The feeling of losing the feeling: approaching the radical aspect of digital transformation through emotionalised institutional logics.

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Introduction.

Albeit certainly not a fundamentally new topic in the area of organisation and management research, the study of technology-enabled and technology-led organisational change benefits from a renewed interest with Digital Transformation (hereafter DT) (Vial, 2019). Maybe more than a mere renewed interest, we might be able to speak of real surge in interest, due to the profound questions and challenges DT brings forward to the academic and practitioner communities. For practitioners, DT has become a key and an imperative to enable strategy and value proposition renewal (Fitzgerald, Kruschwitz, Bonnet & Welch, 2014). For academics, it is assumed that the pervasiveness of digital technologies in our world has the potential to dramatically alter the way we view and analyse organisation and organising. Notably, this assumption caused the *Academy of Management Discoveries* to publish a call for papers asking the following question about DT: "*What is new if anything?*" (Lanzolla, Lorenz, Miron-Spektor, Schilling, Solinas & Tucci, 2018). Indeed, DT as a new phenomenon challenges the way we think and reflect about organisations and organisational change, and about the role of technology in these changes. Advancing further into these challenges, let us circumscribe what DT encompasses relatively to change and technology.

Historically, the question of how organisations could rearrange to fully benefit from technology is at the core of Woordward's seminal work (1958, 1965). In organisational analysis, the dominant framework at this time was to think about organisation's adaptation to their environment in a structuralist, functionalist way (Greenwood & Hinings, 2006). Also, the technology was not the same, as we were not speaking about information and communication technologies (hereafter ICT). The 1980s, notably with the introduction of the microcomputer in organisations, saw the rise of ICT and a first movement of digitization, a term that refers to the conversion of numerous document formats into digits, a technical process that enables storing, handling, or transferring data more easily (Legner, Eymann, Hess, Matt, Böhmann, Drews, Mädche, Urbach & Ahlemann, 2017). Although approached as a technical process, social, organisational and institutional consequences were already visible, as Barley (1986) demonstrates with the introduction of CT-scanners, showing how technological artefacts enable role restructuring in an organisation. However, the quick increase of ICT in organisations and in the world as a whole, and technological advances, enabled ICT technologies to gain properties, further enabling them to generate new behaviours or structures. This movement goes further than digitisation, and is generally termed digitalisation (Tilson, Lyytinen & Sorensen, 2010).

Again, DT is assumed going further then digitalisation, as digitalisation is a sociotechnical process that impacts the operational level, the practices and routines pertaining to everyday work, whereas DT encompasses a strategic action, a planned, radical organisational change (Gong & Ribière, 2021). Researchers tend to agree on a fundamental aspect of DT: on the contrary to other organisational transformations led by introduction of Information Technology (IT) in everyday work, DT involves a change in the organisation's identity and its value proposition (Wessel, Baiyere, Ologeanu-Taddei, Cha & Blegind-Jensen, 2021), hence its qualification of radical change. However, DT challenges established conceptions of radical organisational change. Notably, a recent systematic literature review on DT has shown that the boundaries between the two dominant conceptions of organisational change, episodic or continuous, are being blurred. The apparent stability stemming from episodic changes' endings might not exist anymore. Hence, the study of the unfolding of DT remains an interesting empirical question. (Hanelt, Bohnsack, Marz & Antunes Marante, 2021: 1177)

Recently in Information Systems (IS) research, ontological concerns are being thought about, as the taken-for-granted assumption that the digital world, modelled and structured in organisations' IS, represents the real world might not hold anymore: digital technologies are increasingly shaping the real world (Eriksson & Ågerfalk, 2022). Answering to calls to study phenomenological research about DT (Hanelt et al., 2021: 1178) and to investigate the extent of such a transformation (Gong & Ribière, 2021), we are interested in answering the following question: where does the radical aspect of this transformation lie, and how can such a transformation unfold?

Due to the brutal challenges DT brings to peoples' everyday life experiences, the fundamental transformation it entails in terms of identities and what is taken-for-granted (even for us researchers), and the "*ontological reversal*" at stakes (Eriksson & Ågerfalk, 2022: 34), this disruption could cause a mismatch between a digitalised world where strategy is made and the "*world of concerns*" of everyday employees (Creed, Hudson, Okhuysen & Smith-Crowe, 2020). As a result, their participation to the process of change could be hampered, threatening both the organisation and the employees' wellbeing. We propose to illustrate this phenomenon using recent advances in institutional theory, incorporating a focus on employees' emotions during a process of DT. We believe these two strands of theory are fruitful ways of analysing what is happening with DT, in order to establish a model of how such a radical transformation emerges over time and how peoples' emotions are indicators of such a radical process. We now turn to the theoretical framing of this paper.

We first recall some results on the importance of considering emotions in organisational change processes, notably their relationship with employee well-being. Then, we turn to institutional theory and how we can conceptualise organisations as institutionally plural environments (Kraatz & Block, 2008) and the interplay between institutional complexity and emotions (Toubiana & Zietsma, 2017). We finish our theoretical building by drawing upon Friedland's most recent work on institutional logics, their link to practices, values, and emotions, affirming our human agency perspective, as well as some insights on how digital technologies matter in this respect (Friedland, 2018; Berente, Lyytinen, Yoo & King, 2016). Using this theoretical framing, we explore the case of a French public organisation, which goal is to conceive, exploit and maintain a crucial infrastructure spanning all over French territory. The organisation, with which we conducted a one-year collaborative research between 2018 and 2019, is putting efforts to accomplish its DT. We believe this is a good example of DT, and we draw upon this case to inductively construct the story of the impact of DT on the institutional logic formerly governing the everyday work of the maintenance profession in this organisation. We underline the strategy, use of digital technologies, and the impacts of these aspects on the institutional logic, slowly dragging it in a digital realm and transforming the institutional substance. We conclude by showing how emotions can signal the transformations that are at play.

Literature review and theoretical framing.

Importance of emotions for the study of organisational change.

Emotions during change have been studied under a variety of theoretical lenses and onto-epistemological assumptions. Historically, at the beginning of the twentieth century, the industrial psychology literature was focused on factory workers' subjective feelings, in order, for example, to study the effects of perceived monotony on workers' performance (Münsterberg, 1913). During most of the twentieth century, a positivist, psychological focus dominated the study of changes in a worker's environment, notably the studies related to motivation and job adaptations (Weiss & Brief, 2001; Chung & Ross, 1977). At the end of this century, as organisational change and instability began to be seen as the norm, lots of studies aiming at managing employees' emotions during change began to be published. Rooted in psychology and appraisal theories of emotions (Lazarus, 1991; Scherer, 2005; Scarantino, 2016), this whole body of work assumes that, during an episode of change, positive and negative emotions can be found within employees, and that there is a correlation

between the valence of these emotions and the success of change (Oreg, Vakola & Armenakis, 2011).

Positive emotions, stemming from positive appraisals, encourage employees' involvement in the change process (Bartunek, Rousseau, Rudolf & DePalma, 2006), whereas negative emotions are potential catalysts of resistance to change (Vince & Broussine, 1996). Classical negative outcomes involve an increasing of sick leaves (Fugate, Kinicki & Prussia, 2008) or the apparition of conflicts (Bodtker & Jameson, 2001). In this respect, managers are encouraged to be careful about the way they communicate to their employees about future change events (Liu & Perrewé, 2005), in order to build trust by eliciting positive appraisals of the envisaged outcomes of the change (Allen, Jimmieson, Bordia & Irmer, 2007; Smollan, 2013). Moreover, achieving a successful change is not the only aim. Employee well being is also an important focus of this literature. First, since change is nowadays more frequent that it was earlier, managing change often involves managing an accumulation of change events, and such an accumulation is positively correlated to an increase of negative emotions in change recipients (Kiefer, 2005; Klarner, By & Diefenbach, 2011). Then, this accumulation of negative emotions or emotional experiences is assumed to lead to a decrease in the well being of employees (Rafferty & Jimmieson, 2017). Furthermore and globally speaking, change, and especially radical change, generates fear, stress and anxiety, profound negative emotions that can have profound negative consequences on employee well being (Fineman, 2006; Smollan, 2015).

Going further than manager to employee communication, the socialisation between employees also conveys the diffusion of emotions. The concept of resilience, for example, has proven to be useful, since resilient people have the potential to stay positive during change events and diffuse positive emotions to the others (Shin, Taylor & Seo, 2012; Avey, Wernsing & Luthans, 2008). Closely related to the diffusion of emotions, the notion of collective sensemaking is crucial to understand how emotions are formed in reaction to perceptions of change events, past, present or future (Steigenberger, 2015). But how is this meaning created or given?

Organisations as institutionally plural environments that people experience.

Going back to the roots of social constructionism, and according to Schütz' work, individuals also construct and act in their social reality according to the role they take in this social

context, determining the pre-existing meaning structures they have at hand (1964: 120 – 134). Institutions, as they are widely understood, are these pre-existing shared systems of meaning, historically embedded and socially constructed, defining taken-for-granted practices and assumptions in a given social context (Hatch & Zilber, 2012). Some ideal-typical societal-level institutional arrangements, within which organisations are embedded, are defined as institutional orders, each order being attached to an institutional logic, a combination of symbolic constructions and material practices that provides meaning to peoples' behaviour and engagement in their everyday organisational life (Friedland & Alford, 1991). These higher-order institutional logics can be adapted, refined by organisations and the different social groups that evolve in these organisations, and act as sources of identity for these organisations or groups (Thornton & Ocasio, 2008; Thornton, Ocasio & Lounsbury, 2012).

As such, institutions and institutional logics provide "*templates for action, cognition, and emotion*" (Lawrence, Suddaby & Leca, 2011: 53). However, research on institutional logics has tended to consider them in an overly cognitive manner, even as prescribers of emotions (Zietsma & Toubiana, 2018). In order to tackle this problem, institutional scholars have turned to the study of the micro-foundations of institutions and institutional processes, notably the way institutions are experienced or inhabited (Hallett & Ventresca, 2006). In this respect, emotions earned their place in institutional analysis as the "fourth pillar" of institutions (Scott, 2001), and a growing body of literature now integrates emotions into the analysis of organisational institutionalism, yielding several important insights and results (Lok, Creed, DeJordy & Voronov, 2017). At the organisational level of analysis, it is often assumed that organisations are institutionally plural, meaning that there is a multiplicity of institutional logics that play in a single organisation (Kraatz & Block 2008). People in these organisations are facing institutional complexity, and are often forced to deal with conflicting frames for interpreting and acting (Pache & Santos, 2013).

In an inhabited institutions perspective, facing institutional contradiction is recognised being a highly emotional experience (Creed, DeJordy & Lok, 2010), which people cope with by experiencing intense emotions (Giorgi & Palmisano, 2017). Institutional contradiction and its emotional experience might be a source of agency to enable institutional entrepreneurship and change (Seo & Creed, 2002), but the opposite holds too, the way people and organisations apprehend institutional contradiction will shape how they negotiate change, this latter assertion needing further research (Micelotta, Lounsbury & Greenwood, 2017). Furthermore, Voronov and Yorks (2015) argue that there is still little knowledge about the way people

experience these institutional contradictions. Moreover, radical organisational change also entails a change in the institutional logics at play in an organisation (Thornton, Jones & Kury, 2005). According to the pace and scope of the institutional rearrangement (Micelotta et al., 2017; Greenwood & Hinings, 1996), it can bring forth a traumatic experience, associated with strong emotions and other psychological consequences, altering the way people engage into their everyday work practices (de Rond & Lok, 2016), although coping mechanisms exist, for instance shifting one's emotional investment into other things (Wijaya & Heugens, 2018).

Institutional logics as an ontologically emotional organised set of practices.

The experience of institutional change and contradiction is not only a matter of emotional reaction, but also a matter of what to do next because, ultimately, this is the people that experience this contradiction that will have to couple and enact institutional logics (Glynn, 2000). Institutional arrangements are not simply out there waiting for their logic to be followed or their contradictions to be experienced, they are rendered real to people by the means of emotions (Voronov & Weber, 2016, 2017). Congruent with this assertion, Voronov and Vince (2012) showed, using a psychoanalytical conception of emotions, that in order for people to engage with a certain institutional logic, they have to be emotionally invested in it, and with the shared fantasy constructed and prescribed by the corresponding institutional arrangement. Moreover, the shared understanding of institutional logics and their taken-for-grantedness also comprise shared emotional attitudes, or specific emotional registers (Toubiana & Zietsma, 2017). Fear, for example, has been demonstrated as being an integral component of the institutions of haute cuisine (Gill & Burrow, 2018), and conversely, the experience some emotions that are not part of an institutional arrangement can threaten the stability of this arrangement (Delmestri & Goodrick, 2017). Some emotions, like shame, also act as a signal preventing people to disrupt an institutional arrangement and provide motivation to avoid this disruption (Creed, Hudson, Okhuysen & Smith-Crowe, 2014).

Recent advances on institutional logics help understanding the close ties between institutions, the practices they entail, the identities of practitioners and the affective side of emotions (Friedland, 2017, 2018; Friedland & Arjaliès, 2019). The switch in vocabulary from emotions to affects conveys the fact that institutions are not only conveying emotional registers or framing judgments and therefore emotional reactions of people, but that institutions are bodily understood in practices (Friedland, 2018). There are more than motivational properties of emotions: affects are integral to the patterned movements of people enacting institutional

logics in practice. Friedland (2018) defines institutional logics as a combination of doings and sayings, symbols and material practices, organised for the sake of and in order to produce what he calls an institutional good, or an institutional substance, that is a non-phenomenal teleology that grounds the institutional logics and affords people a subjectivity (Friedland, 2017, 2018). The notion of institutional substance helps understanding the relationship between institutional logics, change and emotions differently. For instance, a well-known case of change in the medical sector (Arman, Liff & Wikström, 2014) can be translated into a competition between two logics respectively grounded in a substance of care and a substance of scientific knowledge, both affording different subjectivities for the actors and different emotions (Dunn & Jones, 2010).

Technology, change, and human agency.

The role of digital technologies in organisational and institutional change processes has already been well studied, but research is still needed to further understand the transformational power of these technologies (Hinings, Gegenhuber & Greenwood, 2018). Owing to their properties, for instance their editability, openness or reprogrammability, they possess an "*ambivalent ontology*", being materially stable and at the same time enabling continuous change and intervention on both organisations and users (Kallinikos, Aaltonen & Marton, 2013; Lifshitz-Assaf, 2018). On the one hand, it has been showed that digital technologies constrain human agency by embedding roles and routines that structure the organisation (Volkoff, Strong & Elmes, 2007), as well as functionalities prescribing specific courses of action, shaping perceptions, knowledge and professional rules (Kallinikos, 2009). On the other hand, digital technologies enable active change by affording new possibilities and teleologies (Leonardi, 2011). In this respect, and pertaining to the practical enactment of institutional logics as the interplay between humans and objects, organisational change is not a determined feature of digital technologies (Boudreau & Robey, 2005). It is in the unfolding of human agency, dealing with the constraints imposed on it by constantly reinterpreting routines practices, that a new organisation is performed (Berente et al., 2016).

In organisational institutionalism, it is assumed that digital technologies shape the institutional landscape. Different kinds of these technologies (data processing or command-control systems for instance) reflect different histories and practitioner communities that contributed to their creation and evolution (Mahoney, 2005). As such, digital technologies convey discourses and shape institutions (Phillips, Lawrence & Hardy, 2004). Digital technologies

have been described and studied both as carriers and material instantiations of institutional logics (Berente & Yoo, 2012; Faik, Barrett & Oborn, 2020), nevertheless, there are not so many studies of digital technologies and institutional change that draw upon Friedland's conception of institutional logics as a combination of substance and practice. Yet, this conception, we argue, can be fruitful in deepening our understanding of the impacts of digital technologies, and more globally DT, on work and organisations. More than a physical materiality, digital technologies possess a digital materiality, a potential for manipulating and acting on digital representations of reality (Yoo, Boland, Lyytinen & Majchrzak, 2012), and we know that the institutional substance, that grounds the logic and provides meaning to practices, is also at the basis of our representations of the world (Friedland & Arjaliès, 2019).

Based on the premise that digital technologies are increasingly shaping the way we conceive and act in the physical realm, asserting the primacy of digital representations over the physical world (Baskerville, Myers & Yoo, 2020; Eriksson & Ågerfalk, 2022), and knowing that working through digital representations can have strong emotional consequences (Rauch & Ansari, 2022), we ask the following research questions: *To what extent can digital transformation produce institutional change by acting of the institutional substance? How can we account for this transformation using emotional reactions?*

Answering these questions, we aim to contribute both to the literature on DT, circumscribing an important feature that renders this transformation radical and new, and the literature on the emotional microdynamics of institutions, since we also answer to calls for further research on the interplay of institutional logics and emotions, studying the interplay between a people-centric view of affective reactions and affective engagement into practices with the structural conditions governing these practices and affective commitment (Thompson & Willmott, 2016; Zietsma, Toubiana, Voronov & Roberts, 2019).

Methodology.

Research setting.

This paper stems from a one-year collaborative research conducted between November 2018 and October 2019 in partnership with a French public industrial organisation. The company employs more than 50.000 people to ensure, among other activities, that a crucial public infrastructure is correctly conceived, exploited and maintained. Answering to several external pressures, and also with a proactive strategic will, the organisation has been deploying digital

technologies into its operations, for instance digital means of infrastructure surveillance and maintenance such as connected sensors, and has also introduced softwares such as ERPs (the first being deployed in 2014) in order to digitalise its operations' planning and reporting. In July 2018, the organisation began a DT program that includes the deployment of other technological tools, supporting changes in the organisational structure and culture (see **Table 1** for a quick summary of the two phases of the organisation's transformation.)

For this paper, we chose to consider only a sample of the organisation's DT. The profession of maintenance, in charge of assuring the high level of security and safety of the infrastructure, is the one that is the most impacted by DT. Since the infrastructure is spanning all over French territory, this profession is structured in small geographical units, with each unit being placed under the management of a "Proximity Manager". It is at this managerial level that most of the transformation of the profession of maintenance is aimed, so it represents the most extreme case of transformation in the whole organisation. As such, we choose to concentrate on this managerial level, and only consider the transformation of this particular sample.

Data collection.

As a research team, we investigated the way employees conceive their day-to-day work and live the ongoing transformation, as well as how strategists conceive the strategy of DT. Our dataset stems from two main sources. On the one hand, we collected (and we are still collecting) documents of numerous kinds, emanating from sources as institutional external actors (regulatory agencies, governmental or parliamentary reports for instance) or organisational actors. This helps us to extend our understanding of the different steps of the transformation and of the contextual issues surrounding it. On the other hand, the largest part of the dataset is comprised of transcriptions of the interviews we conducted as a research team during the time of the collaborative research. Since we are in this paper only interested with the DT strategy and effects on the Proximity Managers of the maintenance profession, we use a sample of 10 interviews of Proximity Managers (coded PM X further in the paper) and 5 interviews of strategists (coded STRAT X further in the paper). However, in total, we conducted 149 interviews with 183 organisational actors, from different activities and every managerial level. Although we do not use, in this paper, the majority of the interview transcripts, every of them have proved fruitful to gain proper understanding of our case.

Most of the interviews were conducted as follows. One-hour slots were afforded by the interviewees and integrated in their working day. The interviews took place in the interviewees' office or in the spaces where they had the habit of taking their breaks. After greeting and presenting ourselves, we exposed the aims of the collaborative research and asked for the permission of conducting the interview. We made sure to ask the interviewees their approval to record the interview, carefully stating that their anonymity will be preserved and that, if they wanted to, they could ask us to stop the recording. Interviews were oriented towards gaining sufficient understanding of the everyday work of the interviewees, and of the way they perceived the change events and how these events were conducted. In order to fully understand the complex activity of the organisation, we used an interview guide but we preferred letting the conversation flow when some details seemed useful for the completion of our understanding (Charmaze & Belgrave, 2012). We tried as much as possible to check our interpretations of the interviewees' answers and statements with them, in order to mutually construct an accurate representation of every interviewee's own reality (Myers & Newman, 2007). The documents collected were useful to ask questions that were increasingly specific and detailed.

Inductively capturing institutional logics and its transformation.

Our analysis is qualitative and embraces an interpretivist stance, as we aim to capture the subjective, historically and socially grounded views and feelings of the interviewees. According to Freidland (2017), the only way to know institutional logics is by observing the patterns of doings and sayings that are shared and persist over time. Moreover, the language used to account for these patterns is grounded in the institutional substance around which the logic is organised. Therefore, in order to identify an institutional logic, we must pay attention to the institutional substance (Klein Jr, 2015). As such, we first capture the extant institutional logic governing the activity of our sample of Proximity Managers by pattern induction, inducing what constitutes the substance of this logic (Friedland, 2018), the material practices pertaining to the production of this substance, and the emotional commitment integral to this institutional logic (Reay & Jones, 2015). **Appendix A** presents the results of this phase. A similar inductive process is done in order to reconstruct the organisation's DT strategy and its effects on the everyday work of PMs and the extant institutional logic. Iterating back and forth between our data, theory, and our emerging themes, we underline salient aspects of the transformation, presented in **Appendix B** and **Appendix C**.

Capturing emotions.

In order to be in line with our theoretical framing, we conceive emotions as affective rather than cognitive, that is to say emotions are not judgments or appraisals. However, emotions have motivational properties and are linked with an inclination to action, courses of action. Congruent with institutional analysis, emotions are also perceptual and allows for cultural influence on how they are triggered and expressed. Emotions are personal expressions, historically and culturally constructed, of what an individual feels (Voronov & Weber, 2017). We capture emotions inductively, using our transcripts and sometimes by listening to specific accounts of the interviewees, in order to discover what is also nonverbal in emotions (for instance, the tone of voice) (Peräkylä & Sorjonen, 2012). To identify these emotions, we are also in line with Prinz' (2004, 2007) work on emotions and morals, agreeing the statement that "*some emotions get their identity from the impressions or ideas that they cause, rather than from the impressions or ideas that cause them.*" (Prinz, 2007: 52). Therefore, we again iterate back and forth between our data and theory to define specific emotions that are presented in **Table 2**.

Results.

Extant logic, practices and emotional commitment – infrastructure as a patrimony. (Appendix A.)

Institutional substance.

We first outline key features of the extant institutional logic, prior to the introduction of any new digital technology. As institutional logics are enduring patterns of doing and saying, the features we exhibit were still there at the time we conducted the collaborative research, even if new digital technologies had already been introduced in the informants' daily work. We show that the extant logic, being organised around a shared goal of producing a well-maintained infrastructure, involves an inclination towards the materiality of the physical infrastructure. The related intertwined practices are also grounded in physical materiality, whether it is face-to-face informal relationships or technical knowledge about the physical infrastructure. We decide to term the substance of the extant institutional logic "infrastructure as a patrimony", since patrimony is part of the organisation's traditional vocabulary and conveys an idea of tradition and inheritance one values, as opposed to "infrastructure as an

asset" which is part of the new, DT-related organisation's vocabulary. The production of this valued substance needs these practices, and those in turn sustain the subjectivity of the Proximity Manager. We conclude by showing an affective commitment integral to the extant logic, taking the form of the emotion of pride, an ego-enhancing emotion.

When asking Proximity Managers what constitutes, to their mind, the doing of a great job, most of the answers refer to the technical aspects of maintenance works, embodied by technical norms, as one Proximity Manager simply puts:

"*A job well done is respecting the technical norms.*" (PM 1)

Let us unfold what this means. Another Proximity Manager underlines what entails respecting the technical norms, linking it to the safety of the personnel as the essential feature of the job.

"*The job of the Proximity Manager is: doing our production in complete safety, like I said earlier, respecting client service, respecting the production. This, this is our essentials. And when I speak of respecting technical norms, it's respecting the personnel's safety, this is our pillars, the basis.*" (PM 2)

It is important to notice how he insists on the term "*respect*", and that he does not use other terms such as "follow the guidelines". Respect is itself a moral act, an act that refers to other humans, to the ethics of a community (Prinz, 2007: 72), and is integral to the institutional logic Proximity Managers evolve in. Respecting the technical norms in the doing of infrastructure maintenance to ensure personnel's, and clients, safety, emphasizes the value of the infrastructure as an idealised good that animates the shared understanding and material practices of the Proximity Managers (Friedland, 2018: 533). We can also notice that this institutional logic is a translation of the field-level professional logic, in which client service and a specialised, technical body of knowledge are key elements. The substance, the good of the infrastructure as a patrimony that ought to be produced by Proximity Managers and the agents under their management, allows them to define themselves in reference to it, as another Proximity Manager recalls us:

"*As a Proximity Manager, I'm a manager, but I'm also and especially a technical supervisor for all of these pieces of infrastructure.*" (PM 3)

This Proximity Manager subsumes managing his team under the way he is responsible for the proper technical functioning of the infrastructure. In this respect, his managerial identity, his subjectivity as a Proximity Manager, is grounded in and directed toward the infrastructure as a patrimony, represented by a technical aspect that has to do with physical materiality.

Another excerpt witnesses the unbreakable link between the substance and its emanation in its physical form:

"*If a new manager arrives, he has to adapt to his public [the agents]. He can't arrive… (I don't know, I'm not fond of computing myself, but…) with a Mac 4.0 of I-don't-know-what new generation… the guy [the agent] will watch and… He won't care! However, if he arrives, and manages to earn trust and credibility with his experience, from construction and maintenance works he's done and what he's seen...*" (PM 2)

Anticipating our further developments, he compares a newcomer Proximity Manager who corresponds to the managerial identity promoted by the organisation unfolding its DT, a well-equipped manager with cutting-edge digital technologies, to what a Proximity Manager is meant to be. In order to organise his team and produce both the good and himself as a Proximity Manager, he has to earn his legitimacy that stems from having the knowledge and experience of properly manipulating the physicality of the infrastructure. The vocabulary he employs insists on having done and having seen things, having accumulated experience from close contact with the physical infrastructure, which is tough and demanding (for example he describes: "*When it's -2°C outdoor and that you have to take the crowbar, and that it burns you not because it's hot but because it's cold*" (PM 2)). To conclude, a metaphor illustrates well the idealised subjectivity, grounded in physicality, a world of physical, tough elements: "*So, we're never sick, y'know, Iron Man.*" (PM 2)

Interrelated material practices.

We now turn to the bundle of interrelated practices that are organised in order to produce the good of infrastructure as a patrimony, and at the same time gains meaning because of this good. We identify two key practices involving a relationship between Proximity Managers, Proximity Managers and their team of agents, and human to physical infrastructure. We decide to term the two main practices planning and training. The former involves planning the operations, the maintenance works that have to be done within a certain limit of time in order to respect the technical norms. Planning refers both to the material and human resources needed (tools, agents, etc.) The latter, training, involves making the agents progress in their knowledge and know-how. Both practices are intertwined, and anchored in a relationship with the physical infrastructure. A Proximity Manager elaborates on these relationships, telling us about a safety fault committed by a youngster:

"It could have been serious. Back in our times, it wouldn't have happened. Safety… on the field, there are particularities. We know these. There are complex zones. When I was on the field, back in times, when I was just finishing my corporate training, my manager didn't send me on complex maintenance works." (PM 4)

This excerpt underlines the intertwinement between the practice of planning and the practice of training. Newcomers are only theoretically trained during the years they spend attending corporate training, there is therefore a need for Proximity Manager to plan them on easy maintenance works, in order for the newcomers to gain experience. The relationship of these practices to the physicality of the infrastructure is twofold. First, the heterogeneity of the infrastructure entails the need for a practical, physical knowledge of the particularities. Second, it is ultimately connected to the safety, the prime mission of maintenance workers, and a *sine qua non* condition of the production of the logic's substance.

Furthermore, in order for the practice of planning to be properly enacted, Proximity Managers also need to share knowledge between them, as they do not know the same specificities about the infrastructure. Answering to our question "*do sharing and discussing are important values for the profession?*", the former Proximity Manager further elaborates:

"Yes, it's important. We know a bit about every aspect of the infrastructure. […] I've never been trained to electric systems in infrastructures. Everything I know about electric systems and other things, I learned it by talking with colleagues. My colleagues taught me that. For example, I know how to read an electrical diagram. I don't know everything, but I've got the basics, and I didn't learn it in corporate training. […] My colleague comes, we talk, and we share our knowledge." (PM 4)

Emotional commitment.

In order to enact the interrelated practices of planning and training, Proximity Managers accomplish an ongoing back and forth movement between informal interactions with their fellow Proximity Managers and their team, and more formal activities of properly building the planning and conducting the operations respecting the technical and organisational norms. This ongoing movement is grounded in the knowledge of the physical infrastructure, and is fuelled by affective motivation of producing both the institutional good and the subjectivity it affords, recalling that institutional logics are "*orders of valuation*" (Friedland, 2017: 28):

"[Youngsters] have a theoretical training. They've got very few experiences, and everything to learn. They ask for it, […], they've got a… a desire and an energy to share. And the older agents have a desire to share [their knowledge] because we're all the same, we value each other, and also we've got an ego that likes sharing what we know." (PM 5)

In this respect, an affect like the ego-enhancing pride ensues. Pride is linked here to a sense of belonging to the valued communities of professionals and of the team, and is integral to the enactment of the practices producing the infrastructure as a patrimony. When the former Proximity Managers speaks of "*surpassing oneself*", he illustrates that being able to produce the institutional good affords him a subjectivity that goes beyond himself as a mere physical human being, he is part of something of a higher-order, emphasizing the dialectical relationship between the individual and the shared institutional logic (Klein Jr., 2015):

"There is a kind of pride, of surpassing oneself. The best moments I lived were moments when we did things collectively. This is also the case at work, when we manage to organise ourselves, to get the right tools that were a bit difficult to get, to go on and to solve the problem. There is this feeling of teamwork, when we manage to completely solve a problem that seemed complex. I know that it might only happen three or four times a year, we don't success every time, but when we do, I feel like a sense of belonging." (PM 5)

DT mechanisms – strategy and digital technologies. (Appendix B.)

Organisational change elements.

We now expose key mechanisms that come to play in the aspect of DT that transforms the daily work of Proximity Managers. Since DT includes a strategic component, we underline some of the ambitions of the organisation's strategic actors, and link them with properties of digital technologies. We show that the asset management strategy entails using the properties of digital technologies to standardise the reporting of operations, to open the boundaries of the knowledge Proximity Managers have about the resources they have to organise (whether it is knowledge about pieces of infrastructure or their about human resources), and to allow for hierarchical intervention on the planning of operations and resources. We further show how it impacts Proximity Managers' day-to-day work practices by simultaneously demanding greater time spent using the digital technologies and moving them away from the valued physical materiality of infrastructure and human interactions. This leads to dragging them and their practices into a realm made of digital representations of the infrastructure, where the

institutional substance of "infrastructure as a patrimony" is being strategically replaced by the substance we term "infrastructure as an asset".

First, as DT differs from digitalisation since it comprises a strategic, radical change objective (Gong & Ribière, 2021), we outline what constitutes the strategic effort that is key to our case. For the organisation, DT has been linked to a switch to a more economically rational management of the infrastructure. That is, to maximise its availability for the clients, and to draw on digital technologies and data to achieve this rationalisation. As the following excerpt from an interview with a strategic actor shows, the DT project for the organisation implies a radically new organisational identity, a profound change of its functioning basis, and a new vocabulary:

"*It really is a new project for the organisation, with multiple goals. Notably, we aim to reconsider some of our industrial basis, with a high-performance infrastructure, the optimisation our industrial structure, […] and to switch to an asset management logic, which you might think is common-sense, but was an unknown word internally.*" (STRAT 1)

The asset management strategy, key component of the organisation's DT project, then entails cultural change efforts that have to be deployed throughout the whole organisation, all the way to Proximity Managers. The aim of these cultural change efforts is to make operational teams adhere to new ways of seeing the infrastructure, related to new ways of working:

"*On asset management, for example, we illustrate the notion of asset with this: I've got a car, it's an asset. How do I manage my car in my everyday life? And then, what it represents for the company. For us, an asset, it's a piece of infrastructure. An employee is an asset, too.*" (STRAT 2)

Moreover, in order to implement the asset management strategy, changes in the structure of the organisation are decided, reflecting the ambition of the organisation to extensively maximise their usage of new digital technologies:

"*We're also going to introduce a new way of working, a new geographical logic, which immediately finds meaning since it mobilises several professions, systems and technologies, and gives a new geographical consistency [to the infrastructure].*" (STRAT 3)

Strategic use of digital technologies.

We identify three key mechanisms by which the asset management strategy is anchored in digital technologies, using for this matter some properties of digital technologies such as openness, data homogenisation, editability or interactivity (Kallinikos et al., 2013). First, it has to be noticed that the strategy of asset management aims at reinforcing the objective of safety that the maintenance profession pursues, digital technologies are deployed in order to enhance the traceability of the maintenance operations. Here, smartphones with apps are given to agents in order to standardise the reporting of their day-to-day maintenance operations. The agents used to report their operations using paper that they gave to their Proximity Manager. Now, the mobile app sends directly their standardised reports into a database that the Proximity Manager has to consult and approve. Proximity Managers, who used to craft Excel sheets or other digital artefacts for this purpose, now have to use the same standardised software. As the strategic actor in charge of leading the DT tells us:

"[We're going to] standardise the activity a bit, and it has a goal, around… For safety needs, we have to be able to trace the [maintenance] operations better, we have to obtain this traceability with our [digital] equipment." (STRAT 3)

Besides standardising and data homogenisation, digital technologies, in virtue of their properties of openness and editability, allow middle managers to access the data pertaining to the reporting and planning of the maintenance operations, and to act upon these data. The asset management strategy requires middle managers, who supervise multiples Proximity Managers' zones of operations, to intervene on the planning of maintenance works, in order to group these operations, since maximising the availability of the infrastructure for clients equates rationalising the use of the infrastructure for maintenance works.

"Besides, digitalising all these aspects enables the introduction of automation, automatic detection, things that automatically communicate with the database, with the apps and so on, remote surveillance [of the infrastructure] for instance… everything that used to be done manually. And things that we, if we didn't go on the field to look at it, were unable to know." (STRAT 4)

Structural change ensues in the way Proximity Managers organise their and their team's daily work. We then witness the first elements pointing at the destabilisation of the shared practices composing the institutional logic of infrastructure as a patrimony.

"We used to be nearly totally autonomous in the planning of our construction works, whereas nowadays, there is a planning unit, and it's a lot of important construction works all together." (PM 6)

Modification of practices and institutional substance. (Appendix C.)

Substance replacement.

We have already witnessed that the main goal of these changes in the everyday work of Proximity Managers stemming from the organisation's DT efforts is not to profoundly change the safety and technical knowledge of the infrastructure. When interviewing one of the top executives of the organisation, one of us told him: "*I've the feeling that this transformation, at the end, prevents [the Proximity Manager] from fully taking his patrimonial and technical role.*" To this remark, the executive answered:

"*From another point of view, can't [the manager] draw upon digital tools' potential to reinforce his patrimonial and technical roles?*" (STRAT 5)

Changes in practices.

In this part, we describe the tension between the role of the Proximity Manager, in fact his subjectivity, afforded by the institutional substance of infrastructure as a patrimony, and the transforming logic, whose we decide to call the substance "infrastructure as an asset". To start with, we explore how digital technologies impacts the bundle of interrelated practices, planning and training, that we described above. We find three main mechanics that slowly drive the practices from the extant logic to its transformed counterpart. First, Proximity Managers have now to use many digital technologies, most of them being softwares like ERPs. This means that they are forced to abandon some of the time they used to spend on the field, close to the physical infrastructure.

"*Anyway, we haven't got the choice anymore. For the management part of the job, we are asked to fill so many tables, so many softwares, all of this. There are so many softwares to use for management purposes, that we haven't got the time to go on the field anymore.*" (PM 7)

We can already notice how the term "*management*" is used to refer to the part of the job they do not consider the most important. It emphasises on the way their subjectivity is not being a manager, but the chief of a collective that aims to produce a well-maintained infrastructure.

Furthermore, in the intertwined practices, the material aspect "*going on the field*" is the place of a lot of different yet necessary interactions. What results from this distancing from the field is what we term the dehumanizing of the job. It concerns Proximity Manager to Proximity Manager interactions, as one of them tells us when asked about the dehumanisation the job:

"*With [this software], yes. Everything is in this software, we have to consult it: what is in this software, prevails. There's no more phoning to ask for one of my agents in reinforcement. It doesn't work like this anymore. Everything is in this software, and we're not consulted anymore. Everyday, you have to open the software, to see what has been modified, the demands you got and so on.*" (PM 8)

A perceived loss of technical skills from newly appointed Proximity Managers directly stems from this consequence: "*Now, a new Proximity Manager that uses the softwares like it's demanded, he won't have the same knowledge as ours.*" (PM 4)

However, this is not the only kind of necessary interaction. In the ongoing connection between the practices of planning and training, the relationship between a Proximity Manager and the agents under his management is crucial, for the agent to be properly trained and for the technical norms in maintenance to be ultimately respected. The opening of planning to hierarchical interventions also hampers this precious relationship, and Proximity Managers perceive that profound consequences could result from this change.

"*When it comes to planning, it used to be simpler with the personnel. It was a big advantage. Before, when I had to plan a complex maintenance works, in a situation where it's more complicated, I wasn't sending the same agents […] I used to enjoy flexibility, some margin. I used to say: this agent goes there, and this one there. Now, I haven't got this margin anymore. The guy is [corporate] trained, and there he goes… We're really coming to serious skills problems.*" (PM 4)

To sum up, the intensification of digital technologies use in practices drags away the Proximity Manager from the physical materiality of the infrastructure, and replaces some essential interactions, grounded in the physical world, with interactions with computers, softwares, and digital representations of the infrastructure and other resources. As digital technologies slowly diffuse in the extant logic, replacing its material and symbolic elements, the relationship to the physical world, affectively charged and conditioning the production of the institutional good, slowly fades away. To put it simply, they are "*losing the feeling*":

"The agents, they do their jobs. They take the smartphone, they report. OK, they did their job. This is what they're asked to do. Yet, they won't tell me if there is a risk of a piece… (breaking) There's no more feeling. We're losing the feeling…" (PM 6)

Emotional consequences and a model.

Finally, we conclude by emphasizing the affective consequences of this change in the institutional logic. We found three main emotional reactions, related to the change. Frustration, as Proximity Managers are unable to produce the substance they value by the practices they are affectively committed to engage in. Boredom signals that the subjectification linked the extant substance is incomplete and that they are unable to value the new substance, hence this new substance is unable to afford them a renewed identity. Anxiety, at last, closes the loop as Proximity Managers are envisaging the disappearance of their job, emphasizing an existential threat, well known in the case of radical organisational change.

We know that institutional substances are the basis of representation (Friedland & Arjaliès, 2019), here, the representations Proximity Managers are bound to manipulate are digital, they do not correspond to the substance they value. Digital representations are materialities from the institutional logic that produces infrastructure as an asset, not as a patrimony. Therefore, the subjectivity that Proximity Managers can be afforded is changing too. We find three emotional consequences, linked to their identity and the way they can or cannot engage in the practices they value that we described earlier: frustration, boredom, and anxiety. We recall that there are three important differences between these three emotions and the emotion of pride related to the extant institutional logic. The first and most obvious difference is that pride is a positive and pleasant emotion, whereas the others are negative and unpleasant emotions. The two other differences lie in the relationship between these emotions and, in the one hand, human agency, and in the other hand the perceived locus of responsibility – that is in oneself or in others (Smith & Ellsworth, 1985). Whereas pride, frustration, boredom and anxiety are linked with situational control, as opposed to human agency, and a perceived control of the situation located in others, not in oneself.

Frustration.

The first emotion we find is frustration, which is associated with the perceived inability to attain a valued goal. Frustration is a high effort emotion and the closest of human agency within the three negative emotions we analyse. In an interview with a Proximity Manager, we were asking about dehumanisation of the job, when he interrupts:

"Totally! With the Proximity Manager next door, we used to organise a monthly meeting to know what were the maintenance works that had been planned and so on. Normally, we were three, with another Proximity Manager. We used to gather in a room, similar to this one. "There, I've got this to do this year, this, this, and that, how do you organise your maintenance works? What are you planning? Are our plans compatible, or not?" It was super cool, everyone together! Nowadays, there's this software. You put your little brick [digital symbol of a maintenance operation] in the software, there you go, and the other [Proximity Managers], you don't give a damn! I've got my works to plan, the others also have works planned at the same time? They're on their own!" (PM 9)

In this excerpt, the interviewed Proximity Manager rants about a software he has to use for planning maintenance works, and contrasts the physical meetings he used to organise with colleagues with the manipulation of digital symbols, the bricks, representing parts of his job and mediating his relationship with the physical infrastructure. It is not only the dehumanisation that provokes frustration, but the impact on the collectively shared understanding underpinning the practices and ultimately the production of the institutional good. Hence, there is an impossibility to cohere with the subjectivity that substantiates the institutional good. As another Proximity Managers summarises, *"the direction still hasn't understood yet, we can't work like this. We have been saying it for years! But…"* (PM 6)

Boredom.

Being unable to "*work like this*" indicates that they are unable to sustain the subjectivity that is normally afforded by the substance we termed "infrastructure as a patrimony", but also means they are unable to obtain the subjectivity that is afforded by the substance "infrastructure as an asset". Indeed, they are placed in an *entre-deux*, the combination of being unable to reach both of the subjectivities, and experience boredom. As Costas and Kärreman (2016: 62) show, this is not an affect associated with the distancing of the subjectivity that, in a way, is promoted by the organisation's radical change. Boredom, on the

contrary, is stagnation, mostly attributed to the other, and not the self, and negatively associated with human agency.

"I spend more time on software A, then software B, every software… than I spend concretely doing maintenance works… Three little things, one hour and it's finished… but I have to spend three hours in the office..." (PM 4)

This excerpt illustrates boredom, with a slow vocal pace, silences, and exhibiting neither energy nor motivation. There is a constant comparison between the valued – being physically in contact with the infrastructure, practicing maintenance works – and what is imposed on him – spending time in the office, manipulating softwares. However, he does not reject manipulating softwares, like we have seen in other interviews that are out of the scope of this paper. For instance, an agent told us he did not want to use the smartphone and the apps the organisation gave him to report his maintenance operations, because he was annoyed with it. There is not, in the above excerpt, this reaction of reject and distancing. The affect does not provide motivation to embrace or reject the digital technologies and the associated practices. It rests here, in an *entre-deux*, between two incomplete subjectivities.

Anxiety.

The last emotion we find in significant quantity is anxiety, which is one on the emotions that are mostly associated with radical organisational change. Anxiety signals an existential threat that is external to one's control. The loop is closed, as the combination of the two previous movements – the incompleteness of subjectification linked to the "old substance", and the inability to value the "new" substance resulting in an arrested *entre-deux* – are added to the perception of the impossibility to re-engage with the practices of the "old" institutional logic. Plenty of examples illustrate the anticipated disappearing of the Proximity Manager, all with references to what constitutes the subjectivity of the Proximity Manager, notably training, and the knowledge needed to respect technical norms. **Figure 1** sums up the process.

"Yep. We won't be doing maintenance anymore. For me, this is the future. And it's dangerous, because we won't be trained anymore. We will have the new generations, lots of youngsters, and we won't be able to train them, it's nonsense." (PM 10)

"Maintenance, real maintenance works, on the field, I think the company doesn't have the will to continue" (PM 4)
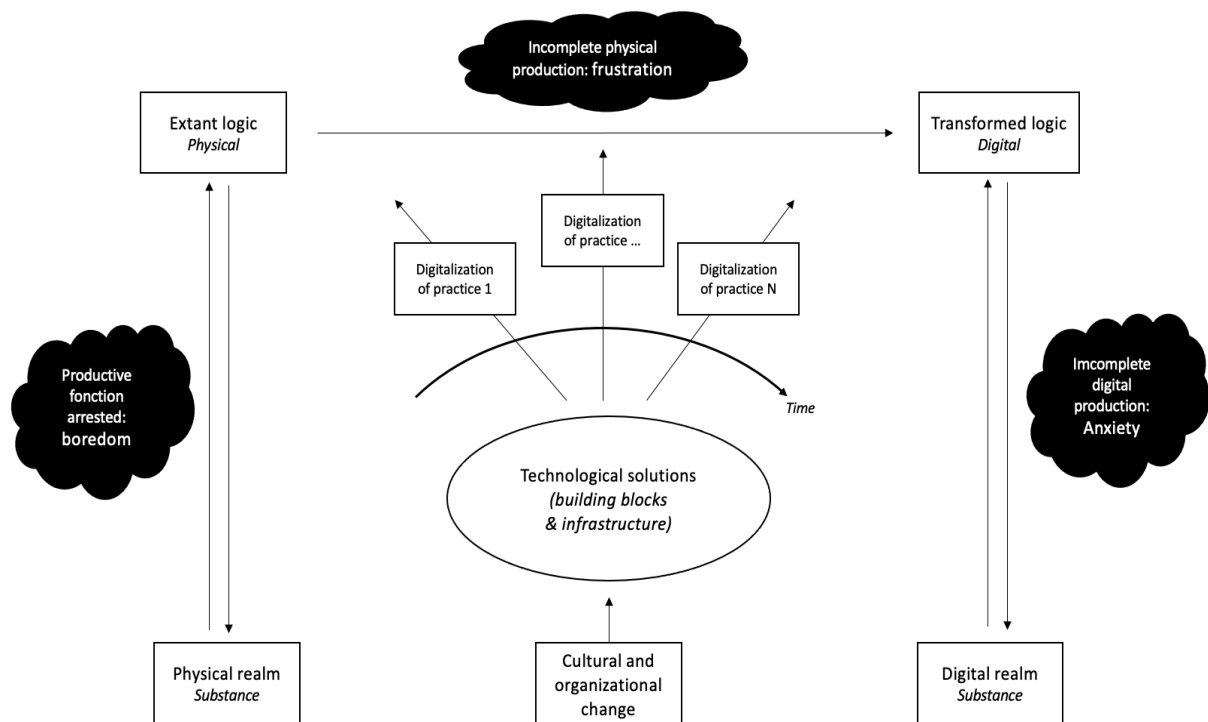
Figure 1. Model of emotional reactions to the effects of DT.

Conclusions and limitations.

We propose an emerging model to summarise how digital transformation unfolds over time to progressively drag an institutional logic, its substance and practices into the digital realm. We can see that the process is continuous because it is the usage of digital tools by employees over time that produces the digitalised logic, and at the same time this process is made of episodic introduction of technologies that convey the material and symbolic aspects of the digitalised logic (Hanelt et al., 2021). The transubstantiation of "*infrastructure as a patrimony*" into "*infrastructure as an asset*" is a radical change, since it is closely linked to the identity of the organisation and the organisational members. The first result our study yields is that, in organisations such as the one we study in this paper, the specificity of DT can be seen in the way it constructs a digital realm that will progressively govern the activity in the physical world. There are practical implications for managers, for instance on the way design efforts concerning digital technologies should not only be aimed at the technological solutions and their integration into work processes, but also at the way both realms can coexist better, since it has, as we show, emotional consequences and impacts on the well-being of workers. Theoretically, it could also be a call for further research about this multiplicity of realities, and turning to agential realism and digital reconfigurations of work

(Leonardi, 2013; Orlikowski, 2016) could be a fruitful way to deepening the understanding of such aspects.

A second result it yields is on how emotions are faithful signals that help exhibiting and describing such a process. In our paper, emotional reactions, linked to identity, signal the progressive mismatch between what employees value and want to produce and what is produced and valued through the digitalised logic. There could be a way to conceive this mismatch and study it as an example an incomplete institutional change, where the new and the old institutional logics continue to coexist because the activity always has to have a link with the physical world (Adams & Luiz, 2022). However, there is still plenty of work to do to enhance our paper. First, due to our research setting and methods, we are limited to a single case with extreme situations. Some employees that we interviewed were not impacted the same way as the employees whose interviews we use in this paper. Notably, some describe coupling strategies between the physical world and the digital realm. Such strategies should be further investigated. Then, we should further investigate the role of institutional objects (Friedland & Arjaliès, 2021), which remain out of the scope of this paper, what the digital representations they convey perform and the subsequent displacement in the logic they involve, notably by investigating how valuation in the digital realm differs from the original setting in the physical realm. We believe this paper can be a first small step in the generation of new knowledge relative to DT, and its entanglements with organisational institutionalism, notably institutional logics, and its emotional microdynamics, and that further work in DT settings should yield very interesting insights.

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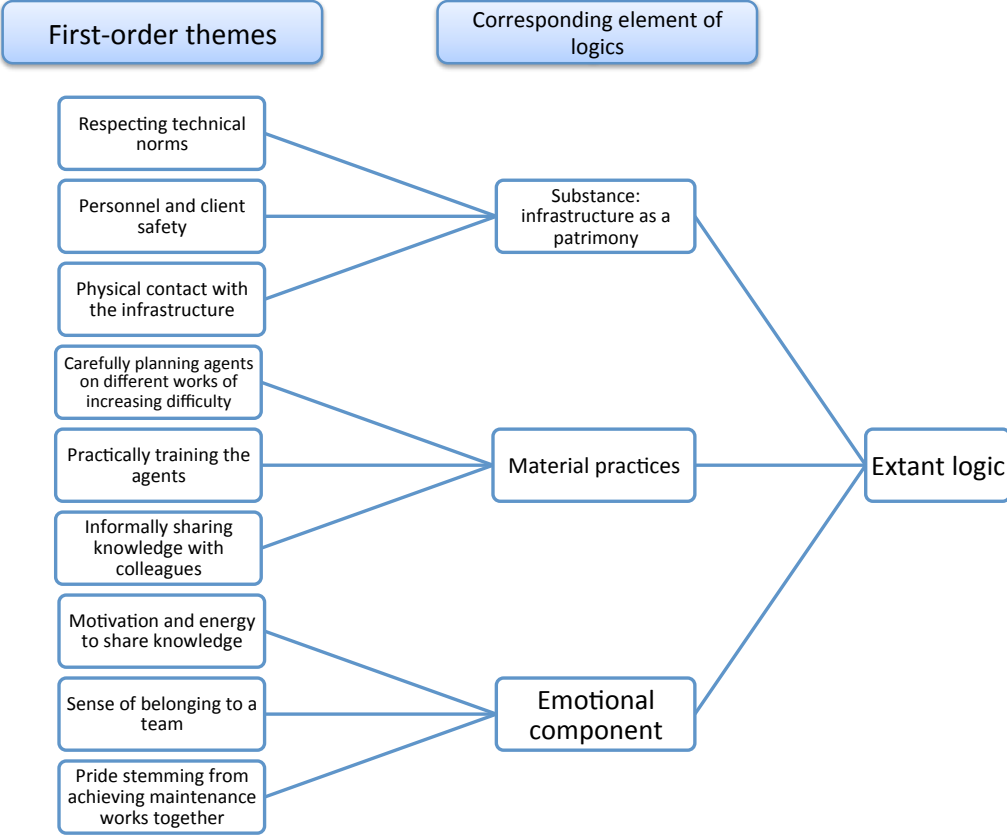
Tables.

	Exploration phase (2013 – 2018)	Digital Transformation phase (2018 – 20…)
Strategic will	• Tackling a loss of performance in safety and security • Improving traceability of maintenance operation • Improving allocation of resources • Improving efficiency of operations	• Doing a "real" Digital Transformation • Aligning the different digital technologies with strategically conceived programs of work processes transformation • Creation of a Direction of Digital Transformation • Cultural and structural changes • Structured change management efforts
Digital technologies	• Punctual deployment of digitization softwares • Exploration of IoT solutions for infrastructure surveillance • Construction of centralised databases for operations and infrastructure description	• "Strategic digital programs" connecting different digital technologies to properly digitalize work processes • The organisation's Information System is structured and databases are fully constructed

Table 1. Summary of the two phases of the organisation's DT.

Emotion	Definition
Pride	"*Enhancement of one's ego-identity by taking credit for a valued object or achievement, either one's own or that of some group with whom we identify*" (Lazarus, 1991)
Frustration	"*Consciousness of an inability to attain a goal*" (Prinz, 2004: 110)
Boredom	"*Combination of unfilled aspirations and the sense of stagnation, leading to an arrested identity*" (Costas & Kärreman, 2016)
Anxiety	"*Facing uncertain, existential threat*" (Lazarus, 1991)

Table 2. Definition of emotions.

Appendix A. Extant logic identification.

Appendix B. DT strategy.

First-order themes

Corresponding DT strategy

Switching to asset management

Reorganising organisational structure

Maximising digital technologies potential

Standardising the data (reporting and planning)

Opening data access and manipulation to middle managers

Allowing hierarchical intervention on planning

Organisational change elements

Strategic purpose of technology

Unfolding DT strategy

Appendix C. Effects of DT strategy on the extant institutional logic.

First-order themes

Corresponding impacts on institutional logic

Software manipulation taking too much time

Dehumanising of the job

Losing flexibility in planning

Losing touch with the physicality of the infrastructure in practice

Digital representation mediating touch with the infrastructure

"Losing the feeling"

Substance being replaced

Digitalisation of the extant logic