to environmental and social problems, and therefore key to addressing sustainability issues (Schaltegger & Wagner, 2011). Such shift, commonly referred to as the sustainability transition, involves moving from a growth-centric model to one that considers environmental limits and prioritizes long-term ecological balance and social equity (Raworth, 2017). In addition, at the heart of this transition is the understanding that economic activities cannot continue to operate independently of environmental and social

boundaries, as doing so risks undermining the very foundations of human development (Leach et al., 2018). Furthermore, it is imperative to consider the environmental consequences of linear economic models, which have historically been based on the extraction, production, and disposal of resources, resulting in unsustainable levels of waste and pollution. (Kirchherr et al., 2017). The shift toward circular economy principles, which focus on reducing resource use and encouraging reuse and recycling, is part of the broader reimagining of how economic systems can operate within planetary boundaries (Korhonen et al., 2018).

Finally, transforming business toward sustainability also requires a shift in employee attitudes and competencies. Wamsler et al. (2020) argue that a mindset shift and inner qualities are essential for transitioning to a fossil-free society, as they facilitate climate action negotiation and activation.

2.3 Grand Challenges and the need for Digital Transformation: Opportunities and Threats of New Technologies and Artificial Intelligence

Beyond environmental and social issues, companies face critical challenges from emerging digital technologies. It is the age of the Fourth Industrial Revolution, characterized by an enormous and undefined amount of data (Sarker, 2021). Technologies are significantly reshaping business models (Ellström et al., 2022) and disrupting industrial businesses on a large scale (Lee et al., 2019; Ibarra et al., 2017; Morkunas et al., 2019; Ustundag & Cevican, 2018). Big Data is revolutionizing how information is organized, accessed, selected, visualized, and utilized; robotics is bringing substantial changes, especially in fields like automotive, aeronautics, and healthcare industries; nanotechnology is impacting the computer, energy, and health industries (Sousa & Rocha, 2019). But most of all, what has been causing more concern in the last year has been Artificial

Intelligence (AI) blended with Machine Learning (ML), which is transforming industries particularly in areas requiring close human-computer collaboration (Sousa & Rocha, 2019).

2.3.1 Artificial Intelligence, Machine Learning and their business applications

Artificial Intelligence (AI) has been developing extremely fast in the last period, it is being implemented by a growing number of companies and it is revolutionizing the way people interact with organizations (Arora & Mittal, 2024). It is a powerful means of decision-making when combined with a large amount of data and can increase the effectiveness and capacity of company activities (Holmström, 2022). On the other hand, Machine Learning, a subcategory of AI, makes systems automatically able to learn and improve from experience, with no need to be specifically programmed (Sarker, 2021). Their business applications are almost endless.

In the field of e-commerce and product recommendations ML can support marketing campaigns in tailoring shopping experiences for customers based on the analysis of their past purchase data, by suggesting them products that match their behavior and preferences (Marchand & Marx, 2020). This gives advantages to both parties: on one way, it can reduce customer choice complexity and customers' search cost; on the other, it can increase company competitive advantage, optimize the management of inventory and avoid out-of-stock situations (Sarker, 2021). In addition, the so-called *Emotion AI,* (or sentiment analysis) is able to identify emotions through the analysis of a text (Birjali et al., 2021). Thus, it can immediately recognize and show the attitude and satisfaction of a customer toward a product through its written review.

AI predicting abilities find a spot in Healthcare and Agriculture sectors as well. In Healthcare, "It can help to solve diagnostic and prognostic problems in a variety

of medical domains, such as disease prediction, medical knowledge extraction, detecting regularities in data, patient management, etc." and so make clever clinical decisions (Sarker, 2021). In Agriculture, it can make predictions on weather, crop yield, soil properties and irrigation requirements (Sarker, 2021).

Moreover, AI and ML are even revolutionizing the HR field. It is estimated that 79% of large companies are equipped with AI applications for HR Management (Stone et al., 2024). Recruitment supported by AI has become a process much more proactive: instead of publishing jobs online or in newspapers, it is now possible to find candidates with skills and knowledge that best suit the position through the AI scanning of internal and external databases and websites (Stone et al., 2024). Furthermore, Assessment process can be supported by AI technology which, with a video-interview, asks the candidate a short number of questions, acting as a human recruiter substitute (Hunkenschroer & Luetge, 2022). Subsequently, it is not only able to evaluate candidate's answers as they are, but also detect, exploiting audio and facial recognition software, other peculiarities on specific personality characteristics and competences that comes from the tone of voice and from micro facial movement (Tambe et al., 2019). Thus, recognize if the candidate is anxious or excited for example.

Nevertheless, what fascinates most, is AI as support for training of employees, since it has a profound link with the topic of this thesis. AI-enabled training systems can personalize a training path for each employee on the base of specific goals and past performance and adapt it to the employee's present knowledge. Furthermore, they are able to identify the gap between employee's current competences and the ones that the job requires (Stone et al., 2024). Personalization is becoming more needed day after day: employees have to develop new skills continuously to keep abreast of the fast pace of innovations and disruption (Maity, 2019). Consequently, Ai-enabled job simulations are remarkable as well. They can simulate a large number of very complex real-life scenarios tailored on company

previous experience. In this way, they can change the way employees learn and behave in daily work situations and help them increase their skills and interpersonal interactions (Stone et al., 2024). For instance, it is possible to generate interactive client profiles based on demographics (sex, age etc), so that trainees can learn how to deal with customers and improve their communications skills (Stone et al., 2024). Learning processes can be managed by robotic trainers: they can simulate human behavior and distinguish sounds and images (Arora & Mittal, 2024). However, what still remains a big challenge for these applications, in order to increase their efficiency, is the ability to understand if training created benefits, so if employee competencies and performance have actually improved after it (Maity, 2019).

2.3.2 Digital transformation and the importance of leadership prone to change

The main challenge for companies is not actually building the previously mentioned technologies, but incorporating them in their products and services (S. Ghosh et al., 2022), and so embrace the so-called Digital Transformation in their businesses. According to Verhoef (2021), Digital transformation is "a change in how a firm employs digital technologies, to develop a new digital business model that helps to create an appropriate more value for the firm". Tabrizi et. al. (2019) states that 70% of all the digital transformation attempts do not reach their goals. There are firms that do not see the potential of digital transformation and others that even if they see it, fail or struggle to adopt adequate changes to their organization structure, routines, know-how and competences (Ellström et al., 2022). Such struggle can be attributed to the fact that digital transformations have multidisciplinary nature, meaning they can impact more functions of the firm. Therefore, they require to develop new ways of doing marketing, supply chains, strategy, organization, information technology etc. (Verhoef et al., 2021). Moreover, failure is often related to the fact that leaders do not raise an appropriate level of awareness for managers or do not let them know how to act (Fitzgerald et

al., 2014). Considering AI as a specific case, even if many managers are aware that AI is a key driver in organizations' performance, they don't know how to implement it to reach the level of performance they would like to target (Holmström, 2022). Issues like this call leaders for moving corporate culture toward a more digital mindset where innovative approaches and open communications of managers and employees are encouraged (Oludapo et al., 2024). For reaching success, leaders must be the foremost for embracing the change, in order to foster workers in doing the same. Oludapo et al. (2024) suggest that they also need to be equipped with an adequate skill set, both hard and soft, including technical expertise, organizational agility and emotional intelligence. Finally, the employee perspective is crucial as well. Holmstörm (2022) argues that it is necessary for employees to adapt to other ways of working together and learn from one another, for the purpose of being more reactive and quick to change.

Individuals' competences and skills for digital transformation can be expanded to every other type of transformation, and as it is the central topic of this thesis, it will be discussed more adequately in the next dedicated section.

3. Transformative competences and related concepts: scientific literature review

The following literature review aims to provide an overview of the current state of knowledge regarding the competencies and factors that individuals need to:

> A. develop their personal skillset
>
> B. trigger transformation in the whole organization

Furthermore, this study examines the manner in which these two elements influence and interact with one another. The term 'transformative competences' is rarely employed in scientific papers, and the few definitions that are available appear incomplete or unclear. Consequently, the objective of this literature review is to construct, extend and enhance the concept, encompassing other definitions such as 'transformative skills', 'meta-capabilities', 'readiness to change' and 'individual dynamic capabilities'.

3.1 Competences and meta-competences leading to renewal of individual skillset

The following section focuses on the individual competences that enable people to develop and grow as they learn. The aim is to start with a general analysis of what is meant by competences, skills and capabilities, as they are sometimes misunderstood and used in the wrong contexts in the literature.

It thus follows that, since not all competences are pertinent to the objective of the study, the scope will be restricted to those that are transformative, with a definition of what is meant by "transformative" provided.

3.1.1 The general concept of "competence"

Starting from a generic point of view*, Competence (competences* or *competencies* as plural) is a term that has been confused and misunderstood during the years. Since it has been framed by several authors in so many different ways, it is very complicated to find a unique construct acceptable for all (Brauer, 2021; Baartman & De Bruijn, 2011). Even if models diverge from country to country, there is a sort of convergence toward one common quality: holism (Le Deist & Winterton, 2005). Hence, competence is an aggregation of multiple elements. Therefore, Turner (2022) proposes a definition that is agreed similarly by many other papers, in which:

"Competences are the combination of knowledge - the retention and utilization of information, skills - the ability to demonstrate a sequence of behavior towards a goal - and attitudes and behaviors - the social manifestations of how a manager undertakes a role – that an individual may possess".

In contrast to a common misconception, the term is not synonymous with the concept of 'skill'. Skills are defined as task-oriented abilities that are precise and can often be assessed independently, regardless the context in which they are applied (Touloumakos, A. K. 2020). In other words, they are represented as the practical application of knowledge (Touloumakos, A. K. 2020). Therefore, they only constitute a component of competence, that, conversely, focuses not only on the ability to perform a task but also on the adaptability and contextual application of these skills within specific environments or roles (Touloumakos, A. K. 2020).

Moreover, competence is a construct that encompasses a far greater range of abilities. In fact, models like the Behavioural Approach, adopted by US Tradition, underline in its definition the relevance of individual characteristics, such as personal traits, motives, values and self-concepts (Spencer and Spencer, 1993). Competences as quality of individual effectiveness is shared also by other authors.

Mäkinen & Annala (2010) state that competence is defined as the potential that comes from the wholeness of a human being.

Furthermore, competences are also different from the construct of Capabilities. Capabilities are defined as "The ability to achieve a desired effect under specified standards and conditions through combinations of ways and means to perform a set of activities" (Tell, 2014). This statement indicates that the construct in question is more expansive than competencies, extending beyond the individual level. It is constrained by the presence of resources and conditions. As will be discussed subsequently, this construct is more closely aligned with organisational contexts, given its focus on the combination of resources. Thus, it can be seen as the aggregation of the individual competences of each employee of a company (Salvato & Vassolo 2018).

3.1.2 The concept of "transformative"

According to the Merriam-Webster dictionary, transformative means "causing or able to cause an important and lasting change…" (Xu et al., 2023); therefore, it is related to something revolutionary, that drastically impacts the way of thinking and doing. In this case, "transformative" comes from the construct of "Transformative Innovation", that, according to Gosh et al. (2021), is a new way of doing innovation that extends beyond improving competitiveness and business performance. Many studies discovered the existence of a mismatch between the actions which traditional innovation yields and the ones needed to address environmental and social sustainability; Transformative innovation is crucial precisely because it can solve this mismatch (B. Ghosh et al., 2021). According to that, it can be considered as a significative tool to target the previously mentioned Grand Challenges. Moreover, Bright et al. (2013) describes Transformative Innovation as a "manifestation of generativity that emerges when organizations explore the intersection of business and society", so when they formulate strategies that jointly perceive the interests of multiple stakeholders. Different benefits can

be gained by incorporating social, environmental and ethical initiatives in their strategic activities such as a complete revolution of assumptions, values and behaviors that lead an organization (Bright et al., 2013). Nevertheless, to be impactful, such shift require employees themselves to be ready and able to rapidly adapt. In fact, Sen (2014) empathize how, in terms of business transformations, individual potential is as crucial as organizational potential. Similarly to Bright et al. (2013), it states that Transformative Innovation must involve "communities beyond the research community", thus, the vision of radical change must be embraced by a vast range of stakeholders (Sen, 2014). Therefore, it is noteworthy that, in contrast to the approach proposed by Bright et al., this study puts forth a more comprehensive definition that extends beyond the domain of sustainability: Transformative Innovation, is a radical change made by tangible ideas. Thanks to that, it is possible to broad the construct to many other types of business transformation. This argument matters a lot, because universality is one of the grounding points of the concept of competences that is intended to be developed. To stress even more the gravity of the mindset shift needed to successfully implement such innovation, Zambrano-Gutiérrez & Puppim De Oliveira (2022) propose a comparison between its definition and the one of incremental innovation. Incremental innovation are "Upgrades in current technologies and practices that are consistent with prevailing sociotechnical regimes"; conversely, transformative innovation are "fundamental changes in current technologies and the ways things are done which tilt toward shifting to new sociotechnical regimes" (Zambrano-Gutiérrez & Puppim De Oliveira, 2022).

3.1.3. Similar concepts that regard the evolution of competences

In order to progress from the generic definition of competence to the concept of transformative competence, it is necessary to identify a specific characteristic that encapsulates the essential quality that distinguishes these two forms of competence. This characteristic can be summarized as dynamism. It is notable that

the concept of competence in general is relatively static, as it does not consider the fact that a skillset can evolve over time. The first concept that best cover this gap is the one of Meta-competences, that are defined by Le Deist & Winterton (2005) as:

"cognitive competence (knowledge), social competence (attitudes), functional competence (skills) and, as a plus, meta competence, described as the ability to acquire the other substantive competences".

Hence, Meta-competences are "high order skills and abilities" that expand above competences, and focus on irrationality and and impredictability of human beings behaviours (Brown & McCartney, 1995). They allow individuals to evolve and accelerate their set of knowledge, skills and attitudes (Le Deist & Winterton, 2005)**,** and so transform themselves alongside the business transformations of nowaday that were previously mentioned. They are related to learn, adapt, anticipate and create (Brown & McCartney, 1995) and they incorporate different intelligences like academic, emotional, analytical, creative and personal (Harden, J.R. Crosby, M.H. Davis, M., 1999). Reis et al. (2021) describe them as generic, meaning that are they are quite the same for every job position; thus, there is evidence that it is possible to create a standard framework that can be applied to every sector. Moreover, they state that meta-competence development can improve individuals' perspetive on their personal growth, which also means being able to understand when it is time to change.

Several categorization has been done across the years. Regehr et. al (2012)**,** for istance, identify them as flexibility, critical thinking, ability to take risks, respect and empathy, quick thinking and commitment to social justice. On the other hand, Reis et al. (2021) propose a more concrete and complete framework, made of four meta-competences oriented to leadership activities, called Entrepreneurial Meta-competences:

Table 1. Entrepreneurial Meta-competences framework (Reis et al. 2021).

Meta-competence	Definition
Personal and behavioral meta-competence (PBMC)	"the ability to adopt appropriate behaviors during the creation of the new venture, including self-confidence, control of emotions, listening, objectivity, sensitivity to peers, conformity to professional norms and so forth."
Functional meta-competence (FMC)	"the ability to perform different business-related tasks to effectively produce context-related outcomes in order to be successful in the creation and deployment of the new venture."
Knowledge and cognitive meta-competence (KCMC)	"mastering appropriate businessrelated knowledge and the ability to apply this knowledge in practice, including theoretical and technical knowledge of the business field, tacit knowledge about the new venture, procedural knowledge of finance, project management and contextual knowledge about the environment in which the new venture will be created."
Values and ethical meta-competence (VEMC)	"the possession of appropriate professional values and the ability to make sound judgments, for example, the adherence to laws, social/moral sensitivity and confidentiality."

This framework can be used as guideline, since represents many convergences with models developed by other authors like the previosly mentioned Le Deist & Winterton (2005); Cheetham and Chivers (1996); Uhlenbrook and Jong (2012);

Kotzab et al. (2018); Cha and Maytorena-Sanchez (2019); and Yazdani and Yadollahi (2019); Reis et al. (2021).

Nevertheless, the analysis is not yet complete. The definition of entrepreneurial meta-competencies is noteworthy for its comprehensive approach, which encompasses not only economic considerations but also ethical aspects. This implies that entrepreneurs must consider their profits while also demonstrating sensitivity to the safeguarding of the environment and society. However, this construct is primarily oriented towards leadership and managerial roles, which may result in the neglect of other substantive roles that can also be drivers of transformations.

Another piece of literature that regards the personal development is the one concerning the responses of employees to change. The latter, is also pivotal for the realization of organizational transformations (Heim & Sardar-Drenda, 2021). In particular, organisational change is only possible if all employees demonstrate the requisite readiness to change and adaptive abilities (Pan and Sun, 2018). The term readiness to change is defined as "the extent to which an individual believes that a change at the individual level is needed and whether he or she has the capacity for it" (Armenakis et al. 1993; Holt and Vardaman, 2013). The concept of readiness to change has been studied initially at the group and organisational levels. However, for the purposes of this thesis, it is of interest to examine individual readiness, which has been analysed by only a limited number of authors (Heim & Sardar-Drenda, 2021). It is regarded as an attitudinal construct that engages the individual on a psychological and behavioural level (Heim & Sardar-Drenda, 2021). Consequently, it is not a competence in the conventional sense. According to Weiner (2009), change readiness is when people are willing and able to change. Willingness is an attribute related to the emotional sphere and indicates that individuals will only change when it is meaningful to them (Heim & Sardar-Drenda, 2021). Conversely, the capacity for change can be defined as the assurance

that an employee possesses regarding their ability to facilitate a transformation (Heim & Sardar-Drenda, 2021).

Therefore, individual readiness is also associated with two additional concepts, collectively termed positive attitudes towards change.

Firstly, commitment to change as defined by Herold et al. (2008), is a mindset that motivates individuals to take action to implement change and, thus, transform themselves. It is also correlated to leadership figures. Hence, it is a mechanism that can begins when those that are seen as leaders adopt changing behaviors that inspire followers to change (Herold et al. 2008).

Secondly, openness to change denotes a willingness to embrace novel concepts. Individuals who exhibit high levels of openness tend to possess a proclivity for flexibility, creativity, curiosity, and artistic sensitivity (Choi, 2011) As postulated by Digman (1990), the capacity to exhibit cognitive and behavioral flexibility in novel circumstances represents a "key factor in personal structure." Consequently, it can be inferred that this trait is, at least in part, an innate characteristic.

Nevertheless, the concepts of openness to change and commitment to change are more commonly attributed to organisational change. Consequently, literature considering these concepts in the context of individual evolution, irrespective of company transformations, is limited.

3.1.4 Reskilling and Upskilling

The following section is intended to be dedicated to the concept of reskilling and upskilling, that are not specific individual competences, but can be considered as means used to foster skillset evolutions.

As previously stated, the advent of automation, artificial intelligence (AI), and digital tools has resulted in significant changes to traditional roles (Bodea et al., 2024). In order to remain relevant in this rapidly evolving environment, individuals are compelled to engage in ongoing learning and skill development. It is imperative

that individuals engage in processes of reskilling and upskilling, particularly in response to the aforementioned shifts, in order to adapt their skill sets to align with the new demands of the modern workplace. This ensures personal growth, adaptability, and resilience in dynamic environments (Bodea et al., 2024).

The incorporation of AI into routine workflows has underscored the necessity for competencies that extend beyond rudimentary technical proficiency. As posited by Bodea et al. (2024), AI-based systems not only automate tasks but also redefine the very nature of professional knowledge, thereby necessitating the development of both technical and adaptive skills amongst individuals. This transition reflects an evolution in individual capabilities, whereby the focus shifts from operational tasks to higher-level cognitive processes such as problem-solving and strategic decision-making. This evolution enables individuals to not only collaborate effectively with AI but also to retain agency and insight in increasingly automated settings (Bodea et al., 2024).

Furthermore, education plays a pivotal role in facilitating individual competency evolution, particularly as institutions adapt to the demands of Industry 4.0. AlMalki & Durugbo, 2023 contend that education programmes must provide individuals with the fundamental knowledge necessary for navigating a digitised world, encompassing digital literacy, data analysis and an understanding of new technologies. The integration of these skills at an early stage ensures that individuals are better prepared to engage in continuous upskilling throughout their careers. As individuals progress into professional roles, this foundational knowledge serves as the foundation for further specialisation and adaptation, enabling them to respond proactively to shifts in job expectations (AlMalki & Durugbo, 2023).

The COVID-19 pandemic has further underscored the importance of adaptability as a personal competency. The shift to remote and hybrid work arrangements required individuals to quickly adapt to new technologies and virtual collaboration

platforms. Bamel et al. (2022), emphasise how this transition hastened the acquisition of digital proficiency and prompted individuals to cultivate competencies in digital communication and time management. This underscores the necessity of competency evolution and the fact that it is frequently shaped by situational factors. This rapid readjustment shows a proactive reskilling approach, thereby building widespread capacity to deal with unanticipated changes with much increased confidence and capability (Bamel et al., 2022).

Beyond technical skills, the evolution of individual competencies also includes a focus on "human-centric" skills, as described by (Takács et al., 2021). These are more general competencies like critical thinking, creativity, emotional intelligence, and resilience that will be truly valued in a world where so many routine tasks are automated. The authors underscored that these uniquely human skills make the difference between a person and a machine; they can offer insight, empathy, and innovative thinking within digital frameworks (Takács et al., 2021). This shift in the focus of competencies not only builds on the strengths one innately possesses but also applies to new roles and relevance in a digitally transforming arena that keeps on changing the prospects of employment. Consequently, individuals enhance not only their employability but also develop universally applicable skills to help them navigate various complex challenges in life. (Takács et al., 2021).

The emphasis on continuous, self-directed learning is essential for maintaining these competencies over time. Jamal et al. (2024), discuss how individuals must be agile in their learning approaches, seeking opportunities for skill growth and willingly embracing new responsibilities that reflect shifting market demands. The need to continually evolve competencies can drive individuals to redefine their roles, discover new areas of interest, and remain flexible in an unpredictable job market. By taking ownership of their reskilling and upskilling, individuals proactively position themselves to succeed in evolving roles that require diverse skill sets (Jamal et al., 2024).

Yet, the process of competency evolution in the face of digital transformation is not without challenges. The demands of digitalization can lead to anxieties around job security, privacy concerns, and the ambiguity associated with new roles. Bamel et al. (2022), highlight how individual resilience is key to managing these concerns, as individuals need to balance technical learning with mental adaptability and stress management. This dual focus ensures that individuals do not only build the skills needed to perform tasks but also develop the resilience to thrive amidst technological and social shifts. Ultimately, this approach to personal competency evolution is holistic, supporting both professional and personal growth in the digital age (Bamel et al., 2022).

In conclusion, the evolution of individual competencies is a dynamic, self-directed journey that equips individuals to remain relevant, resilient, and capable in the face of ongoing technological change. Through reskilling and upskilling, individuals cultivate a diverse skill set that spans technical, adaptive, and human-centric skills. This evolution is essential for maintaining not only personal employability but also a sense of purpose and agency in a world where the nature of work continues to transform. By embracing continuous learning, individuals become active participants in their own growth, effectively navigating and shaping their professional futures in a rapidly evolving environment.

3.2 Individual competences that trigger transformation in the whole organization

This section aims to advance the discussion by examining the interplay between an individual's competencies and business transformations. The relationship between the individual and company levels will be elucidated in the subsequent section on dynamic capabilities, which initially emerged as a concept exclusive to the company level. However, some scholars have attempted to disaggregate

company capabilities into individual dynamic capabilities, suggesting that a company's true asset is the collective competence of its members.

3.2.1 Dynamic Capabilities and Individual Dynamic Capabilities

Dynamic Capabilities is a concept that was first defined by Teece (2007) as the "distinct skills, processes, procedures, organizational structures, decision rules, and disciplines" that can enable a company to "sense and shape opportunities and threats, seize opportunities and maintain competitiveness through enhancing, combining, protecting and when necessary, reconfiguring the business enterprise's intangible and tangible assets". According to Ellström et al. (2022), dynamic capabilities are a set of routines that a firm has to follow to adapt to continuous change.

The concept has been developed and adapted to many fields over time, including digital transformations. In their study, Warner & Wäger (2019) proposed a model in which digital sensing, digital seizing, and digital transforming are identified as three macro-categories of dynamic capabilities that are crucial for digital transformation. The concept of digital sensing encompasses attributes related to mindset, as the advent of digital transformation hinges on the inculcation of a robust digitally oriented culture among an organisation's workforce (Warner & Wäger, 2019). Digital seizing, on the other hand, is characterised by flexibility, agility and dynamism, which serve to equip an organisation with the capacity to expeditiously operationalise novel concepts, a quality that is of huge importance in an era of rapid change (Warner & Wäger, 2019). It is imperative to implement changes at the earliest opportunity in order to adapt to the accelerated pace of digital transformation. Lastly, Digital transforming encompasses capabilities related to creativity, which encourages individuals or teams to approach familiar problems, ideas, or situations from a novel and diverse perspective, rather than merely applying the same mindset to different problems (Warner & Wäger, 2019).

Similarly, the same framework has been the subject of study and discussion by other authors, including Ellström et al. (2022) who broadened it by adding other capabilities, and Ghosh et al. (2021) who applied the concept of dynamic capabilities for digital transformation to industrial companies.

Nevertheless, it is imperative to exercise caution when juxtaposing dynamic capabilities definitions and frameworks with transformative competences. The general construct, in fact, cannot be taken into consideration, as it pertains to capabilities that enable changes and transformations at the company level. Consequently, it is a top-down perspective, where capabilities are held by the company and, subsequently, by the workforce, which is regarded as an asset. Therefore, it does not adequately explain the contribution of each individual to the transformation of the company (Salvato & Vassolo, 2018). This is a notable gap, as the vision of transformative competencies is exactly the opposite. It is about abilities and qualities that each individual, each worker, provides to the company in order to support and trigger transformations in the organisation as a whole.

Notwithstanding that, not the whole literature must be discarded. For instance, according to Scuotto et al. (2022), DCs cannot be seen as mere organisational routines, because they create innovation exploiting individual creativity of employees. Creating sustainable economic advantage requires the presence of the so called Individual Dynamic Capabilities (IDC) (Scuotto et al., 2022) concept that is generalized to different types of transformation, not only the digital ones. It is a topic that has been discussed by only a few authors (Buil-Fabregà et al., 2017), but it is actually pretty close to the concept of transformative competences.

Salvato & Vassolo (2018) propose a particularly noteworthy study of dynamic capabilities at the individual level, as it does not prioritise a specific type of transformation, which is a relatively uncommon approach. They stress again the fact that organizational transformations triggered if every single employee has the opportunity to act, thing and feel creatively while working. Individual DCs in this

case are three, they are mainly related to relationships between employees and combined together compose the compay DCs (Salvato & Vassolo, 2018).

The first IDC is Openness to the "influence of emotions on his or her behavior" in regards of opportunities and threats (Salvato & Vassolo, 2018). Being open means perceiving opportunities beyond usual habits, and thus being more prone to innovation and change. Hence, Feeling emotions of frustration or excitement toward threats and opportunities, trigger individuals to seek for alternative ways to act (Salvato & Vassolo, 2018).

The second IDC is Relational Engagement, which can be defined as "cooperative behaviour aimed at promoting change in the context of conflicting viewpoints and motivations." The concept of Relational Engagement comprises four types of interactions between individuals, which can be regarded as a subcategory of competencies. These are candor, which denotes direct and genuine communication; inclusion, which signifies an understanding of others' thoughts and feelings, or empathy; confirmation, which represents the acceptance of others' points of view, even when they are contrary to one's own; and presentness, which is defined as the ability to listen carefully to others and respond appropriately (Salvato & Vassolo, 2018).

Finally, the third IDC is Proactive Dialogue, which arises from the outcome of relational engagement. It concerns the capacity to perceive oneself as part of a collective with other individuals, thereby enabling collective action even in the context of conflict (Salvato & Vassolo, 2018; Berkovich, 2014).

Similarly, IDC has been postulated by Buil-Fabregà et al. (2017), albeit with an exclusive focus on managerial competencies in the context of sustainability at the environmental, social, and human levels. They are regarded as a means of enabling managers and, consequently, companies to combine resources in order to create value collectively and contribute to the realisation of sustainability goals (Buil-Fabregà et al., 2017). It is challenging to establish a clear connection between the IDCs of Salvato & Vassolo (2018) and other categorisations due to the lack of

detailed descriptions and categorisation. Nevertheless, there is a discernible commonality in terms of the IDC's focus on the ability to interact with third parties, proactivity in seeking new information and ability to recognise and value new business opportunities (Buil-Fabregà et al., 2017).

Furthermore, even if they are not defined as IDCs, mention must be made of the Magistretti (2021) study, which has the objective of describing the dynamic capabilities of design thinking that managers should develop in order to foster digital transformation.. The first capability is the Extension of the knowledge base, which entails examining the problem in question not only in the context of the immediate innovation challenge, but also in terms of its interaction with the wider organisational, market, and stakeholder environments (Dunne & Martin, 2006). Consequently, Debating is the second attribute, that is described as the capability to facilitate continuous communications between disparate stakeholders, including clients and consultants, similarly to the relational engagement capability of Salvato & Vassolo (2018). It enables teams to navigate the diverse perspectives inherent to complex problems and to ensure that solutions are based on robust, comprehensive insights (Magistretti, 2021).

Thirdly Cropping is used to describe the ability to sift through vast amounts of information and select the most relevant data for innovation purposes. This ensures that the most valuable information guides the design process and addresses the true needs of the users (Liedtka, 2020; Obal & Lancioni, 2013).

Fourthly, the capability of Interpreting is about anticipate future opportunities and trends in digital technologies. This skill enables the identification of changes and the formulation of strategic decisions that facilitate the development of more innovative solutions (Magistretti, 2021).

Lastly, Recombining is the ability that entails the utilisation of creative thinking to integrate disparate ideas, trends and narratives. This facilitates designers' capacity to conceptualise prospective scenarios and devise pioneering digital solutions. (Magistretti, 2021).

To conclude, IDCs literature proposes notable insights that can be incorporated to the analysis. Magisretti (2021) and Buil-Fabregà et al. (2017) frameworks present the same limitations when attempting to align with the Transformative Competences construct, which has previously been encountered in other papers. These include a restricted scope to competences held by only managerial figures or restricted scope to only a specific type of transformation. Converserly, Salvato & Vassolo (2018) is actually the model that get more close, since it is generic and takes into considerations every employee competence. Nevertheless, It is important to note, however, that this approach also presents a slight limitation. As a multi-level bottom-up approach in which individual capabilities are aggregated to company capabilities (Salvato & Vassolo, 2018), while focusing on individual competencies, it contributes only to the transformation of the entire company and not to personal development.

Lastly, Recombining is the ability that entails the utilisation of creative thinking to integrate disparate ideas, trends and narratives. This facilitates designers' capacity to conceptualise prospective scenarios and devise pioneering digital solutions. (Magistretti, 2021).

3.2.2 Transformative skills

While the term transformative competences has already been used and defined several times by European Union and and other national and international organizations in their reports (Helin, 2021), scientific literature on the topic is still scarce. On average, scientific papers often are rooted to the learing framework of OECD (2018). For instance, Jaswal & Behera (2024) develop their analysis on critical thinking and define it as one of the transformative competences included in OECD definition; Poteralska et al. (2022) exploit it to build their framework of future competences; Kantonen, (2024) includes it in a study aimed to discover which skills set is needed in the regenerative society. Nevertheless, since OECD

framework it has no scientific significance, it will be treated separately as object of grey literature. The closest term, object of this part, that is cited and defined in scientific articles of management and economics fieds is 'Transformative Skills' (TS), but, again, contents are still quite limited.

Weritz (2022) uses the term as part of its qualitative study oriented to define what skills will be critical in the digital workplace and how they can positively contribute to shape the future and create new value. Skills here are defined as "the individual ability to carry out processes" (Weritz, 2022) and are studied under the cathegorization of Martin (2018) that consist of three macro-areas: Cognitive and meta-cognitive skills, described as the ability to elaborate numbers and language, involving logic, creativity and intuition; practical skills, in other words, those abilities that make people capable of implement tools, procedures and functions; Social-Emotional skills, "abilities that create thoughts, feelings, and behaviors that enable inviduals to develop themselves, build relationships and act as a human in society" (Weritz, 2022; Chernyshenko, 2018). The final framework shows that Transformative Skills are labeled as subcathegory Social-Emotional Skills, meaning also that they are more tight to human feelings than to logic and practice. Moreover, Transformative Skills, defined as those abilities that employees need since they are "confronted with a continuosly changing digital environment" (Weritz, 2022), articulates under five dimensions: adaptability, in this case referred to the evolution of the jobplace, for instance, get used to new technologies at work; cognitive flexibility, defined as "the ability to actively change individual perceptions, such as what employees think about"; role ambiguity, the perception of knowing that the role expand beyond only one function; resilience, described as the ability to cope with failures, that nowaday are much more frequent (Weritz, 2022). Lastly, the most remarkable contribution about this study, is the agreement of most of the respondants to the fact that Transformative skills are, among the

others, the most important skills to develop in the contest of digital transformation (Weritz, 2022).

Figure 1. Overview of the coding scheme. Reprinted from *Hey Leaders, It's Time to Train the Workforce: Critical Skills in the Digital Workplace* (p.5), Pauline Weritz, 2022.

Comparing this study with the constructs of competences and metacompetences previously discussed, some similarities and discrepancies can be found. First, Transformative skills of Weritz (2022) are not the equivalent of Transformative Competences, not only because of the name, but also for the set of items they include, that in case of TS is more limited, even if both include similar skills like adaptability and flexibility. Second, more correspondances can be found between the definitions of Social-Emotional skills and Meta-competences, because, for instance, they both underline the importance of abilities that individuals hold as humans. Moreover, Social-emotional skills include personal development skills, that are referred to the commitment and motivation of employees to continuosly learn and challenge themselves (Weritz, 2022). Regrettably, Social-Emotional skills are still incomplete, because they lack of all those competences related to mindset and openess to change, that in Weritz's framework are under the aggregated dimension of Cognitive and Metacognitive skills. Thus, it might be said that Transformative Competences shares characteristics with all the three macroareas but they are not the same thing. Connected to that, the whole framework has still its limitations, since it is focused to digital transformations only.

Transformative skills emerge from papers that treat sustainable transitions also. Wamsler et al. (2020) state that transformative skills are relational qualities that can support the mindset shift toward sustainable transitions. Such change is possible only if individuals "change the way they relate with themselves, others, the environment and/or the future" (Wamsler et al., 2020). TS here are divided in 5 cathegories represented in *Table 1*:

Table 2. Transformative skills framework of Wamsler et al. (2020)

Transformative Skill	Definition
Openness, self-awareness and reflection	"The ability to meet situations, people, others and one's own thoughts and feelings with openness"
Compassion and empathy	"The ability and desire to see and meet oneself, others and the world with care, humility and integrity."
Perspective-seeking and relationality	"The ability to see and bring in more perspectives for a broader, relational understanding of oneself, others and the whole (e.g. related to one's understanding of the state of the planet and how information is processed)."
Agency, empowerment and sense-making:	"The ability to see and understand broader and deeper patterns, and our own role in the world in this regard. This also relates to optimistic/ hopeful emotions and attitudes."
Values-based courage and engagement	"The ability to navigate oneself through the world, based on insights into what is important (intrinsic values), and to have the (moral or ethical) courage to act on them. This relates to principled, action-oriented attitudes."

Anew, there is a connection, even stronger than Weritz's (2022) study, with emotional abilities of individuals. There is much more focus and attention to awareness and empathy, that translates as a stronger correlation of TS with values and attitudes than with skills. It is more a knowing how to behave that knowing what to do. Notwithstanding, this cathegorization also shares similarities with cognitive and metacognitive skills of Weritz' framework (2022), such as the openess, with the only distinction that here is toward sustainabilty transtions and not digital transformations.

Furthermore, Nicklich et al. (2023) also discuss the relevance of TS for sustainability in a case study related to the energy sector. There is not a clear definition, but what it is inferable is that transformative skills are those abilities by means of which "successful conversion of already etablished field structures" happen (Nicklich et al., 2023). They are studied under the construct of Social skills of Fligstein (1999), that define them as "the ability of actors to induce cooperation in other actors in order to produce, contest, or reproduce a given set of rules". According to the study, transformative skills are considered to be the ones held by those people that challenge the traditional energy generations field through their support to new ways of energy generation (Nicklich et al., 2023). Thus, it might be possible to generalize the two statements and say that transformative skills are those social abilities held by those individuals that question the already etabilshed systems by supporting new ones. Furthermore, Nicklich et al. (2023) define in what they consist of: persuasion, considered as the ability to influence other people behaviors, ideas and practices; building coalitions, thus the capacity of bringing together different stakeholders, organizations, or groups around a common goal by finding shared interests, encouraging collaboration, and coordinating their efforts effectively; creating benefits, the skill of developing and sharing clear advantages, whether financial or otherwise, with different stakeholders to gain their support and cooperation.

Comparing the paper just discussed with the other two previously mentioned, it is evident that one characteristic above all stands out: a tight relation with social-emotional matters. In fact, regardless the field, every definition always leads at the same point: that TS are a series of abilities that have as core human qualities. Nevertheless, it is important to underline that, even if it is a common and very crucial attribute, it is not enough to define Transformative Competences. Moreover, in terms of discrepances between Nicklich et al. (2023) article and Wamsler et al. (2020) one, it is deducible that there are different point of views. The first emphasize the relationships that an individual has with others and so how he interacts with them; the second highlights the role of an individual as part of a group and how he perceives the others.

3.3 Summary of the defintions and frameworks discussed

Table 3. Key points of the frameworks of scientific literature discussed.

Framework, author	Definition	List of attributes
Complementarity and Competence- knowledge, Skills, Attitudes, and Behaviours. (Turner, 2022)	Competences are the combination of knowledge - the retention and utilization of information, skills - the ability to demonstrate a sequence of behavior towards a goal - and attitudes and behaviors - the social manifestations of how a manager undertakes a role – that an individual may possess.	Skills, knowledge, behaviour and attitudes.
Meta-competences (Le Deist & Winterton, 2005; Brown & McCartney, 1995).	High order skills and abilities described as the ability to acquire knew knowledge, skills, attitudes and behaviors.	Flexibility, critical thinking, ability to take risks, respect and empathy, quick

		thinking, commitment to social justice.
Entrepreneurial Meta-competences (Reis et al. 2021)	Higher-order capabilities that enable individuals to effectively adapt, integrate, and apply diverse competencies in entrepreneurial settings	Personal and behavioral meta-competence; functional meta-competence; knowledge and cognitive meta-competence; values and ethical meta-competence.
Attitudes toward change (Heim & Sardar-Drenda, 2021)	Ways individual respond to company changes. They can be positive, and so support the change or negative, and so makes change attempts fail.	readiness to change; openness to change; commitment to change.
Change readiness (Heim & Sardar-Drenda, 2021; Weiner 2009; Armenakis et al. 1993; Holt and Vardaman, 2013)	the extent to which an individual believes that a change at the individual level is needed and whether he or she has the capacity for it.	Willingness to change; ability to change.
Dynamic capabilities for digital transformation (Warner & Wäger 2019)	Digital sensing, digital seizing, and digital transforming are identified as three macro-categories of dynamic capabilities that are crucial for digital transformation	Digital mindset, flexibility, agility, dynamysm, creativity.
Dynamic Capabilities at individual level (Salvato & Vassolo, 2018)	Interpersonal abilities that represent the individual contribution of each employee to company transformations.	Openness, relational engagement, proactive dialogue.
Individual Dynamic Capabilities (Buil-Fabregà et al., 2017)	Means of enabling managers and, consequently, companies to combine resources in order to create value collectively and contribute to the realisation of sustainability goals	Ability to interact with third parties, proactivity, ability to recognize and value

		new business opportunities.
Dynamic Capabilities of design thinking (Magistretti, 2021)	Capabilities that enable managers to foster digital transformations.	Extending of the knowledge base; debating (facilitated communication); cropping; interpreting; recombining.
Transformative skills (Weritz, 2022)	Socio-emotional abilities that employees need to develop to cope with a continuosly changing digital environment.	Adaptability skills, spirit of change, cognitive flexibility, role ambiguity, resilience.
Transformative skills (Wamsler et al. 2020)	Relational qualities that can support a minset shift towards sustainable transitions	Openness, self-awareness and reflection; Compassion and empathy; Perspective-seeking and relationality; Agency, empowerment and sense-making; Values-based courage and engagement.
Transformative skills (Nicklich et al., 2023; Fligstein, 1999)	Social skills by means of which successful conversion of already etablished field structures happen	Persuasion, building coalitions, creating benefits.
Dynamic capabilities (Teece, 2017)	Distinct skills, processes, procedures, organizational structures, decision rules, and disciplines that can enable a company to sense and shape opportunities and threats, seize opportunities and maintain competitiveness through enhancing,	Sense, seize and shape opportunities.

combining, protecting and when necessary, reconfiguring the business enterprise's intangible and tangible assets.

4. Transformative Competences according to Grey literature

4.1 The future of education 2030 by OECD

As formerly anticipated, the most known definition that is usually cited by articles is the one provided by the Organization for Economic Co-operation and Development (OECD). It states that Transformative Competences are those abilities needed to change society and shape the future, helping people to handle the fast and profound changes happening today (OECD, 2018). Specifically speaking, TS are composed of three attributes, that represent the arising importance for people to be innovative, responsible and aware: Creating new value, reconciling tensions and dilemmas and taking responsibility (OECD, 2018).

Creating new value is built on the constructs of adaptability, creativity, curiosity, resilience and open-mindedness, crucial skills that make people able to create new products, new jobs, new processes and reach better ways of living (OECD, 2018). It includes also skills like collaboration and coordination, since innovation and the creation of new knowledge comes out when individuals think and work together (OECD, 2018).

Reconciling tension and dilemmas is about being able to handle conflicts which originate from the different interests, perspectives an needs that people have. It concerns balancing trade-offs and recognizing that most of the time there is not a one fits all solution (OECD, 2018).

Lastly, taking responsibility is a requirement of the previous two competences. Basically, it represents the capacity to reflect on the future consequences of their actions and, hence, includes qualities like self-control, self-efficacy, and problem solving (OECD, 2018).

OECD definition is worthly of closer examination, because for certain caracteristics matches the scientific literature just discussed. For instance, there are some attributes shared with Weritz (2022) and Wamsler et al. (2020) such as adaptability, creativity and awareness. Moreover, the framework is fascinating because takes into account a general point of view without focusing on a particular type of transformation. Nevertheless, it also has limits, because even if it is made of generic constructs that can be easily applied to several contexts, it is related to educational studies, and not to business or management ones.

4.2 Transformative Competences according to European Union and other National and International Organizations

The European Union, in collaboration with the United Nations, has proposed the introduction of new competencies with a view of fostering a more sustainable future (Helin, 2021). By way of illustration, Agenda 2030, Target 4.7 is dedicated to education for sustainable development, with the goal of "ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development" (United Nations, 2015). These key competencies are transformative in nature, enabling learners to effect radical change in society for the better (Helin, 2021). It is regrettable that, despite the existence of numerous frameworks for transformative competencies, significant discrepancies remain. Consequently, despite the existence of certain similarities, the conception of a single, international standard may prove to be unfeasible, given the disparate orientations, experiences and perspectives that are characteristic of national organisations (Helin, 2021). Moreover, the term is not exclusive to this context; numerous organisations employ the terms "global" or

"sustainable competences," which constitute a subset of "transformative competences" (Helin, 2021).

In examining international frameworks, UNESCO identifies cognitive, socio-emotional and behaviorual attributes like empathy, critical thinking, communication and collaboration, and conflict resolution as key competencies (UNESCO, 2017).

US Department of Education (2017): "Global and Cultural Competence"	CANADA: Council of Ministers of Education, Canada (CMEC, 2018) "Pan-Canadian System Framework for Global Competencies"	FINLAND, National Education Agency: "As a Global Citizen in Finland" (Jääskeläinen et al., 2011)
• Proficiency in at least two languages • Openness to different cultures and perspectives • Critical and creative thinker able to work in cross-cultural settings to address social, environmental and entrepreneurial challenges • Continue to develop new skills and harness technology to support continued growth	• Critical thinking and problem solving • Innovation, creativity and entrepreneurship • Learning to learn/self-aware & self-directed • Collaboration • Communication • Global citizenship and sustainability	Competency flower (see the picture) where the general aim (corolla of a flower) is the identity of a global citizen. Competences are • global citizen's ethics, intercultural competence, sustainable lifestyle, • global citizen's civic competence, • global responsibility and partnerships, • global citizen's economic competence

Figure 2. Comparison of some national approaches to global citizenship competences. Reprinted from *How to Define and Implement Competences for SDG Target 4.7* (p. 20), Johanna Helin 2021.

Similarly, national approaches also espouse comparable attributes, such as the "Global and Cultural Competence" of US departments of education and the "Pan-Canadian System Framework for Global Competencies" established by the Canadian government. Furthermore, both frameworks place significant emphasis on the importance of innovation and creativity in addressing social, environmental and entrepreneurial challenges (Helin, 2021). It would be possible to cite numerous additional frameworks, such as the "Global competence flower" developed by the Finnish National Education Agency (Jääskeläinen, 2015), that is described in *Figure 2*.

However, their limitation is that they are more closely aligned with ethical considerations than with management. This is because they focus on the skills that

citizens must possess to contribute to a harmonious life in society, rather than on the skills that are required to drive transformations.

Furthermore, the European Commission's "LifeComp" extends the concept even further. Despite the study does not explicitly mention transformative competences, it attempts to identify, categorise and describe those competences which allow people to successfully deal with the numerous transitions occurring in one's professional, personal, and societal spheres (Sala et al., 2020). Competences are classified into three macroareas, according to the domain of expertise: personal, social and, most notably, learning to learn, which can be linked to the concept of meta-competences previously discussed. From these three areas, nine principal key competences are defined: self-regulation, flexibility, wellbeing, empathy, communication, collaboration, growth mindset, critical thinking and managing learning. The majority of these have been previously identified in other frameworks, however, there are three notable differences. Firstly, the scheme is more comprehensive, with each competence being clearly defined and described. Secondly, it is generic, making it more applicable to a wider range of transformations, not only those that are sustainable. Thirdly, there are some attributes that weren't mentioned at all or carefully described in the previous frameworks. For instance, a significable part of the scheme here is dedicated to growth mindset, which encompasses attributes such as openness, curiosity, and determination to learn and thereby expand one's skill set. It also entails recognizing that improvement and accomplishment are always within reach through effort and dedication (Sala et al., 2020). In light of the aforementioned considerations, attention is also devoted to the concept of flexibility, which encompasses the notions of readiness to change, and being able to make transitions in personal life, social participation and in the workplace (Sala et al., 2020).

However, despite its apparent clarity and completeness, the LifeComp construct lacks scientific rigor, as it has yet to undergo empirical testing (Sala et al., 2020).

Communication
Use of relevant communication strategies, domain-specific codes and tools, depending on the context and the content

Empathy
The understanding of another person's emotions, experiences and values, and the provision of appropriate responses

Collaboration
Engagement in group activity and teamwork acknowledging and respecting others

Wellbeing
Pursuit of life satisfaction, care of physical, mental and social health; and adoption of a sustainable lifestyle

Growth Mindset
Belief in one's and others' potential to continuously learn and progress

Flexibility
Ability to manage transitions and uncertainty, and to face challenges

Critical Thinking
Assessment of information and arguments to support reasoned conclusions and develop innovative solutions

Self-regulation
Awareness and management of emotions, thoughts, and behaviour

Managing Learning
The planning, organising, monitoring and reviewing of one's own learning

Figure 3. LifeComp at a glance. Reprinted from *LifeComp, The European Framework for Personal, Social and Learning Key Competence* (p. 9), Sala et al., 2020.

In conclusion, grey literature on the topic primarily associates the term with sustainability and, on occasion, entrepreneurial matters. However, this leaves a gap in the understanding of the competencies required to effectively navigate digital transformation.

Lastly, Recombining is the ability that entails the utilisation of creative thinking to integrate disparate ideas, trends and narratives. This facilitates designers' capacity to conceptualise prospective scenarios and devise pioneering digital solutions. (Magistretti, 2021).

4.3 Summary of the frameworks of grey literature

Table 4. Key points of the frameworks of grey literature discussed.

Framework, author	Definition	List of attributes
Transformative Competences (OECD, 2018)	Competences needed to change society and shape the future, helping people to handle the fast and profound changes happening today.	Creating new value (adaptability, creativity, curiositi, resilience, open-mindedness); reconciling tensions and dilemmas; taking responsibility.
Transformative Competences (Helin, 2021)	Key competencies transformative by nature, which enable learners to effect radical change in society for the better.	
Key competencies (UNESCO, 2017)		Empathy, critical thinking, communication and collaboration, conflict resolutions.
LifeComp (Sala et al., 2020)	competences which allow people to successfully deal with the numerous transitions occurring in one's professional, personal, and societal spheres	Wellbeing, flexibility, self-regulation, empathy, communication, collaboration, growth mindset, critical thinking, managing learning.

5. Theoretical background

In order to gain a comprehensive understanding of the existing literature on the topic and, subsequently, to formulate research questions that are well-informed by this literature, it is essential to undertake a number of preliminary considerations.

5.1 Key insights from scientific and grey literature

Firstly, it is evident that a significant gap exists in the scientific literature on the subject, as the resources available are very limited. Furthermore, there seems to be no consensus on an effective and comprehensive definition of transformative competences. Nevertheless, the topic is relevant and worthy of investigation given that numerous papers have sought to define the abilities, skills and competencies that enable transformations.

Secondly, the literature under consideration, both scientific and otherwise, is too heterogeneous. Each paper presents a distinct categorisation, reflecting the varying perspectives, objectives and authorial standpoints. The heterogeneity is not limited to the types of attributes included, it also extends to changes related transformations. Hence, the skills pertinent to digital transformation are distinct from those associated with sustainable transition, which are further apart from those related to business transformation and leadership.

Thirdly, The scope repeatedly varies: with regard to transformations, only a limited number of frameworks, such as that proposed by Salvato & Vassolo (2018), which focuses on individual DCs, take into consideration competences that are applicable to all types of transformation. Conversely, many other frameworks concentrate on competences that trigger only a single type of transformation, as evidenced by the

papers of Weritz (2022), Wamsler et al. (2020), and Nicklich et al. (2023). As a result, a general all-encompassing standard lacks.

Fourthly, the majority of the frameworks discussed emphasise the individual level, thus focusing on the competencies that individuals possess. Furthermore, despite the variations in attributes across frameworks, there appears to be a common thread among them: the human core. These capabilities pertain to human emotions, irrationality and imprectability (Brown & McCartney, 1995), which might be challenging to replicate by artificial intelligence. However, the existing literature is mostly focused on what triggers transformation at company level, without giving due attention to what fosters transformation in the single employee skill set.

5.2 The research gap and research question

The absence of a comprehensive definition of Transformative Competences, the heterogeneity of their categorizations and the limited scope of most of the aforementioned papers, illustrate that, in previous literature, authors prioritized constructs over concepts. In this regard, Gioia et al., (2013) posit that concepts and constructs are two distinct entities.

Constructs are defined as "abstract theoretical formulations about phenomena of interest" (Edwards & Bagozzi, 2000; Gioia et al., 2013). The elaboration of these constructs is often the focus of the traditional research approach. Their primary objective is to define a list of attributes that can be quantified as variables and thus measured (Edwards & Bagozzi, 2000; Gioia et al., 2013). However, construct development is rooted in what is already known, which restricts the knowledge that can be gained and limits the more relevant work on concept development (Gioia et al., 2013). The literature on Transformative Competences is a result of this. With a few exceptions, the main outcome is a set of chaotic frameworks, each comprising its own categorization, where attributes sparsely match each other.

Conversely, concepts are "a more general, less well-specified notion capturing qualities that describe or explain a phenomenon of theoretical interest" (Gioia et al., 2013). In other words, they act as the basis for forming constructs. As previously stated, the concept of Transformative Competences is either absent or insufficiently developed in the various theoretical frameworks. Consequently, it is necessary to create a new, uniformed, holistic definition of the subject.

According to the previous statements, the research question developed is the following:

RQ: What are the foundations and key characteristics of competences at individual level that evolve fluidly and trigger radical transformations throughout the whole organization? How companies can enhance their impact?

6. Research Methodology

6.1 The Gioia Methodology as research strategy

The methodology that best suits the purpose of generating new literature is the Gioia methodology (Gioia et al., 2013).

The Gioia Methodology (GM) is primarily adopted to generate simplified theoretical models which regard intricate organizational phenomena (Magnani & Gioia, 2023). It is distinguished by a more systematic and rigorous approach to qualitative research (Gioia et al., 2013) compared to other analogous methods, due to its structured process (Magnani & Gioia, 2023). More in dept, it regards the development of a data analysis composed of three steps. Firstly, analytic codes are created and organized in a data structure made of first-order, informant-centered codes. Secondly, second-order, theory-centered themes, are made upon fist-order codes. Thirdly, a grounded theoretical model is created by making aggregate dimensions from second-order themes. Finally, the findings are presented, with the
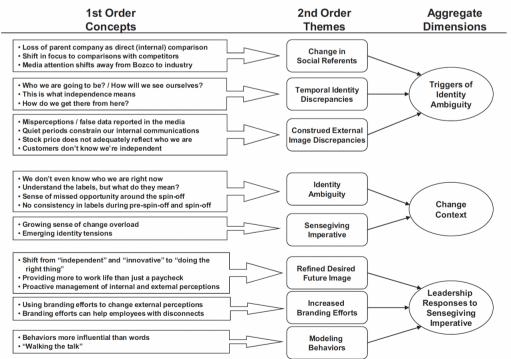

Figure 4. Example of data structure. Reprinted from *Identity Ambiguity and Change in the Wake of a Corporate Spin-Off* (p. 13), *Corley & Gioia (2004)*

explanation strictly connected to first- and second-order data (Magnani & Gioia, 2023).

To have a better comprehension of the method, since it may appear confusing, *Figure 4*, explain a practical example that was provided by Corley & Gioia (2004).

Qualitative rigor is also accomplished by the fact that GM is a construct of Grounded Theory. According to Gioia (2021), Grounded theory is so called because "it is grounded in the informants' experience and their understanding of that experience". More in particular, it involves the fragmentation of data collected by interviews (Saunders et al., 2007) into quotes, that then are organized and aggregated (Gioia, 2021) in the way that was previously explained. The establishment of a definition of TC based on professional experiences provides the opportunity to develop a more concrete and comprehensive concept that is not merely theoretical but can be reflected in practice.

Moreover, under the scheme of research onion, promoted by Saunders et al., (2007), GM falls within the philosophy of interpretivism, in which importance is given to the fact that each individual plays a different role in the social world. Since business situations tends to be articulates and unique, it is crucial to understand each informant point of view (Saunders et al., 2007). This last aspect is useful to build up a broader and holistic definition of Transformative Competences that reflect multiple perspectives.

Furthermore, this approach is designed to achieve three key objectives: to reinforce existing concepts and linkages, to extend the scope of existing knowledge, and to generate new concepts (Magnani & Gioia, 2023). Hence, GM adopts a more an abductive approach than an inductive one, because it combines new data that originates from interviews with existing theory (Magnani & Gioia, 2023). Indeed, this characteristic aligns with the objectives of this thesis, as the existing knowledge base on transformative competencies is insufficient and lacks clarity.

6.2 Sampling process

As previously outlined, the qualitative approach has been selected for this study. The term qualitative is used to describe any study that uses non-numerical data (Saunders et al., 2007). In this case, the data was in the form of interviews. Qualitative studies allow more flexibility, and thus the chance to exercise creativity (Mohd Ishak & Abu Bakar, 2014). Nevertheless, considerable effort has been invested in developing a robust sample that can provide substantiation for the research questions previously discussed and gain significative insights.

Furthermore, the qualitative nature necessitated the use of a non-probability sampling method, as it is unfeasible to select a sample that is statistically random (Saunders et al., 2007). Instead, this set of techniques is based on a selection made according to the author's subjective judgement. (Saunders et al., 2007). Amongst the available non-probability techniques, the one that most suit the way by which the sample was built is the self-selection sampling. The latter consists in publishing through appropriate means the need for participants and then collecting the data from those that manifest interest in taking part to the study (Saunders et al., 2007).

In this particular instance, not all individuals were permitted to engage in the study. In fact, a series of criteria were established for those seeking to participate. Were eligible to take part only professionals with significative experience in the HR field, occupying the role of HR manager, HR director or similar in mainly large, well-established companies. In light of this information, a structured email was sent to a pool of companies taking advantage of the network of ITIR – Institute for Transformative Innovation Research of the University of Pavia. Thanks to that, there has been the chance to build a numerous sample composed of important companies, most of them with particular experience in terms of innovation and organizational transformations.

Accordingly, the objective, which was subsequently partially achieved, was to continue collecting interviews until the sample would have been as diverse as

possible in terms of sector. This was done in order to ensure compliance with the general, less-specific conceptualization promoted by the Gioia methodology. However, it is evident that the absence of the opportunity to select freely has resulted in the persistence of constraints on diversification. Furthermore, diversification has been achieved in terms of gender, with approximately half of the participants being male and the other half female.

Moreover, in terms of company dimension, the sample is composed of both small, medium and large companies, according to the definition provided by the European Union (2003). However, the majority of them are concentrated in the large size category.

Table 5 shows an overview of the sample composed of 12 respondents, one for each company. In accordance with the decision to maintain the interviews anonymous, a code has been assigned to each of them to distinguish and classify them.

Table 5. Composition of the sample

#	Code respondent	Role	Company sector	Company dimension
1	MAR	HR Manager	Manufacturing	Large
2	COC	Head of AI & Talent Acquisition Technologies	IT / digital	Large
3	CHI	Global HR Director	Transports	Large
4	FAB	Director, group people & organization	Real estate / financial	Large

5	MAG	Head of HR & General Services	Consultancy	Large
6	SIS	Head of Change Management & Work Transformation	Bank / insurance Servicec	Large
7	RUG	HR Director	Consultancy	Large
8	SCA	Innovation & Sales Director	Recruiting	Large
9	FAR	Chief People Officer	Agritech	Medium
10	BOD	Global HR Leader	VC	Small
11	ALB	Head of People and Organization for Global Staff	Energy / Utilities	Very large
12	BIN	Chief Human Resources Officer	Consultancy	Large

6.3 Data collection

The mail for participating to the study was sent in April 2024, containing in anticipation a detailed description of the research and the questions that would have been asked.

Subsequently, individual interviews were scheduled and conducted between May and June 2024 by the author of the thesis. They were conducted virtually through an official Zoom room at the University of Pavia. Notes were taken during the interview and, to ensure that no information was overlooked, the interviews were

recorded using Zoom tools and then automatically transcribed using AI programs. Lastly, transcription was revised double checking with the record that no errors or missing parts occurred. As for the interview, it was conducted in Italian, the mother tongue of each of the interviewees, so that they could express their thoughts easily and deeply without any barriers. *Table 6* shows an overview of the interviews.

Furthermore, it was opted for semi-structured interviews, meaning that they were not identical for each participant. There were four core themes and questions that had to be covered each time, but the order in which they were asked could vary depending on the flow of the conversation. In some cases, additional, short sub-questions were added when respondents elaborated on a theme to a greater extent than was typical.

The five interview questions recall the gap discussed in the literature review and seek to create new concepts grounded on respondents' experience. They are summarized in *Table 7*.

Table 6. Overview of the interviews

#	Code respondent	Date of the interview	Duration (minutes)
1	MAR	17/05/24	25
2	COC	17/05/24	22
3	CHI	17/05/24	20
4	FAB	20/05/24	20
5	MAG	23/05/24	18
6	SIS	30/05/24	21
7	RUG	30/05/24	23
8	SCA	30/05/24	25
9	FAR	06/06/24	21
10	BOD	06/06/24	20
11	BIN	07/06/24	32
12	ALB	07/06/24	33

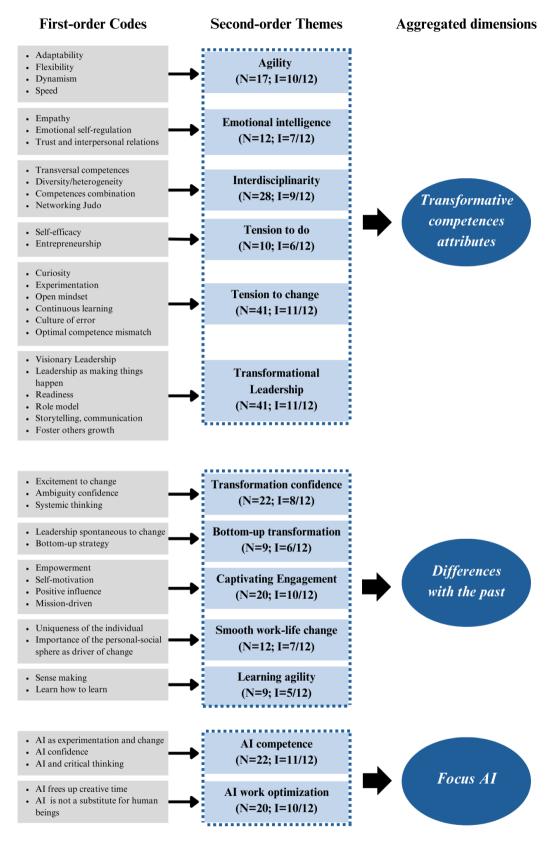**Table 7.** Overview of the interview questions.

Interview question	Concept	Bibliography reference
IQ1: In your opinion, what are the main attitudes/skills today that support the individual in continuously renewing his/her knowledge and skills? (E.g. to improve oneself at work, to cope with an entirely new role, in changing company and adapting quickly to the new context, etc.) *IQ1.1: Is there anything different in this compared to the past?*	Transformative competences attributes; individual competences that foster personal skillset evolution; Differences with the past.	Turner, 2022; Le Deist & Winterton, 2005; Brown & McCartney, 1995; Reis et al. 2021; Heim & Sardar-Drenda, 2021; Weiner 2009; Armenakis et al. 1993; Holt and Vardaman, 2013.
IQ2: What are the traits and skills of those pivot people (not necessarily managers) who 'trigger' relevant transformations in the entire organization?	Transformative competences attributes; Individual competences that trigger transformations in the whole company.	Salvato & Vassolo, 2018; Buil-Fabregà et al., 2017; Magistretti, 2021; Weritz, 2022; Wamsler et al. 2020; Nicklich et al., 2023; Fligstein, 1999.
IQ3: How can the leaders of contemporary enterprises drive these dynamics of continuous, even radical, change? How can they stimulate in their collaborators' skills and energy for change?	Individual competences for personal skillset evolution; individual competences that foster personal skillset evolution;	Reis et al. 2021; Oludapo et al 2024.
IQ4: In this framework, how can artificial intelligence and new technologies support change in people and organizations? (in terms of deep transformation)	Focus AI	Ellström et al., 2022; Sarker, 2021; Arora & Mittal, 2024; Holmström, 2022; Birjali et al., 2021; Stone et al., 2024

| IQ5: Can you tell us a practical experience/anecdote relating to the circumstances mentioned in the previous questions? | Transformative competences attributes; individual competences that foster personal skillset evolution; Differences with the past; focus AI | |

6.4 Data analysis

The revised transcriptions of the interviews were analyzed in detail, one by one. For each of them, the whole text was fragmented into single quotes, trying to discard as few sentences as possible. This is one of the main features of Gioia's methodology, already discussed, which aims to analyze in detail every single statement made by the interviewee and to select as many of them as possible. In this case, 279 single quotes were collected.

The quotes are then selected and grouped into first-level concepts, which can be seen as a few key words that summarize and express the concept of the quote. To save time and to test new ways of working, this part of the analysis was partly supported by Chat GPT. This initial aggregation resulted in 47 first-level concepts. Subsequently, Second-level themes were generated by selecting and aggregating the first-level concepts. 14 themes were found. Firstly Agility, Emotional Intelligence, Interdisciplinarity, Tension to do, Tension to change and Transformational leadership that were subsequently aggregated in the dimension of Transformative competences attributes. Secondly, Transformation confidence, Bottom-up Transformation, Captivating Engagement, Smooth Work-life Balance and learning agility that were aggregated in the dimension of Differences with the past. Lastly, AI competence and AI work optimization were aggregated in the dimension of Focus AI. *Figure 5* represent the full picture of the data structure, where each voice will be discussed in detail in the chapter related to findings.

First-order Codes

- Adaptability
- Flexibility
- Dynamism
- Speed

- Empathy
- Emotional self-regulation
- Trust and interpersonal relations

- Transversal competences
- Diversity/heterogeneity
- Competences combination
- Networking Judo

- Self-efficacy
- Entrepreneurship

- Curiosity
- Experimentation
- Open mindset
- Continuous learning
- Culture of error
- Optimal competence mismatch

- Visionary Leadership
- Leadership as making things happen
- Readiness
- Role model
- Storytelling, communication
- Foster others growth

- Excitement to change
- Ambiguity confidence
- Systemic thinking

- Leadership spontaneous to change
- Bottom-up strategy

- Empowerment
- Self-motivation
- Positive influence
- Mission-driven

- Uniqueness of the individual
- Importance of the personal-social sphere as driver of change

- Sense making
- Learn how to learn

- AI as experimentation and change
- AI confidence
- AI and critical thinking

- AI frees up creative time
- AI is not a substitute for human beings

Second-order Themes

Agility
(N=17; I=10/12)

Emotional intelligence
(N=12; I=7/12)

Interdisciplinarity
(N=28; I=9/12)

Tension to do
(N=10; I=6/12)

Tension to change
(N=41; I=11/12)

Transformational Leadership
(N=41; I=11/12)

Transformation confidence
(N=22; I=8/12)

Bottom-up transformation
(N=9; I=6/12)

Captivating Engagement
(N=20; I=10/12)

Smooth work-life change
(N=12; I=7/12)

Learning agility
(N=9; I=5/12)

AI competence
(N=22; I=11/12)

AI work optimization
(N=20; I=10/12)

Aggregated dimensions

Transformative competences attributes

Differences with the past

Focus AI

N= Number of occurrences; I= Number of interviews where the topic has been mentioned.

Figure 5. Dedicated data structure of Transformative Competences

6.5 Reliability and Validity of the study

The assessment of reliability and validity are necessary to make sure that the research is credible to third parties (Saunders et al., 2007).

Reliability is defined by Saunders et al. (2007) as the extent to which the way data was collected and analyzed will lead to consistent findings. A qualitative study like this is reliable if other researches, by conducting a similar analysis, would arrive to similar conclusions (Saunders et al., 2007). Accordingly, by being usually characterized by limits in standardization, qualitative studies may cause threats in terms of reliability (Saunders et al., 2007). Choosing the Gioia methodology could be a way to minimize this type of limits, because follows a more systematic and structured process than other inductive methods, as discussed in the previous section.

Reliability can also be affected by the presence of bias. Firstly, there can be interviewer bias, which means that the way the interviewer speaks, the tone of voice they use, and any other non-verbal communication can alter the way the respondent responds to the questions asked (Saunders et al., 2007). In this particular study, this bias was partially mitigated by two means: the interviews were conducted online, and this limits the perception of non-verbal communication; the questions were sent prior to the interview, giving the respondent the opportunity to read them without any influence. Secondly, there may be interviewer bias. Respondents may omit information that they do not want to divulge, thus providing only a partial picture of the situation (Saunders et al., 2007). One reason may be that they do not want to reflect badly on the organization in which they work. These issues have been addressed by anonymity: neither the name of the interviewee nor that of the organization they work for has been revealed. In addition, in order to further respect their freedom of expression, they were asked several times to give their consent to the recording of the video call and to the inclusion of certain statements in the research, even if anonymous. Lastly, another aspect that could be considered, is the use of an institutional Zoom

room for every interview.

On the other hand, validity, in terms of qualitative research, is represented by the ability of the research study to accurately describe a phenomenon (Eriksson and Kovalainen, 2016)**.** According to Saunders et al. (2007), high degree of validity is reachable in semi-structured interviews if questions are carefully posed in a clear manner and answers are explored from different point of views (Saunders et al., 2007). In this particular case, in order to achieve this purpose, respondents were given the opportunity to familiarize themselves with the text of the interview before taking part, so that they could reflect on it more. In addition, each interview always began with an introduction consisting of a clear and detailed explanation of the research and how the interview would unfold. The interviewees were then explicitly asked if they had any doubts or questions before the interview.

7. Findings

The responses obtained from the interviews resulted in the generation of a data structure that extended far beyond the initial expectations of a straightforward categorization of competencies. A substantial amount of space was dedicated to examining the distinctions between the present and the past. These differences were considered from two perspectives: firstly, in terms of skills, and secondly, in terms of ways of thinking. This entailed identifying which skills have gained prominence in comparison to the past and analyzing the shifts in mindset that are required. Lastly, a considerable part was dedicated also to the role of AI, where notable and not common insights emerged. Despite this, most of the responses were grouped under the initial aggregated dimension.

7.1 Transformative competences attributes

The followed aggregated dimension is the most important one, because it synthesizes the two main concepts of the thesis: what are those individual competences that trigger transformation on individual and on company level. What has been found is that most of the respondents stated that the competences that stimulate an individual evolution stimulate automatically a change in the whole company. Because of that, it was opted for a single categorization, that contains attributes that triggers both types of change.

Agility, Emotional intelligence, Interdisciplinarity, Tension to do, tension to change and Transformational Leadership, will be further and deeper explained.

7.1.1 Agility

Agility is the first component that 10 respondents considered important for employees to be equipped with. It is a result of four sub-competences that are adaptability, flexibility, dynamism and speed of change.

Flexibility, both cognitive and personal, is foundational and, according to BOD, it allows people to "bend and move in another direction" as they confront new challenges. It requires an open mindset and a willingness to let go of rigid plans, embracing the need to pivot when circumstances call for it. As CHI highlighted, "You have to be a bit agile because the paths are no longer straight but are a continuous disrupt, change, adapt." Thus, cognitive flexibility has become essential in today's workplaces characterized by unavoidable uncertainty. SIS further stated "I need to have the flexibility not to fall in love with that scenery and to be able to reposition myself in a new one".

Strictly related to flexibility is adaptability, the competence to continuously adjust one's skills, mindset, and approach to align with shifting organizational goals and labor market demands. In fact, MAR noted "Even more you start doing one job and within a short time you find yourself doing another". Adaptability is not simply a reaction to change; it's an aware commitment to learning. Adaptability as transformative competence has the role to help employees stay relevant amidst rapid advancements and changing contexts. In this way, adaptability turns flexibility into action, enabling individuals to transition smoothly between roles or tasks as needed. This quality has become particularly valuable in organizations that have learned to success over crises, with FAB noting, "The companies that have reacted well to crises…are those that have had the ability to adapt."

Furthermore, Dynamism agility by fostering a proactive engagement with change. To be dynamic is to be ready to respond to disruption at a moment's notice. Dynamism goes beyond responding to immediate needs; it's about cultivating a mindset that is actively on the lookout for innovation and opportunities to improve.

key elements of dynamism regard technical skill but also interpersonal acumen and innovation, making agility an actual competence. Dynamism works closely with Speed, the ability to act decisively and efficiently in an accelerated world. In today's climate, the time between crises and the need for change grows shorter, making the ability to make timely decisions a critical asset. As one MAR remarked, "Companies now change at crazy speed," illustrating that in modern businesses, agility is often defined by how quickly individuals and teams can respond to shifting conditions without losing focus.

Together flexibility, adaptability, dynamism, and speed are the backbone of agility in the workplace. These competencies position individuals to navigate an ever-changing landscape with resilience, creativity, and precision to make them truly valued assets for any organization.

7.1.2 Emotional intelligence

The concept of emotional intelligence was referenced on 12 occasions across seven interviews. Despite its continued relevance for all employees, the findings suggest that it is particularly pertinent for individuals occupying leadership roles. This extends beyond traditional managerial or entrepreneurial positions to encompass any individual assuming a guiding role within a team. Emotional intelligence can be seen as the ability to recognize, understand, and manage one's own emotions as well as those of others and, thus, it is vital for connecting, supporting and collaborating in an effective manner. It is composed of three main components: empathy, emotional self-regulation and trust and interpersonal relations.

Empathy enables individuals to connect deeply with their colleagues by understanding others' perspectives and emotions. Empathy is listening actively; it involves actively engaging with and valuing others' thoughts and feelings. As COC noted, "For a leader, listening is important,". Listening attentively enhances relationships, helping people respond in ways that resonate with the needs and

emotions of their colleagues. COC further highlighted the importance of empathy by saying, "I believe that a person should place others at the center," emphasizing that empathy means prioritizing the perspectives and experiences of those around us. In this way, empathy becomes a bridge that connects team members, fostering a culture of mutual respect and understanding, where people feel seen and valued.

Complementing empathy is emotional self-regulation—the ability to manage one's emotional responses constructively. In the workplace, individuals who can control their emotions contribute to a stable and calm environment, even during periods of stress or change. Emotional self-regulation allows employees to approach challenging situations with a balanced and composed mindset, benefiting both their own well-being and the overall team dynamic. MAG pointed to the importance of this competence by saying, "There is a need to develop emotional intelligence…these are all skills that will characterize the jobs of the future." This underscores the role that managing emotions plays in ensuring a healthy, balanced workplace. RUG added, "One must have the ability to make the right choices," suggesting that emotional self-regulation not only aids personal composure but also supports sound decision-making. This competence enables individuals, especially leaders, to respond thoughtfully rather than reactively, and make them able to act in a supportive manner that makes others feel comfortable sharing ideas and concerns. Moreover, individuals feel comfortable of expressing freely their thoughts and confident of their abilities if trust is given to them. Leaders must be able to delegate and encourage, making the other members of the team feel involved and safe. The consequence of giving trust is the ability to build interpersonal relations. As MAR stated, "complementing another colleague, delegating, giving trust, committing oneself to complete a work built together, trying to put one's own skills at the service of the team, being able to also use the skills of a colleague". The latter reflect the universal importance of nurturing authentic connections beyond formal roles, in order to work effectively and reach success together, sharing each other set of competences.

7.1.3 Interdisciplinarity

interdisciplinarity has become a vital competence, as underlined in 28 occurrences by 9 respondents. It emphasizes the blending of diverse skill sets, backgrounds, and perspectives. By drawing on a variety of competencies and encouraging collaboration across fields, interdisciplinarity fosters innovation and adaptability. This approach values not just technical abilities but also interpersonal skills and varied experiences, resulting in well-rounded teams equipped to address challenges from multiple angles.

The combination of different competences constitutes the essence of interdisciplinary work, enabling individuals and teams to draw upon a diverse range of expertise to address complex issues in a more effective manner. As FAR has previously observed, "openness and curiosity are essential, curiosity in many areas." Consequently, interdisciplinary work facilitates the investigation of diverse domains. The combination of competencies facilitates an expansion of the capabilities of employees beyond the scope of their specific roles, enabling them to draw upon a diverse range of knowledge and skills. FAR additionally observed a shift from compartmentalized, specialized roles to integrated and flexible responsibilities, noting that teams can leverage diverse skill sets to approach challenges holistically. In other words, the distinction between roles is becoming increasingly blurred. This shift towards integration also affects the composition of teams. Indeed, COC highlighted the increasing prevalence of individuals from disparate cultural, social, and academic backgrounds in the business context. Therefore, another crucial competence is to embrace diversity and heterogeneity, which entails being aware and understanding other perspectives from a social and cultural standpoint. Such diversity enables individuals to view problems from multiple positions, thereby enriching the problem-solving process, enhancing creativity and facilitating the development of more innovative and inclusive solutions. In the context of a company, this translates into the capacity to meet the needs of a broader and global market by understanding client viewpoints. To

summarize, while combination of different competences regards the blend of skills to meet the new integration roles, diversity and inclusion is the blend of perspectives, that meet the cultural and social integration of teams.

Part of interdisciplinarity is related to Transversal/Soft Skills that play an important role in terms of effective communication, teamwork and need for change. They are the core of collaborative environments and are linked to personal traits. They are more significant than technical/hard skills, as COC noted "technical skills can be always learned. Soft skills might be learned but they are the ones that makes you progress". MAR also added "soft skills are the ones linked to the satisfaction of personal expectations and needs; thus, they are the ones that trigger that mechanism that make you perceive the fact that you need to keep learning". Furthermore, MAR emphasized the importance of "team working and collaboration across disciplines". Transversal skills help bridge gaps between disciplines, ensuring that insights from different areas can be understood and applied collectively. In other words, they can support individuals in approaching a new job or simply new tasks.

Finally, Networking judo is the last element that complements interdisciplinarity, focusing on the skill of navigating and leveraging professional networks effectively. Networking judo involves a strategic approach to forming connections, where individuals create valuable networks that can support collaboration an learning across disciplines. As BOD stated, "If you want to learn and success in a specific field, you have to meet and talk to many people that are specialized in it". Furthermore, SCA emphasized the importance of being in "roles where there is a strong integration of diverse functions," suggesting that those with strong networking skills are better equipped to bridge different areas of the organization, facilitating the flow of knowledge and resources. Networking judo is the mean to reach interdisciplinary teams, allowing them to access and integrate external expertise as needed, fostering a continuous exchange of ideas and fostering collaboration beyond traditional departmental boundaries.

In conclusion, the competence of interdisciplinarity in the workplace entails the combination of a diverse range of competencies, complemented by a proficiency in soft skills, and a commitment of diversity, and an effective network of connections. Individuals who adopt such competence are able to make a contribution that extends beyond their primary role, combining a range of experiences and perspectives. This integration of skills and insights not only drives innovation but also fosters a culture of collaboration and intellectual curiosity, where continuous learning, adaptability, and the ability to connect across domains are embedded in the organizational structure. Interdisciplinarity enables organizations to become more resilient and responsive, making it an invaluable asset in today's rapidly changing business environment.

7.1.4 Tension to do

In modern workplaces, the dimension of "Tension to Do" reflects a proactive drive to make meaningful contributions and take responsibility for outcomes. This driver appeared in 10 occasions along 6 interviews, is characterized by two primary qualities: self-efficacy and entrepreneurship. Self-efficacy enables individuals to believe in their own abilities and feel empowered to take on challenges, while entrepreneurship fosters a spirit of initiative and ownership. Together, these qualities encourage a culture of action, responsibility, and innovation.

Firstly, Self-efficacy enables individuals to believe in their own abilities and feel empowered to take on challenges. MAR expressed this concept by describing self-efficacy as "the ability to see themselves from the outside and be able to value how much they are effective", suggesting that individuals who possess self-efficacy can objectively assess their capabilities and potential. This self-awareness becomes a motivating force, encouraging individuals to seek for continuous improvement. MAR further noted, "Self-efficacy is a stimulus for change," highlighting that a strong sense of self-efficacy drives individuals to pursue growth and adapt in

evolving environments. The importance of self-efficacy extends also beyond the individual sphere and thus can affects his or her engagement within the organization. As MAR explained, self-efficacy allows individuals to "maintain high levels of curiosity, motivation, and the ability to adapt" underlining that self-efficacious employees are not only more engaged but also more resilient. In other words, self-efficacy is the spark that can switch-on other competences. By fostering a sense of confidence and capability, self-efficacy empowers individuals to take initiative and contribute proactively to their roles, which in turn benefits the broader organization.

Secondly, Entrepreneurship, the second component of "Tension to Do," complements self-efficacy by encouraging employees to take ownership of their work and approach tasks with an entrepreneurial mindset. This does not necessarily mean starting a new business; rather, it reflects a proactive attitude and a willingness to bring change in the organization. As SCA mentioned: "What is needed is the ability to be a small entrepreneur within a business context, thus being able to have a vision of one's own work that is also somewhat detached from the directives or guidelines that are given. Reasoning as if we were the entrepreneurs, we also manage to overcome certain limits that are sometimes given by a job title and definitely bring transformation". This also connects to the competence of skill combination previously discussed. Moreover, ALB emphasized the importance of autonomy in fostering entrepreneurship, stating, "Autonomy in work is important," which allows individuals to feel a sense of ownership and responsibility. When employees are autonomous to make decisions, they are more likely to innovate and seek out opportunities for improvement.

Entrepreneurial employees do not wait for instructions; instead, they act with initiative and resourcefulness. ALB's perspective underscores that an entrepreneurial mindset thrives in environments where individuals feel trusted and supported to take independent action.

7.1.5 Tension to change

One of the most important dimensions that was found in 41 occasions along 11 interviews, is the Tension to Change. It embodies an individual's proactive attitude toward transformation and an eagerness to explore new possibilities. It reflects a mindset that not only accepts but actively seeks change as a pathway to growth and innovation. This dimension is about fostering a readiness to shift perspectives, take risks, and evolve in response to emerging challenges and opportunities. By cultivating curiosity, openness, and a willingness to learn from both successes and setbacks, "Tension to Change" encourages employees to view change not as disruption, but as a continuous, enriching journey that strengthens resilience and adaptability within the organization

At the heart of this dimension lies Curiosity, an essential quality that drives individuals to seek knowledge, ask questions, and explore the unknown. BOD captured this idea by saying "curiosity is the almost obsessive desire to go after the world. because for me the pleasure of discovering something new outweighs a hundred thousand times the pleasure of reviewing what I already know." underscoring that curiosity fuels the drive to go beyond familiar boundaries. BOD also added: "Curiosity is an essential engine, if people are not driven by it, repetitive task would become unbearable", illustrating how an individual's curiosity can facilitate the acceptance of a challenging role, thereby enhancing their overall job satisfaction. Hence, when employees approach their work with curiosity, they become more engaged and proactive in finding new solutions, creating a foundation for both personal and organizational growth. In addition, MAR agreed that "the most incisive employees in terms of transformation

Closely linked to curiosity is Experimentation, which emphasizes the importance of trying new approaches and testing different solutions. Experimentation allows individuals to leverage on their curiosity and make discoveries that might not be apparent through traditional methods. ALB observed that "People who stimulate

change are those who are willing to question the status quo," pointing to experimentation as a catalyst for innovation. This willingness to explore unknown territory encourages employees to step outside their comfort zones and approach challenges from fresh perspectives, enabling them to develop adaptive strategies in response to evolving organizational needs.

Furthermore, Openness complements curiosity and experimentation, representing the willingness to embrace change. BIN noted "People who stimulate change are those who adopt, naturally or because they learn it, a growth mindset. Hence, a growth mindset, which means challenging the status quo a bit, stepping out of the comfort zone, facing transformation in a positive way without undergoing it and thus proactively." highlighting that openness enables employees to engage fully with change, with no regard of hierarchical boundaries. In a workplace characterized by openness, employees feel empowered to contribute ideas freely, creating a collaborative environment where diverse insights are valued and incorporated into decision-making processes. Openness thus fosters diversity and adaptability, competences previously discussed, where change is viewed as an opportunity for growth rather than a threat. Thus, it is highly connected with the sub-components of diversity and heterogeneity previously discussed.

Moreover, an indispensable element of Tension to Change is Continuous Learning. This entails not only the capacity to continually enhance one's abilities and competencies but also a mindset that recognizes the perpetual nature of learning throughout one's lifetime. Therefore, FAR added in this purpose some remarkable insight about the innate nature of this kind of competences: "Transformative Competences are like a muscle, everybody has one. Nevertheless, there are people who through experience, encounters, and everything that they had accomplished in their personal and professional life, have strengthened it more. Hence, these people have these competences more trained. The ones who do not, only have to understand how to train them". It can thus be posited that the human mind is amenable to modification in this regard, and that individuals may cultivate these

abilities through sustained learning and development, even in the absence of an inherent predisposition towards them. In terms of continuous learning, both SCA and MAR agreed that the companies that will be more successful will be those that invest more in the ongoing training of their employees, in other words, in reskilling and upskilling. Lastly, according to BIN, continuous learning is also a crucial trait for leaders, since "Leaders must also be able to adopt new ways of learning and mentoring their workforce, putting learning continuously in the workflow". In this way, in a continuously learning workplace, individuals are encouraged to expand their knowledge and capabilities regularly, which not only enhances their own growth but also strengthens the organization's overall adaptability. By fostering a mindset of continuous improvement, employees are better prepared to handle emerging challenges and leverage new opportunities as they arise.

More in regard to leadership figures, Culture of Error is another critical sub-competence, promoting a healthy perspective on mistakes and setbacks. Embracing a culture of error means perceiving failures not as endpoints but as valuable learning opportunities. As CHI mentioned "in the corporate context, a fundamental thing is not to be afraid of failure. A leader must create a culture that tolerates a little bit of trying to knock on a lot of doors or open a lot of doors". In addition, CHI also highlighted the importance of being able to manage risks and thus know how much it is willing to take considering and accepting that in some occasions success rate can be very low. Furthermore, COC emphasized how negative can be the effect of judgement toward employees by saying "Judging those who have done wrong creates a very negative environment of fear, of terror, which then also paralyses and slows down many innovative processes within organizations". Hence, on the contrary side, the acceptance of errors allows for constructive feedback and learning. When employees feel safe to make and learn from mistakes, they are more likely to experiment and innovate, further enhancing the organization's transformations.

Finally, Optimal Competence Mismatch is a competence more related to leadership and regards placing employees. in roles that slightly exceed their current skills, encouraging growth without overwhelming them. As ALB stated "Some individuals possess more innate competences to some tasks than others. It is therefore essential for leaders to strike a balance between the natural aptitude of their followers and the knowledge and skills they are able to impart". This approach permits employees to develop competencies in a gradual and consistent manner, which can prove beneficial for them. At company level, it translates as the ability to constantly cultivating a workforce capable of meeting future demands.

7.1.6 Transformational Leadership

Transformational leadership is the last second-order theme that emerged from 11 respondents in 41 occasions, which is a sub-set of competences and characteristics that is only specific for leaders. Hence, it represents a style of leadership that goes beyond managing day-to-day operations and focuses on inspiring, motivating, and empowering others to reach their full potential and drive meaningful change. This leadership approach is centered on a few critical attributes, each contributing to a leader's ability to inspire transformation and foster a culture of growth and innovation.

At the core of transformational leadership is Visionary Leadership, a bigger-picture point of view that consist of seeing beyond the present and imagine a compelling future. Leaders with vision bring clarity to their teams, creating a sense of purpose and direction. This concept has been captured by BOD metaphor "a leader must be able to read coffee grounds" which in simple terms means being able to see where others cannot. More in detail, FAR added that is a skill trained by experience: "learn from the contest, read the moment and then understand what is happening in that situation". Moreover, as CHI has indicated, this competency does not merely encompass the ability to foresee the future, but also to anticipate

it by taking the appropriate actions in advance. Hence, such leaders possess a perspective that extends beyond the immediate objectives and are able to establish more encompassing, long-term objectives that direct the collective team in a trajectory of advancement

Moreover, expressing Transformational Leadership means Making Things Happen, which reflects a leader's ability to turn ideas into action. Transformational leaders are distinguished by their drive to implement and achieve results, actively working to bring their vision to life, as stated by MAR: "a leader does not complain because things do not change, he is the one who makes things change". Furthermore, RUG noted "when companies approach transformation, 80%-90% is represented by adoption. Thus, to overcome a resistance to change, individuals must be convicted to implement that change" emphasizing the fact that many times, most of the innovation conducted by companies dissipates, because they fail to materialize it. Lastly, the concept of Making Things Happen is correlated to emotional intelligence, as it requires the ability to engage with employees and persuade them to follow a particular course of action.

Readiness is another essential trait of transformational leaders, representing their preparedness to adapt to unexpected challenges and opportunities. Transformational leaders are equipped with the skills and mindset needed to respond to sudden changes, ensuring that their teams remain resilient and forward focused. This attribute allows leaders to navigate uncertainty effectively, ensuring that their teams feel supported and capable even in challenging environments.

Role Modeling is a powerful aspect of transformational leadership, as these leaders inspire others through their actions and values. Transformational leaders are conscious of the impact of their behavior, understanding that their example sets a standard for the team. As ALB stated "The walk the talk is important. The ways, attitudes and characteristics that are asked to workers must be firstly demonstrated

by leaders". Hence, Transformational leaders are the ones that work together with followers and not above them.

Additionally, Communication, particularly Storytelling, is an essential tool for transformational leaders. Storytelling allows leaders to connect with their teams on an emotional level, making abstract ideas more relatable and memorable. As MAR mentioned, "individuals that moves forward are only those that are able to communicate what they have in mind". MAR also emphasized the importance of effective communication in the context of technical expertise and innovation. Without the ability to convey ideas effectively, individuals may possess impressive technical abilities and innovative ideas but lack the capacity to contribute meaningfully to their field. Communication and storytelling are a means that enable leaders to engage employees, thus foster the previously discussed competences of role modeling and making things happen.

Finally, Fostering Others' Growth is a hallmark of transformational leadership. These leaders are deeply invested in the personal and professional development of their team members, creating an environment where individuals feel supported in their growth journey. This concept is captured by BIN by saying "taking care of people at heart", underlining the interest that leaders must have in regards of their employees. However, these concepts extend to every individual in an organization, regardless of their role. Encouraging the growth of others is also achieved when leaders are able to give feedback, both positive and negative, as ALB found. On the other hand, according to SIS, the growth of employees is also enhanced when managers are able to ask them the right questions.

7.2 Differences with the past

The second aggregate dimension that emerged from the respondents' answers pertains to the differences in terms of individual competencies and working

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scenarios vis-à-vis the past. In particular, which characteristics are currently more crucial and relevant than they were some years ago, and which are the most sought-after in workers when it comes to stimulating change.

Five main differences have been found and regards the competences attributes that were further discussed in the previous section. In order: Transformation confidence, Bottom-up transformation, Captivating Engagement, smooth work-life change, Learning agility.

7.2.1. Transformation confidence

As organizational landscapes evolve, one of the emerging trends is Transformation Confidence—a distinctive attitude not only to adapt but to lead change with a positive and assured outlook. It was found in 22 occasions among 8 respondents. Unlike past models, which often prioritized stability and predictability, transformational confidence favor dynamic settings. It emphasizes the ability to navigate, embrace, and guide change confidently, anchored in a mindset that values growth and systemic awareness. This quality reflects a shift in the competencies required for today's transformations, especially in three distinct areas: excitement to change, confidence in ambiguity, and systemic thinking.

Firstly, Excitement to Change represents a proactive enthusiasm for new possibilities. Rather than viewing change as disruptive or unsettling, individuals with transformational confidence see it as a source of motivation and opportunity. BOD express it by saying "innovator is a person grounded on a huge passion". Furthermore, BIN stated "a growing mindset is needed now more than in the past, that means getting out of the comfort zone, to challenge the transformation in a positive manner and not suffer from it". Nevertheless, even if, despite fear, a general attitude to challenge themselves exists among individuals, for example regarding new technologies, "it is estimated that only 5% of companies are actively re-qualifying their workforce". This difference from traditional attitudes

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demonstrates how a shift toward transformational confidence creates a workforce eager to embrace change rather than resist it.

Secondly, Ambiguity confidence can be defined as the capacity to maintain assurance and composure in uncertain environments. In contrast to individuals who rely on clear, predetermined paths, those with transformational confidence are at ease in ambiguous situations. They demonstrate trust in their capacity to adapt and make well-informed decisions as they progress. CHI captured this sentiment, explaining, "individuals must become comfortable with absence of knowledge; thus, they must get used with the idea to have more questions than answers and more open paths." Such confidence in ambiguity is critical in transformative contexts, where outcomes are not always predictable. In this situation, MAR emphasized the importance of equipping leaders with the capacity to navigate uncertainty. He further proposed: "everyone can cultivate an habit of operating in uncertain contexts". Consequently, even people who are particularly averse to it can learn how to manage it effectively. Furthermore, RUG stated that, in contrast to the past, "the traditional hierarchic structure does not help much; rising ambiguity drives to increasingly structurally fluid situations where it is not clear who decides from the point of view of the organizational chart". To conclude, it marks a departure from the past, where confidence was often linked to certainty and control. In contrast, contemporary transformational confidence entails the acceptance of ambiguity as an intrinsic aspect of growth and advancement

Lastly, Systemic Thinking is defined by BOD as "being able to keep things easy in order to focus only on the essential things. By focusing on what actually matters first, innovation happens on big things". CHI emphasized that, conversely from the past, today's settings is characterized by a "reduction in the ability to concentrate, by having so much information available that takes times to process. If you keep adding something new you risk getting lost, because you miss that process of elaboration that makes you understand what you have learned and how you can apply it". Thus, Systemic thinking is the solution. Unlike past approaches,

which may have focused on localized adjustments, it fosters a comprehensive understanding that supports sustainable, long-term transformations.

In sum, transformational confidence is defined by an eagerness to embrace change, a comfort with ambiguity, and a systemic approach to thinking. By fostering transformational confidence, organizations cultivate a workforce that is not only prepared for change but motivated to lead it, ensuring that transformations are approached with positivity, strategic insight, and resilience.

7.2.2 Bottom-up transformation

It has been found, from six respondents, that In contrast to traditional, top-down approaches from the past, the nowadays scenario is more characterized by Bottom-Up Transformations that emphasizes the empowerment of individuals throughout the organization to initiate and influence change. This approach supports a more dynamic and inclusive transformation process by leveraging the insights, ideas, and enthusiasm of employees at all levels. The two main elements within this approach—leadership spontaneous to change and a bottom-up strategy—highlight a shift toward a more collaborative, flexible model of organizational change.

Leadership Spontaneous to Change involves cultivating leaders at all levels who naturally respond to and advocate for transformation. This concept goes beyond formal titles, recognizing that anyone within an organization can demonstrate leadership by promoting positive change and inspiring others. Furthermore, ALB described this effect, explaining that "The impact of change agents is inversely proportional to their hierarchical position; that is, the less visible they are in organizational charts, the greater their impact. This is because proximity is a key factor: by being in close proximity to other individuals, change agents can influence their behavior without imposing their views. This results in a trickle-down effect, whereby the influence of change agents spreads gradually throughout the organization". These individuals act as catalysts, motivating their peers and

helping to create an environment where change is accepted and pursued from the ground up. By fostering spontaneous leadership, organizations create a culture where transformation is driven by shared commitment rather than imposed directives. In contrast to the traditional model of leadership, where the leader was apical and given, MAR proposed that in the current context, "the leader is the individual who is recognized by followers as the pivotal figure in a specific step of change". In addition, the spontaneous leadership is crucial in such a fast-paced environment, as it facilitates more rapid decision-making, with decisions being made directly at the grassroots level.

Subsequently, Spontaneous leadership can foster Bottom-Up Strategies, which emphasizes the importance of building transformation initiatives from employee input to the top. This strategy seeks to create meaningful change through the insights and experiences of those directly involved in the day-to-day operations. Notwithstanding that it is fundamental for companies, as ALB added, "it still requires time to be applied, since it regards a significant shift in company's culture" By encouraging employees to contribute ideas and engage with organizational goals, a bottom-up strategy enables the organization to respond more effectively to challenges, ensuring that transformation initiatives are relevant, sustainable, and widely supported. Finally, a bottom-up strategy also reduces resistance, as employees are more likely to support changes they have helped to shape and define.

In summary, bottom-up transformation represents a shift towards a more inclusive and responsive approach to organizational change. Through leadership that emerges spontaneously and a strategy that values employee input, organizations can foster a culture where transformation is a collective effort.

7.2.3 Captivating Engagement

The concept of captivating engagement, emerged in 20 occasions from 10 respondents, marks a distinct departure from traditional engagement models, focusing on fostering deeper commitment and purpose among employees. While conventional approaches that rely on external motivators, captivating engagement encourages employees to find meaning and self-motivation in their work. It is somewhat distinct from the bottom-up transformation theme. Both themes address methods for enhancing employee engagement, but the latter emphasizes the role of hierarchical levels, whereas the former adopts a perspective that encompasses the individual employee, irrespective of their role.

This holistic approach revolves around four core elements: empowerment, self-motivation, positive influence, and being mission-driven, each of which cultivates a more connected, inspired workforce.

As noted by FAB "Nowadays, the concept of being involved in a process of change sometimes is neglected, and individuals ends as being only passive viewers". Thus Empowerment plays a crucial role as it allows employees to feel autonomous and capable in their roles and, most of all involved. It must be fostered by leaders as pointed by SIS "It is the company's responsibility to create an environment that encourages participation. This requires establishing a context where all individuals have the opportunity to engage in creative and innovative activities at their own pace and level of maturity. The key is to maintain engagement and provide ongoing stimulation, ensuring that everyone has the chance to contribute". Failing to consider this aspect and assigning employees only basic tasks that fail to engage and stimulate them can result in their desire to leave the company for more fulfilling roles where they feel more involved, as observed by MAR. The concept of Empowerment represents a departure from traditional approaches to decision-making, which often entailed a high degree of centralization, thereby limiting employees' capacity to actively engage with their work. It can be inferred that this

shift is occurring as a result of employees demonstrating a reduced tolerance for the status quo and possessing the ability to choose between multiple options, as opposed to being constrained by the limitations of the past.

In tandem with empowerment, Self-Motivation is a critical aspect of captivating engagement. When employees feel empowered, they are more likely to develop intrinsic motivation, a quality that, according to MAR drives them to stay committed even in the face of challenges, they love their job and can also deal with it in a transformative optics. Self-motivation permits to maintain high levels of curiosity, motivation, and energy in their work. As RUG noted "Nowadays, owning self-motivation distinguish who will actually advance their career and those who will not".

Additionally, Positive Influence is another defining factor in captivating engagement, as it emphasizes the impact of a supportive and optimistic work culture. It is an element that must be held especially by leaders, that can foster empowerment and thus self-motivation. When employees feel positively influenced by their peers and leaders, they are more likely to stay engaged, contribute ideas, and collaborate effectively. This creates a ripple effect, where each motivated individual inspires another, strengthening the overall culture of engagement. It is one of the benefits of spontaneous leadership.

Furthermore, the empowerment and self-motivation of individuals are enhanced when leaders facilitate a mission-driven orientation, thereby fostering a sense of belonging to a shared purpose. RUG highlighted the fact that not all individuals are equally capable of connecting with the mission, emphasizing the significance of aligning individuals with the organization's purpose. When employees feel aligned with a mission, their work becomes more meaningful, providing them with a clear sense of purpose that guides their efforts. This mission-driven approach contrasts with past models focused primarily on productivity and results, instead prioritizing an alignment of personal and organizational values.

7.2.4 Smooth work-life balance change

Smooth Work-Life Change explores the evolving perspective toward balancing personal and professional domains. Such shift represents a fundamental departure from traditional work-life balance. Instead of viewing work and personal life as distinct and competing areas, modern perspectives emphasize an integrated, flexible approach. This transformation is less about specific skills and more about fostering attitudes that support a seamless transition between personal and professional commitments. In contrast to the past, where rigid boundaries were set between work and life, today's workplace culture values adaptability and a holistic understanding of well-being and productivity.

One of the primary changes in this attitude is a recognition of life phases and the fluctuating priorities they bring. MAR expressed this by noting, "There are phases in life where the focus may shift more to family or other personal aspects," illustrating the need for a work environment that respects these shifting priorities. Thus this aspect regards the importance of the personal and social sphere as driver of change. Unlike the rigid expectations of the past, where career progression often demanded constant dedication to work, the modern approach values flexibility, recognizing that employees may need varying degrees of focus on work or personal matters at different times. This adaptability helps create a more supportive and understanding workplace, allowing employees to manage both their professional responsibilities and personal growth effectively.

Additionally, RUG observed that "a strong work ethic is essential, but so is knowing when to prioritize other areas of life," capturing the balance between commitment and self-awareness. This attitude shift highlights that dedication to one's role does not preclude personal fulfillment; rather, the two can coexist in a balanced manner. The past emphasis on an "always-on" mentality has evolved into a more nuanced approach, where employees are encouraged to bring their full selves to work without sacrificing their well-being. This evolution allows

individuals to maintain high productivity and dedication while also fostering long-term satisfaction and mental well-being.

The change in attitude is also reflected in a higher attention to the uniqueness of the individual as human, that extends beyond immediate job tasks. As FAR pointed out, "It's not just about learning something once and moving on; there's a drive to keep developing from multiple perspectives." This view indicates that smooth work-life change is also about embracing personal growth as a continuous journey that isn't confined to the workplace. Employees are encouraged to explore, learn, and adapt in ways that enrich their personal and professional lives, acknowledging that development is an ongoing process influenced by diverse aspects of life. Furthermore, COC summarized this shift, explaining that "nowadays the priority not only regards the general organizational transformation, but also cultural and social changes that depend on personal characteristic of every single individual". This fluidity marks a clear difference from the past, where compartmentalizing work and personal life was the norm. Instead, modern organizations value a mindset where employees can seamlessly integrate personal insights and experiences into their work, bringing fresh perspectives and adaptability to their roles.

In summary, the concept of smooth work-life change reflects a significant attitudinal shift from rigid work-life boundaries to a more flexible, integrated approach. By respecting life phases, encouraging a balanced commitment, supporting continuous personal development, and fostering a holistic mindset, organizations and employees alike are adapting to a world where work and life are interconnected. This change recognizes that a flexible, supportive environment enhances not only individual well-being but also overall productivity and engagement in the workplace.

7.2.5 Learning agility

In the past years, professional growth was frequently contingent upon the acquisition of a discrete set of competencies or expertise that remained pertinent throughout one's career. However, the contemporary workplace necessitates a different approach: learning agility, defined as the capacity to rapidly understand, adapt, and flourish in evolving environments. This novel paradigm revolves around two pivotal attributes: sense-making and the aptitude to learn how to learn. Both of these enable individuals to remain relevant and proactive in the face of constant shifts in requisite skills and knowledge.

Sense-Making involves the ability to interpret complex, evolving information and draw meaningful conclusions that guide decision-making. ALB emphasized this point, by focusing on leaders also, noting, "If you don't give sense, you are not transferring meaning, if you are not able to fix priorities, you are not giving a reason to objectives or give sense to the feedback you provide to others, you will not get anywhere".

The second defining characteristic of learning agility is the Ability to Learn How to Learn. As RUG explained "technical skills last the time of a yoghurt pot now. It used to be said that when you start working, what you have learnt in the first two years of university is no longer needed. Today, what one has taken in the first four years of university is probably no longer needed". As innovations and changes happens in such a fast way, employees must continue learning actively every day. "it is much more meaningful nowadays for individuals to have an attitudes toward new technologies and the awareness of the necessity of self-learning, thus keep integrating their own competences every day." This approach contrasts sharply with past models, where knowledge acquisition was typically guided by formal training programs. Now, the ability to learn independently is highly valued, as it enables employees to stay proactive in an environment where formal training may not keep pace with emerging requirements.

Hence, learning agility reflects a fundamental shift in how employees approach development, aligning with a future where change is constant, and learning is limitless.

7.3 Focus AI

The final aggregated dimension offers some noteworthy insights regarding the role of AI in facilitating competence evolution, as elucidated by the fourth question of the interview:

IQ4: *In this framework, how can artificial intelligence and new technologies support change in people and organizations? (in terms of deep transformation)*

Generally speaking, the most common viewpoint that has been shared by most of the respondents is that AI works as assistant, thus, it still cannot substitute the transformative competences previously discussed.

Two principal themes have been identified, namely AI competence and AI work optimization, which will be subjected to further analysis.

7.3.1 AI competence

As AI becomes more integrated into business processes, developing competencies around it is essential for fostering meaningful change. The shift toward AI competence requires employees to not only understand the technology but also engage with it in ways that promote adaptability and strategic insight. As BIN highlighted: "On the one hand we have digital and technological skills for which we say nobody is excluded. Technological literacy must reach everyone nowadays, because in any case generative AI will impact all workflows, all work processes".

Three primary aspects—AI as experimentation and change, AI confidence, and AI critical thinking—represent how AI can serve the development of competences.

AI as Experimentation and Change, sees an emphasizes the role of AI as a tool for testing new approaches and fostering a culture of continuous improvement. CHI highlighted this aspect, noting that "AI can be used to test rapidly something. It is possible to test even the craziest idea". With AI enabling quick iterations and experimentation, employees are encouraged to explore new solutions without fear of setbacks. Furthermore, COC added "it can support the development of hard and soft skills, in particular, it can be used to build customized growth and training paths". The latter can thus be more efficient than standardized training programs, as it focuses more on personal characteristics, thereby maximizing individual learning by leveraging specific strengths and weaknesses. Therefore, MAG proposed a notable insight on how learning how to use AI tools is itself developing competences that trigger transformations "Artificial intelligence is a proving ground for transformative competences. It is arguably the most significant transformation currently facing the world of work. The way we approach AI is a key indicator of our ability to leverage these competences". On the other hand, FAB another similar perspective "the use of AI and machine learning applied to training purposes may not necessarily lead to develop transformative competences, but it can certainly lead to ask people to change the way they work".

In addition to fostering experimentation and change, AI Confidence is another aspect that emerged, that demands employees to be able to relate to AI in the correct may. It regards the theme of prompts, that has been clearly explained by FAR "You can ask whatever you want to AI, it can give you all the answers you want. Nevertheless, what is important, is understanding which questions you are able to ask, why you are asking and, thus, for what purpose it is needed". SIS subsequently added "It is not so much artificial intelligence that will replace people, but rather those who are not equipped with the necessary skills to utilize it effectively. In order to harness the potential of AI, it is essential to possess the

ability to formulate the appropriate inquiries". Hence, AI is a threat, but it is evidenced that will not "steal the job" to everyone. Thus, digital literacy, that include being able to prompt the right inquiries is fundamental for employees to keep up with new job places.

Lastly, emphasis was given also to the topic of AI in terms of critical thinking. It Employees should use AI thoughtfully and strategically rather than relying on it uncritically. As AI becomes a powerful tool in data analysis and decision-making, there is a growing need for employees, especially the youngest generations, to question and interpret AI outputs intelligently. RUG captured this concept saying "I believe that artificial intelligence is a phenomenal tool for those who were born into a non-digital culture. for those who have had the ability to develop critical and deliberate thinking, they now have a digital tool that they can use and master. Those, on the other hand, who passively use artificial intelligence because it is so convenient, risk not developing critical thinking. If, however, one lacks the ability and critical thinking to use the tool, one is somewhat dominated by the tool. That is the great risk". Thus, as FAR added: "in absence critical thinking, AI can lead to wrong directions. For these reasons, nowadays, it cannot be used to cure every single aspect".

7.3.2 AI work optimization

The use of AI in the workplace has evolved to focus on optimization, helping to streamline routine tasks and create more space for innovative thinking. This approach marks a departure from traditional productivity tools, as AI allows employees to shift their focus from repetitive tasks to activities that require creativity and critical thinking. In this context, AI is not intended to replace human effort but rather to augment it, making the work environment more efficient and enriching.

AI Frees Up Creative Time is a primary benefit of work optimization. BOD posited "The application of artificial intelligence in any area of the business allows for the reallocation of time, as tasks that were previously completed in a single day can now be accomplished in half an hour. This not only streamlines processes but also frees up mental resources for more strategic endeavors. As a result, the individual who previously spent their day on manual tasks now has the opportunity to dedicate more time to innovation. It is essential that both the individual and the company encourage the time that has been freed up by tasks being handled by artificial intelligence to be invested in innovation". By automating these functions, employees can also dedicate their time to creative problem-solving and strategic initiatives, which add greater value to the organization. AI can also help save time in terms of retrieving information, processing data and carrying out verifications that previously took a considerable amount of time. In the field of human resources management, connecting with theme of personalised training paths previously discussed, AI can save a significant amount of time in realizing them. MAR further added "AI can by applied to those boring situations where errors are more common and thus individuals can dedicate to creative tasks, where AI still cannot be deployed" This demonstrates that some characteristics associated with specific competencies still require human expertise.

According to that, it can be stated that AI is Not a Substitute for Human Beings. The latter, underscores that AI should complement rather than replace human work. Several respondents, such as RUG and MAR defined AI as a copilot or "right arm" that can provide assistant and support in multiple tacks, but the input must always stay human. RUG also posited "It is unlikely that artificial intelligence will completely replace human activities, even the simplest ones. For example, a task that may seem trivial, such as asking how everything is OK, requires the ability to understand the meaning of what is being said, namely semantics. Artificial intelligence has nothing semantic, only statistical. To understand tone of

voice, to understand the joke, to understand irony and many other things that the machine cannot do".

In conclusion, AI work optimization is redefining productivity by freeing employees to focus on creative, high-impact tasks and reinforcing the value of human input. Through the efficient management of routine tasks, AI not only enhances operational efficiency but also supports a work environment where human talent and technology work in harmony. This approach highlights a transformative shift from mere task execution to leveraging AI as a strategic partner in achieving meaningful and innovative outcomes.

8. Discussion

8.1 Summary of the main Findings on the first aggregated dimension

In the previous chapters a brand-new Data Structure, made with the systematic approach of the Gioia methodology, was presented. Interviews has been fragmented into quotes, following the grounding theory method, and then categorized in first-order codes, grouped in second-order themes and aggregated in the three main dimensions that were discovered. The latter, it is composed of: Transformative Competences attributes, Differences with the past and Focus AI.

Transformative competences attributes are the most numerous dimensions, that is represented by 149 occurrences. As the name says, it represents a collection of the competences that respondents considered transformative and thus essential for transformations. Furthermore, the latter are six, represented by the second-order themes as named: Agility, Emotional intelligence, Interdisciplinarity, Tension to do, Tension to change and Transformational Leadership. Each of these, are described by specific skills and attituded, also called "sub-competences".

Agility incorporates skills like flexibility and dynamism, allowing individuals to respond immediately to changes and adapt to them.
Moreover, Emotional intelligence represents the emotional side of human beings, and the necessity for employee of attributing significant value to other's perspectives and emotions, for fostering collaboration and seeing a problem from different points of view. It allows individuals to give trust to colleagues and, subsequently to build and manage effectively interpersonal relations, essential when it becomes more and more important while working in a team.
Furthermore, Interdisciplinarity can be defined as the ability of individuals of blending skills sets, perspectives and backgrounds. It includes soft skills, abilities that are related to personal traits, which were found from respondents to be more

important and impactful than technical skills, but sometimes also more difficult to develop. This Meta-competence contains also the ability to learn by leveraging on other people experiential (networking judo) and socio-cultural (diversity/heterogeneity) backgrounds.

In addition, Tension to do is a competence contains mainly attitudes toward a proactive way of acting, that makes individuals believe in their own abilities. It also includes attributes like entrepreneurship, meaning a more autonomous way of thinking and working, regardless the position covered.

Therefore, Tension to change, that is related to the previous is one of the most important meta-competences that summaries a set of skills, attitudes and behaviors oriented to transformations. It regards seeing transformations with openness and curiosity, where learning is a constant and never has a hand. Change is seen without feeling the fear of failure, because errors are perceived as a way of learning.

Lastly, the last theme is transformational leadership, that is more oriented to leaders' competences, but still does not regard the role. Leaders must give the example for other colleagues, working as their equals, and being a driver of others' growth. It regards also ability to see the future in advance and being able to communicate ideas to others in an effective and convincing way.

8.1.1 Unexpected aspects of Transformative Competences Attributes dimension and comparison with the Literature review related

The theory initially identified and discussed in the literature review is comprised of several key distinctions. Firstly, the theory identifies two distinct categories of competences: one that fosters the evolution of the personal skill set and another that triggers transformations within the entire company. Secondly, a distinction was also made with regard to the role played by the individual, with greater emphasis being placed on managerial and leadership roles. Similarly, the interviews were structured in accordance with these distinctions, with questions

posed in a detached manner. However, the analysis of the findings indicated that there is no clear delineation between the concepts of Transformative Competences. In fact, during the collection of interviews most of the time interviewers replied to the same competences for both cases. Thus, there is no discernible boundary separating those that facilitate the evolution of an individual's skillset from those that instigate organizational transformations. Rather, it is a single competence that, when nurtured at the individual level, has the potential to translate and resonate throughout the entire company, becoming a catalyst for organizational change.

With regard to the distinction between leadership and other forms of competence, a dedicated second-order theme has been identified. However, the theory differs in its approach to the concept of leadership. The findings do not consider the hierarchical position of the individual in question, instead focusing on the employee as the primary figure. While these individuals may assume a leadership role, this does not pertain to their position within the organizational structure. In contrast, the theory tends to emphasize this aspect less, with frameworks such as the entrepreneurial meta-competencies proposed by Reis et al. (2021) providing a narrower focus on entrepreneurship.

Furthermore, in contrast to the theoretical framework, the empirical findings do not take into account the specific type of transformations that may occur. Instead, they are structured in a way that allows for their application to any kind of transformation. This achieves the objective of focusing on a more generic concept provided by the Gioia methodology.

In contrast, with regard to similarities, this section of the findings corroborates a robust correlation between the human core of these competencies and the subject matter addressed in numerous academic papers. For example, the Weritz (2022) framework incorporates a substantial component pertaining to social-emotional competencies, while the Wamsler et al. (2020) framework is predicated upon the interconnection between the individual and the social milieu. The capacity to form

coalitions and engage in persuasive discourse is identified as a transformative skill in the Nicklich et al. (2023) paper. Consequently, the findings place considerable emphasis on emotional intelligence and the advantages that individuals can derive from interpersonal relationships and from the perspectives and backgrounds of others, which can facilitate both individual and organizational transformations. Furthermore, the definition of meta-competencies as proposed by Le Deist and Winterton (2005) also exhibits similarities. The Transformative Competences framework, as evidenced in the findings, encompasses attributes such as the capacity for change, which is predicated on a commitment to lifelong learning and, consequently, a continuous evolution of the skillset. Many other similarities can be found more specifically comparing every single attribute, but since every paper has its own structure, doing specific comparison with each of them would be difficult and confusing. Lastly, similarities can be found also with the frameworks of change readiness and the attitudes toward change (Heim & Sardar-Drenda, 2021), that in the findings are summarized in the second-order themes of Tension to do and Tension to change.

8.2 Summary of the main Findings on the second aggregated dimension

The second aggregation, defined as Differences with the past, for certain aspects takes partially into account the competences discussed in the first aggregation, but focus more on shifting attitudes and behaviors.

As previously stated, greater emphasis is placed on the individual and the impact and benefits that they can provide to the organization. In consideration of historical precedent, it is evident that a greater degree of proactivity and enthusiasm for transformation is required. It is incumbent upon the individual to drive change, rather than passively awaiting it. This aspect is encapsulated by the concept of transformational confidence, which encompasses the capacity to operate effectively in uncertain and complex environments, as well as a systemic approach

that prioritizes core elements amidst the vast array of information in the modern era.

Furthermore, the respondent highlighted a distinct approach to initiating change in the present era, as compared to the past. The approach is more bottom-up, with transformations originating from the lower echelons of the organization and cascading upwards. It is therefore crucial to have leadership at every hierarchical level, as transformations can originate from any individual who can inspire others and influencing them to adopt similar behaviors. Consequently, contemporary organizations are placing a greater emphasis on employee engagement, which encompasses fostering a sense of mission, empowerment, intrinsic motivation and confidence in one's ability to succeed. These themes have been developed with the concept of bottom-up transformation and engaging employees.

The significance of the individual is further emphasized in the theme of seamless work-life transition. New generations of employees, and consequently, companies, are more inclined to priorities a healthy work-life balance. Thus, the notion that "working is everything" is gradually losing prominence. Whereas previously, the work and personal lives were largely perceived as competing domains, there is now a growing inclination towards integrating the two in a flexible and seamless manner.

In conclusion, the final theme of this aggregation pertains to the concept of learning agility. A key aspect of this concept is the necessity for a continuous learning mindset. Given the accelerated pace of change in the contemporary context, it is imperative to ensure that knowledge is updated on a daily basis. Consequently, the acquisition of knowledge cannot be confined to pre-defined and limited periods, such as university courses or training programs, nor can it be regarded as a passive process. Instead, learning should be regarded as an ongoing challenge, necessitating the capacity to learn actively from any given situation, whether occurring in a professional setting or beyond.

8.2.1 Unexpected aspects of Differences with the past dimension and comparison with the Literature review related

Initially, it was not anticipated that an entire aggregated dimension would be dedicated to the differences in the past, given that it was treated only as a sub-question of the first theme, which was conducted in the interviews and related to the definition of individual competences. However, the number of occurrences (72) was too substantial to be regarded as a mere secondary theme within the Transformative Competences Attributes dimension. As a result, the connection with scientific papers in the literature is somewhat constrained.

The individual level is a key focus of the dynamic capability at individual level framework (Salvato & Vassolo, 2018), which emphasizes the aggregation of individual contributions and competencies in transforming organizations.

Consequently, the theme of learning agility, and in particular the necessity for employees to be updated and to undergo continuous training, is addressed in the papers on reskilling, such as the study by Jamal et al. (2024), which emphasizes the importance for employees to seek out opportunities for active learning and to adapt to the rapidly changing demands of the job market.

In conclusion, the literature on Grand Challenges, as exemplified by the study of Ferraro et al. (2015), emphasizes the necessity for organizations to undergo frequent transformation in the contemporary era.

8.3 Summary of the main Findings on the third aggregated dimension

The third category, designated "Focus AI," encompasses a range of elements pertaining to the utilization of AI as a means of facilitating competence development and evolution. Additionally, it encompasses respondents' perceptions of this technological tool. Two principal applications were identified.

The initial approach is a direct one, whereby AI can provide direct support to employees. This is achieved by creating a bespoke training path that is tailored to the strengths and weaknesses of each individual, thereby enhancing the learning process. The necessity for caution in the utilization of AI has been frequently emphasized by respondents, as an overreliance on this technology in the absence of the capacity for critical thinking may prove to be misleading.

The second approach is more exploratory and indirect. A substantial proportion of respondents indicated that AI has the potential to facilitate the development of competencies by freeing up time for individuals. The simple, mundane, and repetitive tasks that do not require specific human competencies can be conducted by AI. This allows individuals to dedicate their time to higher-value activities, such as innovating, developing new competencies, or formulating strategies. Additionally, AI can be utilized to analyze a substantial volume of data in a matter of seconds, thereby accelerating verification processes.

A salient point that emerged from the responses was that while AI cannot replace human activity, it can serve as a valuable adjunct or assistant in various tasks.

8.3.1 Unexpected aspects of Focus AI dimension and comparison with the Literature review related

With regard to literature on the subject, a number of papers have already provided detailed insights into the direct support that AI can offer in the workplace. For example, Stone et al. (2024) discuss the customization of training and the use of tailored job simulations, emphasizing the growing importance of such personalization in the modern era. Furthermore, the papers reviewed emphasize the reduction of time that AI can accomplish. In the case of the recruitment process, for example, AI can scan and process a vast amount of CVs in a short period of time, allowing recruiters to focus more on the subsequent stages of the recruitment

process.

Conversely, some discrepancies between findings and existing literature have been identified. The utilization of Emotion AI (Birjali et al., 2021) for the purpose of capturing human emotion, for instance during video interviews, is also mentioned in the literature. This may be achieved through the analysis of vocal tonality and the manner in which a person is speaking. Conversely, the majority of interviewers concurred that AI is incapable of substituting humans in terms of emotion recognition and comprehension. This is due to the fact that AI is a machine made of statistics and is therefore unable to grasp semantics. Furthermore, the existing literature does not emphasize the fact that by relieving individuals of repetitive and uninteresting tasks, they are able to dedicate their time to innovation and learning. In other words, the literature is more focused on the proactive capabilities of AI rather than on the full range of ways in which AI can be exploited. While these two perspectives may appear to be similar, they actually represent two distinct perspectives.

9. Conclusion

9.1 Theoretical and managerial contributions

The present study makes a contribution at both the theoretical and the practical levels.

From a theoretical standpoint, as previously discussed in earlier chapters, the subject is relatively novel, as transformative competencies are not yet a topic of scientific discourse. Nevertheless, a number of papers discuss analogous definitions that continue to address the relationship between individual, personal and organizational transformations. What is currently absent is a clear and common orientation, because each paper has its own. The Transformative Competences framework has been constructed with a focus on general concepts and with a strong emphasis on the individuals, on their abilities and thought processes, irrespective of the means or resources at their disposal. This represents a departure from one of the most frequently discussed topics in this context, namely dynamic capabilities. The individual orientation also permitted the research to diverge from established constructs, diverging from the traditional theoretical approach and avoiding the creation of an additional framework that is partially aligned with existing ones. Instead, maintaining a general attitude in this regard afforded the opportunity to gain further insight not only into the nature of these competences, but also into the factors that drive individuals to undergo change. In this way, attention has been directed towards identifying the changes that have occurred in comparison to the past, thereby facilitating a more effective understanding of how to interact with the workforce in the present.

This latter point constitutes a contribution to management, insofar as it enables all those operating in the field of human resources to gain insight into how to treat workers and how to reward them. This is because the findings revealed a change

in their priorities, particularly the heightened attention they give to a healthy work-life balance. Furthermore, recommendations can be made regarding the structure and management of recruitment processes and training programs, with the potential support of AI. With regard to the attributes of Transformative Competences, the research represents a preliminary step in establishing a standard for the identification of new employees who possess the requisite skill sets to facilitate organizational transformation. It is hoped that this will assist recruiters in their efforts to ascertain which individuals are best suited to contribute to the achievement of organizational goals. One thing is certain, however: there has been a notable shift in focus, moving away from skills and towards attitudes. It appears that owning an open mindset is of greater consequence than the ability to perform practical tasks. Hence, those who are open to new ideas and approaches tend to have greater potential for learning and growth.

In conclusion, the most significant finding of this research is the one related to the relationship between the individual and artificial intelligence. It is accurate to conclude that AI will replace certain tasks, but this will be advantageous for workers, as they will be able to dedicate that time to more valuable activities. Those who fail to adapt to new ways of working supported by AI and other technologies will be the only ones to suffer. However, the human core will remain the priority, as they are able to be unpredictable and to feel and manage emotions, which will ensure they remain one step ahead of machines.

9.2 Limitations and suggestions for future research

The sole limitation of this study is also its principal strength, namely the general approach. Given the novelty of the subject matter, the primary objective was to establish a comprehensive baseline with the intention of developing a unified approach that could be adapted to existing frameworks. An initial categorization of transformative competences has been established; however, insufficient space

was allocated to a comprehensive explication of each identified competence. Furthermore, given the nascent state of the topic, it was not feasible to provide a comprehensive definition. Furthermore, only a brief mention is made of the AI aspect, which is merely alluded to. Finally, there is a lack of clarity regarding the most effective methods for training these competencies, if indeed they can be trained at all. There was a lack of consensus among respondents regarding the innateness of these competences, particularly given that the majority pertain to personal traits and attitudes. Lastly, with regard to training, a section was included in the interviews, but it was not sufficient to create a dedicated aggregated dimension, namely that pertaining to trigger factors. Some drivers have been referenced in the second dimension with regard to employee engagement, but this is a theme that could undoubtedly be explored in greater depth.

Therefore, further research should initially focus on investigating deeper on transformative competencies that were initially outlined and formulating a comprehensive definition. Validity could be enhanced by analysing examples that are even more closely aligned with practical scenarios, potentially through the development of case studies, to ascertain the actual practical impact of these individual competencies on companies. As no other research has been conducted on this topic, a quantitative study could also contribute to the significance and rigor of the existing literature. Secondly, future research could also examine the potential of AI in this context, particularly investigating the feasibility and efficacy of delegating simple tasks to AI while enabling individuals to dedicate their time to creative activities and learning. In conclusion, as previously emphasized, future research could ascertain the extent to which these competencies can be trained and, most crucially, identify the most effective methods and reasons for doing so.

It can be stated that the general focus of the research provides an opportunity to develop more specific and in-depth constructs on the topic. To conclude, it is possible to say that the general focus of the research gives automatically chance to develop more specific and deepen constructs on it.

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