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School of Industrial and Information Engineering Master of Science in Management Engineering

A Theoretical Model to Assess the Impact of a Digital Interaction between Leader and Peers on Employees' Engagement

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Abstract

The Covid-19 pandemic has accelerated even more the digital transformation of companies by eradicating those work practices now considered obsolete. Remote working, also known as Telework, has given companies the means to cope and confront the current emergency situation. It is no longer mandatory to go to the office; the workplace becomes a hybrid space in which people who work remotely alternate with those who physically go to the office.

What we need to ask ourselves is whether employees and companies are ready for this change. It is true that employees increasingly require greater autonomy and flexibility, but it is also true that their motivation may not always be the same. It is often thought that digital media improve communication and that, with our smartphones, we can always be connected, but it is not certain if the quality of communications and information is better between employees far from office. Working from home, in situations where employees do not have the right conditions, could increase stress and reduce performance. Companies do not always have the opportunity to provide the right means to the worker, such as support both from a technical point of view of materials and from an assistance and training point of view. Furthermore, leaders may not be favorable to Telework, and this would create additional barriers in the transition to remote work.

In light of all these aspects, this thesis aims to fill those gaps in the academic and scientific fields regarding the effects of telework on employee engagement. In particular, we believe that the right use of digital media in the interactions between employees and leaders can ensure, even from a distance, employee feeling supported from the company and from their supervisors. In this way, digitalization could positively moderate interactions between employees.

Sommario

La pandemia di **Covid-19** non ha fatto altro che accelerare la trasformazione digitale delle imprese sradicando quelle pratiche di lavoro ormai ritenute obsolete. Il lavoro da remoto, detto anche Telework, ha dato i mezzi alle aziende per far fronte e combattere la situazione di emergenza attuale. Non è più obbligatorio andare in ufficio; il *workplace*, infatti, diventa un ibrido, in cui si alternano persone che lavorano da remoto e persone che si recano di presenza.

Quello che bisogna domandarsi è se i dipendenti e le aziende siano pronte per questo cambiamento. È vero che i dipendenti richiedono sempre di più maggiore autonomia e flessibilità ma è anche vero che la loro motivazione potrebbe non essere sempre la stessa. Si pensa spesso che i mezzi digitali aumentino la comunicazione e che, con i nostri smartphone, riusciamo ad essere sempre connessi, ma non è certo che la qualità delle comunicazioni e delle informazioni migliori tra dipendenti lontani dall'ufficio. Il lavoro da casa, in situazioni in cui i lavoratori non hanno le giuste condizioni, potrebbe aumentare lo stress e ridurre le performance. Le aziende non sempre hanno la possibilità di fornire i giusti mezzi al lavoratore, ovvero quel sostegno sia da un punto di vista tecnico di materiali sia da un punto di vista di assistenza e training. Inoltre, i leader potrebbero non essere a favore di questo cambiamento e ciò non farebbe altro che creare ulteriori barriere nel passaggio verso il lavoro da remoto.

Alla luce di tutto ciò, questa tesi si pone come obiettivo quello di colmare alcune lacune in ambito didattico e scientifico riguardo gli effetti del telework sull' *engagement* del lavoratore. In particolare, crediamo che un giusto utilizzo di mezzi digitali nelle interazioni tra dipendenti e leader, possa fare in modo che il dipendente senta, anche a distanza, il supporto da parte dell'azienda e del proprio capo. In questo modo la digitalizzazione potrebbe positivamente moderare le interazioni tra dipendenti.

Executive summary

Covid-19 pandemic has been transforming in a rapid way habits and behaviours of individuals' daily life. Organizations in every industry have started facing a period of deep crises, which push them to react by adopting an innovative management style. Many of them faced several difficulties due to the forced Smart Working practice and the global lockdown. Employees worked distant from the office, using their own media and personal space. The change in performing their usual tasks far from the workplace caused many challenges in respecting the requirements and deadlines, and in obtaining a right communication and interaction with their colleagues. This situation has consequences on the psychological conditions of employees and studies are not acknowledge which are the effects on employees yet.

This is the context in which our research started. On the one side there are the rapid changes that organizations have incurred, they must continue their business adopting digital media. On the other side, the motivation and psychological condition of employees, are under pressure from the emergency. This may have strong implication on their level of engagement.

For this reason, the research has started with the aim to answer the following question:

"How does the new digital context affects employee engagement?"

The digital context is characterized by a rapid increasing of information and communication technologies (ICTs), that are transforming the way companies and individuals operate (Golden et al., 2019).

The spreading adoption of Computer Mediated Communication (CMC) technologies to enable connectiveness between people not only changed the organizational processes but also employee interactions and consequentially employee relationships (Wang et al., 2020).

At the organizational level, companies must find ways to integrate these technologies, exploiting the benefits and developing a new culture which facilitate the transition of workers into remote settings (Golden et al., 2019). This new way of working led to a

decentralized model of working, meaning that is necessary to reconfigure the layout of the offices, abandoning the old-fixed places, towards the creation of new, functional, and shared areas (Collins et al., 2016).

To encompass all the previous concepts it is introduced the concept of **Telework**. It is defined as "*working outside the conventional workplace and communicating with it by way of telecommunications or computer-based technology*" *(Bailey, D.E., Kurland, 2002, p.384).*

Telework does not only mean employees working from home all times. It includes a whole range of different working patterns from visits face-to-face meetings to office environments renovations, removing all the permanent and individual desks (Mann, 2000).

Within the work dynamics, interaction and communication are both at digital and physical level. An innovation introduced by the digital means, it is the possibility to have the phenomenon of *"the death of distance,"* implicating that the distance may no longer be a limiting factor in the ability to communicate and it is quickly becoming irrelevant to the way people interact (Raghuram et al, 2019). In this way, telework have completely changed the dynamics inside and outside the office, bringing both benefits and challenges to organizations (Baruch, 2000).

Benefits	**Challenges**
- Autonomy and Flexibility - Work-life balance - Job satisfaction - Psychological and Physical health - Share information and knowledges - Less Organizational Costs - Lower turnover ratio - Higher productivity - Sustainable environment	- Social isolation - Specific organizational culture to support the change - High investment - Need of availability space at home - The limits of personal space could be crossed

Table 1:Benefits and Challenges of Telework (Own elaboration)

To keep under control the psychological condition of employees in facing the telework, it is introduced the concept of **employee engagement**. Employee engagement in its more recent definition is outlined as: *"An active, work-related positive psychological state operationalized by the intensity and direction of cognitive, emotional, and behavioural energy an employee directs toward positive organizational outcomes" (Shuck, 2017, p.954)*

Employee engagement is a positive state of mind and organizations and research have long investigated its importance in traditional environment, finding important results in achieving high performance thanks to the higher motivation of employees.

Hence, this research tried to understand if the results obtained in the literature are valid in the situation in which employees "become" teleworkers and where the interactions are both face-to-face and mediated by digital media.

What is emerged in our research is the paucity of studies that investigate the teleworkers' engagement. Indeed, there is not a clear comprehension of the effects of Telework on engagement. Few studies found are inconclusive, (Biron, M., & van Veldhoven, M., 2016; Boell, S., Cecez-Kecmanovic, D., & Campbell, J. 2016) and do not provide a clear guideline for managing employee engagement in this context. The results provide contradictory views: on one hand, studies reveal high level of engagement due to higher work-life balance and autonomy (Delanoeijea, Verbruggena, 2020; Gerards, Grip, Baudewijns, 2018; Neufeld, Wan, Fang, 2010), on the other hand, studies show high level of disengagement due to high stress and low motivation (Masuda, Holtschlag, 2017; Fujimoto et al., 2016).

To start answering to the resulting issue, we provided the following model (*Figure 1*), that tries to investigate if the digitalization positively moderates the level of Employee Engagement.
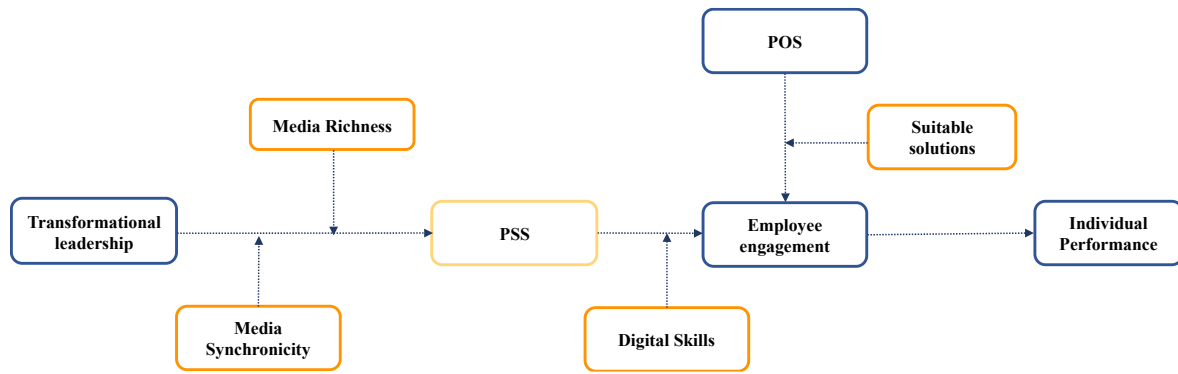
Figure 1:The Theoretical Model

As it is possible to notice from the model, Transformational leadership and Perceived organizational support are taken into consideration as antecedents, namely are those variables associated with the higher level of Employee Engagement. The choice of these variables is due to our interest in understanding the interactions inside the organizations: the one between leader and peers and the support provided by the organization. In particular:

- **Perceived Organizational Support** refers to *a employees' belief that the organization values their contribution and cares about their well-being* (Rhoades and Eisenberger, 2002). During this uncertain period, it is fundamental for employees to feel the support of their organization, employees may gradually exhaust, thus increasing their burnout when job demands (i.e stress and low motivation) are high.

- **Transformational leaders** *are proactive, raise follower awareness for transcendent collective interests, and help followers achieve extraordinary goals.'* (Avolio, Bass, 2003, p.265) The transformational leader inspires and motivates the employees pushing them beyond the limits. These coaching relationships, based on reciprocity trust, promote a warmer and a friendlier climate, reducing the status barriers (Howell and Hall-Merenda, 1999) and increasing the level of individual autonomy.

To justify the connection between the antecedents and employee engagement are introduced the following theoretical frameworks:

Job-Demand Resource (J-DR) model: It analyses the level of job demands (i.e. role conflict, burnout, stressful factors) that affect the psychological conditions of employee and the available resources that he/she has to fulfil these demands (Bakker et al. 2001).

Social Exchange Theory (SET): it explains the correct workplace behaviours that have to be adopted and defines the norm of reciprocity within social relationships (Blau, 1964).

The Leader-Member Exchange theory (LMX): It states that a high-quality relationship between leader and followers may spread feelings of trust, loyalty and support increasing the level of employee engagament (Cropanzano and Mitchell, 2005; Bakker, Demerouti and Euwema, 2005).

Conservation of Resource (CoR) theory: it states that, once established a high-quality relationship, it will be possible to create a positive spiral which facilitate the employee engagement (Hobfoll, 1989) .

Theoretical Framework	Perceived organizational support POS	Transformational leadership TL
Job Demand-Resource Model (JDR)	POS as a job resources, it represents psychological, social, and organizational features that help employees to achieve work goals reducing job demands.	The reciprocity trust and professional respect from transformational leaders make the employee feeling safe reducing stressful factors and possible sources of burnout
Social Exchange Theory (SET)	POS induce into employees a sense of obligation to care about organization's health and success by becoming more engaged, according to the reciprocity norm.	Employees feel an obligation toward the leader due to the received good support.
Leader-Member exchange Theory (LMX)	-	Transformational leaders establish high-quality relationships that enhance job resource and encourage creativity, self-efficacy and optimism, drivers of employee engagement.
Conservation of Resource Theory (CoR)	The perception of POS influences the employee conditions by motivating him to attain their personal work goals.	Autonomy, developmental opportunities, social support from the transformational leaders, will develop new resources easily and induce a gain cycle for employees.

Table 2: POS and TL presented through the Theoretical Frameworks (Own elaboration)

The model exploits the introduction of a mediator to better explain the relationship between employee engagement and transformational leadership:

- **Perceived Supervisor Support:** *it is defined as the employees' general perception about the rate supervisor values the participants and cares for their welfare (Eisenberger et al., 2002).* One of the characteristics, which most reflect Transformational Leadership style, is being supportive by creating a cooperative climate and stimulating new ways of thinking that has the potential to help employees to cope with the sudden changes and reduce the uncertainty of the today's context (Nemanich and Keller, 2007).

The novelty introduced by our study lies in the definition of the moderators. Indeed, these variables try to explain in which way digital media moderate the level of Employee Engagement. To reach synergies using telework, it is fundamental to adopt a system that enable an effective communication between employees (C.X.J. Ou, Davison, 2017). It means setting which digital tools facilitate the interaction and communication in order to favor the coordination of organizational activities. For this reason, the moderators of our model are:

- **Media Richness Theory:** According to the Media Richness hypotheses, the decision of a more appropriate media may positively impact the task outcomes and performance, a limited choice of communication media may reduce the richness thus decreasing the task outcome quality (Daft et al. 1987).
- **Media Synchronicity Theory:** It is useful to understand the right synchronicity level of communication that has to be coherent with the occurred process (Dennis et al., 2008). Media synchronicity theory identifies the right usage of media. In the case of conveyance processes, the choice of media with lower synchronicity should result in better communication performance giving the time to processes new information. In the case of convergence processes, the choice of media with higher synchronicity should result in better communication performance permitting the rapid exchange of feedback.
- **Digital skills:** Digital skills are the repeatable, goal-oriented behavioural tactics and routines that people employ in the service of their motivation and knowledge in the digital context (Spitzberg, 2006).

- **Suitable Solution:** Technological solutions that are suited and proper to the job tasks and responsibilities by enabling interactions and reach the defined objectives.

Finally, it is presented the consequence of having a high level of engagement. According to employee engagement definition, engaged individuals show higher levels of job satisfaction, feel more committed to the organization and experience good health. In the literature is reported that the employee engagement is linked to better organization performances such as in-role and extra-role performance and lower employee turnover (Harter et al., 2002).

- **In-role performances**: *"those officially required outcomes and behaviours that directly serve the goals of the organization" (Demerouti E, Cropanzano R. ,2010, p. 148).* According to the JDR model, work pressure and emotional demands were the most important job demands and antecedents of burnout, which in turn influenced in-role performance (Bakker & Demerouti, 2007).

- **Extra role performance:** *"discretionary behaviours on the part of an employee that are believed to directly promote the effective functioning of an organization without necessarily directly influencing an employee productivity" (Demerouti E, Cropanzano R. ,2010, p. 148).* One of them is the **proactivity**, which means the extent to which the individual takes self-directed action to anticipate or initiate change in the work system or work roles. **Knowledge sharing**, on the other side, implies that every knowledge-sharing behavior consists of both bringing and collecting knowledge. New **Creative** performance is a significant outcome since it leads employee to have innovative ways and perspectives on how adapt to new context (Talebzadeh &. Karatep, 2019). Finally, the **adaptivity**, which describes the extent to which an individual adapts to changes in a work system or work roles (Griffin et al., 2007).

- **Turnover** is a costly consequence for organizations, representing a huge concern for managers. The replacement selection required an investment not only in form of money but also end especially in term of time and training (Pfeffer & Sutton, 2006). Engaged workers, that have active and positive emotions, are more inspired, energized, cheerful and enthusiastic (Bakker et al., 2014). These reactions lead to lower turnover intentions deeply reducing costs for the firm.

After the definition of all the model constructs, we aim at proving interesting and concrete managerial practices. The COVID-19 forced the majority of employees to switch their way of working to full-time telework and organizations did not have the time to prepare for this work arrangement. It is important to highlight that the adoption of Telework is not only a solution to the Covid-19 pandemic but is a mechanism that helps enterprises through a flexible arrangement to cope with complex environment and to respond to new requirements given by the globalization and the spread of digital media (Gittleman et al., 1998). Since the Telework is becoming more and more a "new normal", we want to identify under which conditions organizations and transformational leadership are still able to engage employees, providing a clarification of the following questions.

R.Q. 1: In which way leaders and organizations are able to engage employee even when their relationships are mediated by digital media?

It is not possible to have a unique answer to the previous questions. Indeed, in order to be more precise and effective, we identified other four questions that address this issue according to more specific aspects and that will permit to have a more comprehensive resolution.

R.Q.2: Which are the factors that affect employees' conditions during their Telework hours and could affect their engagement?

Employees' use of telework programs might be based on unobservable characteristics which are represented by the availability of working space and the interruption during Telework hours due to family responsibilities. Organizations could manage both by performing a **matching strategy,** offering suitable spaces (i.e. co-working space) outside the office. In this way, employees can exploit the benefit given by the adoption of a flexible arrangement eliminating the possible stress caused by home space and family responsibility. As it is known from the literature, a higher level of stress leads to disengagement (Las Heras et al., 2017).

R.Q.3. How to maintain Transformational leadership effective when the relationship between leaders and employees is mediated by digital tools? Which type of digital communication is needed to reach a high level of trust and transparency?

According to our model, transformational leaders who want to reach a high-quality relationship with employees when their interactions is mediated by digital tools, have to define a proper selection of digital media according to the requirement of the tasks and the synchronicity of the communication. In the following *Table3* is provided for each media, the level of media richness and synchronicity and it is suggested a possible adoption by organization and leaders.

Medium	Media Richness	Media Synchronicity	Organizational usage
Face-to-face	High	High	**Task characteristics** • Brainstorming sessions • Training for new tasks • Definition of leaders' strategy **Communication type** • Interpersonal relationship: create a strong bond between employees
Video and telephone conference	Medium-high	High	**Task characteristics** • Brainstorming sessions • Definition of leaders' strategy **Communication type** • Clearly and high synchronous communication, interactions similar to face-to-face
Shared folders (e.g. google docs)	Medium	Medium	**Task characteristics** • Draft of presentations • Draft of documents **Communication type** • No interactions and relationship
Instant messaging (e.g. WhatsApp)	Medium	Medium	**Task characteristics** • Rapid conversation to solve quick doubts **Communication type** • Rapid and quick communication, with informal messages
E-mails	Low	Low	**Task characteristics** • Spread general information and update **Communication type** • Asynchronous communication, and lack of interactions
Documents	Low	Low	**Task characteristics** • Not considered anymore as managerial practices

Table 3: Analysis of Digital Media (Own elaboration)

Moreover, employees will reach a high level of engagement in case their **digital skills** are appropriate to understand what the leader is communicating and how to complete their tasks. Obviously, leader must be able to use digital media and integrate them into his/her managerial practices. The benefits could be experienced only when both the conditions are respected (Park and Cho; 2020).

R.Q.4. Which actions organizations should take to make employees feeling their support even far from the office?

To maximize the benefits of telework programs, organizations need to develop favourable policies and systems and provide sufficient and appropriate support.

They must provide the necessary telework-related resources while they are working from home, such as appropriate media (smartphones, tablets, Pc), information technology (IT) support (assistance), timely information and relevant work materials.

R.Q.5: Which are the digital media that enhance the individual performances?

Our model does not consider any digital moderator in the relationship between employee engagement and individual performance. Our study is based on the believe that once the employee is strongly engaged, his/her individual performances will be enhanced, as the literature review reported (Demerouti E, Cropanzano R. ,2010; Bakker et al., 2015). Furthermore, the Telework literature states that the adoption of a flexible work may have positively impact on the extra-role ones (Wang et al., 2020).

In conclusion, although Employee Engagement represents one of the main objects of studies, little is theoretically defined across research disciplines regarding the construct of employee engagement in the new digital context.

We encourage future studies to expand our model considering also other leadership styles and not only the transformational one. It could be interesting see also the results with other types of leaders, since transformational leaders are rare. Future research should pay attention to the work characteristics of the individual and the industry in which the organization operate, expanding the research in companies that operate in different fields.

Limitations were given by the limited number of paper covering the theme of teleworkers engagement, the lack of scales proper to test the variables related to Telework practices caused some difficulties in creating a suitable questionnaire to the proposed model, raising the possibility of receiving distorted results. Another challenge of this study was the sudden changes that characterized the digital context. Therefore, we encourage organizations to keep the study update with the introductions of new media.

Finally, our study is based on a model that is not empirical tested. Indeed, this paper provides a comprehensive review which analyse empirical studies that enable us the identifications of research gap on employee engagement and Telework. This study proposes a theoretical model that future research should test.

Clear communication and transparency are helpful to build relationships between leaders and peers. The adoption of a suited and a proper communication system represents the foundation of a friendly environment based on trust and support. Without a correct analysis of company needs and a clear definition of communication channels, it is going to be hard pursuing a consistent collaboration between employees. The lack of information shared between employees, during their working hours, seriously affect the employee engagement of each worker (Wang & Hu, 2020). For this reason, organizations have to define a strategic design system of the media.

Introduction: the object of the study

Covid-19 pandemic has been transforming in a rapid way habits and behaviours of individuals' daily life. Organizations had to react to this situation by adopting an innovative management style. Many of them faced several difficulties due to the forced Smart Working practices. Employees worked distant from the office, using their own media and personal space. It caused many challenges in respecting the task requirements and performances and in having a right communication and interaction between employees.

It is noteworthy to highlight that the 21st century was already characterized by a high level of uncertainty due to the quick and continuous changes in technology tools and to the increasing spread of globalizations. This put a lot of strain on the managerial practices adopted by companies. It is getting harder engaged employees during workhours. This is the context in which this study born, with the purpose to provide a theoretical model that cover research gaps of the employee engagement literature in the field of high digital context.

The research starts with the aim to answer to the following question:

"How does the new digital context affects employee engagement?"

The departure point was investigating the employee engagement literature and the digital context literature in a separate way. Once a clear comprehension of the two main topics was reached, the study proceeds with the exploration of those papers that deal with teleworkers' engagement. It raises up the lack of a consistent literature that explain the theoretical guidelines to engage an employee in a digital context. It is emerged that the difficulties of teleworkers are strongly linked to the interactions with colleagues. For this reason, it is presented a new theoretical model to assess the impact of a digital interaction between Leader and Peers on Employees' Engagement. Namely, it considers the moderating role of digital tools and characteristics. Furthermore, our purpose was to identify not only a model but to provide hypothesis and a questionnaire useful to future research to test the model. Finally, to have a concrete utility, this study provides some managerial practices in the adoption of digital media to engage teleworkers.

1. Literature Analysis

The literature analysis paragraph is divided in three main subparagraphs: the analysis of the new digital context, the employee engagement study and finally the definition of the research gaps.

The **new digital context** literature review highlights how the dynamics inside and outside the office have changed. This study mainly focuses on **telework,** a flexible work arrangement whereby workers work remotely from their central offices or production facilities (Di Martino and Wirth, 1990). This new trend forces organizations to define a new way of structuring the work that could comprehend both face-to-face and digital interactions. Finally, the literature analysis aims to identify how to adopt each digital media based on the Media Richness Theory and Media Synchronicity theory in order to improve task performances and the communication between employees (Dennis et al., 2008; Daft and Lengel, 1986).

Telework influences the human behaviour inside and outside the office, thus influencing the psychological conditions of employees (Wang et al., 2020). In the literature, to analyse the psychological state of mind of employees, it is introduced the concept of **employee engagement**. During the years, this construct drew the attention of many authors, starting from the Kahn's first definition (1990) and arriving to the latest of Shuck et al., (2017). The deep concern in employee engagement is due to its strong relevance in achieving higher employee performances. Organizations recognized that an engaged employee results in higher outcomes that in the long-term positive influence the organizational performances (Saks, 2019, May et al., 2004, Bakker et al., 2004, Hofmann, D.A., 2011) .

Finally, in the third subparagraph, it is reported the analysis of the literature regarding the employee engagement in the Telework context. Due to the poorness of paper in this field, we were able to extrapolate the more interesting **research gaps.** This study aims to identify specific questions to go through these gaps.

1.1 New Digital Context

Nowadays, the information and communication technologies (ICTs) are rapidly transforming the way to operate of companies and individuals. Technological innovations are restructuring organizations both at the micro and macro level, reforming the way in which individuals learn and interact with their external environment and having profound influence on societies (Wang et al., 2020). Organizations started exploiting completely different communication channels, such as the Internet, e-mail, cell-phones, and videoconferencing etc.

The used of communication technologies to enable connectiveness between people not only changed the organizational processes but also employee interactions and consequentially employee relationships (Wang et al., 2020).

Computer Mediated Communication (CMC) is tentatively defined as any human symbolic text-based interaction conducted or facilitated through digitally based technologies (Spitzberg, 2006). As CMC diffusion increases, and as technological innovations become affordable, and easy to applicate, the value of CMC to relationship development increase.

As mentioned above, CMC includes the Internet, cellular phone text, instant messaging, and multiuser interactions, email, listserv interactions and videoconferencing systems. These tools cover a progressively important role, consenting heterogenous communication and collaboration in companies (Gupta et al., 2000)

In today's digitized work environments, those who meet through CMC often make the transition to face-to-face or mixed-media relationships to increase the richness of the interaction. In parallel, technologies like telepresence and videoconference take the communication to a level which is almost equivalent to face-to-face meetings (Gajendran and Harrison, 2007). The presence of voice and video technologies ease the maintaining of relationships and improve decision support. In this context, the use of ICTs becomes more and more important for various industries and it is expected to increase in the future, having a significant impact on both, private as well as professional lives of individuals (Atkinson and Castro, 2008).

Today, everyone has the possibility to be connected to one another easily. The CMC technologies are used to compensate the communication barriers due to the geographic distance (Baym et al., 2004). ICTs technologies have enabled employee to stay connected to their work any place and any time. Moreover, Gajendran and Harrison (2007), pointed out the increased improvement of cross-departmental communication as well as an increased efficiency, productivity and satisfaction in team-work related contexts. The introduction of these technologies had also a positive influence on the coordination of work processes and the accomplishment of work-related tasks.

The digital revolution modified not only the organizational structure and people interactions, but also the employee way of thinking. A "always-on" culture born, in which it is common to assume that everyone is available to stay connected (Derks et al.,2015). Behaviours, aspirations, and needs of people are changed. Employees are becoming more demanding about their work-life balance. Their desire to be an 'employer of choice' (Rau and Hyland, 2002) is considered a new driver for job quality. Furthermore, empirical research has highlighted an increase of people asking for a job position with more benefits, since that vacations and other periods of rest decrease job stress and increase life satisfaction (Westman, Segev, Etzion 2004).

Moreover, the Covid-19 pandemic has forced the adoption of the Smart Working making all the working interactions mediated by digital technologies.

Smart Working: "*Smart Working is the newly coined term that embraces the entirety of new ways of working opportunities in an integrated manner – be that spatial and temporal autonomy, the required cultural and trust transitions, technological advances, wider intellectual connections and stimuli, social, ethical and environmental sensitivities – all harmonized to suit the individual working style*" (Blackwell, 2008).

The increasing of this popular phenomenon among companies enables employees to conciliate their personal life with work activities finding the right life-balance. Smart Working is not merely identifying by "work from home", like telework meaned; it is effectively a new managerial philosophy characterized by higher flexibility and autonomy in the choice of working spaces, time and tools in return for more accountability on results.

Companies started adopting new practises of flexible work, giving employees a say in when, where and how much they work, offering them the possibility to achieve a better work-life balance.

Telework

In the past years, the workplace was considered a central and fundamental place in many people's lives (Collins et al., 2016). Inside the workplace, individuals co-operate and the different social interactions shape employee's experience of work, influencing their engagement toward the organization.

Due to the ascendance of digital technologies, organizations are changing their infrastructure, processes, and consequently their strategies. At the organizational level, companies must find ways to integrate these technologies, exploiting the benefits and developing a new culture which facilitate the transition of workers into remote settings (Golden et al., 2019). This new way of working led to a decentralized model of working, meaning that is necessary to reconfigure the layout of the offices, abandoning the old-fixed places, towards the creation of new, functional, and shared areas (Collins et al., 2016).

The workplace is shifting from the conventional one to home or co-working space, and employees communicate using computer-based technology. For this reason, electronic media are becoming one of the main means for interaction leading to one of the new mega-trends that is the possibility to work anywhere enabled by advanced technologies.

To encompass all the previous concept is introduced the concept of **Telework.** It is defined as "*working outside the conventional workplace and communicating with it by way of telecommunications or computer-based technology*" *(Bailey, D.E., Kurland, 2002, p.384)*

Telework does not mean only employees working from home all times. It includes a whole range of different working patterns from visits at the office for meetings to office environments renovations, removing all the permanent and individual desks. More and more companies are embracing this new kind of working with the intention to maximise the benefits from the ICTs whilst reducing costly resources like office spaces and turnover (Mann, 2000).

To sum up, Telework combines the adoption of computers and telecommunication technologies with flexible work locations removing geographical and organizational boundaries of the traditional and centralized workplace (Thatcher, S.M.B., Zhu, X., 2006)

Teleworkers expansion

As ICTs continue to improve in terms of quality, accuracy, and accessibility to employees that can interact over physical and temporal distances, organizations will be likely to adopt infrastructure and processes that permit to work in a distributed way. Telework's inherent division from others and increased reliance upon technology to communicate may affect how relationships are established, thus having strong impacts on individual (Golden and Raghuram, 2010). It is noteworthy to highlight five different possible implications on employees due to the adoption of Telework identified by Baruch (2000):

- *Identity*: changed conceptions of oneself as an employee, family member, career aspirant; in particular, it has a positive impact for the employees as a family member, but a negative one on future carriers' perceptions
- *Skills*: development of skills, including social and time management skills, proved to be crucial for effective Telework
- *Context*: changed awareness of communications, distractions, use of time and space
- *Role demand:* it changed constraints and supports in relation to elements of tasks and relationship, proving that the home is better than the office environment
- *Role outcomes*: it changed attitudes and satisfactions, feelings of stress, and material rewards/costs, enabling employees to get better performance.

Telework alters the intrinsic nature of organizational members interactions and how individual must accomplish their tasks (Golden and Raghuram, 2010). It is also possible to perceive the impacts of Telework and in major part on the individual conditions. The employee changes his own perceptions and modify his manner to approach to the work.

Teleworkers benefits and challenges

The number of people working out from their traditional workplace is increasing thanks to Telework. The individual work perception changed, as well as the motivational qualities of work (Venkatesh, Johnson, 2002).

These employees make their own work arrangements and can choose when to take time off work. Indeed, Telework is positively related to more **autonomy** and **flexibility**, allowing employees to decide how and when work is performed (Morganson et al., 2010).

The "privileged" teleworkers, named so by Sparrow (2000), enjoy a reduction of work pressures and a facilitate **work-life balance**. Telework offers workers the possibility to balance the competing roles of work and family by reaching a higher optimization of time management and reducing wasted time due to commuting. They can carve out patches of time to their self, such as hobbies and sport activities and simultaneously strength family relationships. The literature documented that the mobile workers reported the highest level of work-life balance and the greatest amount of work/family success (Morganson at al. 2010).

As mentioned before, telework is likely to provide autonomy and flexibility to employees, permitting them to meet their own needs and personal life demands. The higher quality of workers personal life and the increased employee morale leads **job satisfaction** to be considered one of the outcomes of Telework. Empirical research reported that the reduction of distractions is a concrete advantage of Telework (Baruch, 2000). The work from home, without the possible interruptions related to the office environment, means getting done more tasks, increasing feelings of accomplishments and satisfaction.

In Telework literature, the primary office has been named as "stress-free environment", suggesting a very powerful positive impact on workers' **health**, both psychological and physical. Some workers can benefit from the given freedom, not only from the office politics but also from the other co-workers, exploiting a new and better working environment (Mann, 2000).

In addition, the adoption of digital technologies to perform Telework allow faster and easier **communication** progress, which stimulate workers to communicate and share information and knowledges. The overall company can benefit from these sharing practises by offering open access to all these data, made available quickly and through1 ICTs (Bailey, D.E., Kurland, 2002).

Although all these advantages from an employee point of view, the widespread adoption of Telework was due to the **reduction of organizational costs**. Companies benefit from the

minimization of costly resources such as office spaces and the linked overhead expenses, support facilities, costly equipment and travel expenses, especially during periods of business expansion or when customers are geographically very dispersed (ems and Verbeke, 2003).

The higher the quality level of job, the lower is the **turnover ratio** of the company. Telework has been identified as a strategy to care of employees and one of their parameters of judgement for a new job. A satisfied and motivated employee is reluctant to leave an organization that has his interests at heart (Golden, 2006). Furthermore, all the factors such as less wasted time and higher job satisfaction leads to a higher level of **productivity** for the company (Sánchez et al., 2007)

Last but not least, Telework has positive impacts on the **environment** in terms of materials and energy consumption and CO_2 emissions. Reducing travels, commuting or trips, and exploiting digital technologies to interact with co-workers and customers, allow to save organizations tens of thousands of business miles reducing carbon emissions (Lake, 2013).

Moving on the possible disadvantages and challenges to face, it is important to mention their high level of variability, depending on the context and company culture.

Starting from the emotional aspects that can affects employees, the **social isolation** represents the most common disadvantage. The feeling of exclusion of teleworkers from other members of the team can lead to stress, lower participation and lack of visibility. This lack of visibility may be the cause of slower career progression, job dissatisfaction and reduced organizational identification (Raghuram et al., 2019). Social isolation is also related to lower mentoring opportunities and lower performance, due to lack of status identity and future career perceptions. Mann et al. (2000) pointed out also the importance of social barometers, it means that usually people look to others to have some idea of how we ought to behave. The reduction of this phenomena can affect our sense of orientation and sense of belonging. Moreover, the social contacts in the office enriches the interpersonal network, including friends and possible future partners. It can be hard for teleworkers to engage with their colleagues, technology interactions are usually shorter, less intense and not meet the same richness of face-to-face contacts (Collins at al., 2016).

To mitigate the social isolation effects, some companies suggest to their employees to work from the office at least once per week to interact with their colleagues. Another lever to contain these implications is the adoption of informal communication methods to keep in contact, and the use of high-synchronous media like ICTs that allow live interactions as videoconference, teleconference supported by instant messaging (Collins et al, 2016). This kind of technologies offer the ability to not only share knowledge, but also to build identification among remote workers (Raghuram et al., 2019)

However, the power of CMC can only be realized under certain conditions. These conditions include the active participation from colleagues, most importantly from supervisors, and a satisfied level of digital maturity of the company (Willi et al., 2019)

The organization need a special **culture** to success by introducing Telework. The suitable equipment and the basic knowledge must be afforded to everyone who will meet this flexible model. In addition, the relationships between co-workers must be based on trust, loyalty and support, in order to incentivize the collaboration between them. Those who work in the office tend to consider teleworkers as a different category and exclude them from the tacit norms (Golden and Raghuram, 2010).

Indeed, the critical antecedent to benefit from the digital revolution is represented by the high **investment** to cover the effective resources for a digital infrastructure and the adoption of a new style of managerial thinking (Davison and Carol X.J. Ou, 2017). The digital transformation may involve also conflicts due to resistance from managers. This category can be intimidated by the new technology and by those employees that show greater knowledge about the topic. Consequentially, managers can independently decide to take measures of restriction and reinforce their authority (Collins et al., 2016). A new way of thinking guided by a suitable company culture is essential to benefit from the technology's power.

One other aspect that emerged from empirical research that affect the possibilities of success of Telework and that is hard to control is the **availability of space at home** (Baruch, 2000). Employees need to distinguish from work tasks to family and household chores: having a proper space to work is essential to perform quietly. In addition, the presence of children, especially young, can interfere with the telework activities (Baruch, 2000).

But not only family responsibilities can interrupt the workday, also Telework situations can invade the **personal space** of the employee, by monitoring all the communication of the teleworkers and calling him during the break. The scheduled time of work is not respected, teleworkers use to work longer hours not being really able to "switch-off" from the office (Mann, 2000). In addition, supervisors expect that their employees stay always connected and available (Derks et al., 2015).

Seen that many enterprises are coping with many challenges due to the increasingly digitized world, it is possible to assume that digital communication processes will also increase in the future (Canessa and Riolo, 2006).

Different ways of interaction

Telework premises that some portion of work is far from the office which lead strong consequences on how individuals interact. Indeed, employees must find new ways of establishing relationship.

Within the work dynamics, the main means of interaction and communication are becoming the digital one. Thanks to these digital means it is possible to have the phenomenon of *"the death of distance,"* implicating that the distance may no longer be a limiting factor in the ability to communicate and is quickly becoming irrelevant to the way people interact (Raghuram et al, 2019).

The networking environment is becoming more and more complex and the interaction takes place at different levels: one to one, between small groups or large-disciplinary groups. These interactions could be mediated from a face-to-face meeting to a computer mediated communication such as videoconferencing, telephone conference and e-mail.

The aim of an organization is to define a right allocation of tasks and responsibilities to individuals with the design of a system that enable an effective communication between employees (C.X.J. Ou, Davison, 2017). It means setting which digital tools to adopt to facilitate the interaction and the communication in order to favor the coordination of organizational activities. In CMC communication the type and quantity of cues differs from the traditional face to face interaction. This represents an innovative challenge for

organization and literature must provide theoretical frameworks to explore and define CMC communication (Ho et al.,2016).

The following paragraphs describe how to design the system through two theoretical frameworks. **Media Richness Theory** is presented to highlight the importance of the adoption of a matched and rich media and how is significant transmit a message according to the task characteristics (Daft and Lengel 1986). Then, the **Media Synchronicity** is useful to understand the right synchronicity level of communication that has to be coherent with the occurred process (Dennis et al., 2008).

Media Richness Theory

One of the most frequent theories of media is Media Richness Theory (MRT). Daft and Lengel (1984, 1986) provided a framework that define a coherent way to convey information according to the task needs. In other words, the media able to send 'rich' information are more suitable for equivocal tasks.

MRT was introduced following the **information processing theory**. Within an organization, the exchange of information is essential to realize internal tasks, to coordinate activities and to interpret external conditions. When the exchange of data occurs between individuals is even more complex than machine or computer, since there are no fixed rules to have a clear interpretation of the information shared.

Daft and Lengel (1986) defined two forces that influence the information processing:

- **Uncertainty**: It is related with the lack of information required to perform the task, higher is the lack of information higher is the uncertainty. Organizations that operate in a context with high uncertainty need a higher amount of data to reduce the level of uncertainty.
- **Equivocality***: In a decision-making situation equivocality exists when there are multiple and conflicting interpretations for the information or a non-adequate framework to interpret the information.

After defined the previous forces, it is possible to affirm that information processing, within an organization, has the aim to gather the right amount of data to reduce uncertainty, considering in parallel the possible interpretation of the information to reduce equivocality.

Daft and Lengel (1986) stated that organizations can provide information of suitable richness to reduce equivocality. In other words, organizations must use rich media - those communication media that support multiple verbal and nonverbal cue systems - to permit the processing of rich information.

Information richness is the amount of information that a communication medium can support and the extent to which the medium enables the sender and receiver to reach a common interpretation. Higher is the required time to enable understanding and lower in richness.

The dimensions used to define the richness of a media are (Walther, 2015):

- The ***number of cue*** systems supported by a medium: it refers to the number of ways in which information can be communicated, such as text (e.g., the spoken or written words themselves), verbal cues (e.g., tone of voice), or nonverbal cues (e.g., physical gestures) (Dennis, 2008)
- The ***immediacy of feedback*** provided by a medium from unidirectional to asynchronously bidirectional to simultaneous bidirectional interaction. Basically, in a communication system there are two parties: the *sender,* presenting the message, and the receiver, processing the information (Dennis, Fuller, Valacich, 2008). For communication to be successful, both the sender and receiver must have the same interpretation of the message. Feedback from the receiver makes it clear to the sender that the receiver has understood the message.
- The potential for ***natural language*** that includes physical, visual and verbal symbol sets.
- ***Message personalization***: it is the degree to which a message can be made to address a specific individual.

According to the media richness hypotheses, the decision of a more appropriate media may positively impact the task outcomes and performance, a limited choice of communication media may reduce the richness thus decreasing the task outcome quality. Indeed, managers who were media sensitive, (i.e. who selected appropriately rich media for collaborative tasks) in general, performed better than managers who were not media sensitive (Daft et al. 1987).

Considering the digital context, studies state that e-communication media are more task-oriented than the face-to-face medium, and that individuals considers those e-communication media to be less suitable for personal interaction (Smith et al., 2018).

Media synchronicity

Media synchronicity is defined as *"the extent to which the capabilities of a communication medium enable individuals to achieve synchronicity"* (Dennis et al., 2008, p.581). Synchronicity occurs when individuals work together at the same time with a shared focus.

When individuals interact, their communication is composed of two primary processes:

- *Conveyance processes*: it is the transmission of new, diverse and larger information between individuals (Dennis et al., 2008). In conveyance processes, individuals exchange a large amount and diverse set of information using different information formats. It is a lower process; individuals need time to study and understand the content of a message or to develop meaning across messages (Robert and Dennis 2005)
- *Convergence processes:* it is the process in which individuals must find a coherent interpretation of the meaning of the information. It is a rapid process that requires a continuous exchange of small quantities of pre-processed and familiar information. Hence, the focus is on a small set amount of information but in some case, when individual hardly agree and have difference understandings, the processes necessitate a difficult cognitive processing.

Media synchronicity theory identifies the right usage of media namely in the case of **conveyance processes**; the choice of media with **lower synchronicity** should result in better communication performance giving the time to processes new information. In the case of **convergence proces**ses, the choice of media with **higher synchronicity** should result in better communication performance permitting the rapid exchange of feedback.

In brief, the synchronicity is inversely proportionate to the cognitive effort to encode or decode the message. Higher is the synchronicity, lower is the cognitive effort. Lower the synchronicity, higher is the cognitive effort.

Furthermore, it is necessary to introduce the concept of media capabilities since the capabilities of medium influence the level of synchronicity (Dennis, 2008):

- ***Transmission velocity***: the speed to which a medium can transmit a message. Higher is the velocity and higher is the synchronicity, indeed it will improve the transmission of feedbacks and consequently the coordination among individuals.

- ***Parallelism***: the extent to which a medium enables information from multiple senders to be transmitted simultaneously, thus increasing the number of communication episodes that can occur simultaneously. Parallelism impacts the synchronicity of a medium by increasing the number of concurrent transmissions. Different individuals can start different discussion on unrelated topic. This will lead to a lower synchronicity since it reduces the ability of individuals to share a common focus.

- ***Symbol sets:*** the number of ways in which the information can be conveyed. For example, humans can communicate in a physical way (i.e. from a handshake to a gentle touch), in a visual way (i.e. raising a hand, closing the eyes), verbally and speaking. Symbol sets affect the synchronicity increasing the time and effort to encode and decode a message, indeed some symbols are easy to decode due to their easy interpretability for example a written message or a visual symbol.

- ***Rehearsability***: the extent to which a medium enables the sender to rehearse or adjust the message before sending. It means that media supporting rehearsability allow *sender* to encode a message without changing the intended meaning and enable a precise information decoding.

- ***Re-processability***: the extent to which a message can be re-examined or processed again by the *receiver* during the decoding. Reprocessing messages incurs cognitive costs associated with message (re)reading, understanding, and sensemaking (Addas and Pinsonneault 2018).

As it is analyzed above, media capabilities influence the synchronicity in communication. Communication is derived from interaction between individuals. Participants can communicate in any distance and time, resulting in technological, spatial, and temporal simultaneity. Mobile technologies compress time to such an extent that every ''dead'' moment can be filled with communication. (Carlson, J.R., George, J.F., 2004).

Complexity in the definition of digital media

Nowadays, traditional communication channels such as fax and face-to-face are supported or replaced by electronic media: introducing CMC media that both facilitates insights of communication and information, but also break down the geographical distance barriers.

Clear communication and transparency are helpful to build relationships between co-workers, whether they are equal colleagues or superiors. The adoption of a suited and a proper communication system represents the foundation of a friendly environment based on trust and support. Without a correct analysis of company needs and a clear definition of communication channels, it is going to be hard pursuing a consistent network between employees. The lack of information shared between employees can seriously affect the employee engagement of each worker (Wang & Hu, 2020). For this reason, organizations have to define a strategic design system of the media.

In the last years, the methods and tools used to perform communication among employees have radically changed. Following, both digital and non-digital medium of communication are synthetized and reported analysing the level of Media Richness and Media Synchronicity. In the literature, shared folders were not reported and studied, however, according to the spread of these tools in the work field, it was considered important to report them together with the other media.

1. Face-to-face

Media Richness *High*

It is always considered the richest media due to the immediate mutual feedback that individuals can exchanged and the possibility to use the natural language mixed with the body language (from the expression of the face to tone of voice during a conversation) (Daft et al., 1987). .

Number of cues	●	●	●	●	●
Immediacy of feedback	●	●	●	●	●
Natural language	●	●	●	●	●
Message personalization	●	●	●	●	●

Table 4:Face-to-Face MRT (Own elaboration)

Media Synchronicity: *High*

The high synchronicity of the specific medium is due to the instant transmission velocity being a live communication. However, these capabilities do not allow the reprocessability of the message by the receiver and the rehearsability by the sender. The symbol set that a human can use vary from few to many.

Transmission velocity	●	●	●	●	●
Parallelism	●	●	●		
Symbol sets	●	●	●	●	
Rehearsability (R)	●	●	●	●	●
Re-processability (R)	●	●	●	●	●

Table 5: Face-to-Face MST (Own elaboration)

2. Video and telephone conference

Media Richness: *Medium-high*

Nowadays, telework allow to work distant from the office. Video and telephone conferences permit to have an online conversation in which individuals interact and exchange immediate feedback that leads a medium high richness of the media. Obviously, the distance permits a natural language but decrease the body language.

Number of cues	●	●	●	●	
Immediacy of feedback	●	●	●	●	●
Natural language	●	●	●		
Message personalization	●	●	●	●	●

Table 6: Video and telephone calls MRT (Own elaboration)

Media Synchronicity: *High*

As for face-to-face the transmission velocity is rapid and therefore a low rehersability and reprocessability. The parallelism is medium, and the possible symbol set vary from few to medium.

Transmission velocity	●	●	●	●	●
Parallelism	●	●	●		
Symbol sets	●	●	●		
Rehearsability (R)	●	●	●	●	●
Re-processability (R)	●	●	●	●	●

Table 7: Video and telephone calls MST (Own elaboration)

3. Shared folders (e.g. google docs)

Media Richness: Medium

Shared folders are free Web-based application in which documents and spreadsheets can be created, edited and stored online. Files can be accessed from any computer with an Internet connection and a full-featured Web browser. In this case, employees can work simultaneously to the same documents, but the feedback is not immediate, and the number of cues is limited to the written one.

Number of cues	●	●	●		
Immediacy of feedback	●	●	●		
Natural language	●				
Message personalization	●	●	●		

Table 8: Shared folders MRT (Own elaboration)

Media Synchronicity: **Medium**

The parallelism is high due to the possibility to have many employees working and communicating on the same folder. Writing in the same document simultaneously, individuals are not allowed to use all the symbol set such as physical and visual way.

Transmission velocity	●	●	●	●	●
Parallelism	●	●	●		
Symbol sets	●				
Rehearsability (R)	●	●	●		
Re-processability (R)	●	●	●		

Table 9: Shared folders MST (Own elaboration)

4. Instant messaging (e.g. WhatsApp)

Media Richness: *Medium*

During an exchange of messages, employees have not the possibility to exploit the natural language and have low number of cues (just the text one). The immediacy of feedback is medium-high, indeed usually instant messages are written informally and very quickly.

Number of cues	●	●	●		
Immediacy of feedback	●	●	●	●	
Natural language	●	●			
Message personalization	●	●	●		

Table 10: Instant messaging MRT (Own elaboration)

Media Synchronicity: *Medium*

This means has medium capabilities; indeed, the transmission velocity is medium-high, allowing both the sender and receiver to rehear and reprocess the message. The symbol set is medium, it is not possible to exploit the visual or physical way but the use of innovative text symbol such as emoji allow the sender to better communicate his message.

Transmission velocity	●	●	●	●	
Parallelism	●	●			
Symbol sets	●	●	●	●	
Rehearsability (R)	●	●	●		
Re-processability (R)	●	●	●		

Table 11: Shared folders MST (Own elaboration)

5. E-mails:

Media Richness: Low

E-mail allows the flexibility and permit the connectivity among employees with a low number of cues and without the natural language among individuals. The immediacy of feedback is low, usually e-mails are written in a formal way and the response time are longer.

Number of cues	●	●			
Immediacy of feedback	●				
Natural language	●				
Message personalization	●	●			

Table 12: Emails MRT (Own elaboration)

Media Synchronicity: Low

The parallelism given by the e-mail is very high, namely the extent to which an individual engages in multiple e-mail conversations simultaneously. Individuals re-examines or processes e-mail messages (their own or those received from others) many times leading to high reprocessability and at the same time the rehersability.

Transmission velocity	●	●			
Parallelism	●	●	●	●	●
Symbol sets	●	●	●	●	
Rehearsability (R)	●	●			
Re-processability (R)	●	●			

Table 13:Emails MST (Own elaboration)

6. Documents

Media Richness: Low

the written documents have very low immediacy of feedbacks and have the possibility to use just the written way to communicate. Nowadays are becoming less and less used due to the enhance of digital technologies.

Number of cues	●	●			
Immediacy of feedback	●				
Natural language	●				
Message personalization	●				

Table 14: Documents MRT (Own elaboration)

Media Synchronicity: Low

The transmission velocity is very low, and it gives the time to sender to reformulate the message and the time to the receiver to decode the text, thus leading to high reprocessability and rehersability.The transmission velocity is very low, and it gives the time to the sender to reformulate the message and the time to the receiver to decode the text, thus leading to high reprocessability and rehersability.

Transmission velocity	●	●			
Parallelism	●	●	●	●	●
Symbol sets	●	●	●		
Rehearsability (R)	●				
Re-processability (R)	●				

Table 15:Documents MST (Own elaboration)

Face-to-face is always considered the richest media due to the rapid mutual feedback, although the selection and the application of new media can be tailored to meet the richness and synchronicity capacity of the communication needs required by telework (Daft et al., 1987). In the literature, it is still not defined which are the best way to individuate the appropriate digital media according to the task characteristics and the type of communications.

1.2 Employee Engagement

Telework have completely changed the dynamics inside and outside the office. It influences the human relationship that was central in the workplace besides having transformed the communication in people's work (Baruch, 2000). Teleworkers encounter several factors in their new work context that complicate and may obstacle their psychological condition and motivation.

To explain the importance of a positive psychological condition of employees, it is introduced the concept of **employee engagement.** Due to the innovative and unexplored context, as well as increased digital interactions, telework presents a challenging environment within which employees may face obstacles in achieving high motivation.

The paragraph begins with the evolution of employee engagement definitions. Starting from **Kahn (1990)**, who focus on the psychological conditions of employee, the analysis will go through the definitions of burnout and other work-related state of mind, concluding with an in-depth examination, provided by **Shuck (2017)**, of the first definition.

Lately, theoretical frameworks useful to provide a complete comprehension of the study are presented and suddenly, they are used to explain the relationship between the antecedents and the consequences of employee engagement.

Definition and its history

The academic literature has provided several definitions during the years. The first relevant contribution on engagement is offered by **Kahn (1990)** that defines employee engagement as:

"The harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively and emotionally during role performances" (Kahn, 1990, p. 694)

Kahn (1990) defines people "engaged" when they are physically involved in tasks, cognitively focused and attentive and emotionally connected to their work, without highlighting explicitly a relationship between employee engagement and job performance.

Kahn (1990) identifies three psychological conditions based on the engagement level of employee: meaningfulness, safety, and availability. Each of these dimensions can be measured by the following questions:

- How meaningful is it for me to bring myself into this performance?
- How safe is it to do so?
- How available am I to do so?

Higher is the employee perceptions of psychological meaningfulness, safety and availability, higher is the engagement.

Successively the concept of "engagement" has been guided by another perspective, offered by **Maslach & Leiter (1997**) who considered burnout as the antagonist of engagement and defined it as**:** *"Burnout is a psychological syndrome of exhaustion, cynicism, and inefficacy in the workplace***."** (Maslach & Leiter, 2007, p.368).

This latter, being presented as a psychological syndrome of exhaustion, cynicism, and inefficacy, is experienced in response to chronic job stressors (Maslach and Leiter, 1997), causing feeling of incompetence and overtaxing.

*"Engagement is characterized by energy, involvement, and efficacy, the direct opposite of the three burnout dimensions of exhaustion, cynicism, and inefficacy." (*Maslach & Leiter, 1997).

On the contrary, an engaged employee, as Maslach and Leiter affirm, is positively connected to his job and he feels able to achieve all the work goals and deadlines with energy, involvement and efficacy.

In contrast with this point of view, **Schaufeli et al. (2002),** argued that, engagement and burnout were not the opposite poles of a common conceptualization but two independent constructs. The engagement was defined as:

"A positive, fulfilling, work-related state of mind that involves vigour (energy and mental resilience at work), dedication, and absorption (being fully focused on and engrossed by the work). Rather than a momentary and specific state, engagement refers to a more persistent

and pervasive affective cognitive state that is not focused on any particular object, event, individual, or behaviour." (Schaufeli et al., 2002; p.74)

Vigour refers to the high '*level of energy and mental resilience while working, the willingness to invest effort in one's work and persistence even in the face difficulties.*' Dedication concerns the '*sense of significance, enthusiasm, inspiration, pride and challenge.*' Finally, the absorption '*characterized by being fully concentrated and deeply engrossed in one's work*' means that employees enter into a state of high attention and complete control of the work. The employee lost the sense of time and find an intrinsic enjoyment.

Shuck et al., (2017) explores in more detail the Khan's definition (1990): *"An active, work-related positive psychological state operationalized by the intensity and direction of cognitive, emotional, and behavioural energy an employee directs toward positive organizational outcomes" (Shuck, 2017, p.954)*

It confirms the three axes of the employee engagement, which are cognitive, emotional, and behavioural, and furthermore, in this definition, is introduced the relation between positive psychological conditions and the relative organizational outcomes.

Theoretical Frameworks

Before defining the antecedents and outcomes of the EE, it is necessary to present the theoretical background of the EE. Indeed, the selected theoretical frameworks will be used in the next paragraph to explain the reasoning behind the relationship between EE and its antecedents.

Briefly, the theoretical frameworks selected are:

- **Job-Demand Resource (J-DR) model:** It analyses the level of job demands (i.e. role conflict, burnout, stressful factors) that affect the psychological conditions of employee and the available resources that he/she has to fulfil these demands (Bakker et al. 2001).

- **Social Exchange Theory (SET):** it explains the correct workplace behaviours that have to be adopted and defines the norm of reciprocity within social relationships (Blau, 1964).

- **The Leader-Member Exchange theory (LMX):** It states that a high-quality relationship between leader and follower may spread feelings of trust, loyalty and support, making possible to be considered as a job resource (Cropanzano and Mitchell, 2005; Bakker, Demerouti and Euwema, 2005).

- **Conservation of Resource (CoR) theory:** it states that, once established a high-quality relationship, it will be possible to create a positive spiral which facilitate the employee engagement.

The theoretical framework analysis starts from the presentation of all the possible job resources that help employee to meet job demands and make him more engaged - **J-DR** model. Then, the study will focus on the workplace behaviours with a general view, defining the social rules and norms of how employees interact - **SET** theory. In the following frameworks, it is highlighted the importance of the relationship between leaders and employees. Indeed, according to the JD-R model, the High-quality LMX have positive influence on work engagement and, consequentially, on job performance, commitment, and job satisfaction (Dulebohn et al., 2012; Martin et al., 2015). Finally, it is known through the COR theory that once employee is engaged, he/she could maintain this level of engagement over time.

Job Demand-Resource Model

JD-R model examines the associations between personal and job demands and resources.

Job demands refer to physical, psychological, social, or organizational features of a job that require effort from employee that can result in individual costs. Examples of Job demands are role conflict, role stress, workload and work pressure which lead to poor health and negative organizational outcomes. The loss of energy and negative feeling can cause work burnout.
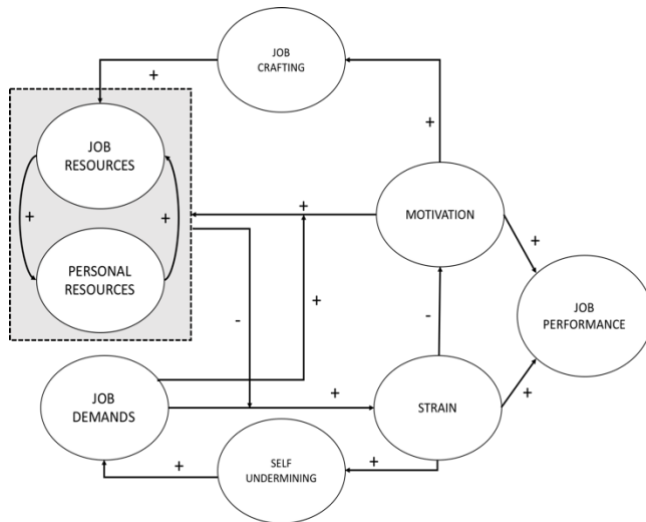
Figure 2: The JD-R Model (Bakker et al., 2014)

On the other side, a recent meta-analysis confirmed that **job resources** are one of the most important predictors of employee work engagement (Christian et al. 2011) *(Figure 2).* They represent the physical, psychological, social, or organizational features of a job that are functional in helping employees to achieve work goals, reduce job demands, and stimulate personal growth and development (Schaufeli & Bakker, 2004). Different sources point to the Job resources: from the organization rewards and opportunities to the interpersonal and social relations, from the clarity of the work to the job characteristics itself (Bakker & Demerouti, 2007). The JD–R model is a useful tool not only to analyse the job features, demands and resources respectively but also to forecasts the implications at the individual and organizational level, i.e. employee burnout, work engagement, and outcomes.

Social Exchange Theory (SET)

SET is one of the most influential conceptual paradigms for understanding workplace behaviour (Cropanzano, 2005). According to SET perspective, when parties interact a series of **obligations** are generated (Emerson, 1976). Moreover, if parties follow suited *rules,* their relationship will be more loyal, and based on mutual commitment.

The first exchange rules, the **reciprocity** refers to an interdependent exchange, a folk belief and a norm orientation (Cropanzano, 2005). Indeed, reciprocity needs a continuous exchange between two parties as a bidirectional transaction to achieve an outcome. "Folk belief", instead, means that people will receive what they deserve based on their involvement in the relationship. In this case, a relationship can conclude in a sort of equilibrium, in a punishment or in a future help. Finally, the concept of norm identifies established rules that are considered as standards that individuals should follow to behave reciprocally.

Later, the **negotiated** rules are introduced. These kinds of rules required a definition of specific duties and obligation by each part. Basically, exchanges are based on individual decision. Namely, the rationality, altruism, group gain, status consistency, and competition as other type of exchanges (Cropanzano, 2005).

Nowadays, SET is used to analyse and define the workplace relationship. From a SET perspective, a higher level of engagement can be achieved by providing different resources to employee. Saks (2006) states that providing employees a challenging job, giving rewards, recognition, a better perceived social and supervisor support, will make employee feel obligated to respond with a high level of engagement, as part of the reciprocity norm of SET.

LMX Theory

The **LMX theory** affirms that the creation of a unique relationship between leader and follower can rise the quality level of the relationship, from low to high. This theory ties to give an explanation on how the relational approach of the leader needs to go beyond the formal status and expectation, and it is essential to encourage and motivate the follower (Breevaart, K., Bakker, A.B., Demerouti, E., Van Den Heuvel, M., 2015). D. Gutermann et al. (2017) analysed the LMX as an explanatory process for leader-follower engagement effects based on two cross-over theories. The first one is the **Social Learning theory** based on learning by observing the behaviour of role models and by reproducing these behaviours (Bandura, 1977). The second one is based on the **transfer of psychological and physical states** like postures, vocalizations and emotions. Hatfield, Cacioppo and Rapson (1993) studied that people spending more time together are used to synchronized and converge emotionally.

As theory states, high-quality LMX relationships enhance job resources as autonomy, trust, commitment and opportunity to participate in the decision-making process, which can limit and contain the negative effects of job demands (Bakker, Demerouti and Sanz-Vergel, 2014), and thus reduce different causes of burnout: role conflict, role ambiguity and role overload (Dunegan et al., 2002). This means that employees with a strong leader-follower relationship are feel trusted and free to decide for their own activities and tasks, increasing the level of individual autonomy. As mentioned before, the feeling of reciprocity trust and decision-making freedom influence the commitment of employee towards the leader as well as the

team. Indeed, the high-quality LMX promotes a warmer environment between colleagues based on helping attitudes from each member. The increase of job resources induces the employee to be more engaged, according to the JD-R model.

It can be possible to see the leaders' work engagement positively linked to that of their followers. If employees perceived high leader's engagement with dedication and trust, they feel stimulated to return by engaging more. High-quality LMX could be seen as a mediator of the positive relationship between leaders' work engagement and followers' work engagement (D. Gutermann et al. 2017).

One of the strongest human limits is related to the difficulty on developing similar quality relationships with all of team members. The dimensions of equality and consistency are hard to achieve as well as to maintain. It can cause resistances from employees and create a hostile environment between them (Anand et al., 2015). The employees who perceive unfair treatments from leader, respond reducing their commitment and willingness to collaboration.

COR Theory

COR theory is a motivational theory, used in the literature to understand and predict the relationship used to reach employee engagement. It states that *'people strive to retain, protect, and build resources and that what is threatening to them is the potential or actual loss of these valued resources'* (Hobfoll 1989). In this framework resources include object resources, condition resources (supportive work), personal resources (key skills, self-efficacy, self-esteem), and energy resources (knowledge).

The first two principles of the framework state that: firstly, individuals do not want to lose their resources and they always try to create and maintain them, secondly, people must invest resources in order to not lose them. These two conditions lead to a gain cycle or a loss cycle able to explain different people behaviour.

Studies reveal that it is more difficult for an individual to re-gain resources once they are depleted, although those with many resources can gain more easily (Hobfoll, 2002). When experiencing resource depletion, individuals become defensive as they seek to conserve the few resources they have (Hobfoll, 1989).

Perceived Organizational Support (POS) and Transformational leadership (TL) as antecedents of Employee engagement

Definition of the antecedents

To answer to our initial research question - *"How to engage employees in a high digital context"*- it is introduced the concept of antecedent, namely those variables associated with the higher level of EE. In the EE literature, there is a huge number of antecedents. Seen the vast quantity and variety, we decided to classify them into four categories (*Table5*) (Saks, 2019, May et al., 2004, Zhang, X., Bartol, K.M. 2010, Bailey et al., 2017, Nahrgang, J.D., Morgeson, F.P., Hofmann, D.A., 2011).

Interaction	Task characteristics	Personal characteristics	Organization policy
Perceived organizational support	Job characteristics	Knowledge	Rewards and recognition
	Job enrichment	Family-Supportive	
Perceived supervisor support	Work-role fit	Environment	Procedural justice
Co-worker norms		Outside activities	Distributive justice
Social Support of Leadership			Safety Climate
Transformational leadership			

Table 16:Antecedents of Employee Engagement divided into categories (Own elaboration)

Organizations are complex systems that comprehend a technical subsystem, a personnel subsystem, an organizational structure (Raghuram et al., 2018). To achieve a right functioning and integration between subsystems it is fundamental to focus on the interactions between them (Raghuram et al., 2018). This is the main reason why, after the previous classification, our attention focused on the **interaction category**. This choice is in response to what emerged from the digital context analysis, namely the organizational concern about the teleworkers difficulties in communicating with their colleagues.

In this category, another screening was made, our study will only be focused on POS, PSS and TL. It is legit to state from a managerial point of view that is easier to intervene on

organizational and leaders' behaviours than modify co-workers' relationships. Indeed, we agreed to go deeper into the analysis of the relationships between the employee and his leader and between the employee and his organization.

Both POS and TL are before presented and inserted in their theoretical context in order to give a clearer explanation of their relationship with EE. Firstly, in both cases, it is provided a definition and a brief literature analysis, subsequently, it is introduced the link with EE through the chosen theoretical frameworks. Later it will be presented the mediating role of PSS.

Perceived Organizational Support definition

Economic pressures, turbulent and unpredictable changes in the business environment as a result of global competition have led to a re-thinking in the design and structure of employment practices. Organizations must be proactive in adapting to rapidly changing circumstances by adopting human resource practices aiming at expanding workers' skills and knowledge bases and the adoption of unconventional work methods such as Telework.

During this change, it is fundamental for employees to feel the support of their organization. **POS** refers to a employees' belief that the organization values their contribution and cares about their well-being (Rhoades and Eisenberger, 2002). It is important to highlight that POS is an individual-level construct, it accesses the subjective perceptions of a single employee in feeling cared for and valued by his organization (Swift & Virick, 2013). Employees, who perceive that organization support their work and value their contribution, are more inclined in finding an equilibrium in their exchange relationships with their organizations, basing their behaviours and attitudes on their employer's support (Tuzun and Kalemci, 2012).

Organizational support is one of necessary needs in today's business, because employees may gradually exhaust their energy backup and might eventually burn out when job demands are high. The additional effort must be exerted to achieve work goals, and to rest when the recovery is inadequate or insufficient (Schaufeli and Bakker, 2004).

POS as antecedent of Employee Engagement

There is a large body of literature showing that general organizational support is associated with positive employee outcomes, such as greater job satisfaction (Patrick & Laschinger,

2006), improved mood and decreased strain (Rhoades & Eisenberger, 2002). High level of POS is associated with an incitement to positive work outcomes, such as employee engagement and reduced absenteeism and turnover intentions (Tuzun and Kalemci, 2012). Organizational support also has been shown to buffer some of the negative effects of workplace demands on employees' health and well-being (Schat & Kelloway, 2003; Witt & Carlson, 2006).

To explain how POS leads to a higher engagement of the employee, SET, JDR anc CoR theory models are used for the reasoning.

- **JDR model**: according to the definition of this model, it is possible to consider POS as a **job resources** since it represents psychological, social, and organizational features that help employees to achieve work goals, reduce job demands, and stimulate personal growth and development. (Schaufeli & Bakker, 2004). The sense of being psychological safe from the amount of care and social support limit damages of possible negative work consequences, such as burnout and stressful factors. People, feeling safe in their organization characterized by supportiveness and openness, tend to experiment and try new things without the fear of failing (Kahn, 1990).

- **SET theory**: POS induce into employees a sense of obligation to care about organization's health and to help organization in reaching goals; employees usually are inclined to fulfil this obligation by becoming more engaged, according to the reciprocity norm (Saks, 2006; Rhoades and Eisenberger, 2002). In other word, POS can be considered as an antecedent of employee engagement. Employees that feel their organization is concerned about them and cares about their well-being, will be more motivated and obliged they are to reciprocate by being more engaged in performance behaviours. According to SET, when both parties abide by the exchange rules, the result will be a more trusting and loyal relationship and mutual commitments (Cropanzano and Mitchell, 2005).

- **CoR theory:** it is expected that employees who work in organizations will perceive organizational support to attain their personal work goals. The perception of this condition resource, such as POS, influence the employee conditions by motivating him.

It was studied that the effect of POS is stronger than other antecedents, like value congruence and core self-evaluation, reaching a higher incidence on the job involvement of the employee, job satisfaction and their intrinsic motivation. (Rich, Lepine, and Crawford, 2010)

Leadership

Leader's tasks are related to the monitoring of the environment and the outcomes, to the implementation of a specific strategy and to guiding employees to an easier path-goal (Antonakis and House, 2014; Bormann and Rowold, 2018). Leaders achieve the defined goals by inspiring their followers and by promoting sharing attitudes and behaviours, in order to share the successes.

Studies reveal that according to different behaviours and management practices leaders affect employees' work engagement and performance (Gutermann et al., 2017). Based on the level of perceived supervisor support (PSS), employees will have a different consideration of the organization. A supportive relationship will stimulate a psychological safety (May, D.R., Gilson, R.L., & Harter, L.M., 2004) and will enhance employee creativity (Oldham & Cummings, 1996). It means that engaged leaders will positively influence the employees' work engagement (Gutermann et al., 2017).

In the next paragraph, it will be introduced a broad explanation on the leadership styles. Specifically, the focus will be on the transformational leadership, given the strong relation with the employee engagement highlighted in several empirical research (Buil, Martínez, Matute 2019).

Leadership classification

In the following paragraph will be presented the full-range leadership theory (FRLT). Bass (1985) has started not only to focus on follower goals and leaders' rewards, but he also tried to explain how leaders influence followers. This results to an improvement in employees' performance. The research of Bass focused on different styles of leaderships and the relative results afford an impressive contribution in understanding the relationship with individual's performances (Antonakis et al., 2003).

Bass continue to expand the theory until comprised five transformational leadership factors, three transactional leadership factors, and one non-transactional laissez-faire leadership reported below.

- **Transformational leadership:** *'Transformational leaders are proactive, raise follower awareness for transcendent collective interests, and help followers achieve extraordinary goals.'* (Avolio, Bass, 2003, p.265). It is the most effective kind of leadership style. Leaders encourage and motivate their followers through:
  - **Inspirational motivation**: aiming to improve the team communication and to spread positive vision of the future through the help of an optimistic and enthusiastic leader (Bono & Judge, 2004).
  - **Idealized influence**: focusing on showing the higher incidence of the team benefits rather than individual ones, the transformational leader with his charisma demonstrates the ethical norms becoming a role model (Bono & Judge, 2004).
  - **Individual consideration**: indicates the leader taking care of follower needs and feelings, supporting and coaching them by an individual attention (Den Hartog et al., 1997).
  - **Intellectual stimulation**: leaders offers more challenges and responsibilities to their followers, making them active thinkers (Bono & Judge, 2004).

  Transformational leaders pay attention to the concerns and needs of individual followers and they excite and inspire followers to put out extra effort to achieve organizational goals.

- **Transactional leadership**: the name of this leadership style comes from the different transaction that may occur between leader and follower. The exchange is based on *'fulfilment of contractual obligations and is typically represented as setting objectives and monitoring and controlling outcomes.' (Avolio, Bass, 2003, p.265).* In the literature, the transactional leader has characterised by three main components: contingent rewards, active management by exception, passive management by exception (Avolio, Bass, 2003).

- o The **contingent rewards** are defined by the literature as forms of payment, promotion and any kind of recognition that usually leader gives to celebrate a reached goal.
  - o The **active management by exception** refers to how leader could actively control and monitor the followers, taking corrective actions when it is necessary.
  - o The **passive management by exception** means intervening only when the standards are not respected.
- **Laissez fair:** *"Leadership is absent. Intervention by the nominal leader is avoided. With laissez-faire (avoiding) leadership, there are generally neither transactions nor agreements with followers. Decisions are often delayed; feedback, rewards, and involvement are absent; and there is no attempt to motivate followers or to recognise and satisfy their needs" (Bass and Avolio, 1993, p.265).* It is a completely passive leadership style that in the long-term lead to negative results of satisfaction, effectiveness and extra effort. Leaders intervene only when someone ask for it, giving high degree of freedom to the followers.

Studies revealed that the adoption of transactional or laissez fair leadership styles can lead employees to leave more easily companies, thus increasing the turnover intention (Guterman et al., 2017). In addition, it has been demonstrated that transactional leadership can increase even the disengagement of the followers, due to the over control and the low allowed decisional power (Howell, J. M., Hall-Merenda, K. E., 1999). Laissez fair leaders are not able to motivative and make active their followers, key antecedents for counting on engaged employees (Bormann KC and Rowold J, 2018). Finally, different studies reported the positive effects of TL as reported below (Hojanic et al. 2012).

The relationship between Employee Engagement and Transformational Leadership

The transformational leader inspires and motivates the employees pushing them beyond the limits. These coaching relationships, based on reciprocity trust, promote a warmer and a friendlier climate, reducing the status barriers (Howell and Hall-Merenda, 1999) and increasing the level of individual autonomy. The followers can easily notice the loyal

involvement of the leaders, doing personal sacrifices aimed at the best for the team, helping each member (Bass and Avolio, 1993). Several studies confirmed the positive association between this leadership style and the feelings of affect, loyalty, contribution and professional respect (Kovjanic et al. 2012).

The key to TL is the continue interaction between leaders and followers, increasing the quality of exchanges between them. The dyadic relationships are not merely focus on economy exchanges but aimed to increase personal satisfaction (Bass, 1985). All the different researches, focused on TL, share the common perspective that the effectiveness of this kind of leadership is the alteration of employees' values, beliefs, and attitudes, engaging and motivating them to perform beyond the expectations (Podsakoff, MacKenzie, Moorman, Fetter, 1990).

According to the **LMX** theory, the creation of a high-quality relationships enhances job resources that, in turn, not only lead to positive in-role behaviours from employees but also to higher extra-role performances (Buil, Martínez, Matute 2019). In addition, through this high-quality relationship, transformational leaders also, encourage the creativity, self-efficacy and optimism, drivers of employee engagement, increasing the followers' confidence in reaching work goals.

TL improves the organizational outcomes, having a positive effect on the employee engagement. According to the **COR theory**, this leadership style leads to the beginning of a gain cycle. Indeed, employees that receive many resources such as autonomy, developmental opportunities, social support from the transformational leaders, will develop new resources easily. (Arnold, K.A., Connelly, C.E., Walsh, M.M. & Martin Ginis, K. A., 2015).

Consequentially, for all the reasoning reported above, transformational approaches are positively related to work engagement and task performance (Aryee, Walumbwa, Zhou, & Hartnell, 2012), job satisfaction and leader commitment (Kovjanic, Schuh, Jonas, Quaquebeke, & Dick, 2012).

Finally, in the following table 6 it is summarise the relationship between the selected antecedents and how POS and TL are able to engage employee through the theoretical frameworks.

Theoretical Framework	**Perceived organizational support POS**	**Transformational leadership TL**
Job Demand-Resource Model (JDR)	POS as a job resources, it represents psychological, social, and organizational features that help employees to achieve work goals reducing job demands.	The reciprocity trust and professional respect from transformational leaders make the employee feeling safe reducing stressful factors and possible sources of burnout
Social Exchange Theory (SET)	POS induce into employees a sense of obligation to care about organization's health and success by becoming more engaged, according to the reciprocity norm.	Employees feel an obligation toward the leader due to the received good support.
Leader-Member exchange Theory (LMX)	-	Transformational leaders establish high-quality relationships that enhance job resource and encourage creativity, self-efficacy and optimism, drivers of employee engagement.
Conservation of Resource Theory (CoR)	The perception of POS influences the employee conditions by motivating him to attain their personal work goals.	Autonomy, developmental opportunities, social support from the transformational leaders, will develop new resources easily and induce a gain cycle for employees.

Table 17: POS and TL presented through the Theoretical Frameworks (Own elaboration)

The mediating role of Perceived Supervisor Support (PSS)

Collins et al. (2016) reported how the social support between employees and their supervisors can generate job satisfaction, greater organisational commitment, increased job performance, lower intentions to leave the organisation and career progression. The social support as one of the job resources, according to JD-R model, is one of antecedents of EE. **Khan** (1990) and **Rich** et al. (2010) pointed out the strategic importance of the PSS and how much the employee psychological safety benefits from it. In addition, the direct effects of leader supportiveness influence the employee satisfaction leading him to extra-role performances (Podsakoff et al., 1990).

PSS is defined as the employees' general perception about the rate supervisor values the participants and cares for their welfare (Eisenberger et al., 2002). As mentioned above, the transformational leaders are defined the most supporting ones as they share clearly the goals and guide the followers with social support and trust (Avolio et al., 2009). Indeed, one of the

characteristics, which most reflect TL style, is being supportive by creating a cooperative climate and stimulating new ways of thinking (Nemanich and Keller, 2007). Such efforts from supervisors raise EE, which later translate in higher performance of standard job activities, as well as in behaviors that go beyond assigned responsibilities (Eisenberg, 2006).

Transformational leaders' support, enhanced by a peer communication between leaders and followers, influences positively workers' attitudes and perceptions. Employees, who perceive their supervisors support, are more favourable to engage, they understand better the activities and their value inside the company (Cabrera, Collins, Salgado, 2006). Supporting supervisors, not only apply the organization vision by evaluating employee performances, but also show to the organization how much is important the system cohesion.

Amabile (1996) analysed the effected of both supervisor encouragement and work group support. People, who perceive a supportive supervisor that value their contribution and that represent a role model to follow, not feel the criticisms as negatives, but they use them to motivate themselves (Tuzun and Kalemci, 2002).

The mediating role of this variable, which was several times introduced by the TL literature, suggest potentially new ways of helping employees to cope with the sudden changes and reduce the uncertainty of the today's context (Nemanich and Keller, 2007). Furthermore, first-line supervisors are believed to be especially important for building engagement and to be the root of employee disengagement (Saks, 2006).

Individual performances

According to EE definitions, engaged individuals show higher levels of job satisfaction, feel more committed to the organization and experience good health. In the literature is reported that the EE is linked to better organization performances such as lower employee turnover, in-role and extra-role performance (Harter et al., 2002). For this reason, organizations consider engagement as a source of competitive advantage (Bakker et al. in 2015).

Moreover, Kahn (1990) states that employees strongly engaged reach positive outcomes and consequentially improving organizations performance. Their desire to embrace new knowledges, respond to opportunities and be energic is essential to address the continuous changes in the work environment and to adapt to the new CMC.

In the literature, different individual performances are considered consequences of EE.

This study focuses in particular on three of them: in-role performance, extra-role performance and finally turnover intention.
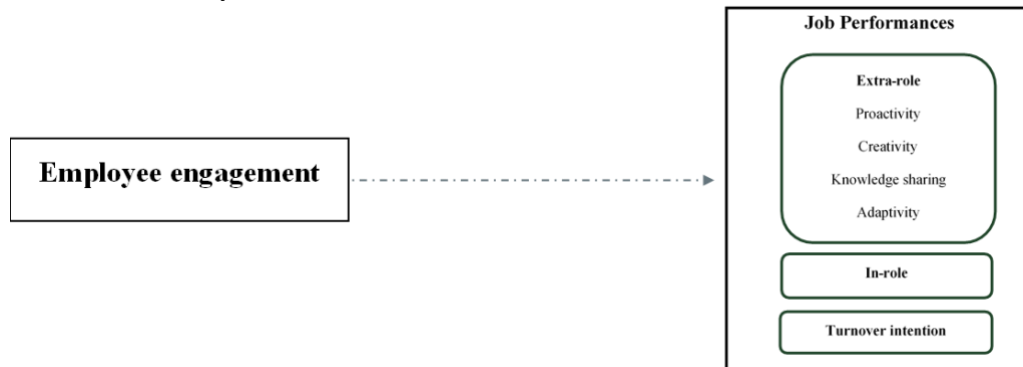

Figure 3: The relationship between Employee Engagement and the Individual Performances (Zhong et al., 2016; Griffin et al., 2007)

The former, **in-role** performance, is defined as *"those officially required outcomes and behaviours that directly serve the goals of the organization" (Demerouti E, Cropanzano R. ,2010, p. 148)*

According to the JDR model, *work pressure* and *emotional demands* were the most important job demands and antecedents of burnout, which in turn, influenced in-role performance (Bakker & Demerouti, 2007). Nowadays, it is relevant monitor this type of performances since the changing environment of enterprises could represent an increase in work pressure and anxiety in employees. The traditional work management is changing as well as the attitudes required today by the employees (Eldor, L., 2017). This implies changes in the task behaviour which contributes to individual and organizational productivity characteristics of in-role performances.

Kats (1964) introduced for the first time the concept of **extra-role** performance. It is defined as *"discretionary behaviours on the part of an employee that are believed to directly promote the effective functioning of an organization without necessarily directly influencing an employee productivity" (Demerouti E, Cropanzano R. ,2010, p. 148).* These performances go above and beyond formal role requirements and are not clearly specified in job descriptions.

Considering the JDR model, *autonomy* and *social support* were the most important job resources and antecedents of extra-role performance (Bakker & Demerouti, 2007). Below, the extra role performances most influenced by the adoption of Telework are reported:

- **Proactivity:** it is the extent to which the individual takes self-directed action to anticipate or initiate change in the work system or work roles. Proactivity is important whenever a work context involves uncertainty and some aspects of work roles that cannot be formalized (Griffin et al., 2007).

- **Knowledge sharing:** In the previous paragraph, it is analyzed the importance of the communication and the proper use of synchronous and asynchronous media. These media permit the knowledge sharing between employees. Knowledge sharing is defined as the process where individuals mutually exchange their (tacit and explicit) knowledge and jointly create new knowledge (Van den Hooff & De Ridder, 2004). Knowledge sharing implies that every knowledge-sharing behavior consists of both bringing (or donating) knowledge and getting (or collecting knowledge). Therefore, people who are willing to share their knowledge seek to attain a balance between donating and collecting knowledge.

- **Creativity:** the generation of new and potentially valuable ideas contributes to organizations' renewal, survival, and growth in today's turbulent and competitive business environment. New Creative performance is a significant outcome since it leads employee to have innovative ways and perspectives on how adapt to new context (Talebzadeh &. Karatep, 2019).

- **Adaptivity:** describes the extent to which an individual adapts to changes in a work system or work roles (Griffin et al., 2007).

Furthermore, extra-role performance negatively affects voluntary turnover (George and Bettenhausen, 1990). **Turnover** has a costly consequence for organizations, representing a huge concern for managers and organizations. The replacement selection required an investment not only in form of money but also end especially in term of time and training (Pfeffer & Sutton, 2006). Engaged workers, that have active and positive emotions, are more inspired, energized, cheerful and enthusiastic (Bakker et al., 2014). These reactions lead to **lower turnover intentions** deeply reducing costs for the firm.

Nowadays, thanks to Telework, employees gain more autonomy and become more independent (Sánchez et al., 2007). Organizations are therefore seeking for employees able to accomplish in-role and extra-role behaviours, through the use of digital tools and to support the implementation of the new managerial thinking way (Griffin et al., 2007).

1.2 Research gap, interactions in high digital context: How to engage employee in a digital context?

Although many employees are using digital media as part of their daily work, few studies have examined the effects of telework on employee engagement. Moreover, there is a lack of validated scales to assess the telework factors that may impact employee engagement.

A problem encountered during the paper analysis, is the high level of uncertainty of Telework consequences on organization. Research that have explored the effects of telework in employee engagement are few and inconclusive (Biron, M., & van Veldhoven, M., 2016; Boell, S., Cecez-Kecmanovic, D., & Campbell, J. 2016; Sonnentag, et al., 2010).

In general, it is believed that telework can lead to lower level of employees' stress (Delanoeijea, Verbruggena, 2020) decrease work-home conflict (Straub et al., 2017) and increase the level of engagement (Gerards, Grip, Baudewijns, 2018). Some findings encourage the adoption of telework, stating that office days are more stressful than home days. In the literature, ICTs support (personal assistance and resources/upgrades support) (Day et al., 2012), a higher autonomy and flexibility together with a work-life balance were associated with lower stress, strain, and burnout, leading to higher level of engagement and in some case to higher creativity. In this situation, distance had no influence on either communication effectiveness or perceived leader performance (Neufeld, Wan, Fang, 2010).

However, some findings reported a higher level of job demand and stress, that, as it is reported in the employee engagement literature, lead to lower motivation and disengagement (Masuda, Holtschlag, 2017). The possibility given by digital media to be "always on", meaning be accessible by communications use outside the workplace would produce home conflicts and a higher level of stress (Fujimoto et al., 2016). To increase the level of stress even more, there could be higher job demands given by ICT factors -availability, communication, ICT control, learning, response expectations, and workload. In this situation, the beneficial effect of working from home is reversed, and home days are no longer more relaxed.

Since this inconsistency of the literature on the effects of telework in employee engagement, at this point, our study aims at identifying interesting research gaps to be investigated. Our initial interest was to understand:

R.Q. 1: *"How the new digital context affects the employee engagement?"*

It is legit to conclude that the inconsistency of the literature is due to the high difficulty in determining the real effects of telework. Indeed, there are several factors and challenges which must be added to the ones typical of the traditional environment (Audronė Nakrošienė, Ilona Bučiūnienė and Bernadeta Goštautaitė, 2019). For this reason, in order to try to give an answer to the previous question, we decided to divide the problem considering different factors. In this way, we were able to subdivide the problem, and address more specific questions.

The bridges are funded as connection between selected variables of EE – employee engagement, transformational leadership, perceived organizational support, perceived supervisor support and individual performances – and the telework. This procedure it will be deeply explained in the methodology paragraph.

Employee Engagement → Telework

Telework has the potential to increase the employee engagement, offering a higher autonomy in managing their own activities and contributing to higher levels of control over when and where to work. (Gerards et al. 2018). Derks et al. (2015) have revealed that the adoption of smartphones can improve the employee engagement due to media flexibility and mobility, enabling workers to access to real-time information. The study proposed as future research the investigation of its result also considering other digital tools.

Literature has not yet clearly defined the downside of the adoption of Telework. Studies reported the difficulties to measure the amount of stress experienced by teleworkers (Oldam and Silva, 2015). The **level of stress** can be caused by different factors causing disengagement and increasing work-life conflicts. The main sources are those regarding every kind of interruption during the work-activities and those regarding the communication control, namely employee's ability to regulate the use of work-related communication technologies (Rofcanin, Y, Heras , ML & Bakker, 2017). The first category is referred to family obligation and chores, availability of space, presence of young children and the

continuous e-mail and phone call interruptions (Boell et al., 2016). The second one is concerned about the employee knowledge of the usage of digital tools. In their empirical studies, literature did not take into account the age of the respondents and did not consider the difference between employees that already used to telework for several years and those who just started to telework with particular facets of Telework (Gerards et al., 2018). Hence, the future research must consider all these factors to actually obtain a clear view of the Telework effects on employee engagement (Lee et al., 2018).

Thus, an interesting research question emerging from this analysis is:

Q.2: Which are the factors that affect employees' conditions during their Telework hours and could affect their engagement?

Transformational Leadership → Telework

Traditional leadership models, based on face-to-face interaction, may not be worth to fully explain the behaviour of leaders that act in high digital context (Collins et al., 2016).

The job resources provided in the traditional environment such as feedbacks, rewards encouragement and motivation are today deeply affected by technology, thus changing the way leaders communicate to employees (Gerards, van Wetten, Sambeek, 2020). Hence, studies reported the crucial role of continuous feedback between leaders and employees, also from distance, in order to maintain a high perception of the supervisor support (Seung-Ho An., 2020). TL could remain effective if the trust relationship is extended during Telework hours (Nayani et al., 2017).

Future research might investigate more about leaders' attitudes linked to their digital knowledges and their approaches to digital media. A poor digital background and a reluctant willingness from supervisors can negatively influence the TL effects on employees. Studies suggests to both analyses the pre-existing level of leadership as well as the change due to the digitalization (Seung-Ho An., 2020).

The preceding discussion raises an interesting research question:

Q.3. How to maintain TL effectiveness when the relationship between leaders and employees is mediated by digital tools? Which type of digital communication is needed to reach a high level of trust and transparency?

Perceived Organizational Support → Telework

Literature did not study if the conditions that enable the employee to feel the organizational support are verified also in digital context. The distance from workplace can invoke social isolation, causing lower motivation and lower perception of belonging to the organization (White, Lockett, Currie, 2020)

Moreover, employees may believe that the lack of face-to-face interactions and communication, due to Telework, can cause a lower level of interpersonal relationships and trust between them and the organization, leading to career penalties for using flexible leave (Day et al., 2012).Hence, future studies should study how organizations can influence employee perception and engagement through new strategies that involve the adoption of digital tools.

Q.4. Which actions organizations should take to make employees feeling their support even far from the office?

Individual Performance → Telework

Mechanisms and contextual conditions that enhance individual performances in Telework are not addressed by today's research (Golden et al 2019). It is suggested by studies that the adoption of digital media can improve the way employees perform their tasks and the relative outcomes (Las Heras et al., 2017).

Literature has not yet identified for each task which is the most suitable digital media to adopt. Boell et al. (2016) have underlined as future research the importance of understanding which types of Telework arrangements help employees in achieving their goals, which are the more favourable conditions that can positively influence the employee performance and finally how digital media support telework practices (Boell et al., 2016).

Finally, the attention should be moved on the level of ICT familiarity and the ICT level required by the tasks. A not-proper knowledge and availability of the needed digital tools can become a source of job-demand that, as it is known from the literature, lead to negative outcomes such as turnover and absenteeism (Day et al., 2012, Cheung 2013).

This leads us to ask the following research question:

Q.5: Which are the digital media that enhance the individual performances?

2. Methodology

This chapter is divided into five main parts: the definition of the objective, the literature review, the model overview, the definition of the hypothesis and finally the questionnaire proposed to test the model and the relative measures.

2.1 The objective

In order to accomplish the objective of our Master Thesis, we followed the steps reported in the *Figure3*.

As starting point we established the objectives of our research, which represent the guidelines in the drafting of our study.

The purpose of this **academic literature analysis** was to address the issues characterizing the new digital context and the factors influencing the level of employee engagement. Until today, the vast majority of EE studies did not take into account the digital variables as antecedents or consequences of employee engagement. This constituted the research gaps that we wanted to address and enforced our purpose to further investigate the effects of interactions mediated by digital media on employee engagement.

The analysis of the literature has played a major role, because it allowed creating a solid theoretical base, which was necessary to build the **final model.** The model integrates results obtained in the literature - such as a positive effect of transformational leadership style or a perceived organizational support on employee engagement - with the identification of new digital variables that have a moderating role toward higher level of EE – such as the adoption of rich media or different level of digital skills in employees. The choice of this topic was driven by two main aspects: first, the wide diffusion of digital tools integrated in the organizational practices, employees adopt digital media from the accomplishments of their task to the communication with their colleagues; and second, the challenges that organizations and leaders have to face.

Step 1- Establishing the objects of the review

- To provide a clear comprehension of the employee engagement and the digital context literature
- To identify research gaps of employee engagement literature in teleworking field
- To provide a theoretical model to cover interesting research gaps
- To define hypothesis and a questionnaire to test the model
- To identify managerial practices for the organizations

Step 2-Literature Analysis   *106 scientific articles*

Searching relevant research
Employee engagement = 45 paper
Digital Context = 37 paper

Searching for research gaps
Employee and telework= 24

Step 3- Model creation

- Definition of the extremities of the model (Transformational Leadership, Employee engagement, Perceived organizational support, Individual Performance)
- Definition of the mediator(Perceived Supervisor support)
- Definition of the moderators (Rich media, Media synchronicity, Digital Skills, Suitable Solution)
- Definition of the Hypothesis
- Definition of a questionnaire to test the model

Step 4- Managerial practices

- Definition of some managerial practices to answer to the identified research gaps
- Concrete practices for organizations

Figure 4: Steps of the investigation process)

Last, some **managerial practices** are presented. These practices have the aim to provide some concrete advices to organizations and to provide a consistent utility of our model.

Today is impossible to pass from traditional management practises, characterized by face-to-face communication and physical structures, to a high digitalized way of working that break down the time and space dimensions without adopting some changes in the managerial style.

2.2 Literature analysis

The literature analysis aims to reach a clear overview of the research performed until today and the missing arears that were not yet explored. In addition, we continued to monitor studies that were published while this paper was in preparation.

The systematic review is guided by the following question, from which keywords for the database searches are defines. In this study, the starting point was answer to the following question:

R.Q.1 "How the new digital context affects the employee engagement?"

Since digital context is a too broad definition, the analysis focused on the new ICTs and Computer-Mediated Communication that are able to permit a flexible work arrangement which allow workers to vary the amount, timing and location of their work. Given that, the attention was to investigate the new circumstances where employees work and the changes in their engagement.

Firstly, the literature analysis considers the main two topics, the new digital context, and the employee engagement in a separate way. Indeed, in the first phase of the collection of papers, the research was directed on the one side considering as keywords "*ICTs*" or "*Computer-mediated communication*" and on the other side the *"employee engagement"*. The research of academic paper has been mainly carried out on Scopus and Google Scholar, selecting journal from many Journal of Engineering, Social Science, and Business and Management. Namely, the selection was made starting from the most relevant journal defined by the *Associazione Italiana degli Ingegneri Gestionali* (AiG) classification: the GoldStar, Gold and Silver Journal.

Considering the huge number of papers related to this research, a first screening of them has been necessary, choosing the most interesting regarding the specific areas. The selection process was structured as the follow: first, it was performed reading the abstract and selecting

the most appropriate one, then, through a close reading and interpretation, there were selected the most significant to help our research. Finally, that information has been quoted within the discussion of topics and reported in the bibliography chapter at the end of the work.

As a result of the literature analysis, in both cases, we were able to extrapolate additional keywords in order to have an exhaustive literature search output that was consider as starting point to identify an interesting research gap. The various steps that have characterised the research endeavour are deepened in the next sections.

Digital context

As aforementioned, the starting point of this research was to investigate the new digital context in which organizations operate.

Starting with the keywords, "*ICTs*" and *"Computer-Mediated Communication",* the number of documents resulted from the Scopus research was huge. After a deep screening and selection of documents, our attention has been focused on "Telework", since it includes a whole range of different working practices that companies are embracing. Telework have different meanings: from working from home to the exploitation of co-working spaces, from office visits only for meetings to the completely renovation of work environments (Mann, 2000).

The analysis of the selected paper allowed us to define the implications of remote work on workers together with its benefits and challenges. Furthermore, the research highlighted different theoretical frameworks used to conceptualize the way employees respond to the characteristics of CMC systems, particularly in the adaptation to cue systems that differ from face-to-face communication. For this reason, *"Media Richness Theory" and "Media Synchronicity Theory",* were used to find the lasts papers in the new digital context paragraph. Thanks to the previous analysis, we were able to classify the new digital tools identify in the Computer-Mediated Communication section, according to the MRT and MST.

Employee Engagement

Using the same reasoning we were able to make an analysis and a selection of the documents found in the employee engagement section. The starting point, in this case, was the Keyword *"Employee Engagement"*. Engagement theory started in 1990 when Khan first gave a definition. Over time several implication and benefits have been found for organizations able to engage their employees. To better explain the construct of engagement, it has needed to present theoretical backgrounds. The theoretical frameworks identified in the literature are:

- *Social Exchange Theory (SET)* theory (Blau, 1964) explains the workplace behaviour and defines the norm of reciprocity within social relationship.

- *Conservation of resources (COR)* theory (Hobfoll,1989) focuses on the value of the resources, explaining people behaviour in retaining, protecting, and building resources.

- *Affective Events theory* (AET) (Weiss, Cropanzano, 1996) explains on how positive emotions can have effects on the well-being of the employees.

- *Broaden-and-Build* (B&B) theory (Fredrickson, 1998) highlights that positive emotions are fundamental in building personal resources.

- *Job-Demand Resource (J-DR) model* (Bakker et al. 2001) analyses the job resources and demands.

- *Leader-Member Exchange (LMX)* model affirms that the creation of a unique relationship between leader and follower can rise the quality level of the relationship, from low to high (Breevaart, K., Bakker, A.B., Demerouti, E., Van Den Heuvel, M., 2015).

A specific focus will be dedicated to SET, COR, JD-R and LMX model since they focus not only on the engagement or well-being of the single employee but study in different ways and perspectives the interaction between peers and leader and between employee and the organization.

For this reason, we filtered the Scopus research using as keywords: *"Job-Demand Resource model"*, *"Social Exchange Theory", "Conservation of resource"* and "*Leader-member*

Exchange Theory". Thanks to the four selected theoretical frameworks, we were able to extrapolate the interested antecedents, namely Transformational Leadership and Perceived Supervisor Support. Finally, it is investigated the Individual Performances, using as filter *"Outcome", "Individual Performance".*

Research Gap Definition

Secondly, after having collected a discrete amount of information about the New Digital Context and Employee Engagement, this Master Thesis aims to analyse and extract useful insights by investigating the two topics at the same time, namely how the employee engagement change when the interaction with the leader and the organization is mediated by digital media.

Using the framework adopted by Raghuram (2019), we searched each selected variable (EE, TL, IP, PSS, POS) in the field of Telework. This has led us to identify four different bridges between them. As a consequence, we were able to extrapolate five interesting research questions already reported above.

To sum up, in the following table are analysed the type of the scientific paper utilized for each paragraph.
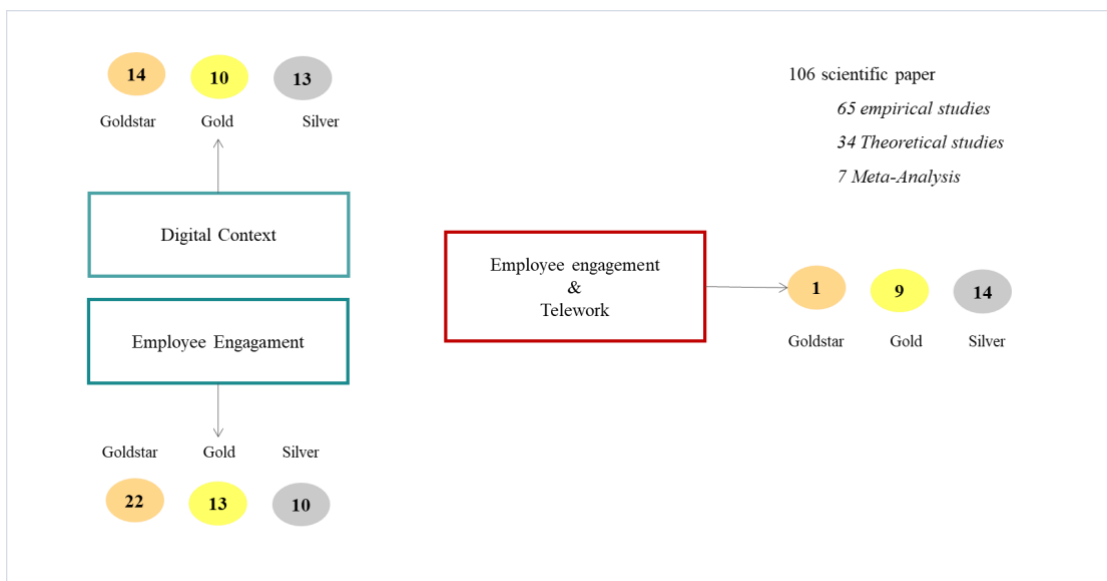

Figure 5: Quality of Scientific Paper

2.4 The Model Overview

The following paragraph has the aim to identify an overview of the logic behind the theoretical model. The starting point was what emerged in the previous section. From the literature analysis, the POS and TL emerged as antecedents of EE. Moreover, it is also arisen the association of the EE with a higher level of Individual Performance.

As mentioned in the previous section, among the main gaps there is lack of attention to the new digitalized context. Previous research has not deeply analysed if this new context influences the reported results. Nowadays it is impossible not consider the organizational management changes. The globalization and digitalization are taking place among enterprises, and the Telework is becoming more a more a "new normal". Indeed, literature still have to clarify if:

- The trust, the friendlier climate, and autonomy provided by TL to his followers, are still able to engage teleworkers when their interactions are mediated by digital tools.
- In the case in which the employees (both TL and followers) have not an appropriate digital background, how much the engagement is influenced
- Which strategies organizations must use in order to make the employee feel a right support

For this reason, it has been considered interesting to start with already tested (Bakker et al. 2001 ;Rhoades & Eisenberger, 2002; Buil, Martínez, Matute 2019; Bakker et al. in 2015) relationships between the variables as presented in *Figure4* and subsequently, define new mediators and moderators that try to answer to the issued identified above and in the research gap.
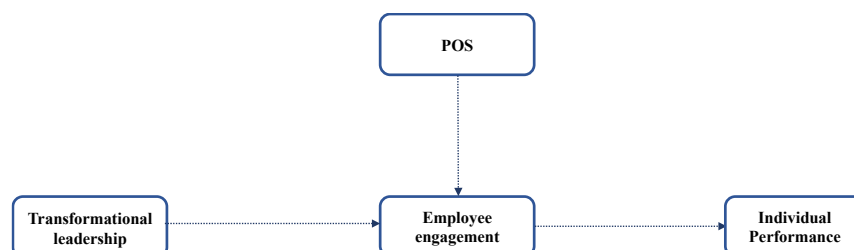

Figure 6: The extremities of the Model

To start answering to the resulting issues, the logic behind this model is:

- On one side, the model is going to investigate if the digitalization positively moderate the relationships between the TL style and the EE. Especially, if a right level of richness and synchronicity, and the digital knowledges of the actors, are positively associated with EE, explicating this relationship through the PSS.
- In parallel, it investigates how much the adoption of suitable digital solutions influence the employee perception of the organizational support.

Finally, higher is the support perceived by the organization and by the transformational leader, higher is the employee engagement, which ultimate leads to higher individual performances, meant as in-role performances, extra-role performances and turnover intention. The performances are introduced also because they are useful to translate people's behaviour into a measurable result for the organizations.
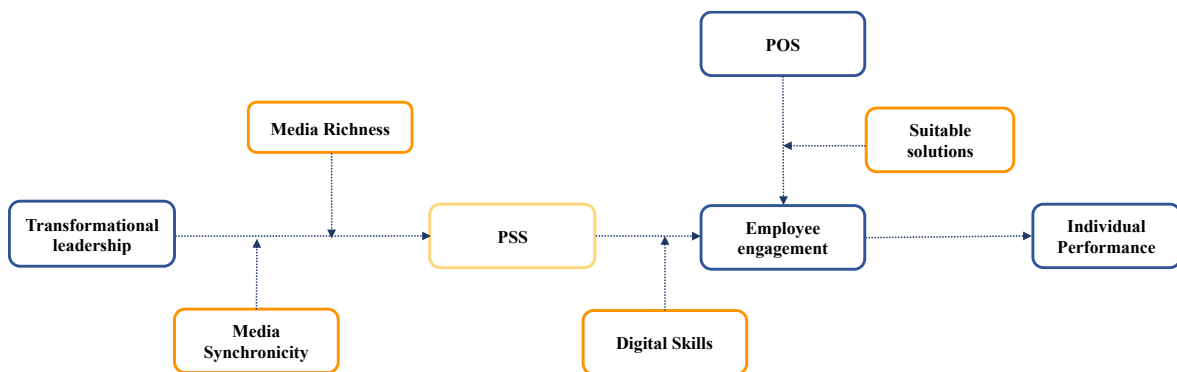

Figure 7: The Theoretical Model

Definition of the constructs

According to the existing literature and the perspective taken in this study, the selected variables are aligned with the focus on employees and their feelings in the work environment. The following table (7)

briefly indicates the definition and the main paper of reference of each construct.

CONSTRUCT		MEANING
VARIABLES	**Transformational leadership**	*'Transformational leaders are proactive, raise follower awareness for transcendent collective interests, and help followers achieve extraordinary goals.'* (Avolio, Bass, 2003, p.265)
	Employee Engagement	*'The harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively and emotionally during role performances'* (Kahn, 1990, p. 694)
	Perceived Organizational Support	Employees' belief that the organization values their contribution and cares about their well-being (Rhoades and Eisenberger, 2002).
MEDIATOR	**Perceived Supervisor Support**	Employees' general perception about the rate supervisor values the participants and cares for their welfare (Eisenberger et al., 2002). It also means that supervisors apply the organization vision by evaluating employees**.**
MODERATORRS	**Digital Skills**	Digital skills are the repeatable, goal-oriented behavioural tactics and routines that people employ in the service of their motivation and knowledge in the digital context (Spitzberg, 2006).
	Media Richness	Framework that define a coherent way to convey information according to the task needs reducing uncertainty and possible wrong interpretation.
	Media Synchronicity	*'Is the extent to which the capabilities of a communication medium enable individuals to achieve synchronicity'* (Dennis et al., 2008). The theory identifies the usage of media namely in the case of transmission of new, diverse and larger information between individuals (Dennis et al., 2008)
	Suitable solutions	Technological solutions that are suited and proper to the job tasks and responsibilities by enabling interactions and reach the defined objectives.
	Individual Performance	Performance objectives specifically attributable to each employee reflecting his accomplished tasks and responsibilities. They are subdivided in: in-role performance, extra-role performance and turnover intentions.

Figure 8: Table of Constructs

It is significant to stress out the concepts of **Digital Skills** and **Suitable Solutions**, which are only mentioned many times among the first chapter but not well presented as the others.

Our analysis of **digital skills** of employee aims to identify the level of Computer Mediated Communication knowledge, such as the cognitive comprehension of content and procedural processes involved in conducting appropriate and effective interaction in the computer-mediated context (Spitzberg, 2006). People who are particularly comfortable, confident, or expert in CMC use benefit from relational uses of CMC (Campbell & Neer, 2001). Even if the employee motivation to embrace virtual practices is strong, he still needs of a sufficient set of skills to have the capabilities to transform the motivation into results (Spitzberg, 2006).

The concept of **suitable solutions** includes all the digital tools that organizations have to select, adopt and release to their employees in order to meet job demands in a digital context. This change management spreading innovation and new ways of working need to be supported by the right equipment based on the job tasks and responsibilities. Our study strives to investigate the organizational support focusing on the availability and properness of these tools.

Hypotheses

The model is structured by different constructs, which Transformational Leadership (TL) and Perceived Organization Support (POS) represent the independent variables (predictor), Employee Engagement (EE) and Individual Performance (IE) the dependent variables (criterion). Between TL and EE, the Perceived Supervisor Support (POS) is a mediator variable; instead, Media richness, Media synchronicity, Digital skills and Suitable solutions moderates the relationships between them.

The mediating variables allows us to detect the digital context toward the company. They will help us in explaining the relationships between the independent and dependent variables, investigating which is the nature of the relationship between them. All the mediators were carefully selected to obtain a full perspective of the work environment and to capture all the details of the digital level adopted and used in the company. Each relationship between constructs is explained in detail in this paragraph.

The study specifies two kind of hypotheses:

- Hypotheses among extremities and mediators in order to assess first, the relationship between TL and employee engagement by leveraging on PSS, second, the relationship between POS and employee engagement
- Hypotheses that explain the role of moderators in relationships between variables and mediators to provide levers that need to be exploited at a certain level of intensity

Main hypotheses

It has been largely confirmed that the leaders who adopt TL improves the PSS by providing individualized support-behaviour. The leaders' respect and concern about their feelings and needs made employees feel more trusted (Saks, 2006). As mentioned in first chapter, the supportiveness is an intrinsic characteristic of the transformational leader. More studies have as object of study the TL behaviours and how transformational leader use the key of support to influence performance, learning and organizational culture, which in turn, influence employee satisfaction within a supportive environment (Akdere and Egan, 2020). Employees, who develop in a transformational context, feel supported and trusted by their supervisors and choose him/her as a role model to follow (Tuzun and Kalemci, 2002.

H1a: *Transformational leadership positive influences the perceived supervisor support*

A context of health and psychological healthy is vital for employee engagement. Leadership and organizational support represent two important sources of safety stems for employees, since they increase their perceptions of care and support both from their supervisors and their organization and promote psychological safety (Kahn, 1990). Indeed, social support is considered, by many authors, a major job resource that help employees, by reducing job demands strives and burnout and increasing their level of engagement (Maslach et al. 2001, Collins et al. 2016). Two variables that embody the essence of social support are the POS and the PSS. POS, adopting the reciprocity norm of SET, triggers a sort of obligation into employees. They start feeling the need to help the organization reaching its objectives and to care about the workplace welfare by becoming more engaged. Instead, PSS represent the first line of support, representing also the organizational vision. The lack of PSS can provoke feelings of stress and disengagement (Saks, 2006).

H1b: *Perceive supervisor support positive influences the employee engagement*

H2: *Perceived organizational support positive influences the employee engagement*

As Schaufeli et al. (2002) state higher is the level of engagement of employees, higher is their level of job performance. The energetic and affective feelings that engaged people experience with their work activities is stronger than normal employees. They feel able to complete the demands of their jobs, without fearing the possibilities of failing (Kahn, 1990). Engagement is also known as a *"positive state of mind".* Higher motivation leads to higher outcomes, such as job performances, which turn in higher job satisfaction (Byrne et al. 2016, Saks., 2019). Individual performances of an engaged employee can be related to the standard activities required by the work activities, such as the in-role performance, but also to the attitudes and behaviours that go beyond the expectations, such as the extra-role performance. Furthermore, an engaged employee, who feel to be part of the organization and of a team is more reluctant to leave the workplace, which means the has lower turnover intentions (Bakker and Demerouti, 2008; Bakker et al., 2012; Byrne et al., 2016).

H3: *The employee engagement positive influences the individual performance*

Moderating hypothesis

The invasive effects of technology have expanded situations in which people has to adopt digital media to interacts with their colleagues, in particular with the geographically dispersed ones. The decision of the more suitable media to adopt represent a significant step to permit a clear communication between the parties in today's context. The relationship between the leader and the follower can suffer of a poor choice of communication media. Since the pear communication represents a key factor to create a supportive and trustful environment for the employees, it is essential the correct selection of media, in order to benefits from TL effects by maintaining a high level of PSS.

According to the Media Richness Theory, a limited choice of communication media can negatively impact on the task outcomes and performance by reducing the richness level of the conversation. Since the exchange of information is essential to coordinate the organization, from the execution of tasks to the interpretation of external conditions,

companies need to carefully select and adopt the richer communication media in order to reduce the equivocality of information and contain the level of uncertainty (Daft et al. 1987).

On the other side, it also important the level of Media synchronicity required by the interaction. It means to identify the digital tools that enable individuals to achieve synchronicity when they both work at the same time with a shared focus (Dennis et al., 2018). The selection process is based on the time required to process the information from the other part. Higher is the need of rapid exchange of information and feedbacks, higher should be the level of synchronicity offered by the digital media.

1: *Media richness moderates the effects of transformational leadership on perceived supervisor support*

2: *Media synchronicity moderates the effects of transformational leadership on perceived supervisor support*

The introduction of Telework could impact on the PSS. The level of competences of both leaders and employees are fundamental to benefit from the adoption of digital media. Indeed, communication skills help a good functioning far from the office, reducing the level of uncertainty and equivocality, thus permitting a good communication between leaders and employees.

On one side, a high level of digital skills allows employees to perform better their tasks and reduce the possibilities to feel stressed and incompetent in adopting the tools. On the other side, a high level of leader digital skills permits leaders to better organize the management and make it clear the goals to employees by guiding them.

Hence, the study considers the importance of digital skills in moderating the relationship between PSS and EE.

3: *Digital skills moderates the effects of perceived supervisor support on employee engagement*

With the adoption of Telework, employees need new ways to fell the support from their organization (POS). Indeed, it increased the need of new requirements given by the fact that employees not only exploit space and new tools in the office, but they also necessitate of solutions appropriate to the remote work. These suitable solutions embody suitable materials such as computers, telephones and tablets.

In this way, the relationship between POS and EE will be moderated by the adoption of suitable solutions given by the organizations.

4: *Suitable solutions moderates the effects of perceived organizational support on employee engagement*

Control Variables

Finally, potentially confounding factors are taken into account, including control variables into the survey (*Figure 8*). Thanks to these, it is possible to statistically remove any distortions, legitimate or, otherwise, associated with extraneous variables, exposing the "true results".

The influence of gender and age are inserted in the model. No expectations about genders are predicted but is it legit to associate that older employees could show more resistance in approaching digital media. Subsequently, the type of contract and the working years in the company and by covering the same role ware asked to the participants in order to analyse the kind of relationships with the organization, the level of responsibilities inside the company and the tasks characteristics. It is valid to believe that someone with a certain type of work activities – rich of not-standardized processes and practices - will required a special kind of digital solutions to maintain the same level of productivity during Telework hours. Later, it is investigated the individual daily conditions by asking the level of space availability and if he/she has specific family's responsibilities that can interrupt Telework hours, as they represent the downside of telework model.
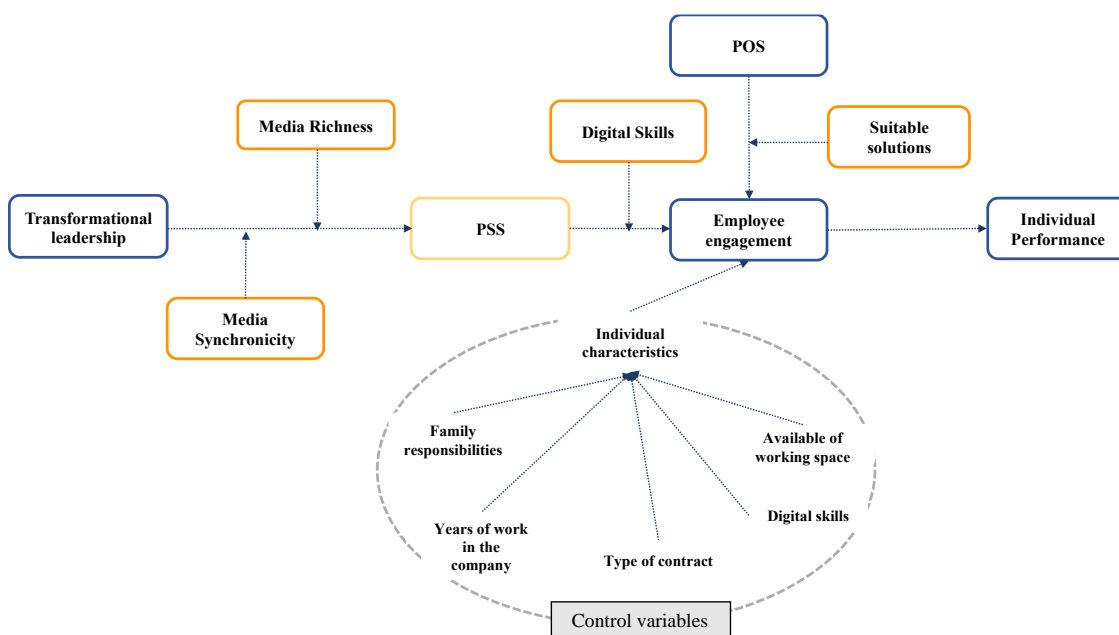

Figure 9: Final Model with Control Variables

The questionnaire

To verify the truthfulness of the hypothesis, it was necessary the development of a survey. Indeed, the aim is to provide a suggestion to test the defined model *(Annex 1.).* During the brainstorming session, the questionnaire has undergone several upgrades which continued to improve its quality.

First, the analysis of the existing surveys in the literature is performed. This represented the beginning in defining in which way to structure appropriately the questionnaire. We tried to overcome two challenges. First, the lack of tested scales for measure the media richness and media synchronicity. Second, to evaluate if the telework brings a real improvement compared to the past.

Briefly, the questionnaire is structured and develop on SurveyMonkey, the estimated length is approximately 15 minutes, and it is composed by 24 questions (6 repeated considering the period pre and post- lockdown) which can be synthesized in these three categories:

- *General data*: the focus of this first set of questions is on demographic variables as well as generalities of the respondents (gender, age, type of role they cover, family responsibilities). These data represent our control variables.
- *Employee engagement:* In this section, the aim is to test the variables introduced by the employee engagement literature (TL, PSS, POS, IP). In this case, we want to invest the difference between the perception of employees pre the telework and post telework.
- *The moderating role of digital media:* In this section, it is evaluated the media richness, synchronicity and the digital skills of both leaders and employees. We had to do a simplification and measure the media richness and synchronicity just evaluating which media are required during the interactions and in which frequency.

To understand if the mediation of digital technologies has positive or negative effects on the employee engagement in a digital context, the research takes the perspective of the employees.

Variable	Reference	Name of the scale	Characteristics	N. of items
Transformational Leadership	*Podsakoff, P.M., MacKenzie, S.B., Moorman, R.H., & Fetter, R. (1990).*	TL scale	-	23
Perceived Supervisor Support	*Saks, A.M. (2006),*	PSS scale	-	4
Media Richness	*Kacmar et al., 2003*	-	Type of Frequency	8
Media Synchronicity	-	-	Amount of Frequency	1
Employee Engagement	*Schaufeli et al., 2002*	Utrecht Work Engagement Scale (UWES)	Vigor	3
			Dedication Scale	3
			Absorption Scale	3
Digital skills	*Spitzberg, a 2005*	CMC Competence measure	-	5
Perceived Organizational Support	*Saks, A.M. (2006),*	POS scale	-	8
Suitable Solution	*Osservatori HR e SW nelle survey Doxa sui lavoratori*	-	-	1
Individual Performance	*Janssen, O., & Van Yperen, N. W. (2004).*	In-Role Performance scale	In-role	3
	Griffin et al.'s (2007)	Extra-Role Performance scale	Proactivity	4
			Adaptivity	4
	Zhou and George's (2001)		Creativity	4
	Van den Hooff and Hendrix's (2004).		Knowledge sharing	4
	Steffens, N. K., Yang, J., Jetten, J., Haslam, S. A., & Lipponen, J. (2018)	Turnover intention scale	Turnover	3

Table 18: Measurement scales used in the questionnaire for every variable

3. Managerial Practices

The Covid-19 forced the majority of employees to switch their way of working to full-time telework and organizations did not have the time to prepare for this work arrangement. Thus, we proposed different managerial practices useful in a context in which companies choose to adopt the Telework. This chapter tries to answer to the emerging research questions using the theoretical model *(Figure 10)* previously presented.
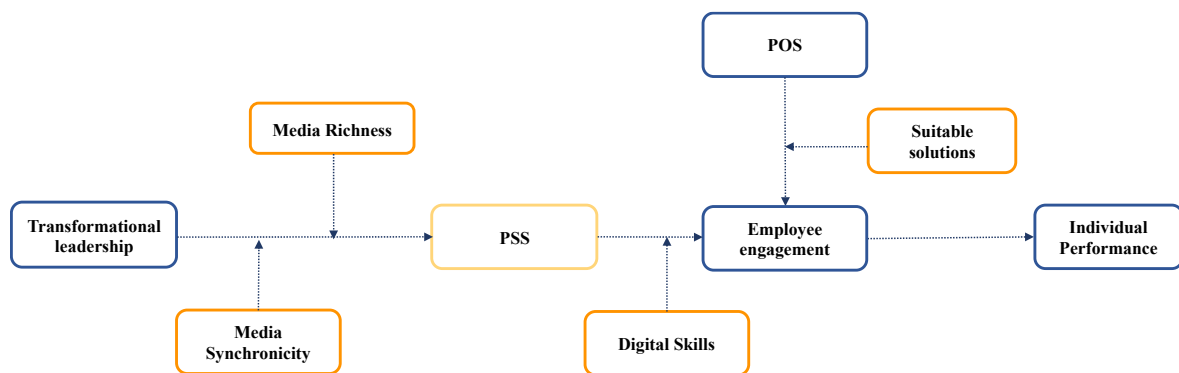

Figure 10: The Theoretical Model

It is important to highlight that the adoption of Telework is not only a solution to the Covid-19 pandemic. It is also, a mechanism that help enterprises through a flexible arrangement to cope with complex environment and to respond to new requirements given by the globalization and the spread of digital media (Gittleman et al., 1998). The globalization effect and Telework lead companies' dispersions. Indeed, the spread of information and communication technologies have made work, on one side, more adaptable by offering employees flexibility to organise work and work interactions, and on the other side have risen different managerial challenges. This study tries to identify which is the best managerial design system in order to exploit the new digital media. The structure of the answers follows the same used to identify the bridges in the research gap definition.

R.Q. 1: In which way leaders and organizations are able to engage employee even when their relationships are mediated by digital media?

It is not possible to have a unique answer to the previous questions. Indeed, in order to be more precise and effective, we identified other four questions that address this issue according to more specific aspects in order to have a more comprehensive resolution.

To reiterate once again the complexity in which employees work, it is important to stress how many Telework patterns impact on employee engagement. ICT is not the only factor determining the result of telework implementation; also, factors included in personnel subsystems (e.g. personal characteristics, family responsibility, available space), organizational structure (e.g. Suitable solutions, digital tools and training) and management subsystems (e.g. supervisor support, culture, vision) affect Telework performance.

Telework forces employees to embrace new ways of interaction, passing from the face-to-face communication inside the office to digital interaction that comprehend daily use of e-mail, chat, phone calls and videoconferences.

R.Q.2: Which are the factors that affect employees' conditions during their Telework hours and could affect their engagement?

Employees' use of telework programs might be based on unobservable characteristics which are represented by the control variables in our model. Clearly, it is not possible to act on all of them. Demographic variables such as age, gender and working years belong to the personal sphere and organizations have no power to work on them.

Telework success may be determined also by the available of working space and the interruption during Telework hours due to family responsibilities. Organizations can manage both by performing a **matching strategy** offering suitable spaces (i.e. co-working space) outside the office. In this way, employees can exploit the benefits given by the adoption of a flexible arrangement eliminating the possible stress caused by home space and family responsibility. As it is known from the literature, a higher level of stress leads to disengagement (Bakker et al., 2014).

R.Q.3. How to maintain TL effective when the relationship between leaders and employees is mediated by digital tools? Which type of digital communication is needed to reach a high level of trust and transparency?
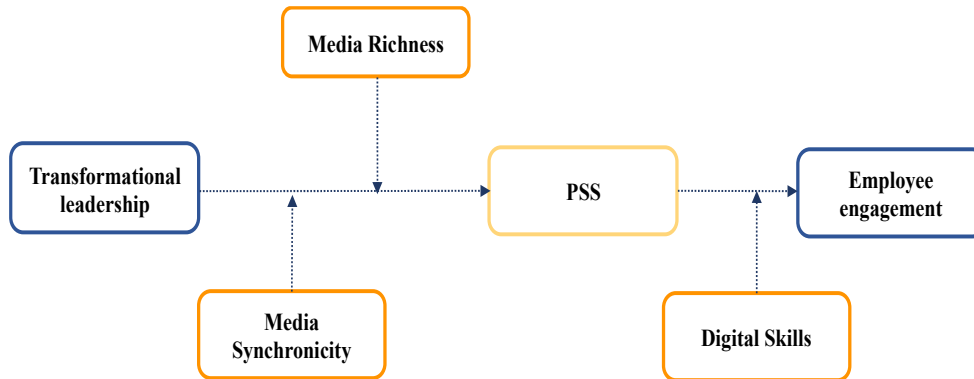

Figure 11: A Highlight of the Theoretical Model on TL and EE relationship

According to our model, transformational leaders, who want to reach a high-quality relationship with employees, have to use **rich media** and a high level of **media synchronicity** when their interactions is mediated by digital tools. In this way, they will develop strong relationships through the exchange of information and socioemotional resources.

The positive effects of the adoption of rich media

The adoption of rich media will help leaders to overcome the challenges and to not risk of losing control on employees (Daft and Lengel, 1986). According to MRT, the adoption of rich media suited for the tasks characteristics offers the possibility to reduce the level of uncertainty and equivocality during the interaction (Daft and Lengel, 1986; Walther, 2015).

As suggested managerial practices, when leaders operate in Telework, we believe that:

- **Face-to-face and videoconferences** are more indicated for brainstorming sessions, training for new tasks, definition of leaders' strategy since employees have the possibility to rapidly express their doubts.

- **Shared folders,** e.g. draft presentation and documents can easily use to accomplish works giving the opportunity to contribute to every employee in parallel. Obviously,

it is necessary to previously define the tasks, since this media does not give the possibility to verbal communicate. Leader can actually see but also modify at the same time the work.

- **Instant messaging** is indicated rapid conversation to solve quick doubts easy to interpret. On one hand leaders can communicate and fast update their employees, on the other hand employees' perceptions of support increased.

- **E-mails** give the possibility to write in parallel to different employees and offer the time to process the information, in this way it can be used to spread general information and update.

- **Documents** are not considered anymore as managerial practices since their exchange is to slow for the rapid context in which companies operate.

The positive effect of the adoption of a suitable level of media synchronicity:

What emerged from the analysis of the Media Synchronicity Theory is the necessity to adapt the digital media to the message characteristics , namely the choice of media with lower synchronicity is more appropriate when employees need time to processes new information, instead, the choice of media with higher synchronicity is more appropriate when it is required a rapid exchange of feedback (Dennis et al., 2008).

According to the Media Synchronicity theory, we believed that:

- **Face-to-face** interactions are the only ones capable to create a bond between parties stronger than a simple communication.
- **Videoconferences** (i.e. Teams, Google Meet, Zoom) can create a good communication system that enable leaders to clearly communicate their decisions and employees to easily understand which are the requirements. Indeed, during a videoconference, employees are able to reach high transmission velocity and to exploit different symbol set from the verbal to the visual ones. This kind of media can create interpersonal relationships based on

mutual trust by offering a level of interaction similar to the face-to-face ones, despite the geographically distance.

- **Instant messages** and **phone calls** can also be adopted by the leaders to reach rapid feedbacks, besides videoconferences. These medias permit to have a rapid exchange of ideas and information. The communication is really quick and interpersonal near to synchronous response.

- **E-mails** are part of the kind of media which lack of interactions. It leads to a high asynchronous communication without the possibility to create relationships.

- **Shared folder** is another important tool that enables leaders to real-time monitor employees' activities (i.e. Google docs, One-drive etc.). The level of parallelism is high, but the presence of symbol set is poor, nor visual nor physical neither hearing are available during this kind of interaction.

However, the leaders' communication with teleworkers is more challenging compared to the not-teleworker supervisors. This may lead to reluctant behaviours from managers and possible resistance barriers.

Employees will reach a high level of engagement in the case in which their **digital skills** are appropriate to understand what the leader is communicating and completing their tasks (Yu, 2017). Obviously, leaders must be able to use digital media and integrate them into his managerial practices. The benefits could be experienced only when both the conditions are respected.

To conclude, supervisors need to perform the same role of supporting employees as much as Telework employees. The performance of teleworkers is responsibility of supervisors and the relationship between them need to be based on mutual trust (Park and Cho; 2020). In a telework and digital context, if the transformation leader will be able to transmit his support to employees, it is known from the literature that this will lead to a higher employee engagement.

R.Q.4. Which actions organizations should take to make employees feeling their support even far from the office?
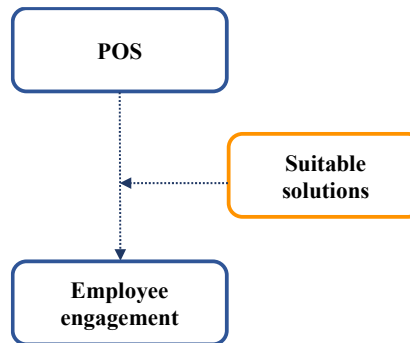

Figure 12: A Highlight of the Theoretical Model on POS and EE relationship

To maximize the benefits of telework programs, organizations need to develop favourable policies and systems and provide sufficient and appropriate support to employees who want to participate in telework programs.

In this digitized world, organization support plays a key-role during the change management process (Day at al., 2012). The different ways that organizations can adopt to support their employees may be vary and they can facilitate the achievement of a supportive climate providing the necessary telework-related resources while they are working from home, such as information technology (IT) support, timely information, relevant work materials, and decision-making authority.

Moreover, organizations could arrange helpdesks and IT professionals to sustain the ICT integration and to manage the emerged problems by offering suitable technical training (Day et al., 2010). Training courses and ICT integration can encourage employees' self-efficacy and confidence increasing job satisfaction and reducing stressful factors, drivers of burnout (Beas & Salanova, 2006). The effects of a right technical support can reach consistent results also on employee engagement by minimizing dissatisfaction and disruptions to their work (Ragu-Nathan et al., 2008).

R.Q.5: Which are the digital media that enhance the individual performances?

The model does not consider any digital moderator in the relationship between employee engagement and individual performance. Our study is based on the believe that once the employee is strongly engaged, his/her individual performances will be enhanced, as the literature review reported (Bakker & Demerouti, 2007; Demerouti and Cropanzano, 2010). Furthermore, the Telework literature states that the adoption of a flexible work arrangement have a positive influence on employee performances, in particular on the extra-role ones (Wang et al., 2020).

4.Conclusions

The final paragraph starts pointing out the investigation of our thesis. Following, are presented possible future lines of research and the limits of the study.

It is noteworthy to say that the results of this research were based on the results of studies and surveys that were designed to test other models and empirical study.

The purpose of this thesis was to assess the impact of the digital interactions on employees' engagement, with a further investigation on the leader and peers' communication. Being the central focus of the research on Employee Engagement and on Digital Context, an intensive literature review has been done around them, from the antecedents to the possible implications. Our attention moved on Telework, as a new way of working emerged from the literature and strongly adopted during this emergency period. Within its domain, emphasis is attributed to the psychological conditions of the employee and the kind of relationships with their superiors and their organization in this new environment.

Various themes emerged inductively from the review of existing employee engagement and Telework literature which present unresolved theoretical issues or starting points for future research. Finally, the attention turned out toward 6 opportunities for analysing possible relationships with employee engagement in a high digital context: Transformational Leadership, Perceived Organizational Support, Individual Performance, Perceived Supervisor Support, Digital Skills, Media Richness and Media Synchronicity.

The outcome of this process of investigation has been the creation of a theoretical model about the impact of digital interactions between leaders and peers on employees' engagement.
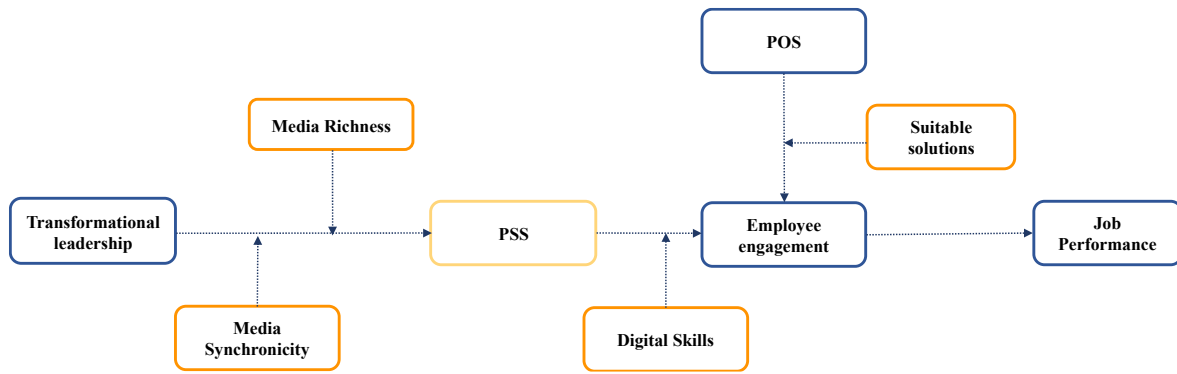
Figure 13: The Theoretical Model

Future research

Although Employee Engagement represents one of the main objects of studies, little is theoretically defined across research disciplines regarding the construct of employee engagement in the new digital context.

Future research should investigate deeply what does it mean being engaged in the 21st century. Nowadays, new variables must be considered. Old theoretical models that explain the employee engagement must be revisited and integrated in the new context. The face-to-face interactions, typical in office environment, are no longer part of the daily work life. The model that it is proposed in our study offers a starting point for the identification and measurement of the digital interactions between leaders and employees. Thus, this research gives the possibility to organizations to integrate the findings in their managerial practices.

We encourage future studies to expand our model considering also other types of leadership style and not only the transformational one. We decided to focus on transformational leaders in order to filter the relationships between the leader and the follower, making sure we analyse only relationships built on trust and support. It could be interesting to see also the results with other types of leaders, seen transformational leaders are rare.

Future research should also pay attention to the work characteristics of the individual and the industry which the organization operates. According to the Media Richness Theory, it is crucial the selection and the adoption of certain types of media compared to the required tasks. The downside of this theory is that it does not delve into the specific of the qualification of the tasks. There is not a clarification about which types of rich media are more suitable for a task or for an organization.

In addition, it could be also interesting taking into account the motivation of the singular employee in adopting digital tools and if they already experienced Telework during their carrier.

In conclusion, by providing a theoretical model and approach to bridge research across employee engagement and telework, we identify an innovative new research agenda to invigorate the area of Telework, suggesting new forward-looking research directions. This encourages researchers from different disciplines and different epistemological approaches to carry out a dialogue with one another to enrich and inform the broader conversations around employee engagement and telework.

Limitations

Our review which considers an innovative area, came with several challenges. The limited number of paper covering the theme of employee engagement in high digital context is cause of uncertainty and possible ambiguity of the obtained results from literature.

First, the lack of scales proper to test the variables related to Telework practices caused some difficulties in creating a suitable questionnaire to the proposed model. This can raise the possibility of receiving distorted results. In particular, the scales adopted to analyse the richness and the synchronicity level of the media and the scale linked to the suitable solutions, offered by the organization, were not completely validated in previous studies.

Second, another challenge of this study is the sudden changes that characterized the digital context, which means the continuous innovation and expansion of media that can affect the psychological conditions of the employee. We encourage organizations to broaden this investigation in different fields and to keeping it update.

Third, this model considers only the perspective of the singular employee, which could be distorted and not completely true. The study does not consider all the possible factors that can influence the employee's responses. Moreover, the survey asks to the employee the leader's digital skills, without interviewing the person concerned and without testing the leader's motivation.

Fourth, aside from repeating the same study on either a different or wider sample and in a different historical time, some new and interesting issues to addressed in the future rise.

Future research can aim at replicating the findings, introducing new constructs by breaking "Transformational Leadership" in mediators like "Job Autonomy" and "Trust", such as elements which this thesis summarized in only one construct. It also could be exciting considering the third antecedents of the interactions: the "Co-worker".

Finally, our study is based on a model that is not empirical tested. Indeed, this paper provides a comprehensive review which analyse empirical studies that enable us the identifications of research gaps on employee engagement and Telework.

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APPENDIX

1. L'effetto delle tecnologie digitali sulle relazioni capo collaboratore e sulle performance individuali

L'importanza delle tecnologie digitali nelle organizzazioni

L'innovazione tecnologica ha radicalmente cambiato il nostro **modo di vivere**, a casa e a lavoro. La maggior parte delle organizzazioni sta spingendo verso nuove configurazioni lavorative più flessibili a livello di spazi, orari e strumenti da utilizzare a fronte di una maggiore responsabilizzazione dei risultati. La pandemia globale che stiamo affrontando ha fortemente accelerato le evoluzioni già in atto, facendo diventare il lavoro da remoto una **'nuova' normalità** e obbligando nel giro di pochissimi giorni a cambiare le regole e le dinamiche all'interno delle aziende.

Questo ha imposto che le collaborazioni tra dipendenti avvengano prevalentemente **tramite mezzi digitali.** Il nostro interesse è capire come cambia la **relazione tra leader e collaboratori** nella situazione in cui questo rapporto sia mediato da tecnologie digitali.

NOTA: Il presente questionario non può essere utilizzato o riprodotto, anche parzialmente, senza una preventiva autorizzazione da parte del Politecnico di Milano.

Tutti i dati forniti rimarranno all'interno del gruppo di Ricerca e non verranno divulgati se non in forma di elaborazioni statistiche e/o di dati aggregati. Per visualizzare l'informativa privacy è possibile cliccare qui: https://www.osservatori.net/it_it/privacy-policy/

Considerando la particolare situazione in cui ci stiamo trovando, chiediamo di provare a rispondere alle domande riferendosi in molti casi sia al periodo **precedente al lockdown** sia a **quello attuale**. Nelle seguenti domande, infatti, verrà specificato a quale particolare periodo si riferisce la domanda.

Grazie per l'attenzione

DATI PERSONALI

1. Genere
   - Maschio
   - Femmina
2. Quanti anni ha? _____

LEADERSHIP: PRIMA E DOPO IL LOCKDOWN

(DA 1 A 7)

Nella seguente sezione le chiediamo di fare riferimento sia al periodo PRIMA che DOPO il lockdown in modo tale da valutare la percezione che ha del suo capo in questi due diversi periodi.

A. *Quanto è cambiato il suo capo da prima del lockdown ad oggi? Indichi quanto è d'accordo con le seguenti affermazioni, considerando la sua esperienza PRIMA del lockdown.*

Il mio capo/il mio supervisor (DA 1 A 7):
1. Aveva una chiara visione di dove stavamo andando.
2. Dipingeva scenari interessanti sul futuro del nostro gruppo.
3. Era sempre alla ricerca di nuove opportunità per l'organizzazione.
4. Sapeva ispirare gli altri con i suoi piani per il futuro.
5. Era capace di far in modo che anche gli altri abbracciassero la sua visione del futuro e i suoi sogni.
6. Era capace di guidare il gruppo 'agendo' e non solo spiegando cosa si doveva fare.
7. Era per me un modello da seguire.
8. Guidava il gruppo dando il buon esempio.
9. Incoraggiava la collaborazione fra i membri del gruppo.
10. Incoraggiava le persone al gioco di squadra.
11. Faceva sì che i membri del gruppo lavorassero insieme verso lo stesso obiettivo.
12. Promuoveva l'attitudine e lo spirito al lavoro in team.
13. Dimostrava alle persone che si aspettava molto da loro.
14. Esigeva dalle persone solo performance eccellenti.
15. Non si accontentava, voleva sempre il meglio.
16. Si comportava in un modo che non teneva conto/non considerava i miei sentimenti.
17. Mostrava rispetto per i miei sentimenti.
18. Si comportava in un modo che dimostrava premura per le mie esigenze personali.
19. Mi trattava in un modo che dimostra quanto egli non consideri i miei sentimenti.
20. Mi stimolava ed incoraggiava a pensare a problemi vecchi in modi nuovi.
21. Mi poneva delle domande che mi incoraggiavano a riflettere.
22. Mi stimolava a ripensare i modi in cui faccio le cose.

23. Aveva delle idee che mi hanno indotto a riesaminare alcuni fondamenti del mio lavoro.

B. *Indichi quanto è d'accordo con le seguenti affermazioni, considerando la sua esperienza DOPO il lockdown*

Il mio capo/il mio supervisor:
1. Ha una chiara visione di dove stiamo andando.
2. Dipinge scenari interessanti sul futuro del nostro gruppo.
3. E' sempre alla ricerca di nuove opportunità per l'organizzazione.
4. Sa ispirare gli altri con i suoi piani per il futuro.
5. E' capace di far in modo che anche gli altri abbraccino la sua visione del futuro e i suoi sogni.
6. E' capace di guidare il gruppo 'agendo' e non solo spiegando cosa si dovrebbe fare.
7. E' per me un modello da seguire.
8. Guida il gruppo dando il buon esempio.
9. Incoraggia la collaborazione fra i membri del gruppo.
10. Incoraggia le persone al gioco di squadra.
11. Fa sì che i membri del gruppo lavorino insieme verso lo stesso obiettivo.
12. Promuove l'attitudine e lo spirito al lavoro in team.
13. Dimostra alle persone che si aspetta molto da loro.
14. Esige dalle persone solo performance eccellenti.
15. Non si accontenta, vuole sempre il meglio.
16. Si comporta in un modo che non tiene conto/non considera i miei sentimenti.
17. Mostra rispetto per i miei sentimenti.
18. Si comporta in un modo che dimostra premura per le mie esigenze personali.
19. Mi tratta in un modo che dimostra quanto egli non consideri i miei sentimenti.
20. Mi stimola ed incoraggia a pensare a problemi vecchi in modi nuovi.
21. Mi pone delle domande che mi incoraggiano a riflettere.
22. Mi ha stimolato a ripensare i modi in cui faccio le cose.
23. Ha delle idee che mi hanno indotto a riesaminare alcuni fondamenti del mio lavoro.

C. *Quanto è cambiata la sua percezione del supporto da parte del suo capo*

Risponda alle seguenti affermazioni considerando il periodo PRIMA del lockdown.

1. Il mio capo ci teneva ad avere la mia opinione.
2. Il mio capo considerava il mio benessere.
3. Il mio capo teneva in considerazione i miei obiettivi personali e i miei valori.
4. Il mio capo dimostrava di preoccuparsi davvero poco di me.

D. Risponda alle seguenti affermazioni considerando il periodo DOPO lockdown.

1. Il mio capo ci tiene ad avere la mia opinione.
2. Il mio capo tiene in considerazione il mio benessere.
3. Il mio capo tiene in considerazione i miei obiettivi personali e i miei valori.
4. Il mio capo dimostra di preoccuparsi davvero poco di me.

FREQUENZA E TIPOLOGIA DI INTERAZIONE

I modi di interagire sono fortemente cambiati con l'introduzione di nuovi mezzi digitali, se infatti prima la comunicazione avveniva principalmente faccia a faccia, ultimamente le relazioni sono mediate sempre più da tecnologie digitali.

Le seguenti domande verificano in quale modalità e frequenza avvengono le interazioni con il suo capo.

E. *Facendo riferimento ai periodi di PRIMA e DOPO il lockdown, quanto frequentemente interagivi e interagisci con il tuo capo?*

	Mai	Raramente	Una volta al mese	Una volta a settimana	Più volte a settimana	Una volta al giorno	Più volte al giorno
PRIMA							
DOPO							

F. *Quanto frequentemente utilizza ciascun canale di interazione con il suo capo diretto?*

Risponda alle seguenti affermazioni considerando il periodo PRIMA del lockdown.

	Mai	Molto raramente	Raramente	Talvolta	Frequentemente	Molto frequentemente	Sistematicamente
Faccia a faccia							
Videoconferenza							
Telefonata							
Documenti condivisi (e.g. google docs in co-editing)							
Messaggi istantanei e chat							
Blog e forum							
Email							
Scambio documento cartacei (fax)							

G. *Risponda alle seguenti affermazioni considerando il periodo DOPO il lockdown.*

	Mai	Molto raramente	Raramente	Talvolta	Frequentemente	Molto frequentemente	Sistematicamente
Faccia a faccia							
Videoconferenza							
Telefonata							
Documenti condivisi (e.g. google docs in co-editing)							

Messaggi istantanei e chat							
Blog e forum							
Email							
Scambio documento cartacei (fax)							

IL SUO ENGAGEMENT: PRIMA E DOPO IL LOCKDOWN

(DA 1 A 7)

Il termine '*Employee Engagement*' descrive il coinvolgimento emotivo ed intellettuale dei dipendenti nei confronti della loro organizzazione e nei suoi successi.

In particolare, si riferisce ad uno stato mentale positivo e di soddisfazione caratterizzato da vigore, dedizione e immersione.

Le seguenti domande valutano queste caratteristiche nel periodo precedente al lockdown e in quello attuale.

H. *Vigore: energia, sia in senso fisico che mentale, con cui un dipendente si dedica all'assolvimento dei suoi compiti*
I. *Dedizione: un atteggiamento che consente di spendersi con passione e interesse per raggiungere gli obiettivi.*
J. *Immersione: capacità di un lavoratore di concentrarsi e di essere completamente assorbito dal lavor*

Risponda alle seguenti domande facendo riferimento al periodo PRIMA del lockdown.

- La mattina, quando mi alzavo, avevo voglia di andare al lavoro
- Nel mio lavoro mi sentivo pieno di energia
- Nel mio lavoro, mi sentivo forte e vigoroso
- Il mio lavoro mi ispirava
- Ero entusiasta del mio lavoro
- Ero orgoglioso del lavoro che facevo
- Mi lasciavo trasportare quando lavoravo
- Ero immerso nel mio lavoro
- Ero felice quando lavoro intensamente

Risponda alle seguenti affermazioni facendo riferimento al periodo DOPO il lockdown.

- La mattina, quando mi alzo, ho voglia di andare al lavoro
- Nel mio lavoro mi sento pieno di energia

- Nel mio lavoro, mi sento forte e vigoroso
- Il mio lavoro mi ispira
- Sono entusiasta del mio lavoro
- Sono orgoglioso del lavoro che faccio
- Mi lascio trasportare quando lavoro.
- Sono immerso nel mio lavoro
- Sono felice quando lavoro intensamente

COMPETENZE DIGITALI

In questa sezione le chiediamo di rispondere alle seguenti domande riferendosi prima alle proprie competenze digitali e successivamente a quelle del suo capo.

K. In quale modo valuterebbe le sue competenze digitali?

	Fortemente in disaccordo	Molto in disaccordo	Poco in disaccordo	Né in disaccordo né d'accordo	Poco d'accordo	Molto d'accordo	Fortemente d'accordo
Sono molto competente nella comunicazione attraverso mezzi digitali.							
Non mi capita mai di non riuscire a dire qualcosa tramite mezzi digitali							
Adopera facilmente email e internet per comunicare							
Ho sempre l'impressione di sapere come e in che modo comunicare tramite mezzi digitali.							
Quando comunico con qualcuno tramite mezzi digitali, so come adattare il messaggio ai mezzi utilizzati							

L. In quale modo valuterebbe le competenze digitali del suo capo diretto?

	Fortemente in disaccordo	Molto in disaccordo	Poco in disaccordo	Né in disaccordo né d'accordo	Poco d'accordo	Molto d'accordo	Fortemente d'accordo
E' molto competente nella comunicazione attraverso mezzi digitali.							
Non gli/le capita mai di non riuscire a dire qualcosa tramite mezzi digitali							
Adopera facilmente email e internet per comunicare							
Sa come comunicare tramite mezzi digitali.							
Quando comunica con qualcuno tramite mezzi digitali, sa come							

adattare il messaggio ai mezzi utilizzati							

LA SUA ORGANIZZAZIONE: PRIMA E DOPO IL LOCKDOWN
(DA 1 A 7)

M. *Quanto è cambiata la sua percezione del supporto da parte della sua azienda*

Risponda alle seguenti affermazioni considerando il periodo PRIMA del lockdown.

1. La mia organizzazione si preoccupava realmente del mio benessere
2. La mia organizzazione aveva un forte interesse dei miei obiettivi e valori.
3. La mia organizzazione si preoccupava poco per me.
4. La mia organizzazione si preoccupava per le mie opinioni.
5. La mia organizzazione era disposta ad aiutarmi quando avevo bisogno di un favore speciale.
6. La mia organizzazione era disponibile ad aiutarmi quando avevo un problema
7. La mia organizzazione avrebbe perdonato un mio errore onesto, commesso in buona fede.
8. Se ne avesse l'opportunità, la mia organizzazione si sarebbe approfittata di me.

N. *Risponda alle seguenti affermazioni considerando il periodo DOPO il lockdown.*

1. La mia organizzazione si preoccupa realmente del mio benessere
2. La mia organizzazione ha un forte interesse dei miei obiettivi e valori.
3. La mia organizzazione si preoccupa poco per me.
4. La mia organizzazione si preoccupa per le mie opinioni.
5. La mia organizzazione è disposta ad aiutarmi se ho bisogno di un favore speciale.
6. La mia organizzazione è disponibile ad aiutarmi quando ho un problema
7. La mia organizzazione perdonerebbe un mio errore onesto, commesso in buona fede.
8. Se ne avesse l'opportunità, la mia organizzazione si approfitterebbe di me.

PERFORMANCE
(DA 1 A 5)

O. *Come valuta le sue performance in termini di **proattività** tramite le seguenti affermazioni?*

- Individuo ed applico metodi sempre più efficaci per svolgere le attività rilevanti del mio lavoro.
- Ho idee brillanti per migliorare il modo in cui svolgo le attività rilevanti del mio lavoro.
- Apporto cambiamenti al modo in cui svolgo le attività rilevanti del mio lavoro.

*P. Come valuta le sue performance in termini di **conoscenza condivisa** tramite le seguenti affermazioni?*

- Quando imparo qualcosa di nuovo, ne parlo con i miei colleghi.
- Condivido le informazioni che ho con i miei colleghi.
- Penso sia importante che i miei colleghi siano al corrente di quello che sto facendo.
- Informo regolarmente i miei colleghi di quello che sto facendo.

*Q. Come valuta le sue performance in termini di **creatività** tramite le seguenti affermazioni?*

- Suggerisco modi nuovi per raggiungere gli obiettivi.
- Fornisco idee nuove e pratiche per migliorare le performance.
- Ricerco nuove tecnologie, processi, tecniche, prodotti e idee da apportare.
- Suggerisco modi nuovi per migliorare la qualità degli output.
- Sono una buona fonte di idee creative.
- Non sono spaventato dall'assumermi dei rischi.
- Promuovo e sostengo le idee degli altri.
- Dimostro creatività nel mio lavoro quando me ne viene data l'opportunità.
- Sviluppo piani e programmi adeguati all'implementazione di nuove idee.
- Ho spesso idee nuove ed innovative.
- Fornisco soluzioni creative ai problemi.
- Ho spesso un approccio nuovo riguardo ai problemi.
- Suggerisco modi nuovi per svolgere il lavoro.

*R. Come valuta le sue performance in termini di **adattabilità** tramite le seguenti affermazioni?*

- Mi adatto bene ai cambiamenti, quando questi riguardano le attività rilevanti del mio lavoro.
- Sono in grado di affrontare prontamente i cambiamenti, quando questi riguardano il modo in cui devo svolgere le attività rilevanti del mio lavoro.
- Acquisisco nuove skill che mi aiutino ad adattarmi ai cambiamenti del mio lavoro.

*S. Come valuta le sue performance riguardante le sue **attività** svolte tramite le seguenti affermazioni?*

- Porto sempre a termine tutte le attività indicate nella mia job description e previste dal ruolo che ricopro.
- Soddisfo tutti i requisiti di performance richiesti dal mio lavoro.
- Adempio a tutte le responsabilità previste dal mio lavoro.
- Non trascuro mai degli aspetti del mio lavoro che sono chiamato a svolgere.

- Mi capita spesso di non svolgere correttamente dei compiti essenziali previsti dal mio lavoro.

T. Indica quanto è d'accordo con le seguenti affermazioni:

- Penso spesso di lasciare il mio lavoro.
- A breve, vorrei lavorare per un'altra azienda.
- Vorrei lasciare questa organizzazione.

DATI PERSONALI

1. Da quanti anni lavora nella sua attuale azienda? _____
2. Da quanti anni ricopre il suo attuale ruolo? ____
3. Quale forma contrattuale hai stipulato con il tuo datore di lavoro?
   o Tempo indeterminato
   o Tempo determinato (maggiore a 1 anno)
   o Tempo determinato (pari ad 1 anno)
   o Contratto a chiamata
   o Stage
   o Tirocinio
   o Altro ____

4. Ha responsabilità familiari o situazioni di emergenza a cui a volte deve dare priorità rispetto al suo lavoro?
   o Si
   o No

5. La dotazione tecnologica che usi per lavorare ti consente di lavorare in mobilità (non alla tua postazione di lavoro assegnata o all'esterno della sede)? (una sola risposta)
   o Sì, la dotazione tecnologica è adeguata per svolgere in mobilità la maggior parte delle mie attività
   o Sì, la dotazione tecnologica è adeguata per svolgere in mobilità solo poche delle mie attività
   o No, la dotazione tecnologica non è adeguata per svolgere in mobilità il mio lavoro
   o Non so

6. Risponda alla seguente affermazione considerando una scala da 1=fortemente in disaccordo a 7=fortemente d'accordo

   o Ritengo che lo spazio a casa mia sia sufficiente per poter svolgere al meglio il mio lavoro da remoto.