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DESIGNING A DIGITAL WORK ENVIRONMENT TO BOOST COMMUNICATION – REAL VIDA SEGUROS CASE STUDY

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Abstract

Technology breakthroughs have been reshaping companies and industries, uncovering unprecedented ways of work, manage, and organize. As companies seek to grow and innovate, new tools to interact within teams are emerging, where people, processes, and information are connected and communication flows without barriers. Real Vida Seguros, S.A., a Portuguese insurance company, has ambitious goals of expansion in an extremely demanding sectorial context. To sustain this strategy, the Insurer aims to develop and implement a Digital Workplace that enhances the employees' experience and optimizes its results. This study intends to analyze how the Digital Workplace should be designed to boost communication. It is framed within an Internship, encompassing the Human Resources Direction and the Planning, Innovation and Processes Office, with the purpose of conceptualize and accomplish this company's project. The data used in the study was collected by a qualitative research based on a case study composed by direct and indirect methods of data collection developed within Real Vida Seguros, S.A.. The findings suggest that companies should design malleable digital workplaces considering users profiles and where appropriate channels are created for each type of information. Organizations should also encourage the workforce participation throughout the various stages of the implementation process.

Resumo

Os avanços tecnológicos têm vindo a reformular as empresas e indústrias, revelando novas formas de trabalhar, gerir e organizar. À medida que as empresas procuram crescer e inovar, novas ferramentas de interação entre equipas têm emergido, onde as pessoas, os processos e a informação estão interligados e a comunicação flui sem barreiras. A Real Vida Seguros, S.A., uma empresa Portuguesa de seguros, estabeleceu ambiciosos objetivos de expansão num contexto setorial de elevada exigência. Com o intuito de sustentar esta estratégia, a Seguradora pretende desenvolver e implementar uma *Digital Workplace* que melhore a experiência dos colaboradores e otimize os seus resultados. Este estudo tem como objetivo analisar como a *Digital Workplace* deve ser projetada de modo a impulsionar a comunicação. Enquadra-se no âmbito de um Estágio que, abrangendo a Direção de Recursos Humanos e o Gabinete de Planeamento, Inovação e Processos, tem como propósito a conceptualização e execução deste projeto da empresa. Os dados usados neste estudo foram recolhidos através de uma pesquisa qualitativa por meio de um caso de estudo composto por técnicas de recolha de dados diretas e indiretas desenvolvidas na Real Vida Seguros, S.A.. Os resultados sugerem que as empresas devem projetar locais de trabalho digitais maleáveis considerando os diferentes perfis dos utilizadores e nos quais são criados canais apropriados para cada tipo de informação. As organizações devem ainda incentivar a participação da equipa no decorrer das várias etapas do processo de implementação.

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1. Introduction

The pace of technological evolution has led to major changes in the way that we live our lives, facing large economic and social impacts (Colbert, Yee, & George, 2016). Organizations are under pressure to face the fast-moving and competitive environment of today's world and the consequent complex challenges (Reinsch Jr & Turner, 2006; Snow, Fjeldstad, & Langer, 2017). As the world becomes a more interdependent "global village", work transcends national boundaries and organizations become more multicultural (Tkalac Verčič, Verčič, & Sriramesh, 2012). Furthermore, in this digitally intensive society, the rise of connectivity has generated a massive amount of real-time data on a continuous basis, which require from companies the development of innovative capabilities to enable teams to extract knowledge from big data sets (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013). According to Porter and Heppelmann (2015), people, capital, technology, and data are now the core assets of an organization.

Additionally, organizations must be prepared for a progressively dynamic and interactive relationship with costumers. For instance, consumers want choice, flexibility, simplicity, and personalization in what they purchase, the channels they use, and how they interact with the provider. Hence, companies are implementing new technologies to deliver more integrated customer experiences (Dery, Sebastian, & van der Meulen, 2017) and customer orientation strategies are gaining center-stage in business practices (Setia, Venkatesh, & Joglekar, 2013). Digital transformation is also evidenced through the proliferation of smart and connected products. These products are embedded in broader systems and, thereby, are reshaping business operations (Porter & Heppelmann, 2015).

Another great challenge of contemporary firms is the "war for talent", since organizations, in order to be successful, must attract, retain, motivate, and develop highly competent employees (Thomas, 2007). Accordingly, it is fundamental to offer an attractive work environment to current and future workforce (Schmidt, Praeg, & Gunther, 2018). Besides, an increased importance is being given to learning organizations, in which managers establish actions to develop employees' technical knowledge and skills (S. Johnson, Suriya, Yoon, Berrett, & Fleur, 2002). Organizations recognize the need to not only address digital natives' values and expectations, but also to prepare the more reluctant workforce for

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upcoming changes. Prensky (2001) outlined two types of technology users based on their levels of comfort: digital natives and digital immigrants. Digital natives represent the first generation that have spent their entire lives surrounded by and using several technological tools. On the other hand, digital immigrants are the ones who were not born in the digital age but learnt to use information and communication systems at some stage in their adult lives. Their different skills in using technologies should be considered for management purposes, mainly when approaching digital transformations. Moreover, the nature of work within organizations is changing toward team-based activities (S. Johnson et al., 2002).

Considering all aforementioned challenges, to succeed in this new world, it is imperative for today's companies to upgrade their technology capabilities and to embody the future of work by improving their talent infrastructures. "*Successful leaders need to synchronize their organizations to digital clock speed*" (Snow et al., 2017, p. 11). The extensive offer of communication technologies sustains companies reshuffle by providing digital channels to communicate in the workplace. As a result, virtual teams and networked structures should be on top of the agenda of any organization (Lipnack & Stamps, 1999). Thus, organizations are increasingly implementing new and innovative technologies to create the workplace of the future (Dittes, Richter, Richter, & Smolnik, 2019). In fact, digital technologies allowed firms to change the workplace in a fundamental way and created new opportunities for reconsidering how, when, and where employees work and, consequently, for rethinking how workplaces should be designed and built (Michael, 2002). In this more and more fluid society, with ever-shifting conditions, success depends significantly on how organizations create and implement digital work environments (Dery et al., 2017).

It is within this context that the topics Communication and Digital Workplace are addressed in this report, which was encouraged by an internship at Real Vida Seguros, S.A.. This company, which is based on Porto, provides investment, saving, retirement, and protection solutions and operates in the Portuguese insurance industry for 30 years. Currently, the Insurer competes solely on life segment and is committed to the challenge of reshaping its operations in order to achieve competitive advantage.

Concerning the Internship, it was run in a multidisciplinary team comprising the Human Resources Direction and the Planning, Innovation and Processes Office, which are, correspondingly, responsible for the internal communication strategy and for the

management of the company's innovation projects. The Internship occurred between September 2019 and April 2020 and its duration corresponded to a total of 1,076 hours. Its major aim was to lay down how the Digital Workplace should be conceptualized and implemented. Furthermore, the main responsibilities were to gather data to sustain this process, to get together with several business units of Real Vida Seguros, S.A. and, jointly, make a deep analysis of each team needs, and, afterwards, to design and organize the structure and content of the platform.

Therefore, the goal of this report was to explore the project of establishing a digital workplace and to understand how internal communication practices can be positively impacted by its creation and implementation processes and by the defined structure and elements. Thus, this research aimed to answer the following question:

- How to successfully design a digital workplace to boost communication?

Besides this first section, this report is structured as follows: in section 2, a literature review of the topics, namely, digital technologies, communication, digital work, and digital workplace, was made; in section 3, a description of Real Vida Seguros, S.A. was accomplished; in section 4, the methodological aspects were presented; in section 5, the findings of the case study were exposed; in section 6, the results of the present investigation were discussed considering the existing knowledge in the area; and, lastly, in section 7, a conclusion of the report was presented.

2. Communication in Digital Work Environment

2.1. Digital Technologies

In his revolutionary book Being Digital, the technology pioneer and thinker Negroponte (1995) postulated that we would move toward an entirely digital society and, in this way, described how the old industrial economy would be put aside by the information revolution. The outdated industrial age, which was related with the concept of mass production through uniform and repetitive methods, was replaced by the information age, where the arrival of computers stood out. However, Negroponte (1995) suggested that the transition into a post-information age was already taking place, but the society was not noticing it yet. In the post-information age, the target is of size of one, that is, information is extremely personalized and, consequently, everything is made to order. In fact, by exploring the boundaries of technology, the author projected an era where machines subtly understand individuals by an equal or higher degree than other human beings. Additionally, by that time, "we will socialize in digital neighborhoods in which physical space will be irrelevant and time will play a different role" Negroponte (1995, p. 7).

In this time of change, digital technologies, which are considered combinations of information, computing, communication, and connectivity technologies, are fundamental to succeed in the current environment (Bharadwaj et al., 2013). In this digital world, each operation has digital marks, almost every players, events, and places can be reached digitally, and many products and services are partially or entirely digital. Digital technologies are reshaping the global economy by empowering individuals, organizations, cities, and governments to enlarge their capabilities and to become smarter, enabling them to face new and shifting conditions (Snow et al., 2017). Moreover, the introduction of digital technologies has produced profound changes in the way that work is done and interactions are undertaken within organizations' environment. Indeed, digital ecosystems, which integrate value chain partners and are connected through information and communication technologies, represent a new lifecycle for businesses (Martínez-Caro, Cegarra-Navarro, & Alfonso-Ruiz, 2020). Digital transformation can generate entirely new business models that make existing ways of providing products and services unviable (Mergel, Edelmann, & Haug, 2019). For instance, digital technologies are deeply transforming businesses, by reshuffling strategies, processes, capabilities, internal and external relationships in expanded business networks, and increased interconnections among products, services, and processes (Bharadwaj et al., 2013).

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In this way, a fully digital organization is a powerful combination of people, technology, and management capabilities that meets nowadays' economic and social environmental demands (Snow et al., 2017). Although digital technologies provide opportunities for positive outcomes from businesses' transformations, if managers lack the suitable mindset to change, they might not arise. Accordingly, Bharadwaj et al. (2013) stated that digital business strategy will be the business strategy. Digital business strategy is defined as the organizational strategy that leverages digital resources to generate strategic differentiation and competitive advantage and requires to think beyond the traditional boundaries. Digital technology value development represents a company's capability to generate value through the implementation of digital technologies and demonstrates to what extent the investments made in digital technologies are a source of added value (Martínez-Caro et al., 2020).

Nowadays, organizations have access to a huge variety of digital technologies, such as computer hardware, software, transmission networks, programming languages, algorithms (Snow et al., 2017), internet of things platforms, location detection technologies, authentication and fraud detection tools, 3D printing, smart sensors, multilevel customer interaction, and augmented reality (Martínez-Caro et al., 2020). Nevertheless, White (2012) underlined four technologies that have been rapidly redesigning the future of work: mobile, big data, cloud computing, and search-based applications. Integrating these technologies into a digital work environment could generate great benefits for the business. As a matter of fact, the digital workplace of today's world is increasingly mobile (Byrne, 2012). Laptops, tablets, and smartphones should enable a contiguous digital workplace by working mobile. However, the main advantages of mobile technologies are providing access to information sources at any time (Köffer, 2015), supplying users with relevant just-in-time information through the use of location-identification, and, mainly, the opportunity to present personalized information in each device (White, 2012). Concerning the massive amount of data generated every day as a result of routine operations in a digitally connected world, big data is defined as data sets with dimensions beyond the capacity of common software tools to access, process, and analyze the data within a particular period (Bharadwaj et al., 2013). Digital technologies allow the production of quantity and quality information that can be easily compressed, maintained, and communicated (Snow et al., 2017). This information abundance represents an opportunity for companies to approach new business strategies

and, if workers are able to make effective use of the data by adding their knowhow and experience to the base-line information, this can be a source of competitive advantage and, thereby, crucial to the success of an organization (White, 2012). Hence, companies are significantly investing in information technologies and in using their functionalities to redesign business strategies, customer relationships, and expanded networks (Sambamurthy, Bharadwaj, & Grover, 2003). Martínez-Caro et al. (2020) noted that the focus is, at the moment, on the creation of services where big data is a new source of value creation and, consequently, plays a fundamental role in competitiveness. By having access to external data that can be transformed into knowledge, organizations can extract patterns, identify trends in new products and services, develop conclusions, and make better decisions. Indeed, information costs are almost nonexistent and organizations can engage with communities in unprecedented ways by opening and expanding boundaries (Altman, Nagle, & Tushman, 2014). In what regards to cloud computing, which refers to a wide range of resources provided on demand to the workforce over the internet, the key issue, within the context of a digital workplace, is the enabled sense of location independence. Ultimately, another major technological advancement has been the search-based applications. The focus of this digital technology is the move toward a unified information access, which is a solution to access and analyze all relevant information across diverse data sources, including both unstructured and structured information, through a single interface in a way that best supports an efficient decision-making process by the user (White, 2012).

2.1.1. Digital Technologies as a source of value creation for Organizations

Hardly anyone employed outside the information technologies' area is aware of the scale of technology's applications that a company holds (White, 2012). The implementation of digital technologies opens up a world of opportunities for value generation. According to Yates, the motivation for a business to adopt a new technology is the promise of improved efficiency (Reinsch Jr & Turner, 2006). A new technology boosts workforce's efficiency by reducing inputs and augmenting or improving outputs. This increased productivity can be a consequence of diverse value activities, namely, operating with greater speed and lower costs (Sambamurthy et al., 2003); accessing real-time data; participating anytime and anywhere (Kovaitė, Šūmakaris, & Stankevičienė, 2020); reorganizing administrative procedures; or improving customer services and coordination with suppliers (Martínez-Caro et al., 2020). Another evident manifestation of technology is the disruption in digital work environments'

design since workplaces are constantly changing (Snow et al., 2017). This issue will be addressed later in the report.

Nevertheless, technology's potentialities do not merely consist of efficiency or acceleration variations, digital technologies encourage structural alterations in tasks and in jobs (Reinsch Jr & Turner, 2006). The core functions are being reshaped, the power of coordination among them is intensifying, and completely new functions are emerging (Porter & Heppelmann, 2015). Algorithms are replacing managers in some traditional responsibilities, such as tasks assignments, determination of breaks, and supervision of quality. Furthermore, technology creates new and more satisfying jobs, in which the working hours decrease and productivity gains increase; reduces menial, repetitive, dirty, and dangerous jobs that can be replaced by automation; and, consequently, enhances the average workforce's standard of living (Cherry, 2016; Holford, 2019). Hence, work is progressively characterized by its continuous level of change and employees are required to become more flexible and adaptable (Thomas, 2007). As a result of this incorporation of technologies in daily business activities, both human and digital agents cooperate and share means of communication, control, and coordination, which enables organizations to understand humans as full legitimate partners of technology, by mutually combining their respective strengths and contributions (Holford, 2019; Snow et al., 2017).

Digital technologies are also increasingly recognized as fundamental tools for internal and external process innovation, enabling new ways of working within value networks and, thereby, the creation of new knowledge (Martínez-Caro et al., 2020). Innovation can be defined as a process by which an organization creates and identifies problems and, subsequently, actively develops new knowledge to solve them (Nonaka, 1994). In previous decades, organizations took advantage of technological changes by implementing incremental innovations, which are characterized by upgrades to existing products, services, and processes. Nowadays, digital technologies are leveraging disruptive innovations that, on the other hand, are described by producing new business models and markets (Snow et al., 2017). The Lewis, Schmisseur, Stephens, and Weir (2006) analysis demonstrated that there are three actions that change agents should give particular focus: facilitate the process for change, by disclosing specific steps; create a vision and provide a consistent and strong justification for implementing such change; and promote communication. Organizations should communicate digital transformations throughout the different phases of the process,

that is awareness, understanding, acceptance, action, and follow up, using internal communications channels (Kovaitė et al., 2020).

2.2. Communication

Communication has been defined as an intentional exchange process of symbols and signs between individuals and whose inevitable outcome is the creation of a message (Reinsch Jr & Turner, 2006; Reinsch, 1991). According to Reinsch (1991), these symbols consist of written or oral words. However, the concept of communication can be addressed in a broader sense and, therefore, be related to other symbols. Shannon (1948) defined communication as all processes by which one mind may impact another, including, in this way, all human behaviors, such as music, pictures, theatre, and so forth. Bordi, Okkonen, Mäkiniemi, and Heikkilä-Tammi (2018) noted that communication can involve either one-to-one or one-to-many actions since a person can simultaneously communicate with others without added effort. Furthermore, this process of transferring information, meaning, and understanding (Berry, 2011) can have different intentions, for instance, to entertain, to inform or to persuade (Reinsch, 1991). "*Communication is like a wave that passes through people's bodies and culminates when everyone synchronizes himself with the wave*" (Nonaka, 1994, p. 24).

The communication system (Figure 1), proposed by Shannon (1948), begins in the information source. Then, the transmitter transforms the selected message, out of a set of possible ones, into a signal which, afterwards, is conveyed to the receiver. The last one has the inverse role of the transmitter since he converts the received signal into a message and takes it to destination. During the process, it is unfortunately common that some unintentional changes in the transmitted signal arise, that is, certain noises are added to the message, such as, distortions of sound or shape and errors in transmission.
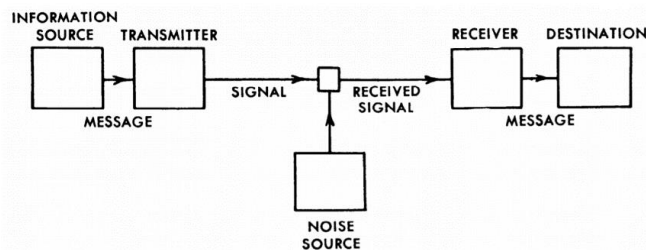
Figure 1: Communication System

Source: Shannon (1948)

2.2.1. Business Communication

Communication has a crucial role in managing a business, which is a voluntary, efficiency-seeking, and profit-motivated trade of goods and services, with the ultimate goal of maximizing shareholders' wealth (Reinsch Jr & Turner, 2006; Reinsch, 1991). Business communication is the communication applied in conducting business (Reinsch Jr, 1996). Business communication can be either a dyadic or group interaction and can occur inside or across the boundaries of an organization (Reinsch Jr & Turner, 2006; Shelby, 1993). In fact, to generate wealth, a business must successfully interact with its stakeholders, positioning itself as an open system (Reinsch, 1991). Regarding the external environment, managers have the responsibility to, for example, attract and retain customers or provide briefing to suppliers. On the other hand, within organizations, internal communication is fundamental to provide information and create a sense of belonging among the team (Friedl & Verčič, 2011).

In the last decades, organizations played in an ever increasing cross-cultural and virtual environment (Reinsch Jr & Turner, 2006), which has resulted in a broader, more dynamic, and ambiguous domain of business communication (Shelby, 1993). As new technologies emerge, organizations must be prepared to communicate in a wider range of channels and genres (Reinsch Jr & Turner, 2006). Concerning the means of communication, the workforce can use from face-to-face communication, print publications to technology-based platforms (Ewing, Men, & O'Neil, 2019). In what regards to genre, there are two distinct worlds of interactions within an organization's communication structure: formal and informal. Traditionally, business communication had mainly relied on formal channels, which attached relevance to hierarchical coordination of work. However, employees are recognizing informal channels as more useful, since they better transmit the organization's culture, provide greater flexibility, and, mostly, have the capacity to fit individual and work needs, including social ones (J. D. Johnson, Donohue, Atkin, & Johnson, 1994).

The concept of internal communication emerged in the 1990s in the US and, thereafter, spread to Europe, achieving prominence in the new millennium (Tkalac Verčič et al., 2012). Several studies (Clampitt & Downs, 1993; Flanagin & Waldeck, 2004; Sievert & Scholz, 2017; Tkalac Verčič et al., 2012; Wajcman & Rose, 2011) have since reported various benefits from internal communication: this management process keeps workers up to date

with tasks and new developments; enhances productivity and effective decision-making; reduces the risk of failure and losses during change processes; saves costs and time; supports organizational socialization including sense making and affiliation; promotes trust and engagement among employees, and facilitates employees' satisfaction and a pleasant corporate culture.

According to Uysal (2016), information is shared, collected, and distributed through internal communication in order to assure employees' awareness about organization's goals and objectives. Internal communication, which is defined as the communication that occurs between organizations and employees (Mishra, Boynton, & Mishra, 2014), has a crucial role in informing the team about company's plans, vision, and ideas, but also in encouraging all members to participate in the decision-making process and in promoting mutual feedback and peer learning (Kovaitė et al., 2020). Hence, internal communication provides the basic building blocks for people to collaborate and perform toward organizational goals (Berry, 2011). Due to an increasingly complex environment, teams are challenged to find processes that enable effective communication practices, which implies that the expected recipients accurately receive the intended message in a time-efficient manner (Berry, 2006). Indeed, an effective interdisciplinary team is dependent on the quality of communication between members (Vroman & Kovacich, 2002).

2.2.1.1. Computer-mediated Communication

In our always-connected world, the proliferation of digital technologies has been associated with disruptive transformations of work and, therefore, in communication (Thomas, 2007). Innovative communication and information technologies reshaped how organizational members gather and disseminate information, the relationships among teams, and the interactions with external environments (Flanagin & Waldeck, 2004). The face-to-face mode of group discussion, which consists in an interaction carried out without any mediating technology, where members communicate by talking, listening, and observing nonverbal behaviors and where there is no lag between the transmission of signals, has long been considered the most effective and normal mode of communication (Hiltz, Johnson, & Turoff, 2006). However, the contemporary worker is confronted with a variety of communication media and, therefore, can significantly involve computer-mediated communication throughout the performance of his job (Wajcman & Rose, 2011). Computer-

mediated communication differs in many aspects from traditional face-to-face communication, but most considerably because it is typically asynchronous instead of synchronous (Berry, 2011). Rogers and Allbritton (1995) argued that the most distinctive quality of these means is the interactivity and, thus, suggested the term interactive communication. Interactivity is the extent to which all participants involved in the interaction can chose the timing, content, and sequence of a communication act and search for alternatives. Participants have similar roles in exchanging symbols and in creating a common meaning for them.

So far, several authors have been analyzing the increased usage of technology in communication and comparing it with the traditional face-to-face communication. Bordia (1997) noted that, likewise any technological innovation, there are costs, not merely monetary, associated with the integration and utilization of computer-mediated communication, such as issues of privacy, trust, security, and social control. In addition, Rogers and Allbritton (1995) identified a potential problem of information overload because of the greater ease in communicating across physical and social distance. Nevertheless, the same authors recognized that participants have a certain degree of control over the communication flows based on the flexibility provided via information tools and, thereby, concluded that this challenge can be suppressed by, for example, filtering messages according to their level of importance.

Furthermore, the grown usage of technology in social interactions is related with declining degrees of empathy, which encompasses cognitive understanding of other's point of view and an affective reaction to them, and, consequently, complicates the development of closeness and the feeling of know and understood (Colbert et al., 2016). Indeed, the lack of cues, such as facial expressions, intonation, body language, and contextual signals hinders the characteristic feeling of social presence in shared physical surroundings (Rogers & Allbritton, 1995; Vroman & Kovacich, 2002). Thus, face-to-face communication enables the transmission of information in a more personal way that through other communication tools (Stein, 2006). As a result, there is often a higher perception of risk, ambiguity, and complexity in exchanging information via digital means (Cohen & Gibson, 2003). Another concern with computer-mediated communication is that it takes more time for decision-making process and achieving consensus since it requires negotiation and substantial team interactions. There are three main explanations for the process to take longer: the absence of visual cues, which

are used to assess the strength of other's convictions, identify hidden meanings, provide instant feedback, and speed the problem solving (Cappel & Windsor, 2000; Cohen & Gibson, 2003); the exchange of less information in the same amount of elapsed time because typing is slower than speaking (Bordia, 1997; Hiltz et al., 2006); and the response delays due to differences in technologic resources and work hours among team members of diverse locations (Berry, 2011).

On the other hand, computer-mediated communication overcomes some of the face-to-face communication's drawbacks, empowering, in this way, organizational communication, collaboration, and decision-making effectiveness (Berry, 2006). Accordingly, meeting face-to-face to interact might not be the most effective solution neither an economically feasible mode in all circumstances (Hiltz et al., 2006). Electronically mediated communication has lower costs by not having all members meeting in the same place at the same time and is less time-consuming and more convenient (Thomas, 2007; Vroman & Kovacich, 2002). Additionally, the flexibility provided via unrestricted communication by location and time has been highlighted by various studies (Berry, 2006; Bordi et al., 2018; Kovaitė et al., 2020; Vroman & Kovacich, 2002). Indeed, interactive technologies can connect remote people who may otherwise be unable or unlikely to communicate (Rogers & Allbritton, 1995).

Computer-mediated communication empowers the wellbeing at work by providing different tools for different uses, the opportunity to schedule communication activities, and the possibility for exploring digital work (Bordi et al., 2018). The participants in interactions via virtual environments can make their contributions and express their ideas without interruptions by others and at a time personally convenient or available for them (Cappel & Windsor, 2000). As a result, team members are able to reflect or collect additional data before reacting, which enables reflective and substantive responses and feedback (Berry, 2006, 2011). Moreover, asynchronous processes allow teams to discuss multiple threads at the same time (Vroman & Kovacich, 2002) and participation occurs in parallel instead of being restricted to turn-taking as is common in synchronous face-to-face communication (Cohen & Gibson, 2003). In this way, everyone can participate and have a voice in the decision-making process and, thus, participation tends to be more balanced and equitable among members (Berry, 2006; Bordia, 1997; Hiltz et al., 2006). In fact, S. Johnson et al. (2002) found that, due to less normative interpersonal or social pressure in digital environments, employees

are less inhibited and share franker ideas and feedback.

Regardless of the differences, some authors found certain similarities between the two types of communication. Cappel and Windsor (2000) noticed that participants adjusted their opinions to a similar degree after both mode of group discussions, that is, there is no disparity in terms of choice shift, which is the absolute difference between the members decisions' average and the group decision. In addition, the main socialization issues found in both means of communication are analogous, including schedules conflicts, lack of management and team planning, and individual disagreements among members (S. Johnson et al., 2002). Lastly, face-to-face interactions' structures consist of meeting times and agendas. Likewise, computer-mediated communication is supported by a structure, since team members agree about the communication flow and technology's infrastructures can streamline multiple topics interactions by, for example, creating subject matter folders (Vroman & Kovacich, 2002).

Different modes of communication are related to distinct outcomes depending on the task type. There is evidence that computer-mediated communication is more appropriate for task-oriented functions and less effective in social-emotional functions (Hiltz et al., 2006; Rogers & Allbritton, 1995). In fact, virtual team members typically recognize that the traditional social interactions expressed in face-to-face meetings, such as tension release, agreement, and disagreement, are not needed to complete their assignments (Berry, 2006). Bordia (1997) shared the same opinion when the time is limited, but the author added that, given enough time, technology-mediated groups perform as well as face-to-face groups in social-emotional functions. In addition, asynchronous interactions are more likely to be successfully applied in tasks low in complexity (Cohen & Gibson, 2003) and on idea generation tasks (Bordia, 1997). On the other hand, since the lack of immediacy in responses may slow down the decision-making process, computer-mediated communication is not the best option when prompt decisions are required (Berry, 2006).

2.3. Digital Work

Computer-mediated communication is typically used by virtual teams (Berry, 2011) to perform digital work, which is a new paradigm since it happens anytime and anywhere, in physical space or in cyberspace (Köffer, 2015). The way that work is designed and conducted has also been influenced by technological developments (Colbert et al., 2016). Exploiting

digital work demands a shift in traditional mindset about the definition of work. The concept of work must change from what is done between 9 a.m. and 5 p.m. to a notion that is based on the efficient execution of work without considering the time and place where it happens (Dittes et al., 2019). Computer-mediated technologies have profoundly changed how employees collect and distribute data and the dynamics and relationships within teams (Flanagin & Waldeck, 2004). Currently, team members may be located across the office or across the world to act toward a common goal. Despite almost all teams employ technology to some degree, technology alone does not make a team virtual (Berry, 2011). Indeed, virtual teams use computer-mediated communication substantially more than face-to-face communication to accomplish their tasks (Cohen & Gibson, 2003; Maznevski & Chudoba, 2000). These virtual teams depend on technologies, such as videoconferencing and chat rooms to interact and become functional work groups (S. Johnson et al., 2002).

According to Cohen and Gibson (2003), for virtual teams to perform well, three empowering conditions need to be assured: (1) shared understanding; (2) integration; and (3) mutual trust. Firstly, managers need to promote shared understanding, that is, similar employees' beliefs, expectations, and perceptions in terms of goals, work and group processes, tasks, and members' roles. In the opinion of Berry (2011), the negotiation of shared objectives is an inherent element of the team-building activity. Maznevski and Chudoba (2000) stated that strengthen the shared awareness within a team eases the messages' communication. Secondly, integration refers to what extent different units of an organization can work together toward a common goal. Thomas (2007) underlined that, as work has becoming more customer oriented, organizations are required to form multidisciplinary teams to create more efficient work processes and, subsequently, better outcomes. Thirdly, mutual trust promotes a safe environment for team members and, consequently, encourages them to act genuinely and to take risks. Supplementary efforts need to be carried to build mutual trust in virtual teams due to the lack of relational cues in computer-mediated communication.

Besides creating conditions for good virtual teams' performance, leaders should focus on the employees' experience and wellbeing at digital work. Although for different purposes, both dimensions are important to be considered. Employee experience refers to what the workforce encounter, observe, or feel over the course of their work routine in a workplace and can be promoted by including fast log-in, efficient onboarding, agility, and

other capabilities in systems that enable teams to get their work done more effectively. On the other hand, employee wellbeing describes the state of individual's mental and physical comfort resulting from work's dynamics. A positive employee experience empowers innovation and employee wellbeing helps companies to attract and retain talent (Dery et al., 2017). In accordance with Peters, Calvo, and Ryan (2018), the most essential elements that foster motivation and wellbeing in the context of digital work are: (1) autonomy; (2) competence; and (3) relatedness. First, when workers act with autonomy, they act in accordance with their personal goals and values. Indeed, everyone in virtual teams should be at once self-reliant and interdependent, that is, "*they must know how to be "me", while simultaneously holding on to being "we"*" (Lipnack & Stamps, 1999, p. 18). Another aspect that promotes happiness in the workplace is the feeling of being able and effective, that is, a sense of competence and knowing that the job is being recognized by the organization (Berry, 2011; Peters et al., 2018). Finally, the feeling of being connected to others and the feeling of belonging also promote employee wellbeing. Building a sense of virtual community, which is defined as the individual's perceptions, expectations, understanding, and feelings about a group, is powered by members' interactions and, mainly, by the exchange of support between peers (Uysal, 2016).

2.3.1. Advantages and disadvantages of Digital Work

Heretofore, several studies have been exploring the benefits and drawbacks of digital work. The flexibility provided by the opportunity of working from anywhere in the world at any time was highlighted by numerous authors (Berry, 2011; Colbert et al., 2016; Dittes et al., 2019; Mazmanian, Orlikowski, & Yates, 2013; Rogers & Allbritton, 1995; Tarafdar, Tu, Ragu-Nathan, & Ragu-Nathan, 2011). Having the ability to use digital technologies regardless of time and place to perform the assigned tasks is associated with higher levels of autonomy and control among team members over their technological work ecologies, which is, consequently, reflected in positive impacts on productivity (Diaz, Chiaburu, Zimmerman, & Boswell, 2012). Lipnack and Stamps (1999) noted that virtual teams are also a mean for better distribution of human resources due to the emergence of smarter ways to organize operations in the digital era. Additionally, enhanced and diversified knowledge sharing is another result of digital work arrival. In fact, computer-mediated communication facilitates workers' participation, enables the creation of geographically dispersed teams, and empowers synergies of different types of expertise, know-how, and knowledge (Berry, 2006). This

exchange of information comes through culturally diverse teams, since work is increasingly spread around the world (Thomas, 2007), and interdisciplinary teams, given that it is more and more required to create cross-functional groups to face today's complex challenges (Nonaka, 1994). Besides, interactive technologies allow the information to be archived and retrieved at users' convenience (Rogers & Allbritton, 1995). Due to electronic records of most interactions and work accomplished, leaders find it easier to evaluate the performance of individual and group's outcomes in virtual teams when compared with the traditional face-to-face work (Berry, 2011; Cohen & Gibson, 2003).

Traditionally, companies have structured work environments based on command and control models, with clearly defined hierarchies and rules. However, a hierarchical organization can only be successful in stable and predictable conditions (Snow et al., 2017). As today's economy is progressively ambiguous, complex, and volatile, companies are eliminating slow and bureaucratic structures (Thomas, 2007). Nowadays, internal communication has become more horizontal and omnidirectional (Korzynski, 2015; Kovaitė et al., 2020; Lipnack & Stamps, 1999). The networking nature of communication technologies provides users with a great level of control over their work interactions, which creates a sort of decentralized control where the decision-power is shared between team members (Rogers & Allbritton, 1995). Each employee can decide and take responsibility based on his own work dynamic and, therefore, play a leadership role (Lipnack & Stamps, 1999). Hence, "*the person with the greatest idea can influence a community of practice*" (Vodanovich, Sundaram, & Myers, 2010, p. 717). Nevertheless, the flat structure should not hinder leaders' responsibilities of defining goals and respective deadlines and ensure that they are aligned with organizations' strategic elements (Cohen & Gibson, 2003). The networking structure of an organization speeds up decisions (Bharadwaj et al., 2013) and enables to handle with more complexity, since information is transmitted directly from those who have it to those who need it (Lipnack & Stamps, 1999).

Alongside the advantages, virtual teams can amplify the problems of traditional teamwork or even generate new ones, which can represent major hurdles to success and, thereby, need to be meaningly addressed by leaders through design and process strategies (Cohen & Gibson, 2003). The most mentioned disadvantages of digital work are the problems that may arise from constant connectivity. Mazmanian et al. (2013) found that professionals confront an autonomy paradox, reflecting that, in spite of the flexibility and

control over interactions provided by digital work, they feel pressure to be available and committed which reduces their capacity to disconnect from work. As a result, a phenomenon of technostress may occur when users experience the demand for constant connectivity as stressful (Dittes et al., 2019; Tarafdar et al., 2011; Wajcman & Rose, 2011). If digital work drives employees to work nonstop, there is little time to spend on sustained and creative thinking. Another adverse effect may be blurred lines between business and private life that, as a result, negatively influences employees' wellness and satisfaction (Bordi et al., 2018; Diaz et al., 2012; Dittes et al., 2019). Communication technologies have inevitably lead to fragmented and interrupted working days (White, 2012). However, Wajcman and Rose (2011) noted that workers no longer have a passive role when facing these interruptions since technologies allow them to manage the interactions throughout their working day. Furthermore, another negative effects of digital work might be less feelings of group membership (Cappel & Windsor, 2000); poorer understanding of partners and tasks (Bordia, 1997); increased feelings of isolation and consequent reduced levels of productivity and motivation (Berry, 2011); technology failures; and communication mishaps (Cohen & Gibson, 2003).

2.4. Digital Workplaces

Today's workplace is profoundly and rapidly changing. Digital technologies empowered the entire notion of workplace to be changed and, hence, companies have been rethinking their workplace strategies (Michael, 2002). Likewise, companies are facing the challenges of the digital era by redesigning how their employees work and by forming new organizational infrastructures and innovative coordination models (Bharadwaj et al., 2013). The outcomes of these initiatives are digital workplaces. The concept of digital workplace has been defined by several authors, as presented in Table 1. In this report, we will rely on the contribution of Schmidt et al. (2018), assuming that a digital workplace is a technological structure that is experienceable for workers within a company. This virtual reality helps the workforce to accomplish tasks through communication, cooperation, and access to key information.

Table 1: Definitions of digital workplace

Study	Definition
Schmidt et al. (2018, p. 1)	*"part of the IT infrastructure that is visible or experienceable for the user embedded in an organisational and processual structure, with the help of which he or she can perform his or her work activities being characterised by information, communication and collaboration"*
Dery et al. (2017, p. 136)	*"the physical, cultural and digital arrangements that simplify working life in complex, dynamic and often unstructured working environments"*
Byrne (2012, p. 12)	*"actually less a specific destination or tool, and more a strategy that creates services so badly needed that you'll never have to complain about poor adoption ever again"*
Michael (2002, p. 267)	*"Digital technology has made it possible to create and maintain relationships and to accomplish remotely and asynchronously tasks that were formerly possible only through face-to-face activities in traditional locations. This capability has altered the ideas of 'where' and 'when' people work, has opened cyberspace as a new workplace"*

Source: Author own elaboration

Considering that the term digital workplace is centered on a place limiting it to a particular space despite the current vision that work should be location independent, White (2012) suggested, as an alternative, the concept of digital work platform. The platform enables any employee from anywhere to work as a member of a team and, thereby, to perform the assigned tasks and share information among other users. In this way, digital work environment is recognized as an important organizational asset for boosting team productivity (Köffer, 2015).

2.4.1. Digital Workplaces Design

In the digital era, companies' success depends on the creation of digital workplaces that enhance employees' experience by reshuffling of how the work is done (Dery et al., 2017). The study of Richter, Heinrich, Stocker, and Schwabe (2018) recognized digital work design as a huge challenge for organizations. Digital work design aims to simplify current and future work practices through digital technologies, enabling the workforce to learn and

connect with one another and reinforcing creativity and problem solving. Today's work environment design entails an integrated, interdisciplinary, participative, and agile approach to reinstates the human work at the core of technological systems development efforts.

According to Dery et al. (2017), to design a digital workplace, leaders need to address two dimensions: employee connectedness and responsive leadership. Employee connectedness is defined by the extent to which employees can connect with each other, information, and ideas. On the other hand, responsive leadership refers to the extent to which managers focus on activities that intend to develop and continuously improve the employee experience within organizations. Also, the authors conceptualized three design levers for each dimension: systems, social and space, which address the employee connectedness, and sustaining leadership, systematic learning, and symbols, that address the responsive leadership dimension (Table 2).

Table 2: Dimensions and levers of designing a digital workplace

	Employee Connectedness	**Responsive Leadership**
Levers	• Systems	• Sustaining leadership
	• Social	• Systemic learning
	• Space	• Symbols

Source: Adapted from Dery et al. (2017)

In what regards to systems, different channels, tools, and technologies enable teams to collaborate and to accomplish work anywhere and anytime (Berry, 2011; Cohen & Gibson, 2003; Dery et al., 2017). Nowadays, digital technological solutions, encompassing mobile devices, videoconference, instant messaging, listservs, bulletin boards, and chatrooms, provide the infrastructure for virtual collaboration (Uysal, 2016). Additionally, there are quite a few software platforms and office productivity tools that support project management and real-time collaboration around documents and spreadsheets (Snow et al., 2017). To design a digital workplace, companies need to analyze all individual applications and tools that each team member access to complete the respective assignments every day from the standpoint of the employee and, subsequently, reconstruct the pieces into a greater whole that generates business value (Byrne, 2012). Virtual team members are required to have the ability to select the appropriate transmission media for the message content and, when they are the message's receivers, employees need to understand the meaning of the medium used, so that they

decide how to interact with each of them (Cohen & Gibson, 2003; Wajcman & Rose, 2011). For instance, a hierarchy had emerged among the various channels of communication within a workplace. Generally, sending an email or depositing a document in a shared workspace is interpreted as sharing non-urgent and routine information, whereas a richer communication media, such as text message and phone call, is understood as slightly more urgent or is used to report complex issues. Finally, to resolve problems or address urgent topics, a videoconference is more efficient since both the content and emotion of the message can be transmitted with the support of images.

The social lever aims to speed up collaborative work and encourage the formation of new ideas (Dery et al., 2017). Managers of virtual teams should strike a balance for energy devoted to tasks and relationships building, overcoming the time and distance's barriers, and discovering new approaches to build social ties in virtual space (Cohen & Gibson, 2003). In fact, successful collaborative work is based on effective social relationships (Berry, 2011). Employees want to interact and collaborate with colleagues in the normal flow of daily work instead of separately in social islands. Thus, workplace leaders should focus on bringing social and collaboration services to tools and platforms that team members already use to perform their day-to-day jobs (Byrne, 2012). In this way, digital technologies are an important booster of finding new ways to collaborate in a digital workplace (Köffer, 2015).

Communication practitioners are increasingly employing social media as part of companies' internal communication strategy (Ewing et al., 2019; Sievert & Scholz, 2017). Leonardi, Huysman, and Steinfield (2013, p. 2) defined enterprise social media as "*web-based platforms that allow workers to (1) communicate messages with specific coworkers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular coworkers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated, posted, edited and sorted by anyone else in the organization at any time of their choosing*". Hence, enterprise social media is an informal internal communication channel that fosters employees' engagement due to its diverse, multimedia, interactive, interpersonal, and group-based characteristics (Friedl & Verčič, 2011). Progressively, social media represents one of the most disruptive impact of information technology on business, since it has been reshaping how workers communicate, collaborate, and create (Aral, Dellarocas, & Godes, 2013). Sievert and Scholz (2017) identified several benefits from using enterprise social media, besides facilitating collaboration, such as: enhanced flow of

communication; internal processes' acceleration; disappointment avoidance on the part of employees and increased motivation, due to the direct feedback received; better coordination of human and production resources; and, in the best case scenario, leadership structure and business models profound alterations. Ewing et al. (2019) added that the mentioned platforms may inspire to achieve other long-term organizational goals, for instance, improved internal relationships, increased employee engagement, and enhanced reputation. However, managers cannot presume that the pure existence of social tools conducts to a better collaboration among team members. Instead, leaders must enthusiastically encourage their use to attain the advantages of such platforms (Köffer, 2015).

Concerning the space lever, companies should assure workforce access to open office spaces or desk sharing to support collaboration (Dery et al., 2017). In fact, virtual team collaboration requires both synchronous and asynchronous work, since going offline sometimes is fundamental to clarify misunderstandings or overcome language and cultural barriers (Cohen & Gibson, 2003). In addition, Maznevski and Chudoba (2000) referred that regular face-to-face meetings interspersed between periods of remote communication are also important for supporting relationship building and to address higher level decision processes and complex messages.

Regarding the sustaining leadership lever within the responsive leadership dimension, this layer implies that the management mindset should be open to employee initiatives and respective feedback, encourage experimentation via digital technologies, and promote tolerance for dynamically re-evaluating workplace's initiatives. Moreover, leaders are expected to communicate a clear purpose which features the innovative workplace design as a strategic element of organization's goals and vision and to provide new standards of behaviors (Dery et al., 2017). In fact, Lipnack and Stamps (1999, p. 18) identified purpose as a core element of virtual teams, characterizing it as "*the glue that holds them together*". In a virtual team, the purpose must be robust and agreed upon by all participants and has to be converted into actions that, afterwards, become rooted in daily work activities. Virtual teams' interactions should be guided by a code of conduct and a set of norms, namely, in terms of the use of each communication channel, responses times, recording of documents in shared workspaces, and tasks' prioritization, since they support easy and effective communication among team members (Cohen & Gibson, 2003). Although a code of conduct may impose some limitations, it also promotes a feeling of protection and safety. Thereby, developing

norms for virtual teams positively impacts the creation of groups' bonds and boosts the employees' commitment and satisfaction with the organization (Korzynski, 2015; Uysal, 2016). Indeed, the findings of Nguyen, Mia, Winata, and Chong (2017) study suggest that a transformational-leadership style, which is conceptualized in terms of employees' perception of their leaders' ability to inspire, has direct and positive impacts on organizational performance, by promoting long-term vision and motivation.

The systemic learning lever is about providing continuous learning opportunities in the context of digital workplaces. As stated by Cohen and Gibson (2003), creating a learning orientation is a required component to be successful in a digital work environment and, as a result, managers need to create systems that allow employees to share information, learn with one another, complement the peers' work, and provide and receive direct and useful feedback. Several tools emerged due to the proliferation of digital technologies and, at the beginning, it may be difficult for employees to embrace them in their daily routine of work. Thus, providing both members and leaders with appropriate training at every stage of the digital transformation are necessary for an effective use of technology (Korzynski, 2015).

Lastly, to address the responsive leadership dimension, leaders create symbols and brands to emphasize the importance of the workplace strategy for digital transformation (Dery et al., 2017). According to Vroman and Kovacich (2002), when using computer-mediated communication, once people produce written content more carefully than spoken comments, employees need to be aware of the written expression rules and some symbols capable of expressing emotions in order to decode messages' meaning. Even the silence, that is, not receiving any kind of communication from virtual peers may signal something, for example, a sanction, an exclusion, or computer systems' failures (Cohen & Gibson, 2003). Virtual team members are challenged to understand the signals sent by their colleagues.

As digital natives have been entering the labor market, the preference for technological tools that enable teams to collaborate more freely in companies' environments emerges among the workforce. Thus, as a complement of the dimensions previously mentioned and proposed by Dery et al. (2017), according to Vodanovich et al. (2010), companies should project their digital workplaces based on five interrelated dimensions: personalized, social, interactive, intuitive, and attractive, as presented in Figure 2. Since both studies highlighted the social layer of designing a digital workplace, the dimension was

already addressed previously in this subsection.
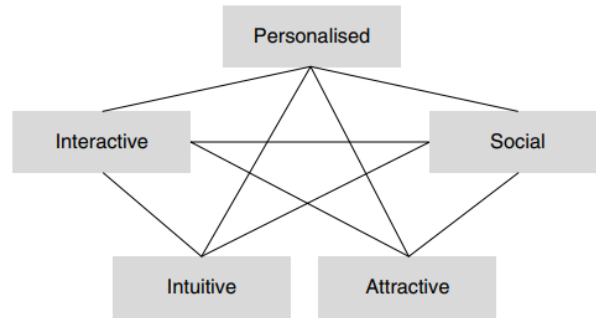
Figure 2: Interrelated Workplace Design Dimensions for Digital Natives
Source: Vodanovich et al. (2010)

Firstly, the personalization dimension refers to the extent to which participants can collaboratively change the design of a digital workplace. The systems can be adapted to each employee's profile in two ways: "*by instinctively adapting to a user's behavior and by being adaptable in terms of being customisable through direct configurations by users*" (Vodanovich et al., 2010, p. 718). Accordingly, for highly collaborative digital organizations, Snow et al. (2017)'s study recognizes that the appropriate structure is actor-oriented, which enables the members to self-organize while executing their tasks. Being adaptable can be accomplished in several ways, for example, by providing visualization options, lists ordered by relevance, or lists of alternatives (Adomavicius & Tuzhilin, 2005). Additionally, interactivity is another aspect to consider when designing a digital workplace, since employees desire to embark on an active role when using the platforms instead of staying passive by just reading and observing (Vodanovich et al., 2010). Hughes-Hassell and Miller (2003) identified some elements that are fundamental to create interactive systems, namely, visual appeal, simplicity of navigation, modernized configurations, and truthfulness of information. Finally, the intuitive dimension refers to the system's features that led participants navigate easily and the attractive dimension is based on the integration of cool and up-to-date designs to fit with the digital natives' expectations (Vodanovich et al., 2010).

Summing up, digital technologies are becoming prominent in today's organizations in an ever-increasing pace and have been reshaping communication, by enabling individuals and teams to be connected in unprecedented ways, that is, anytime and anywhere in the world. In this way, organizations are under pressure to project and deliver digital workplaces that face the fast-moving environment in which they compete nowadays. Wherefore, the

design of digital work environments has been gaining importance in the research field, as it is demonstrated in the Table 3.

Table 3: Summary of previous studies about digital work environments

Study	Aim of the Study	Findings
Dittes et al. (2019)	The article studies how digital work can be fostered through the introduction process of Information Technologies (IT) and provides examples and recommendations.	The study highlights four key management challenges that companies need to face to introduce digital work, namely concerning digital work overload, culture and leadership, employees' different expectations, and top management. Additionally, authors developed eight recommendations for managers to address this issue effectively.
Ewing et al. (2019)	The goal of the study is to explore how employee communication and engagement can be enhanced by using social media.	The authors identified best practices in using internal social media to engage employees, such as, provide clear norms and employee training; define relevant and pragmatic content strategies, based on authenticity and consistency; promote leadership involvement; and encourage employee participation.
Schmidt et al. (2018)	The article investigates how individual user needs can be incorporated in the process of designing a digital workplace environment.	The contribution consists of proposing a framework for user-oriented design of collaborative work environments, including 6 phases, namely, Initialization, Planning- Identifying Action Areas, Requirements Elicitation, Requirements Prioritization, Workplace Implementation, and Satisfaction Measurement.
Bordi et al.	The study explores how	The research shows six topics that affect

(2018)	digital communication in the workplace impacts the employees' wellbeing at work.	wellbeing at work: (1) volume of digital communication; (2) expectations of constant connectivity; (3) messages' quality; (4) adaptation to new technologies; (5) technical difficulties; and (6) flexibility in communication.
Dery et al. (2017)	The article examines how companies can redesign their workplaces so that employees are able to perform effectively in this digital world and how those workplaces can be a source of added value to businesses.	In order to enhance employee experience, two dimensions were addressed in the digital workplace transformation journey in high performing companies: employee connectedness and responsive leadership. Moreover, the research demonstrates that the IT function has a core role in this process.

Source: Author own elaboration

Generally, one can conclude that the abovementioned investigations have different purposes, however all interrelated and connected with the main topic of digital workplaces. For instance, the studies of Dittes et al. (2019), Schmidt et al. (2018), and Dery et al. (2017) focus on how organizations establish digital work environments and their findings mainly consist of, correspondingly, major challenges, phases of implementation, and dimensions of the designing process. Moreover, Bordi et al. (2018) and Ewing et al. (2019) addressed the impacts of internal communication in digital environments on employees' wellbeing and engagement. Therefore, this report broadens previous contributions toward a more practical and in-depth perception of digital workplaces design, by providing pragmatic insights in what concerns to the content segments, structure organization, and the process of implementation of such platforms and by exploring their impact on the internal communication strategy.

3. Real Vida Seguros, S.A.

Real Vida Seguros, S.A., hereinafter referred to as Real Vida, is an anonymous society founded by a group of mainly northern shareholders within the scope of a project that began in the end of 1988. During the year of 1989, the founders' goal of kicking off the company's activity in the Insurance area was achieved. Real Vida, whose headquarters are in the city of Porto, has the mission to protect and minimize individual and organization risk and optimize their patrimony through solutions based on excellence, accuracy, independency, and stability.

During the year of 2013, Patris Investimentos acquired the entire share capital of Real Vida. Thereafter, the Insurer became part of a financial group specialized in asset management, savings management, investment, and brokerage areas. Furthermore, in December 2016, Real Vida completed the acquisition processes of 96.49% of the share capital and vote rights of Banif Pensões – Sociedade Gestora de Fundos de Pensões and of the whole share capital of Finibanco Vida. Likewise, during the second quarter of 2017, Real Vida acquired the entire share capital and vote rights of Real Vida Pensões – Sociedade Gestora de Fundos de Pensões.

Therefore, 2019 was a year of consolidation of practices and procedures, after a successful assimilation of businesses' acquisitions in the previous years. Additionally, during this year, Real Vida implemented some projects with a huge focus on innovation, dematerialization, digitalization, and continuous improvement of processes, which had the aim to modernize and readjust the company's action, reflecting Real Vida's strategy goal of better serving its clients and partners. Concerning the digital area, Real Vida invested significantly in developing functionalities that promote better usability in navigation and interaction within digital tools in order to improve efficiency and reduce its ecological footprint. The disruptive approach of creating an innovative system that removes any physical support of the subscription process must be highlighted due to the fact that the Insurer is the first players in the life insurance segment, at a national level, to provide clients with a subscription exclusively by digital means. Regarding the product portfolio, Real Vida decided to update and improve its offer, aiming to strengthen its position as a reference brand in the Portuguese insurance market. As a result of the strict and excellent work that has been done, the company was highlighted, within the field of Pension Funds, by having 3 of its funds in the Top 5 of the best Pension Funds opened in the last 5 years (Real Vida Seguros,

2019).

In other words, Real Vida has been guiding its action by following four key strategic goals: (1) sales channels' diversification; (2) products' offer of excellence, which has to be continuously improved and developed to, increasingly, fit customers' needs; (3) enhancement of the brand visibility and awareness; and (4) processes optimization, digitalization and development of new technological solutions. These strategic targets strengthened the sustainable growth of the Insurer, that has been presenting key performance indicators with higher values than the remaining players in the sector in which it operates (Real Vida Seguros, 2019). In fact, according to its consolidated report and accounts, Real Vida grew 17% in revenues in 2019, reaching, thereby, the value of 108.3 million euros and finished the economic exercise of 2019 with an operating profit of 7,436,597 euros, which corresponds to an evolution of 10% (Real Vida Seguros, 2019).

Real Vida has operated in the Portuguese insurance industry for 30 years and has a steady corporate culture, centered in five core values: (1) Ethics and Transparency; (2) Rigor and Professionalism; (3) Innovation and Dynamism; (4) Customer Orientation; and (5) Teamwork. In detail, Ethics and Transparency aim to guide the employees to act with integrity in the fulfillment of their commitments. Rigor and Professionalism have the purpose to conduct all organizational members to perform effectively and efficiently, acting with precision and clarity in processes and relationships. Additionally, Innovation and Dynamism encourage a constant search for new opportunities, methods, and business ideas that make it possible to implement differentiating solutions for the client, allowing to obtain competitive advantage and to contribute to the growth of the company. Regarding Customer Orientation, the goal is to make employees realize the importance of understanding the needs of the internal and external customer in terms of products and services and, thereby, ensure a valuable offer and an excellent service, which boosts the customer lifetime value. Lastly, Teamwork's objective is to promote clear, transparent, and loyal communication between teams, creating a spirit of mutual help and reinforcing appropriate behaviors in order to establish relationships of trust.

In 2019, Real Vida employed 119 professionals (Real Vida Seguros, 2019). Approaching a brief sociodemographic characterization of the team, the Insurer presented a homogeneous distribution in terms of gender, that is, 59 employees are female and 60 are

male and, in addition, 61% of the employees had a higher education degree (Real Vida Seguros, 2019). In terms of age structure (Figure 3), most of the workforce were in the age group from 36 to 45 years.
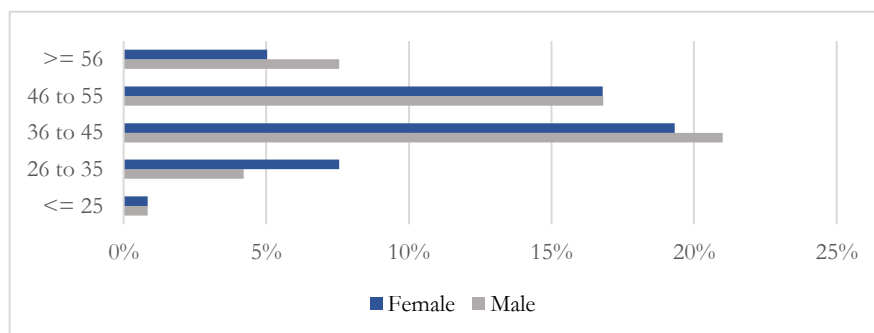
Figure 3: Real Vida Seguros, S.A. Employees Age Structure

Source: Author own elaboration based on company data

According to Real Vida's organizational chart, the internal structure of the Insurer encompasses five functional areas (Figure 4).
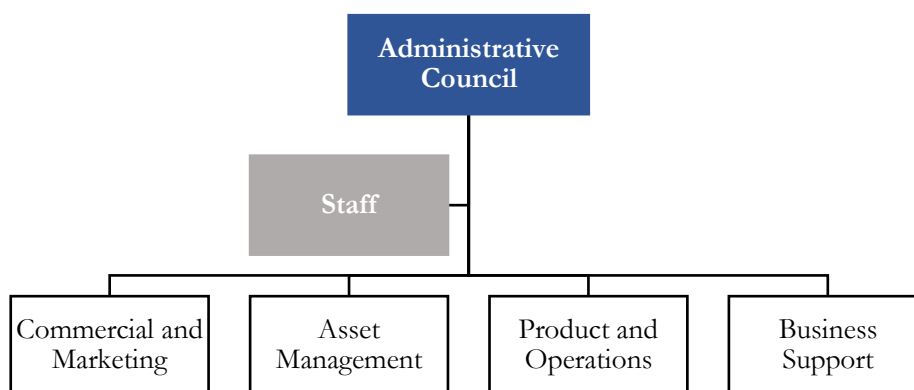
Figure 4: Real Vida Seguros, S.A. Organization Chart

Source: Author own elaboration based on company data

3.1.   Human Resources Direction

The Human Resources Direction has the mission to implement Human Resources Management methodologies and tools with the purpose to attract, motivate, retain, and enrich the employees, establishing an adequate work structure that boosts business results. Furthermore, this team, which belongs to the Business Support organizational unit, guides its action by some crucial principles, such as, no discrimination practices based on equality ideologies, without ignoring diversity; respect for dignity and people promotion; relations

and work conditions humanization; and personal, familiar, and professional life conciliation. In terms of duties, the main tasks consist of manage the team; produce people management data and information to sustain the management decisions; ensure, through internal communication and social responsibility practices, people's alignment and commitment to Real Vida's mission and values; assure internal costumers' problem-solving support concerning organizational and individual issues with the aim to sustain the organizational flexibility and to optimize the resources; manage and coordinate the service suppliers according to company's guidelines, needs and agreed conditions; and guarantee administrative procedures and legal, contractual, and fiscal formalities, as well as wage processes in order to comply, in a timely manner, all company's obligation.

3.2. Planning, Innovation and Processes Office

The Planning, Innovation and Processes Office is part of the Staff area, which is an internal unit that provides direct support to the Administrative Council. This team has the mission to assure the creation of added value to the company, its employees, and partners, by adopting good business practices through a strategy based on innovation, continuous improvement, operational efficiency, quality, and a project-based culture. Moreover, the core team's responsibilities are to coordinate interdepartmental projects with the purpose of reshuffling procedures and optimizing costs and resources; define and follow the action plans to assure their fulfillment and their contribution to the overall business' goals; perform practices' surveys, analyze them, and, afterwards, advise the departments in terms of processes, procedures, and circuits improvements; create document models following Marketing and Communication guidelines, ensuring their correct registration and archiving; and identify new computer applications, as well as improvements and additional developments opportunities for the existing ones, together with the Information Systems Direction, assuring a suitable company's technological development.

4. Methodology

4.1. Methodological approach

Following what was previously mentioned, the goal of this report was to explore the implementation process of a Digital Workplace, namely, in terms of the process itself, the structure outline, and the different elements to integrate. Furthermore, the study aimed to understand how the internal communication of a company can be optimized through a digital work environment project. Thus, this investigation addressed the following research question:

- How to successfully design a digital workplace to boost communication?

Similar studies on digital workplaces design and respective methodological approaches were analyzed with the aim to strengthen the procedure of data collection selected. As summarized in Table 4, the most used data collection methods were case studies and interviews, with a frequency of three times each in the total of the five studies. Observation and workshop discussion techniques were also applied in two of the mentioned investigations, but one per study. In doing so, all research followed a qualitative approach to gather the data.

Table 4: Summary of the methodology of earlier studies about digital work environments

Study	Data Collection	Sample
Dittes et al. (2019)	The study was based on interviews and observations from three case studies.	The three case studies were Allianz, the City Administration of Lenzburg, and Haufe-umantis, which are organizations from diverse domains and, therefore, had distinct approaches to the implementation of digital work.
Ewing et al. (2019)	The data was collected from qualitative in-depth interviews.	The interviews were conducted with 27 internal communication managers with an average of 15 years of experience within the field, which work for global

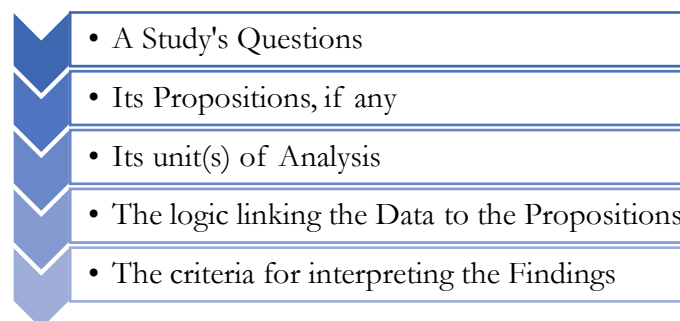|		companies from different industries.
Schmidt et al. (2018)	The research involved case studies in which the proposed framework for designing a digital workplace environment was put into practice.	The results were found through 10 completed projects. The case studies were about companies from several industries that employed from 5,000 to 250,000 users.
Bordi et al. (2018)	The conclusions were based on workshop discussions about the digital work environment and wellbeing at work and complemented with log data.	Three organizations were represented in the workshop discussions with a total of 36 participants, namely, 13 employees of an industrial company, 13 team members of an insurance company, and 10 workers of a financial administration services company.
Dery et al. (2017)	Data gathered through semi-structured interviews with managers who participated in the design and management of digital workplaces. Then, the authors identified the most insightful organizations from the interviews phase which became another source of data collection for the study as case studies.	Firstly, there were 63 participants from 27 companies in the interviews phase. Afterwards, case studies in DBS Bank in Singapore, Deloitte Australia, and AUDI in Germany were carried out. These companies are from different industries and different countries and, as a result, had distinct approaches to the design of digital work environments.

Source: Author own elaboration

Given the exploratory nature of the research question, a qualitative research approach was developed for the study. Qualitative research uses a naturalistic methodology

to find in-depth data about the phenomenon that is being addressed by exploring the complex and dynamic environment of the social world. Despite being specially time consuming, qualitative research might generate richer information that otherwise would not be obtained. In fact, while quantitative researchers collect data to transform into statistics and, afterwards, generalize the findings, qualitative research seeks to understand and interpretate, rather than to extrapolate a phenomenon to similar situations (Hoepfl, 2000).

Furthermore, due to the complex and multifaceted reality of the investigation, the analysis was based on a case study framed within an academic internship in Real Vida Seguros, S.A.. The internship aimed to closely follow the various phases of the designing project of the Insurer's digital workplace and, thereby, extract data for the present study. Yin (2009, p. 48) defined a case study as "*an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident*". A case study proves to be a powerful method when "how" and "why" questions are being addressed. The method enables the collection of many variables of interest that go beyond quantitative statistical results and empowers the analysis of different points of view and, therefore, sustains a very holistic and robust approach (Zainal, 2007). All the referred advantages aligned with the possibility of the method to rely on multiple sources of evidence underline it as the most competent to use in this study.

4.2. Research Design

The research design of this study, which consists in the overall strategy that connects the data to the research questions and, ultimately, to the findings, is addressed considering the five components proposed by Yin (2009), as presented in Figure 5.

- A Study's Questions
- Its Propositions, if any
- Its unit(s) of Analysis
- The logic linking the Data to the Propositions
- The criteria for interpreting the Findings

Figure 5: Five components of Research Design for Case Studies
Source: Adapted from Yin (2009)

Firstly, as mentioned above, the research question that the case study aimed to answer was the following: How to successfully design a digital workplace to boost communication? Concerning the study's propositions, Yin (2009) stated that when a phenomenon is subject of exploration, investigations have a valid reason for not having any proposition, since they would lessen the boundaries of the scope of the study. However, the author clarified that even in an exploratory case study, the purpose and direction should be defined. Accordingly, the present case study aimed to explore mainly three dimensions within a digital workplace project: the process of implementation, the definition of the structure, and the content segmentation. Thirdly, Real Vida Seguros, S.A. was the unit of analysis of this single case study. In the previous section, a description of the Insurer was made. Then, an analytic strategy and a criterion for interpreting the findings must be defined by the investigator. Considering the strategies and techniques proposed by Yin (2009) in his book Case Study Research: Design and Methods, the analysis of evidence followed a strategy of "*developing a case description*" for organizing the case study and the analytic technique of "*explanation building*" about the case was applied.

4.3.   Procedure of Data Collection

In order to gather rich data to address the research question, three different sources of evidence were used, namely focus group, participant observation, and secondary data. The various methods of data collection applied were highly complementary and fundamental to understand the complex nature of the project subject of investigation. In fact, the focus groups represented the main source of data, but important information was also collected from other sources. This collection of data composed by direct and indirect sources was carried out from September 2019 until April 2020 throughout the academic internship performed by the researcher.

4.3.1. Focus Group

A focus group is defined as a group discussion on a particular theme used for generating information for research purposes and is guided and monitored by a moderator. Collective views and the meanings that lie behind those views can be found if fruitful discussions are promoted (Gill, Stewart, Treasure, & Chadwick, 2008). In the present investigation, the application of this method aimed to collect participants' experiences, beliefs, insights, and ideas regarding the digital workplace. Hence, six focus groups with a

duration of approximately 2 hours each were held on Real Vida's headquarters. Furthermore, group discussions were scheduled in advance and the fifteen participants, who are employees of Real Vida, were present in all sessions that occurred with a week between them. These time intervals allowed the organization to discuss the project throughout the various stages of the platform designing process, since at each meeting the Project Manager and the representative of the Information Systems team presented the latest developments. The researcher facilitated the group discussions by providing themes for the participants to engage in. Supporting material were delivered at the beginning of each group discussion.

4.3.1.1. Participants Characterization

Since a holistic approach to the project was intended, a great representativeness of the Insurer workforce was assured in the focus group sessions. In this way, the group discussions were composed by 8 (53.3%) female and 7 (46.7%) male and by 7 (46.7%) individuals with management positions, ranging from an administration position to middle-level leaders, and 8 (53.3%) non-managerial employees. Additionally, the participants had an average age of 47.6 and an average of the years of working in Real Vida of 12.7. In what regards to the business areas, the focus groups comprised members of all mentioned above functional areas: Staff, Commercial and Marketing, Asset Management, Product and Operations, and Business Support. Besides, most of the participants have a Bachelor (86.7%). Table 5 presents a synthesis of the participants' characterization.

Table 5: Participants Characterization

P1	Company position	Administrator
	Age	57
	Gender	Male
	Educational level	Bachelor
	Years of working in the company	2
P2	Company position	Project Manager
	Age	43
	Gender	Female
	Educational level	Bachelor
	Years of working in the company	3
P3	Company position	Human Resources Director
	Age	44
	Gender	Female
	Educational level	Bachelor
	Years of working in the company	17
P4	Company position	Human Resources Technician

	Age	43
	Gender	Female
	Educational level	Secondary Education
	Years of working in the company	3
P5	Company position	Information Systems Director
	Age	58
	Gender	Male
	Educational level	Bachelor
	Years of working in the company	27
P6	Company position	Channels' Application Center Coordinator
	Age	37
	Gender	Male
	Educational level	Bachelor
	Years of working in the company	11
P7	Company position	Operations Director
	Age	56
	Gender	Female
	Educational level	Bachelor
	Years of working in the company	16
P8	Company position	Production and Portfolio Manager
	Age	44
	Gender	Female
	Educational level	Secondary Education
	Years of working in the company	17
P9	Company position	Technical and Actuarial Director
	Age	45
	Gender	Female
	Educational level	Bachelor
	Years of working in the company	19
P10	Company position	Product Development Center Technician
	Age	51
	Gender	Male
	Educational level	Bachelor
	Years of working in the company	3
P11	Company position	Accounting and Controlling Technician
	Age	50
	Gender	Female
	Educational level	Bachelor
	Years of working in the company	26
P12	Company position	Marketing Technician
	Age	39
	Gender	Male
	Educational level	Bachelor
	Years of working in the company	5
P13	Company position	Partnerships Channel Coordinator
	Age	51
	Gender	Male

	Educational level	Bachelor
	Years of working in the company	3
P14	Company position	Exclusive Network Channel Member
	Age	45
	Gender	Male
	Educational level	Bachelor
	Years of working in the company	17
P15	Company position	Mediation Channel Member
	Age	51
	Gender	Female
	Educational level	Bachelor
	Years of working in the company	21

Source: Author own elaboration

4.3.1.2.   Data Analysis

To analyze the data collected by the most important method of the investigation, a content analysis was conducted of the focus groups' meeting minutes. Throughout each session, a written record of everything that was happening during the discussion was made by the researcher. Qualitative content analysis is defined "*as a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns*" (Hsieh & Shannon, 2005, p. 1278). Besides, a conventional approach to content analysis was pursued, in which the coding process consists in organizing large quantities of text in content categories derived from data during data analysis. This inductive category development allows researchers to achieve a deep understanding of the phenomenon under study, by obtaining direct information from participants without imposing preconceived categories or theoretical perspectives (Hsieh & Shannon, 2005).

4.3.2. Participant Observation

Aiming to provide additional information about the topic under study, another method of data collection employed was participant observation. This process enables researcher to understand a phenomenon in the context of its natural scene, by observing contributors' activities (Hoepfl, 2000). A participant observer may assume various roles within case study setting, namely by participating in the events being studied or having the ability to manipulate minor events, such as organizing meetings (Yin, 2009). Despite being very time-consuming, participant observation can be very insightful into interpersonal behaviors and motives. In the present study, the researcher had the opportunity to be part

of Real Vida, by serving as a staff member of the organization, through a performance of an 8-month internship with a total duration of 1,076 hours. Due to the complex and subjective reality, the information was obtained through interpretation and, thereby, field notes were taken.

4.3.3. Secondary Data

In addition, secondary data was analyzed with the goal to corroborate and augment evidence from the previously presented sources of data. During the internship, a series of organizational documents were analyzed, being them: internal communications, code of conduct, internal policies, team albums, job descriptions, benefit plan, and protocols, which were fundamental to understand the human resources management policies of the Insurer; and products documents, manuals, proposals guides, commercial campaigns, and performance indicators reports, which allowed a better awareness of the company's business model. Most of the documents were found on the old and unused company's intranet and their analysis supported the development of deep knowledge about the project. According to Bowen (2009), document analysis is a systematic process of reviewing documents to examine and interpret data so that meaning can be elicited and understanding about the subject increased. The content of such documents is recorded without researcher's intervention.

Since the methods of data collection were applied in an integrated way during the 8 months of the internship, the study's results were analyzed together in the following section.

5. Results

In order to describe the results of the case study, as suggested by Dittes et al. (2019), a structure of a typical implementation process composed by four stages (Figure 6) is followed. In the particular case of implementing a digital workplace, the four phases consist of: (1) defining the various factors that drive organizational motivation to design a digital work environment; (2) setting up platform(s) to facilitate digital work based on new and innovative information and communication technologies; (3) planning the team's activities and procedures to implement and embed such tools; and (4) evaluating the impact of the new cyber workspace.

Why? **What?** **How?** **Impact?**

Figure 6: Implementation Process
Source: Adapted from Dittes et al. (2019)

5.1. Motivation

In the context of the previously mentioned renewal agenda (Real Vida Seguros, 2019), the project of implementing a digital workplace arises as a core element of the internal communication strategy of the Insurer. In fact, Real Vida's main motivation for establishing a digital work environment is to strengthen communication and networking, by facilitating the information flow and, thereby, to promote horizontal communication and intra and interdepartmental synergies. By empowering internal communication, the Human Resources Director (Participant 3, focus groups) projected as a result an "*encouragement of smart collaboration*".

Another key driver of the project was an "*improved decision-making process based on top and medium level leaders' access to real-time data*" (Participant 1, focus groups). The aim is to ensure managers' ability to follow up-to-date performance indicators of the various areas which may be reflected in human resources optimization. This target is of significantly importance to the Commercial and Marketing area, since the Insurer tightly relies on traditional distribution channels of the insurance market, which are agents, either exclusive or independent, and brokers, whose commissions are internally perceived as relatively high (Researcher field notes).

Lastly, the digital workplace is also supposed to positively impact productivity by reducing bureaucracy and the corporate complexity it can bring, enhancing document and content managements, and increasing innovativeness. Hence, "*the platform aims to enhance processes efficiency (…) the ultimate goal is to maximize results*" (Participant 2, focus groups).

5.2. Technologies and Infrastructures

Based on the drivers of establishing a digital work environment, Real Vida internally developed a computer network exclusively accessed by the workforce: Real Vida Intranet. This platform aims to empower digital work and, therefore, provides several computing services, namely, knowledge storage capability, collaboration tools, operational systems, integration with Microsoft 365 services, and rapid access to internal applications. The digital workplace was built from scratch by the Information Systems team and "*the stack used fundamentally consists of a client-server web application architecture in ASP.NET Core 3.1 with a Model-View-Controller (MVC) pattern; a Representational State Transfer (REST) Application Programming Interface (API) for data access; a data layer in IBM AS/400 with access by Stored Procedures; and single sign-on (SSO) authentication by Microsoft Azure B2C and ADFS*" (Participant 6, focus groups). Furthermore, the project's team employed "*clean code notions, software design patterns, SOLID concepts, and unit and integration tests with XUnit and Moq for dowry core*" (Participant 5, focus groups). Besides, since the platform is a modular project, the several modules are iterative and incremental, which allow the team to add new features over time (Researcher field notes). Additionally, the Marketing Technician (Participant 12, focus groups) noted "*the importance of the platform to be dynamic and user-friendly*". The digital workplace was made available in both computer and mobile version so that employees have the flexibility to work from different places.

Concerning the structure and content segmentation of the digital workplace, the team outlined three sections: (1) dashboard per function profile; (2) employee's area; and (3) common menus, with the aim to support an ease and efficient communication flow.

Firstly, the purpose of creating a dashboard for each function profile was to generate real-time insights to employees and leadership through multiple data sources. This customized information management tool tracks, analysis, and displays key performance indicators and key data points in the form of interactive information visualizations, which enable teams to monitor specific business processes and promote a better decision-making.

"*The content and tools developed for each dashboard must be aligned with the daily requirements of the respective role in order to optimize their work*" (Participant 2, focus groups). Thus, an analysis of the activities and processes of each area was carried out and, consequently, common requirements were identified. The overlap of certain areas' requests, such as, projects' tasks and calendar, ongoing commercial campaigns, management indicators, and teams' calendar, enabled the Information Systems team to develop shared tools.

Secondly, the employee's area was designed to inspire workers to be happy in their work environment, encouraging each member to feel energized and valued by Real Vida and engaged with its culture and goals. Moreover, "*this area within Intranet aims to centralize all information in order to facilitate procedures and to enhance the journey of each employee in the company*" (Participant 3, focus groups). Accordingly, this area was projected to be easily edited by the Human Resources team over time, which was allocated to the responsibility to regularly create different elements, ranging from notification, internal positions, training and development opportunities, satisfaction questionnaires, birthdays, internal news, social responsibility campaigns, to spaces for sharing suggestions and ideas.

Thirdly, the common menus defined by the project's team are presented in the following Figure 7. This section emerges as a repository of important documents that all team members need to have a rapid and easy access to. In order to assure an efficient document management, a document indexing policy was also established, with the main goal of promoting "*standardization of the language applied to the naming and description of documents and greater facility in identifying the content of a document*" (Participant 2, focus groups). The ease of identification, location, and retrieval of documents aims to boost agility in carrying out work activities and decision-making.

Real Vida	Employees	The Products
• About us • Team • Real Vida Brand • Internal Standards • Documentation	• Recruitment and Integration • Development and Motivation • Involvement	• Segmented by product families and product name

Figure 7: Common Menus of Real Vida Intranet
Source: Author own elaboration

5.3. Implementation Activities and Plans

As stated above, throughout the designing process of the digital workplace, the latest developments of the platform were systematically shared by the Project Manager and the Information Systems team with the remaining workforce and, thereby, inputs and ideas from the representatives of the five functional areas of Real Vida were considered in the various stages of the project. Indeed, in line with the ambitions delineated, comprehensive knowledge of target groups and their requirements on the part of the project's team was the basis for the development of the digital workplace. Thus, the planned design activities were highly iterative and supported by a series of prototypical implementations with a growing level of maturity. The prototypes were sequentially built based on the team's feedback regarding the previous version. Additionally, "*the project schedule was segmented by function profiles and respective specificities, which enabled the team to test the platform in its different phases*" (Participant 2, focus groups).

By pursuing a gradual rollout strategy, the workers' awareness about the platform importance and efficacy in supporting their tasks accomplishment and their satisfaction and motivation toward such digital work environment were gradually attaining the desired degrees. Summing up, involving employees since the implementation phase was also a strategy for encouraging them to embrace the new technologies.

5.4. Impact and Evaluation

Finally, in order to track the project's impact on Real Vida, the team aims to evaluate both business and human outcomes by developing appropriate effectiveness measures. Concerning the business effects, such as, productivity, processes' efficiency, innovation, and financial results, the evaluation of digital work efforts will be made by a deep analysis of various performance indicators. Regarding the possible impacts on humans, namely, engagement, satisfaction, and personal development, the Human Resources Direction, besides the constant monitoring, "will annually conduct two surveys addressing employees' experience and wellbeing as users of the platform developed" (Participant 3, focus groups).

In the following section, the results from the present study were compared with the existing knowledge in the area.

6. Discussion

In order to successfully design a digital work environment to boost internal communication, Real Vida developed an Intranet with exclusive access for employees. The platform aims to promote information sharing and fruitful cooperation between members of the same team, as well as of different groups. Another driver for implementing the Intranet was the development of more efficient processes and, consequently, the raise of productivity levels. Accordingly, the literature suggests that Intranet is an ever-increasing adopted solution by contemporary companies to address communication strategies, since managers expect the platform to positively impact the information richness continuum (Stein, 2006). Besides, Byrne (2012) noted that the expectations of today's employees about such tools mainly consist of specific services that support them to become more efficient at their tasks' accomplishment. Therefore, the expectations go beyond the conventional Intranet services.

Traditionally, enterprise tools have been developed for concrete usage scenarios. On the contrary, nowadays, organizations implement malleable end-user software, which has the capacity to support a series of corporate practices and, thereby, is not related with specific business processes. Due to its flexibility and adaptability to various work practices, the software sustains existing and innovative ways of working. The design of such software should consist of an iterative process, in which new ways of applying the platform in the work activities arise over time (Richter & Riemer, 2013). Thus, in the case of Real Vida Intranet, the technologies employed in the project allow the platform to be customized to different types of organizational activities and gradually adapted to face new challenges.

Furthermore, to ease and optimize the communication flow, the Insurer's digital work environment was segmented in three different sections, promoting, in this way, a clear distinction among functional related information, human resources strategies, and contextual content. During the implementation process, particular relevance was given to the function profile. By providing employees with a central location with all relevant data in an attractive way, huge gains of productivity may emerge. Also, as information is organized in an intuitive and helpful manner, this structure enables the workforce to have a better experience in using the software. The literature highlights that, in fact, it may be advantageous for leaders to design appropriate procedures to each type of information (Cohen & Gibson, 2003).

Concerning the dashboards, the development of such performance management system, that is described as team "cockpit", strategically aligns virtual team members with organizational objectives (Cohen & Gibson, 2003). Indeed, the capacity to unlock the maximum value of data has arisen as a fundamental competence in the labor market and, therefore, can be a source of competitive advantage for the companies (Porter & Heppelmann, 2015).

Several studies underline the importance of greater individualization and user orientation of information and communication technologies and the move from one-size fits all to tailor-made work environments as a result of the digital era (Adomavicius & Tuzhilin, 2005; Köffer, 2015; Schmidt et al., 2018). Individual solutions are required to better address employees' job roles, preferences, and behaviors. Hence, Richter et al. (2018) identified an understanding of how and why things work before the digital transformation as a core challenge for digital workplace designers, which will be fundamental in subsequently transforming in-depth information into the best possible solutions to support work practices. Adomavicius and Tuzhilin (2005) suggested that this comprehensive awareness about platform's users should be converted into actionable knowledge stored in the form of profiles, that, in turn, must be used to create and manage appropriate content and services to each user. Similarly, throughout the design of Real Vida Intranet, the project team maintained close contact will all functional areas. An analysis of the various actors was made, encompassing how the different teams had performed their work, opportunities for improvements, and how the digital workplace would support these opportunities. In addition, these issues were regularly debated among the five functional areas' representatives, the Information Systems team, and the project manager during the focus group sessions.

In this way, Real Vida members were significantly involved in the Intranet design process. For instance, the best ideas resulting from one focus group were implemented in a prototype and, later, presented on the following group discussion. This process allowed the incorporation of continuous improvements and ideas proposed by various team members. The literature emphasizes that employee orientation and content customization can be achieved by developing an ongoing basis of close interaction with users. Workers are the ones that understand best the processes and tasks and their respective content. The broadest possible and cross-stage employees' participation considerably enhances the probability of success of the implementation process, as it reduces the complex and ambiguity nature of

the procedure (Schmidt et al., 2018). The workforce involved in the designing process will feel familiar with the new digital work environment even before they start using it, which reduces the difficulty of embracing this technology (Tarafdar et al., 2011). Likewise, in the present case study, as the final product includes inputs from the employee himself, another consequence of the participation in the implementation process were positive psychological effects on workers, such as, motivation, enthusiasm, and certain feelings of pride and shared ownership.

Finally, successfully establishment of a digital work environment requires more than only making new technologies available (Richter et al., 2018). Dittes et al. (2019) found that promoting digital work can only be achieved if a reshaping of traditional structures, organizational cultures, and ways of thinking occur. For that, the leadership mindset must change. Accordingly, Real Vida has operated in the Portuguese insurance industry for 30 years and, despite several actions toward a modernization in the previous years, the Insurer preserves a relatively hierarchical structure. However, managers saw in this project an opportunity to reshuffle this internal model and, thereby, to develop an open and collaborative organizational culture. The digital workplace generated new networks and workflows that have reformulated the relationships between employees and leaders. These new internal communication channels promoted horizontal communication and collaboration. As a result, the classic top-down communication model will no longer make sense in the long run. Besides, the digital work platform encouraged employees to be internal content producers since the content of communication was becoming less refined and planned and leaders started to give voice to individuals. In addition to changing the organizational culture, the establishment of the digital workplace has created great levers to rethink other important elements of the company, namely, internal processes, human resources strategies, and job roles, which will be addressed by the insurance company in the near future.

7. Conclusion

Digital disruption and software solutions are reshaping the rules inside and outside the boundaries of organizations. The diversity of technologies available in today's world is remarkable. Thereby, leaders have as major challenges to determine which collaborative structures best fit a particular team and to successfully project the respective digital work environment. Ewing et al. (2019) noted that many companies still strive to capitalize technological platforms' full potential. However, since digital innovation is considered a key requisite for competing in current external environment, "*it is worse to be irrelevant than to have experimented and failed*" (Byrne, 2012, p. 14).

Summing up the findings of the present investigation, the case study's results suggest that, in order to successfully design a digital workplace to boost communication, companies should: (1) project a malleable software that sustains several corporate practices and that can be modified at any time; (2) segment the content of the digital work platform and outline appropriate internal communication channels for each type of information, reflecting a clear split among functional data, human resources policies, and contextual documentation; (3) customize digital work tools in terms of functions profiles, considering, in this way, the individual needs and preferences of each user; (4) encourage the workforce participation in the implementation process and inspire them to share ideas and suggestions; and (5) rethink traditional structures and organizational culture.

According to Cohen and Gibson (2003), the critical factor in designing a digital workplace is to build the capacity to face complex problems. Nowadays, the business environment in which companies play is subject of unpredicted and ongoing changes, namely in terms of available technologies, work processes, and customers and workers' demands. Therefore, the workplace architecture process remains in a state of evolution and, consequently, is never finished (Michael, 2002). Organizations should be willing to react to new challenges and the workforce must be prepared to reorganize and rethink their tasks (Wajcman & Rose, 2011). Colbert et al. (2016) highlighted that the way in which technologies are applied in the workplace will continue to develop and change, which creates huge opportunities for enhancing teams' effectiveness. Finally, White (2012) suggested that digital workplaces will profoundly reshape our world by enabling the creation of macro-economic gains, being them: enhanced market shares particularly in rapidly emerging economies; higher

margins on the delivery of services and products that will generate better return to investor; and increased responsiveness to innovation opportunities and business challenges.

7.1. Limitations and future research

The present report explored how a particular Insurer designed a digital workplace, which is an inherent limitation since the research focused on a specific business sector. Nevertheless, this limitation can be seen as an opportunity to conduct the same analysis in companies from other industries and, thereby, to understand the pertinence of the case study findings in other organizations. Furthermore, the participants of the main method of data collection employed were all Real Vida employees with 12.7 years, on average, of working within the company, which may have reflected some preconceived ideas and inputs of such participants in the group discussions. In fact, the consideration of some external advisory would have been fruitful to this project. In addition, the participants had an average age of 47.6, with the youngest one having 37 years old. Likewise, it would have been interesting to collect insights from digital natives, the generation that is now entering the labor market and that is the future innovative potential of any company.

There are a few research opportunities that flow from this investigation. For instance, future research could explore how proper digital support can be established in these work environments or how the impacts of implementing the proposed solution can be accurately evaluated. Despite the huge economic, social, and health destruction caused by COVID-19, the pandemic has created an unprecedented opportunity for conducting the biggest-ever investigation about digital work environments, which enable the collection of interesting knowledge that will facilitate the design of the workplace of the future.

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