Affective Temporal Experiences and New Work Modalities: the role of Information and Communication Technologies

Authors:

Dr. Efpraxia D. Zamani, Information School, The University of Sheffield, UK, e.zamani@sheffield.ac.uk

Dr. Konstantina Spanaki, Audencia Business School, France, kspanaki@audencia.com

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Abstract

As a result of the Covid-19 pandemic, new ways of working emerged, such as fully remote to hybrid work. As the restrictions with regards to the spatial dimension of work become less rigid, the temporal dimension surfaces as one of the more important aspects of work. In this study, we draw from the Negative Theology of Time to present a more nuanced understanding of how ICTs influence temporal experiences and how these shape work itself. We do this by leveraging the metaphor genre, linking our observations to existing literature, and discussing chronopathic experiences, chronotelic behaviours and uses of ICTs.

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1.   Introduction

Time is a much peculiar concept, equally claimed to be well understood in disciplines such as Sociology and Psychology (Bermann, 1992), or partially developed and understood in others, such as Organisation Studies (Holt & Johnsen, 2019) and Information Systems (Conboy et al., 2020; Ivaturi & Chua, 2021). Existing research approaches time through different conceptualisations: time is often seen as clock time, emphasising an objective perspective to time (Ancona et al., 2001); through a process view, drawing attention to the interactions of entities (human and non human) (Arrow et al., 2004); as temporal structuring, drawing attention to subjective perceptions of time among entities (Orlikowski & Yates, 2002).

Yet, more recently, due to the Covid-19 pandemic, new ways of working are being introduced, which challenge our notions and experiences of time. These new ways of working may take the form of working remotely throughout the week, or hybrid working, where work from home is combined with work on premises at the individual and/or organisational level. The novelty of such work modalities does not really relate to the spatial dimension of work, but rather the temporal dimension, as time-related requirements are being reinterpreted. For example, in the gig economy, it is time and speed that are monitored, measured and valued (Zheng & Wu, 2022), and yet, the need to speed up and accelerate ('time is money') during Covid-19 was at odds with parts of our society that needed to 'slow down', so that altogether we could overcome the challenges (Kunisch et al., 2021; Suckert, 2021).

Where this new world of work intersects with technology, it is clear that the aforementioned work modalities are being enabled by Information and Communication Technologies (ICTs). ICTs facilitate remote work (off premises), mobile work (work while being mobile), as well as gig work (short-term work for one or more employers) and many others (Aroles et al., 2019) and there are already studies that look into ICTs and their fit with hybrid and remote working arrangements in relations to performance and productivity (e.g., Abelsen et al., 2021). At the same time, the nature and features of ICTs impose their own affordances on how work is conducted, shaping its outcomes, being shaped by actors' interactions and creating visions of what might be possible (Jarvenpaa & Välikangas, 2020). Thus, ICTs eventually function as mediators (Idhe, 2009) of both work and time (de Vaujany et al., 2021).

As such, scholars have recently began drawing attention to how time and temporality (multiple, shared, individual, conflicting) are experienced, aiming at exploring how these are produced,

reproduced and felt by workers themselves (de Vaujany et al., 2021). Such a perspective is critical for understanding the   paradoxical relationship between autonomy and control, and power issues in organisations (Foucault, 1979). Importantly, appreciating affective temporal experiences is required for considering how these may impact on and influence work, adopting a perspective that goes beyond measures of performance and productivity (Holt & Johnsen, 2019).

Addressing calls for research on time (de Vaujany et al., 2021; Venkatesh et al., 2021), in this article, we explore the role of technology in relation to temporal experiences, guided by the affective dimension of time and how this relates to human life, as introduced by Johnsen et al. (Johnsen et al., 2019). We are focused on the nature and content of affective temporal experiences particularly during the Covid-19 pandemic. We are also looking forward in how these will influence the new world of work, emerging as a result of the Covid-19 experience, responding to recent calls for developing new theorisations of time that allow a more nuanced understanding of time in work and organisations (de Vaujany et al., 2021; Kunisch et al., 2021). Our research question explores "how ICTs influence the temporal experience of workers and how these experiences impact and influence the new ways of working".

We approach our research question in a conceptual fashion, engaging with Organisation Studies, Information Systems and the communication and the telecommuting literatures in order to explore the relationship between technology and temporal experiences within and outside the organisation. We do not formally distinguish the personal from the professional spheres, as such boundaries are blurred and permeable in the new world of work (Siegert & Löwstedt, 2019). Our methodological choice purposefully draws from the existing literature and goes beyond it by employing the instrument of metaphor that allows us to take stock of existing theorisations in developing our own future projections (Jarvenpaa & Välikangas, 2020). We envisage that our findings will contribute both to theory and practice, by offering the conceptual background for supporting the development of more positive outcomes and for understanding the impact of continuities, discontinuities and change of workers' temporalities.

The paper is structured as follows. First, we unpack existing conceptualisations and theorisations of time to provide an overview of the current state of the art. Second, we present the affective dimension of time as a new promising conceptualisation of time (Holt & Johnsen, 2019; Johnsen et al., 2019). This is followed by an overview of the methods employed in this study and our analysis of existing studies through the lens of affective temporal experiences. Based on this analysis, we develop future scenarios so as the sketch out the impact of ICTs and provide a holistic understanding of time and temporal experiences for the future world of work. We conclude the paper by offering the theorical and practical implications of our work.

2.   Work, Time and Technology

2.1.   Perspectives of Time

To date, research has provided different and diverse perspectives of time. Objective perspectives typically approach time as 'clock time', where time is understood as linear, absolute and thus measurable. This approach has been particularly influential in production-based studies (Hassard, 2002), in transportation studies, where scholars have focus on the impact of travel time on the workday (e.g., Aguilera, 2008; Bonsall & Shires, 2006), as well as quantitative studies more generally (Orlikowski & Yates, 2002). In contrast, subjective perspectives view time as being the product of norms and beliefs shared by groups, organisational members and societies; time is thus relative, contextual and socially constructed (Ancona et al., 2001). Through this perspective, scholars often explore the temporal structures that order and organise the workday (H. Lee & Liebenau, 2000), such as events (e.g., meetings, teleconferences). For example, Shen et al. (Shen et al., 2020) explore space-time fixity and how events and work tasks influence the spatiotemporal flexibility of activities between work and private life. A third approach is that of the practice-based perspective of time. Here, time is viewed as being both objective and subjective. It focuses on what workers actually do while at work, and how time is experienced through shared temporal structures (Orlikowski & Yates, 2002). The practice-based perspective has been particularly prominent in organisation and management studies, with scholars exploring, for example, the impact of temporal differences on distributed work (e.g., O'Leary & Cummings, 2007b; Sarker & Sahay, 2004) and the bearing of temporal structures on activity fragmentation (Ben-Elia et al., 2014), coordination (Im et al., 2005) and the temporal and social context of work (Perlow, 1999).

Conboy et al. (Conboy et al., 2020) note that there are many significant variables for evaluating and exploring temporal effects. These may range from deadlines, cycles, and rhythms to time boundaries, time allocation, synchronisation and coordination, temporal orientation, autonomy and many others. In what follows, we identify and elaborate on some of the most prominent conceptualisations of time and pinpoint the role ICTs play in each of these.

2.1.1.   Travel Time

An approach that reflects the perspective of clock time is that of travel time (or business trip time), whereby studies focus around the time spent on commuting or on business-related trips directly or indirectly. For example, travel time has been explored within the context of working from home

arrangements and how this work modality reduces time spent commuting (Bonsall & Shires, 2006). In addition, studies focusing on commuters and those who combine working from home and working on premises have explored time through the lens of temporal displacement, which is understood as commuting being temporally displaced (e.g., outside peak times). Such temporal displacement is observed frequently even when workers work regularly on premises but wish to move outside premises for regaining focus (i.e., require a quieter environment) (Lyons & Haddad, 2008). Finally, travel time draws attention to the need for travel itself and its impact on productivity, and the value of time. For example, Aguilera (Aguilera, 2008) examines business travel time relatively to profile of mobile workers, and examines preferences relatively to means of travel, amount of travel time and productivity. Ettema and Verschuren (Ettema & Verschuren, 2007) consider polychronic and monochronic (i.e., engaging in multitasking or not, respectively) commuters and their findings highlight that monochronic commuters value time higher, for example, they value deadlines, and experience their time pressure.

The relationship between travel time and ICTs is relatively straightforward. Scholars indicate that ICTs likely reduce travel time, because it facilitates working from home more productively and more frequently (Bonsall & Shires, 2006). In addition, mobile workers in particular, and more specifically those commuting via train, see travel time more favourably, because they are able to make better use of ICTs for work purposes (Aguilera, 2008). However, it is noted that ICTs alone cannot lead to such reductions: one the one hand, reductions in travel time relate to travel conditions (Bonsall & Shires, 2006), while on the other hand, business trips allow for face-to-face interactions and networking, which ICTs cannot substitute, especially when such interactions are needed for establishing new relationships and collaborations (Aguilera, 2008).

2.1.2. Process view of time

The process view approaches time as being a flow of occurrences, which is experienced by organisations, but exists outside of it, whereby the organisation cannot restrict it (Helin et al., 2014). Temporal structures, such as deadlines and vacation allows time to be organised in recurring patterns, but also draw attention to the fact that "time lives outside as well as inside practice" (Holt & Johnsen, 2019, p. 1563). In more detail, the process view of time suggests greater attention in what the present is, comparatively to e.g., the future and the past, where the reality is in a constant state 'becoming' and dictates how organisational and temporal structures are to be defined and used rather than the other way round (Holt & Johnsen, 2019). Particularly within temporary organising settings, the temporariness of the organisation is emphasised and highlights change dynamics, where temporariness is understood "with regard to structure (e.g., temporary task, temporary allocation of

resources) or agency (e.g., temporary employment, contract work), or both" (Bakker et al., 2016, p. 1705). In this view, members of a temporal organisation move through time towards the end of the project, and while they enact their past or envisage their future, they influence their present practices (Vaagaasar et al., 2020). Indeed, the process view sees groups as systems that dynamically change over time and across multiple time scales, and time itself is a resource which influences temporal patterns (Arrow et al., 2004). In this respect, ICTs may take the form of temporal structures (IT0-enabled meetings and/or deadlines and reporting periods facilitated and controlled for by ICTs) that support actors coordinate and account for their tasks and activities (Bakker et al., 2016).

2.1.3. Temporal Boundaries

Temporal boundaries may be understood in two different ways. Temporal boundaries may relate to the implications due to workday differences between organisational members within the context of distributed work (Espinosa et al., 2006). In this respect, temporal boundaries may be described via the dimensions of punctuality and awareness of time use, which often relate to cultural and societal norms (Richards & Bilgin, 2012), or time zone differences, the degree of workday overlap between distributed members (Sarker & Sahay, 2004). Most frequently, however, temporal boundaries refer to temporal objects and structures that facilitate or hinder the "symbolic segregation of human activities" (Prasopoulou et al., 2006, p. 277) along the time continuum, at organisational level, the individual level or both. Perceiving temporal boundaries through this lens draws heavily from boundary theory and allows for a more holistic understanding of how actors move and organise tasks and activities time-wise across different spaces (e.g., across home, work and in-between spaces) (Gadeyne et al., 2018; Lyons & Haddad, 2008), the implications of enacting concurrently or switching between multiple roles (e.g., worker, parent, volunteer) (Ashforth et al., 2000; Whiting & Symon, 2020), the tensions and conflicts that relate to the temporal dimension when the boundaries collapse (Boswell & Olson-Buchanan, 2007). In some cases, when boundaries collapse or become blurred, a liminal temporality emerges, as actors remain caught in the time in-between, as time and task for work and leisure blend and become indistinguishable (Dorow & Jean, 2021; Stein et al., 2015).

ICTs play different roles, and can both and facilitate negotiations across temporal boundaries. The majority of studies indicate that technology encourages work outside work hours and thus give rise to work-home conflicts (Gadeyne et al., 2018). ICTs are used to negotiate work tasks, environments and routines, but they themselves are also subject to negotiation. For example, e-mail and instant messaging may be seen as interrupting one's workflow, especially when they are perceived as requiring immediate attention (Nansen et al., 2010), or equally, their agency may be restricted when they do not force workers to attend to them (Lyons & Haddad, 2008). With regards to the new world

of work in particular (e.g., flexible, remote, hybrid work), ICTs reconfigure the boundaries (Nansen et al., 2010) and mediate organisational demands, whereby autonomy and flexibility may be in conflict with the requirements for managerial control and ICTs are used for negotiating order, surveillance and regulating behaviour (Dorow & Jean, 2021; Sewell & Taskin, 2015).

2.1.4. Temporal Distance

The concept of temporal distance (or temporal proximity) sits within the practice-based perspective of time. The concept draws attention to perceived or real (time zone based) temporal differences among team members, and most typically studies focus obstacles that influence and/or inhibit collaboration (e.g., Huang et al., 2013), coordination (e.g., Espinosa et al., 2015; Mohammed et al., 2015) and shared understandings (Mohammed & Nadkarni, 2014; Zamani & Pouloudi, 2022). Often temporal distance is examined together with the members' spatial dispersion (O'Leary et al., 2014; e.g., Wilson et al., 2008). As such, temporal distance is a conceptualisation that is mostly used in remote work and for the examination of distributed teams. Studies show that small temporal distances (e.g., enough overlap, little time zone differences) typically do not lead to significant shortcomings in coordination and collaboration (Huang et al., 2013). However, studies that have focused on co-located teams have identified that perceived temporal distance exists among them, too (Mohammed et al., 2015) because in their majority, teams will comprise of both polychronic and monochronic team members and these interpret interruptions and multitasking differently (Mohammed & Nadkarni, 2014).

Through the temporal distance conceptualisation, ICTs have been examined in different ways. Espinosa et al. (Espinosa et al., 2015) have discussed that ICTs are most successful when their features are kept constant and allowing team members to appropriate them as they sit fit. This is similar to what Zamani & Pouloudi (Zamani & Pouloudi, 2022) found with regards to the nature of ICTs, whereby ICT-enabled tools for collaboration and coordination evolve dynamically over time and as team members begin developing shared mental models. Along these lines, ICTs are more likely to be ineffective when both spatial and temporal dispersion is high because it is these underlying circumstances that prohibit problem solving (O'Leary & Cummings, 2007a).

2.1.5. Temporal Flexibility

Temporal flexibility is probably the concept that is more directly relevant than any other in light of the new work modalities (e.g., crowdworking, remote and hybrid working). Temporal flexibility (or flextime) denotes workers' ability to choose for themselves (to an extent) how they allocate their contracted hours along the time continuum (Schmoll, 2019). For example, working from home allows

spreading contracted hours across time, with the start and end times being highly heterogeneous (Alexander, Dijst, et al., 2010); contract work suggests that workers can choose how they allocate time (Evans et al., 2004). Therefore, temporal flexibility can have different flavours, ranging from being able to attend to personal matters during the workday, where free (temporal) moments permit doing so, to being able to attend do/participate in multiple concurrent activities, thus resulting in extra time, which may be spent on leisure activities. However, irrespective of the exact work modality, studies have shown that such temporal flexibility typically leads to working longer hours (Nijp et al., 2016), often results in loss of temporal control, whereby the worker experiences 'dead' times as they move between work locations, and thus such times are unproductive and unpaid times (working while mobile versus being mobile for work) (Cohen, 2010), and even more frequently, the true nature of temporal flexibility (i.e., control over when to work) is not truly used because the cycles of the labour market and/or the nature of one's work do not afford to do so (Evans et al., 2004).

When studies consider temporal flexibility, they often do so by closely examining the role of ICTs. It has been found that ICT ownership and use provide a strong link with flexible working, and that often times ICT use bring forward the start time of work (Alexander, Dijst, et al., 2010). Yet, the extent to which ICTs influence work and how depends not only on their use and existence but also their nature, i.e., whether they are appropriate and relevant for e.g., working from home (Nijp et al., 2016). When they are appropriate, however, portable ICTs in general form part of the mechanism that leads workers engaging with work outside formal work hours by providing remote access to the office (Bader & Kaiser, 2017). In addition, it is not just the portability of ICTs, but also their affordances, which dictate when and how they will be used outside work hours: laptop use most typically relates to work out of hours during the weekends, but smartphones relate to work while in holidays (Schmoll, 2019), and such mobile ICTs (smartphones) relate to a more frequent rearrangement of activities, because workers are permanently reachable irrespective of the schedule of their workhours (Shen et al., 2020). In other words, at the same time, ICTs provide the organisation, too, with remote access to the workers themselves, and as such they could be viewed as a permanent tether that support enhanced performance management (Nijp et al., 2016), and increased monitoring, particularly when the worker is outside the organisation's immediate control (de Vaujany et al., 2021).

2.1.6. Temporal Fragmentation

Temporal fragmentation can be described as the number, the distribution and the configuration of fragments of activities and it is made possible specifically as a result of ICTs (Hubers et al., 2008), whereby extensive and frequent use results in highly fragmented spatiotemporal patterns (Burchell et al., 2021). As such, it relates strongly to the perspective of clock-time, as events and activities are

timetabled and structured along the time continuum. Through this lens, ICTs relax the constraints of when an activity needs to be done or removes them entirely depending on the space-flexibility (Hubers et al., 2018). Thus, ICTs may increase a worker's temporal, spatial, and organizational autonomy, allowing them to divide activities into smaller pieces and perform these at different times and/or locations (Dijst, 2004).

It is not difficult to see how ICTs may allow workers to undertake more activities throughout the day, or restructure their work. Phone calls and emailing may compensate for spatial fixity, i.e., allow workers to work from fewer places but temporally distribute work in more fragments and allow alternating work with private matters (Hubers et al., 2018). Yet, this makes obvious how workers may become dependent on ICTs (Alexander & Dijst, 2012), and which may have negative consequences. For example, while ICT-supported temporal fragmentation may result to fewer work hours and fewer 'dead' times because workers can dynamically rearrange fragments, it has been found that it also results to longer work hours, particularly because there still exist coupling constraints. Collaborative activities still entail little or no real temporal distance among collaborators (Dijst, 2004), and thus temporal fragmentation may not always work in favour of coordinating with others. In addition, Burchell et al. (Burchell et al., 2021) argue that temporal fragmentation has gendered outcomes. Indeed, women's activities are more fragmented and thus women are more exposed to temporal fragmentation's negative impacts (e.g., work longer hours) (Hubers et al., 2018). Similarly, those with caring responsibilities, such as parents, may have little flexibility (drop off and pick times are fixed), and thus the temporal fragmentation and flexibilization afforded by ICTs are not always available to them (Dijst, 2004). However, some have argued that activity fragmentation can be used as a strategy for reconciling conflicting demands (Hubers et al., 2008).

2.1.7. Temporal Order and Structuring

Conceptualising time through its temporal order indicates an attention into the temporal structures that organise it. This view explores time as both objective and subjective, and as a resource that can be organised and managed (Holt & Johnsen, 2019), stemming from the practice-based perspective that is focused on what workers do while at work (Orlikowski & Yates, 2002) and how they act on it (Ancona et al., 2001). The perspective of time seen as a social construct is probably the most mature within the domains of organisation studies and information systems. Scholarly research has focused mostly on how time is perceived, how such perceptions influence the temporal structuring of organisational life (e.g., H. Lee & Liebenau, 2000; Oborn & Barrett, 2021; Orlikowski & Yates, 2002), and the associated temporal events and structures (e.g., Wu et al., 2016), as well as how temporal

differences among dispersed team members impact distributed work (e.g., O'Leary & Cummings, 2007b; Sarker & Sahay, 2004).

Such studies draw attention to the mapping of events to time, their sequence, duration, and potential reoccurrence, bringing into the fore that events may often be prearranged, irreversible, and taking place in cycles or creating patterns (Ancona et al., 2001). Examples of these may be specific genres, such as status reports, notifications and updates, used to coordinate activity over time (Im et al., 2005) and equally, meeting schedules, deadlines, calendars, and reporting periods that are shared, shaping work practices, but also being shaped by them (Orlikowski & Yates, 2002). All of these can be and often are ICT-enabled within the context of the new work modalities. However, irrespective of how they are actually enacted, temporal structures reflect surface-level temporal patterns (patterns that are directly observable and relate to the timing and pacing of activities) and deep-level temporal orientations (the ways that time is valued and attended to) (Blagoev & Schreyögg, 2019). It is noted that surface-level temporal patterns may reflect workers' deep-level temporal orientations (Blagoev & Schreyögg, 2019), whereby these may differ and not be shared across the organisation (Oborn & Barrett, 2021). Hover, while there may interdependent work patterns that influence the temporal context of work, the introduction or use of ICTs can change inter-personal and inter-departmental social relations and lead to shifts in temporalities (H. Lee & Liebenau, 2000) as well as potentially unifying or coordinating temporal orientations (Oborn & Barrett, 2021), because ICTs afford synchronisation (Sarker & Sahay, 2004; Venters et al., 2014).

The ways workers interact with ICTs and with each other most often lead to different perceptions of time. When communication is mediated via ICTs, non verbal cues are not always adequately communicated or not at all, and therefore an ICT-based message may be misinterpreted (Barber & Santuzzi, 2015). ICTs often lead to experiences of work intensification and difficulties with comprehending temporally disordered sequences may not always be overcome via technological means (Sarker & Sahay, 2004). In several cases, the telepressure imposed by ICTs (i.e., faster response times imposed by ICTs) can lead to burnout and absenteeism and hinders switching off after work (Barber & Santuzzi, 2015). Finally, while temporal boundary objects facilitate coordination across temporal zones (Ancona et al., 2001), individuals may develop different time-related perceptions, such as 'time famine' (too much to do, too little time), entrainment (i.e., cyclic rhythms of work get captured by each other) (Perlow, 1999), and 'banana time' to name only a few (Roy, 1959), or they may tag time as 'beach time' and 'family time' (Evans et al., 2004). This brings to the fore the importance of how each thinks about time (Conboy et al., 2020).

The discussion thus far has made clear that the majority of studies to date that focus on time conceptualise time as 'social time', which draws attention to collaborating and engaging with others

(Jarvenpaa & Välikangas, 2020) and the 'spatialisation of time' (Portschy, 2020). However, in the new world of work, made possible by technological advancements and accelerated due to Covid-19, one must make a 'temporal turn' to better understand how time and temporalities are experienced (de Vaujany et al., 2021). In the next section, we elaborate on the 'Negative Theology of Time' (Theunissen, 1986), as introduced by Johnsen et al. (Johnsen et al., 2019), which provides an opportunity to probe into temporal experiences and affect.

Table 1. Conceptualisations of Time

Approach to Time	Description
Business trip time	Primarily explored by urban and transportation studies, mostly focused on commuters and mobile professionals. ICTs reduce business trip time. Speed and security are emphasised for working from home scenarios (Bonsall & Shires, 2006) • ICTS support multitasking, thus changing perceptions regarding the value of time and time pressure, in commuting scenarios (Ettema & Verschuren, 2007). • ICTs are complementary rather than substitutes. ICTs alone will not reduce commuting/travel times and the need for face to face interactions, but they can facilitate networking (maintain established relationships) (Aguilera, 2008). • ICTs support temporal displacement of commuting/trip times. Such temporal displacement allows workers to choose their workplace when they need to focus, but may lead to overworking and interruptions (e.g., email) cannot always be controlled (Lyons & Haddad, 2008)
Process view of time	Mostly adopted for investigating group dynamics and temporary organisations. Time is viewed as socially constructed and as a resource, whereby groups are complex systems that may change over time (Arrow et al., 2004) and their processes have temporal patterns: among members there may multiple temporal orientations, as members move towards the end goal. As such, the process view draws attention to 'becoming' as group members look into the past and the future and by doing so influence their present (Vaagaasar et al., 2020).
Temporal Boundaries	Flexible roles can be enacted across spaces and times and simultaneously and actor may have to cross multiple boundaries (temporal, spatial, social) to enact their roles (Ashforth et al., 2000), but they will engage with those roles that positively reinforce their self-concepts (Boswell & Olson-Buchanan, 2007). As the boundaries become blurred or collapse, there is space for conflict between autonomy and control and among the different roles actors enact (Sewell & Taskin, 2015). Actors need to negotiate these boundaries across dimensions. At the most extreme, work and leisure may blend entirely, leading to liminal temporalities, alternating perceptions and definitions of which is which (Stein et al., 2015), which may even described via multiple and conflicting rhythms (Dorow & Jean, 2021). Managerial control in is more about negotiating social order through space and time rather than subordinating one groups to another (Sewell & Taskin, 2015). • ICTs (e.g., mobile phones) enhance work-life conflict because they invite and enable engagement with work tasks outside work hours (Boswell & Olson-Buchanan, 2007).

	• Flexibilization and ICTs result in permeable spatial and temporal boundaries.
Temporal Distance	Mostly employed in remote work and distributed teams scenarios. Temporal distance is typically explored together with temporal proximity, whereby interactions are mediated by ICTs. Small temporal distances (lots of overlapping work hours) (O'Leary & Cummings, 2007a) are not as significant for collaboration and coordination (Huang et al., 2013). Even for co-located teams, having the same temporal mental model is a challenge (Mohammed et al., 2015) as teams may comprise of polychronics and monochronics, who interpret interruptions and multitasking differently (Mohammed & Nadkarni, 2014). • ICTs are better understood by allowing team members to appropriate them as they see fit (Espinosa et al., 2015) • Dynamically evolving ICTs over time relatively to work requirements support coordination, collaboration (Zamani & Pouloudi, 2022).
Temporal Flexibility	Temporal flexibility may relate to how workers allocate their contracted hours across the day/week/month (Schmoll, 2019) and across spaces and places (Alexander, Dijst, et al., 2010). It may also refer to the flexibility built in within one's work, e.g., attending to personal matters while at work (on premises or not) by being able to manipulate and control temporal moments and their workflows (Rose, 2015). Time flexibility is very prominent in contract-based work but rarely exploited due to labour market cycles (short business cycles etc) and the impact of technological advances on their skills' worth (Evans et al., 2004). Temporal flexibility relates to temporal control: not all workers are able to work while mobile, but are required to be mobile to work, leading to 'dead times' which cannot be productive (Cohen, 2010). ICTs are associated with: • performance management (control) (Nijp et al., 2016). • greater work-schedule flexibility, especially when there is enhanced use of ICTs (Alexander, Dijst, et al., 2010) • engaging with work outside work hours, particularly when ICTs are portable and when social pressure (supervisors, colleagues) is high (Schmoll, 2019) and creating an always on, anytime, anywhere mentality (workers are permanently reachable), particularly when ICTs are mobile (Shen et al., 2020) • multitasking and reducing/increasing time spent on leisure (by creating time efficiencies/consuming time respectively) (Shen et al., 2020)
Temporal Fragmentation	Temporal fragmentation can be understood as the number of fragments, their distribution, or their configuration (e.g., clustered or spread out) (Hubers et al., 2008) and a process whereby a certain activity is divided into several smaller pieces, which are performed at different times and/or locations (Dijst, 2004).

	- Extensive and frequent use of ICTs relate to highly fragmented temporal patterns, especially when mobile ICTs are used (Burchell et al., 2021; Hubers et al., 2008) - ICTs are meant to increase autonomy (thus fewer working hours because workers can work independently anytime, anywhere) but because of fragmentation, they work longer hours (Alexander & Dijst, 2012). - ICTs increase flexibility and facilitate temporal fragmentation to the extent that time-space fixity allows (Dijst, 2004; Hubers et al., 2018) and will likely reorganise the workday (Hubers et al., 2018) - ICT, work-related and personal-household variables influence the fragmentation of work, but of these, ICT variables have the least influence (Hubers et al., 2008) - Fragmentation will probably increase depending on the availability, variability and the use cases of ICTs (Hubers et al., 2008)
Temporal order/Temporal structuring	Temporal structuring draws attention to what people actually do while at work (practice perspective) (Orlikowski & Yates, 2002). There exist interdependent work patterns, that are influenced by the temporal and the social context of work. Time use in this context looks into how people allocate their time across activities (Perlow, 1999). Time is seen as socially constructed (Green, 2002; Orlikowski & Yates, 2002) and can be described through the dimensions of: continuity, linearity, dimensionality, subjectivity, chronicity, homogeneity (Ivaturi & Chua, 2021). Equally, It may be described through temporal location, rate of event recurrence, sequence of events and duration (Prasopoulou et al., 2006). Another classification is that of inner time/social time (inner: a temporal capacity to reflect on actions, meaning, and consequences over time; social time: the time spent with others to practice giving and taking of multivocal ideas and perspectives) (Jarvenpaa & Välikangas, 2020). - Mobile phones provide access to workers, or make them available anytime anywhere (Prasopoulou et al., 2006) - ICTs are used of the temporal coordination (e.g., status reports, bug and error notifications, updates and reminders) (Im et al., 2005) - ICTs may be destructive for inner and social time (extinguishing inner time, making social time ineffective or not available for collaboration) (Jarvenpaa & Välikangas, 2020). - ICTs may be the temporal structures: meeting schedules, deadlines, calendars, reporting periods, clocks are created, shared and used to provide rhythm and to form everyday work practices, and it is through these shared temporal structures that people experience time (Orlikowski & Yates, 2002).

2.2.   Negative Theology of Time and Affective Temporal Experiences

Organisational time, to date, has been considered as the time "within a wider organisational and institutional setting" (Butler, 1995, p. 936), i.e., what happens within the organisation, how it is perceived by the involved actors, thus focusing on 'time-at-work'. Pragmatically, this view is motivated by the desire to manage and control time towards improving productivity and performance, particularly of those working outside the traditional boundaries of the organisation (such having flexible work patterns). It places the emphasis on the organisational life of workers and, in doing so, ignores that time continues existing outside the organisational boundaries. At the same time, however, 'time-at-work' inescapably draws attention to 'time-outside-work', i.e., the disposable time that workers can use for their personal endeavours. Traditional work scenarios, such as working 9-to-5 often allowed to make the distinction between time-at- and time-outside work. Yet, such a distinction does not exist anymore in the new world of work of remote work, gig work and hybrid work, challenging our understanding of organisational and personal time.

To develop a new understanding of time, that encompasses both the organisational and the personal time, we turn to the Negative Theology of Time (Theunissen, 1986), which understands present time as the "hermeneutic of the possible" (Thornhill, 1998, p. 8). This suggests that, on the one hand, the future is expected and experienced based on the present, but on the other hand, the interpretation of the world is motivated by the 'how' and the 'what' the future could or should be (Theunissen, 1986). In other words, it challenges the conceptualisation of time as time-for-us, as put forward by practice-based perspectives, and emphasises another conceptualisation, that of "time-beyond-us, or just time" (Holt & Johnsen, 2019, p. 1558). It does so by clearly prioritising and emphasising the future over both the present and the past, whereby it imagines and awaits for a time in the future that is different from that of the past (Thornhill, 1998).

Theunissen' Negative Theology of Time is focused on aion (Greek for eternity) that instils humans with hope. This is contrasted to chronos (clock time) which, as he posits, abstracts the human-time experience from time, as well as to kairos, or kairotic time (event time). It is seen as cutting through chronological time, pointing to a hopeful aion (Pattison, 2015). Yet, such an interpretation of time does not indicate a hope that 'everything within time will be different', but rather one where 'time itself will be different' (Habermas, 2014). As such, the very nature of the present is to pass away the very moment it comes into being, as the aim is not to maintain it, but for it to be negated so that the future can arrive (Söderbäck, 2013).

Inspired by the Negative Theology of Time, Johnsen and Holt (Holt & Johnsen, 2019) focus their attention on time, not by asking the usual question of 'what time is' in organisations, but rather 'how it is'. This allows them to explore how time appears and is felt in human experience, within and beyond

the confines of the organisation. In their work, the authors underline that time is finite, irrespective of whether one focuses on 'inner time' or 'social time', and whether time is considered as a social construct or clock time. Thus, time has a dominating presence in people's lives, and passes despite their influence and irrespective of how they act on it (Thornhill, 1998). In other words, "time (…), for all its infinite potentiality, is finite in its actuality" (Holt & Johnsen, 2019, p. 1567).

The emphasis on time's finitude directly links to Kierkegaard's work on despair (Theunissen, 2005), and the writings of Marx on labour and alienation (Lange, 2016), and provides an opportunity to explore affective temporal experiences. To be more precise, the Negative Theology of time approaches time as suffering, and this is directly linked to the negativity of time and thus despair (Thornhill, 1998), by drawing attention to the social alienation within capitalistic societies and the existential despair of isolated (or alienated) individuals, which further translates to an "oppressive state of affairs, experienced in boredom, care, anxiety and melancholy, into a deficient mode of being as such" (Habermas, 2014, p. 119).

Indeed, considering again time-at-work and time-outside work within the context of time's finitude, we note that the former exerts a continues pressure on the latter. Time-at-work continuously expands due to labour market pressures, the extensive use of ICTs, organisational demands, and erroneous interpretations of work flexibility. As Suckert (Suckert, 2021) explains, work time has extended its dominance over to additional 'time reservoirs', whereby private time, which is unpaid, continuously reduces and transforms into work time (paid), leisure time turns into time for consumption and unremunerated time (previously dedicated to caring duties, chores etc.) into low paid jobs. While these transformations are heralded as 'liberating' women, by allowing them to work remotely, flexibly and even on a contractual basis, the expansion of work time results in the reduction of disposable time, reducing one's true wealth, as more and more time becomes labour time (Marx, 1997).

As such, inescapably, time-outside-work is continuously reduced and effectively colonised by time-at-work (Shippen, 2014). Under the finitude premise, these two together negate life, but as Holt and Johnsen clarify, it is not time that is commodified: "it is not the hours that are made to count, but the life they 'measure'" (Holt & Johnsen, 2019, p. 1567). Following this hermeneutic, the central question is then "whether happiness is possible in the conditions of the domination of time" (Thornhill, 1998, p. 14). Along these lines, the Negative Theology of Time has linked temporal experiences to affects, such as malaise, ennui and boredom (Fisherl, 1993), grief, agitation and impatience (Fuchs, 2013), and these are exacerbated and amplified by capitalistic logics that have internalised the concepts of saving time, speeding up, and productivity gains (Suckert, 2021).

2.3.   Chronopathic Experiences and Chronotelic Behaviours

In this section, we present chronopathic experience and chronotelic behaviour (Johnsen et al., 2019), both of which are inspired by the Negative Theology of Time, lend themselves to explore time as affect and can help us later navigate and conceptually draw the linkages between time, technology and affect within the new world of work.

The concept of chronopathic experience links time and suffering in what may be understood as affective suffering. Chronopathic experience is relevant to when the temporal order of activities and tasks is no longer easily discernible or when it entirely collapses. In Johnsen et al.'s study, the content of this experience is made visible through interviews with inmates in a Helsinki prison, whereby time in incarceration is understood more like a passage of time and less like a social process, highlighting one's suffering "from and because of time" (Johnsen et al., 2019, p. 7). In this study, time is experienced as a meaningless passage of time, and one of perpetual waiting of things to happen and thus the chronopathic experience results in the emergence of affects that relate to boredom, which is evident throughout Theunissen's Negative Theology of Time, where the hermeneutic of time is viewed as "the eternal return of the same" (Egenberger, 2012). A more liberal interpretation of the chronopathic experience as affect, allows us to describe it as one that is "evoked in the course of narrative movement through time from scene to scene, situation to situation, activity to activity", incorporating not only feelings but also meanings emerging through the narrative time (Lemke, 2015). Through the lens, then, chronopathic experiences due to the collapse of the temporal order can be found in other contexts, too. For example, Goodbrey, in his comic work 'Never shoot the Chronopath', employs this through his use of multiple comic panels that intersect with each other chaotically to indicate a breakdown in the temporal order of the multiple storylines and which results in a confused order of the narrative, continuously reminding the reader of "what's to come" (Goodbrey, 2015, p. 15).

Chronopathic experiences lead to chronotelic behaviours, i.e., behaviours that develop in direct response to the affective temporal pressure and which allow individuals to escape the dominating nature of time (Johnsen et al., 2019). Chronotelic behaviours are said to allow us to understand the causes and the impacts of affects such as stress, anxiety and boredom, on individuals and on organisations. In other words, chronotelic behaviours indicate the emergence and inform regarding the influence of the chronopathic experience and are employed in order to disturb linear time, and to act on how past and present inform and impact on the future, so as to break free from chrononormativity (Rothbauer & Cedeira Serantes, 2021), i.e., "the use of time to organize individual human bodies toward maximum productivity" (Freeman, 2010, p. 3). In their study, Johnsen et al. (Johnsen et al., 2019) identify such behaviours being reflected in the inmates' desperate efforts to pass time while incarcerated. The authors illustrate how time is experienced as the inmates' enemy

whereby it can have negative repercussions for their mental health and overall wellbeing. But they also observe a chronotelic behaviour that relates to creating or assigning meaning to their experiences. For example they observed behaviours that aimed at exercising one's agency over the passing of time, such as physically exercising, entertaining themselves and spending more time on conducting smaller tasks in a heightened detail and more focused manner, which allowed them to pass time more easily. In this sense, chronotelic behaviours are enacted so as to pass time and endure chronopathic experiences (Rothbauer & Cedeira Serantes, 2021). Within a similar context of investigation (inmates), Garner identifies further chronotelic behaviours, such as reading for pleasure and visiting the library, which allows inmates to overcome boredom and monotony and exercise some control over their excessively available time (Garner, 2020).

Against this background, in what follows, we revisit the existing literature and particularly that pertaining to new work modalities, in order to identify and explore chronopathic experiences and chronotelic behaviours and the role of ICTs. Before that, however, we describe our methods.

3.   Method

The aim of this study is to explore the influence of ICTs on the affective temporal experiences of knowledge workers who have adopted new ways for working (e.g., from home, hybrid working). The objective is to explore and understand how these affective temporal experiences may impact and shape knowledge work and the role of ICTs. We approach these questions conceptually rather than empirically and we explore working modalities vis-à-vis ICTs from a temporal lens perspective with the view to infer and illustrate potential chronopathic experiences and chronotelic behaviours.

We do this by drawing from existing research, industry reports and everyday experiences, and the instrument of metaphor in order to sketch out credible scenarios but not necessarily entirely traditional ones, in order to inform research and practice on the role of ICTs in the post-Covid-19 world of work. Namely, we use the Groundhog Day movie as our metaphor for which we draw inspiration to reflect on chronopathic experiences and identify chronotelic behaviours within different organisational configurations (fully distributed to fully localised organisations), and relatively to different time-based contractual arrangements (e.g., flexible, part time, full time, gig work).

We enrich our descriptions and arguments through existing studies that focus on time, temporality and the temporal order of knowledge work, and reinterpret these through the Groundhog Day lens. This allows us to understand how ICTs might influence knowledge work from a time as affect perspective and to present new scenarios in light of the increasing popularity and adoption of new ways of working, which function as "future projections, to imagine and illustrate future possible

worlds" (Jarvenpaa & Välikangas, 2020). This helps us understand possible future consequences in the domain of new ways of working and develop recommendations for policy and decision makers towards supporting positive outcomes and mitigating negative ones.

4.   'Groundhog Day' as a metaphor for the New World of Work

The 1993 Groundhog Day movie presents the story of Phil Connors, a television weatherman, who has travelled to Punxsutawney, Pennsylvania, to report on the local festivities of the much celebrated Groundhog Day. During this day, a groundhog emerges out of his nest who is said to predict the upcoming weather, i.e., whether spring is neither or more winter weeks are ahead, on the basis of being able to see his shadow or not. In the movie, Phil becomes trapped in a time loop, waking up every day (for an unidentified period) on February 2nd, reliving Groundhog Day again and again, until he manages to wake up on February 3rd by changing as a person, and becoming a better man (Blessing, 2020).

The movie has received international acclaim and is particularly popular until today because, as some argue, lends itself to multiple interpretations, blending the supernatural, humour and melancholy (Gilbey, 2004). There are many movies that present a disrupted temporal order of events, such as Memento, for example, or Source Code. Yet, through Groundhog Day we can identify three major themes, that are relevant to chronopathic experiences and chronotelic behaviours within the new world of work: the perpetual present, the alternative presents, and the reinvention. These are discussed next.

4.1.   Perpetual Present

The movie is said to be describing the protagonist being trapped into his own purgatory (Blessing, 2020), which according to the Catholic dogma is the equivalent of the space between Hell and Heaven. It denotes an in-between space where souls go through a purification process until they can finally emerge cleansed and move on to Heaven. In the vernacular, the term has come to denote the temporary suffering or torment, which feels almost everlasting. The protagonist of the movie seems initially unable to escape this purgatory: everything around him repeats every day, but the rest of the characters do not seem aware that they relive the same present again and again. For Phil, this perpetual present seems as some kind of eternal suffering:

Phil: "You want a prediction about the weather? You're asking the wrong Phil. I'm going to give you a prediction about this winter: It's going to be cold, it's going to be dark and it's going to last you for the rest of your lives!"

This perpetual present is characterised by monotony and boredom, where nothing changes (Brannen, 2005). In a way, it is reminiscent of the temporal disorientation felt by the camp workers in Dorow's and Jean's study (Dorow & Jean, 2021) or the inmates in Johnsen et al.'s study (Johnsen et al., 2019): temporal demands are being constantly reproduced in a cyclical manner, and individuals feel stuck in a temporality that seems to have stood still for them but not for those outside their own micro-cosmos. Similar affects may emerge in other contexts, as well, and for several of the new work modalities. Gig workers, for example, often engage in monotonous, repetitive tasks, while working from their own homes or on the move, experiencing as a result boredom and fatigue (Dai et al., 2015). Remote workers (or working from home workers) during the Covid-19 pandemic, and particularly those living on their own and those with weak social networks (Carnevale & Hatak, 2020), have been "waking up every day wrapped in a freezing cauldron of social isolation, sheer boredom and a penetrating feeling of loneliness" (Banerjee & Rai, 2020). To the extent that such work is supported by ICTs, e.g., digital tools to facilitate online meetings, the worker logs in and out of meetings, connecting potentially to different individuals yet still remaining in the same physical space, without much of a change in the scenery. Equally, a remote worker may mentally wonder away to consider future ideal scenarios, such as spending time with friends, which may result in experiencing the meeting as a present pointless activity that uses up their valuable time, resulting in an affective temporal experience of boredom with ICTs or resentment towards them, where these are the conduit but potentially the amplifier of the affect, too.

In such contexts, chronopathic experiences may revolve around boredom and fatigue: every day may be experienced as like the one before, where there are no interruptions or relaxing breaks that break the monotony. In addition, remote work positions the worker often outside periphery of the organisation's awareness, thus giving way to job insecurity and anxiety (Aroles et al., 2019).

In Groundhog Day, Phil cope with his chronopathic experience via engaging in unproductive, reckless and unhealthy chronotelic behaviours, such as robberies and compulsive eating. Within the new world of work context, to cope with temporal affective experiences, workers may engage in different chronotelic behaviours. During online meetings, particularly during those that are considered less productive, workers will multitask "to stay active following boredom or perceived lulls in job performance" (Biondi, 2021). In addition, workers may make extensive use of ICTs, and social networking applications to pass the time, to open a window to the 'outside', develop new or maintain existing social connections and break the monotony (Wrycza & Maślankowski, 2020). The range of chronotelic activities involved may range from excessive use of ICTs and online social networking applications to pass the time (Ferri et al., 2012) and/or building new or maintain old social relations,

to developing habits such as e.g., checking one's email frequently "in the hope of finding the kind of message that rarely arrives" (Levy, 2016, p. 41):

- *Phil: Something is... different.*

- *Rita: Good or bad?*

- *Phil: Anything different is good.*

However, this ICT-enabled tether to the 'outside' can make potential dyschronicities experienced more acutely: "[e]ven a simple phone call often took extra effort, as workers [...] called despite the depression that could follow, or comforted or fought with a stressed partner or child or parent" (Dorow & Jean, 2021, p. 16), their family living in a different temporality. In addition, making excessive ICT use, and especially online social media, for the purpose of escaping the perpetual present may create "apparent 'social ties'" whereby we "forget what proximity in relationships feel like" (Banerjee & Rai, 2020).

4.2.   Alternative Presents

One of the offered interpretations of the movie relates to the finitude of life: "We don't have for ever – isn't that one of the lessons of Groundhog Day?" (Gilbey, 2013). Equally, scholars have linked Groundhog Day to Nietzche's Eternal Recurrence, where "everything that has already happened in the universe, and everything that is happening right now, and everything that will happen in the future, has already happened, and will happen again, preceded and followed by exactly the same events in exactly the same order, infinitely many times" (Nehamas, 1980, p. 332). Therefore, suffering is not a problem in and of itself but rather that it may be in fact meaningless (Kain, 2007), as observed in Johnsen et al. (Johnsen et al., 2019). In the Groundhog Day movie, we can see that, to some extent, the protagonist suffers because he considers himself superior to everyone else, Punxsutawney being an uncomfortable and unpleasant and. Considering his options he suggests his suffering wouldn't be as great if he were to be trapped in an alternative suspended temporality:

Phil: "I was in the Virgin Islands once. I met a girl. We ate lobster, drank piña coladas. At sunset we made love like sea otters. That was a pretty good day. Why couldn't I get that day over and over and over?"

While living in his perpetual present, Phil keeps on trying to escape Punxsutawney, but it is only after a few days that "the enormity of his predicament is forced upon him" (Ebert, 2005) and realises that no matter how hard he tries to change the storyline, tomorrow will still be today:

Phil: "Well, what if there is no tomorrow? There wasn't one today."

In his desperation, he steals a car, kidnaps the groundhog and then drives off a cliff. In the days to come, he attempts to kill himself again and again to no avail until he accepts his circumstances, and instead he begins enacting changes in his storyline. This chronotelic behaviour is reminiscent of the disrupting temporal tactics employed by fly in-fly out camp workers, who strive to break the monotony and routine of work (Dorow & Jean, 2021), and equally like inmates who consider viewing movies as a way to experience "like you are away from prison for a while … away in your head" (Johnsen et al., 2019, p. 13).

In a way, through Phil's contemplation on how things could be better or different, we argue that such alternative presents denote missed opportunities and these may lead to chronopathic experiences of regret and resentment in some cases. Telecommuters often miss out from important learning and developmental opportunities (Cooper & Kurland, 2002) or ignored for promotions and progression due to an 'out of sight, out of mind' mentality (Sewell & Taskin, 2015), whereby they may be isolated by their peers and the organisation due to their working arrangements (Wang et al., 2021). Equally, however, ICTs may enable a sense of connectedness among workers and counteract feelings of isolation, when all workers work remotely (Abelsen et al., 2021). ICTs can support hybrid working whereby workers can share their time between the physical office and the virtual one (working from home) (Sewell & Taskin, 2015) thus increasing visibility and social ties. Equally, however, ICTs can result in the collapse of the temporal boundaries between personal and professional life due to making them always available to organisational demands (Prasopoulou et al., 2006). In such cases, chronopathic experiences may relate to guilt and frustration, as workers find themselves missing out from leisure and family time when ICTs become the conduit of work-related expectations (Dery & MacCormick, 2012).

Alternative presents may be desired but not pursued if work arrangements do not allow for this, revealing the importance of having options: *"Whether it's advantageous to work from home depends on my workload. If it's documentation of any kind, then that is easy. If I am confident in what I am doing, then again I can get quite a lot of work done... But if I'm unsure about what I'm working on, I would rather be in the office; this makes for easier discussions."* (Halford, 2005). This is significant because oftentimes, those working remotely do so because they have fewer options, as for example due to being located remotely, or because of disabilities and neurodivergencies that make working at typical workplaces all the more challenging (Das et al., 2021). Chronotelic behaviours that respond to such experiences will largely vary on what options exist. Cultural factors and societal norms will dictate to some extent how workers respond to temporal boundaries and time-related demands (Richards & Bilgin, 2012). A frequently reported chronotelic behaviour in the literature is that of demarcating

temporal zones, whereby workers limit when they work (e.g., not sending or responding to emails out of work hours) (Leclercq-Vandelannoitte, 2019; Stein et al., 2015). In a similar vein, such demarcation may be enacted due to pressures exerted by one's partner, family or friends (Gadeyne et al., 2018), as a way to reclaim their time. ICTs' role then can be used as part of a temporal routine that enforces a movement across boundaries without shifting them. For example, a worker may switch from one device to another, to change the focus of their awareness: *"When I get in the taxi to go home I typically will have the BlackBerry on silent and I switch to the iPhone. In that way I can keep my eye on email but I am more actively engaged with Facebook, SMS and other social media to contact friends."* (Dery & MacCormick, 2012, p. 163).

4.3. Reinvention

When Phil realises that he relives the same day again and again, he first tries to cope with his anguish and boredom by adopting hedonistic behaviours, and as he slowly becomes depressive, he shifts to reckless and unproductive ones. Eventually, and as he develops genuine feelings for Rita, his co-protagonist, he starts becoming a better person and uses his accumulated knowledge regarding the events on Groundhog Day to help others, despite knowing that whatever he does will last only one day. At the end of his transformation, he wakes up on February 3rd by changing as a person, and becoming a better man (Blessing, 2020):

- *Phil: Do you know what today is?*
- *Rita: What?*
- *Phil: Today is tomorrow.*

At the end of the movie, Phil's actions lead to his reinvention, which reminds a process view of time. Actors are followed through time "as they move from the beginning to the end of a project" or towards a deadline (Vaagaasar et al., 2020, p. 420), whereby "everything is an emergent process of becoming" (Lowe & Rod, 2018). Phil draws from his past, i.e., what has happened during earlier instantiations of the Groundhog Day, in order to influence his present and enact a different present. In a way, it is these repetitions that eventually allow Phil to reach his maturation and redemption (Slowik, 2017).

To the extent that technologies support or inhibit one's reinvention and influence relevant chronopathic experiences, ICT use "emerges in a mutually constitutive relationship between the self, as a moral subject of own actions, developed through awareness, strategies of self-reflexivity, and self-engagement, and broader organizational principles" (Leclercq-Vandelannoitte, 2019, p. 3). These may rely on a better understanding of what the self is, what are its limits and how these may be overcome (Leclercq-Vandelannoitte, 2019), triggered by a chronopathic experience of acute

awareness of one's circumstances. Chronotelic behaviours may take the form of mindful use of technology that supports reflexivity, thus leading over time to reinventing one's self but also reinventing the technology used. Evidence of such chronotelic behaviours we can draw from the post-adoption literature and particularly studies that discuss resistance, avoidance and workarounds. For example, Boudreau and Robey discuss how users may come up with ways to "beat the system", whereas Zamani and Pouloudi (Zamani & Pouloudi, 2022) illustrate how team members adapt and appropriate ICTs and software tools in a dynamic manner and over time. In such cases, engaging in mindful chronotelic behaviours can support workers in resisting the pressures of their work environment, technostress and telestress, both of which are prominent among remote and hybrid workers (Castro Rodriguez & Choudrie, 2021), and thus supporting continuous learning (Dernbecher & Beck, 2017).

5. Implications for Research and Practice

In this study we explored alternative interpretations of time and temporality and how these can be used in appreciating emerging chronotelic behaviours towards coping and overcoming affective temporal experiences. We view and interpret time as affect, which allows us to consider time in its totality, grasping both its social nature but also its finitude. Within the context of the new world of work, where workers adopt willingly or by necessity new work modalities, ICTs can have both a destructive and beneficial impact and accordingly influence the content and nature of the chronotelic behaviours. Considering that such work modalities are bound to increase exponentially in the short to medium term, it is important to identify ways for addressing the negative consequences, and ensuring the positive ones.

We see three implications emerging from our study. First, we believe it is time that research begins adopting alternative interpretations of time, breaking away from the tradition of the practice-based perspective. While it is important to focus and understand what workers do while at work, it is equally important to delve deeper into the affective component of the experience (Holt & Johnsen, 2019), which can result in an alternative and more nuanced perspective of how the temporal dimension is understood and experienced by remote and hybrid workers (Kınıkoğlu & Can, 2020). This is particularly so because ICTs are entangled in our everyday practices on the basis of how their materiality is enacted across time (past, present, and future) (Venters et al., 2014) and which then influences and becomes enmeshed with the human temporality. In addition, investigating time through the lens of affective temporal experiences can open up the possibility of exploring and focusing on different temporal

orientations, i.e., the iterative (past orientated), the evaluative (present orientated) and projective (future orientated) (Nevo et al., 2016).

The second implication relates to remaining attentive to the impacts of ICTs on workers and particularly so because emerging and advanced ICTs start being become adopted by businesses and organisations and in many cases raise concerns regarding power, autonomy and control (de Vaujany et al., 2021). Technologies mediate organisational control (de Vaujany et al., 2018; Mäntymäki et al., 2019), reducing workers' perceived autonomy, with counterintuitive effects for the new work modalities (Bader & Kaiser, 2017; Gerber, 2021). For temporal studies, technologies are thus a reminder, not of the existence of temporal boundaries between work and private life, but rather of their absence (Holt & Johnsen, 2019). In such scenarios, technology may reduce temporal agency (Jarvenpaa & Välikangas, 2020). More importantly, however, ICTs, and especially those adopted for extending the control of the organisation outside its physical boundaries, can have significant negative repercussions for workers who adopt new work modalities out of necessity rather than choice (e.g, located in remote regions without access to transportation), and those belonging to underrepresented groups (e.g., people with disabilities). While ICTs may facilitate work in a context where workers can control their environment (Donnelly & Proctor-Thomson, 2015), equally they allow the organisation to enact increased monitoring and control, and thus leading to situations where the workers' sense of control and their privacy reduces, with wellbeing repercussions (Leclercq-Vandelannoitte, 2019).

The third implication relates to the new work modalities themselves and their influence on disposable time. Within this new world of work, what is valued is one's mobility across spaces, places, teams and activities (Huault & Rainelli-Weiss, 2013). The malleability, the availability and the social capital of the worker are what often make the difference between their inclusion and exclusion from the job market (D. Lee, 2011), and as such, the often unspoken expectation is that individuals will be always available, physically and mentally, reactive, able to work with diverse groups, and often at a moment's notice (Huault & Rainelli-Weiss, 2013). These attributes can facilitated via ICTs but also resulted in precariousness (D. Lee, 2011; Rider & Murakami Wood, 2019) and an unprecedent difficulty to distinguish between personal and professional time, and between "affective bonds and useful relationships" (Boltanski & Chiapello, 2018, p. 155). Further, remote, gig, mobile and flexible working for years have been glamourised and advertised as being emancipatory, particularly for women, people with disabilities and other minority groups, on the basis of freeing up time to attend to personal matters (Suckert, 2021), and offering work opportunities where they don't often exist (Greenhill & Wilson, 2006). Yet, In reality, such new work modalities are merely extensions of the usual labour relations (Aroles et al., 2020), whereby ICTs further intensify work (Kelliher & Anderson, 2010; Whiting & Symon, 2020) and extend the workday (Ivaturi & Chua, 2021) by becoming a permanent tether

between the worker and the organisation. Thus, to one needs to consider time-at-work and time-outside-work in conjunction to investigate temporal autonomy, inequalities (Suckert, 2021), and the impact of the lengthened work day on workers' disposable time, and their affective temporal experiences.

On the basis of the implications identified above, we propose a set of research questions that can mobilise future research in the domain of new work modalities. These can be found in Table 2. In structuring this agenda, we drew inspiration from the recommendations proposed by Struijk et al. (2022), seeking to identify research questions that involve the interplay of the context, the ICTs and the associated actors, as well as time and temporality. We believe that such an interplay can support greater understanding around the influence of ICTs, and their implications for workers and organisations when the research focus involves time, temporality and new ways of working.

Table 2. Research Agenda

Identified Issue	Proposed Research Questions
Alternative interpretations of time and temporality	- What are the workers' coping mechanisms under the different concepts of 'perpetual present', 'alternative present' and 'reinvention'? - What can we learn from theories from the Sociology of Time literature? What other interpretations of time and work may we observe? - Can the Negative Theology of Time explain affects such as boredom and conflict within the new world of work? - How can a more nuanced conceptualisation of temporality and time help us understand how workers work while working remotely or hybrid? Is there scope to adopt and combine multiple time conceptualisations? Can such efforts help us understand better polycrhonics and monochronics when collaboration takes hybrid form?
Impacts of ICTs	- When time is always little, how does the experience of time influence work, especially when workers are subject to multiple, and often conflicting temporalities? Equally, what is the role of ICTs in mediating such experiences? - What can e.g., Activity Theory, contribute to the temporality and time discourse, especially when investigating hybrid work arrangements? What is the role and function of ICTs when activity systems combine different working arrangements and workers (e.g., fully remote, hybrid, on premises, gig workers and office workers)?
Critical approaches to time and ICTs	- Are there theories that can help us understand the impacts of ICT-enabled surveillance and control of workers? For example, how can we theorise paradoxes such as autonomy/control? - What can we learn from the Negative Theology of Time in relation to different types of workers: mobile workers, workers who work while on the move, gig workers, nomads etc? - What are the differential impacts on each of these types of workers, and what kind of inequities emerge due to how time is managed and organised?

6.   Concluding Remarks and Future Work

In this study, we focused our attention on the new world of work, that has started accelerating its emergence as a response to the Covid-19 pandemic. We explore behaviours and experiences among remote and hybrid workers by reinterpreting findings from existing studies through the lens of the Negative Theology of Time. While we focus our reinterpretation and analysis during and after the Covid-19 pandemic, we highlight that the discussed chronopathic experiences and chronotelic behaviours are relevant across time. In other words, such experiences and behaviours were still being observed even prior the pandemic. For example, perpetual and alternative presents have always been relevant for e.g., call centre workers and blue collar workers, whereby work may be repetitive and, from time to time, meaningless (Bailey & Madden, 2017). What the post-Covid-19 world of work changed is that these experiences have suddenly become relevant to a much larger proportion of the population, with a very large proportion of the knowledge workforce moving to remote and hybrid work arrangements. As such these experiences and behaviours have been exacerbated and are now more pronounced.

We focused in particular on the impact of new work modalities and ICTs on affective temporal experiences, seeking to adopt a more nuanced approach to time. We acknowledge that ICTs, and particularly digital tools, during the pandemic offered the much necessary business continuity (Griva et al., 2021) and offered work opportunities which wouldn't be possible otherwise. At the same time, however, we hope that our analysis shows that ICTs also influence the temporal experiences of workers, which in turn shape how new ways of working unfold, and lead to chronopathic experiences and chronotelic behaviours, some of which can have destructive impacts both for the organisation and the workers.

We note that our study comes with some limitations. First, we have adopted the genre of the metaphor to discuss chronopathic experiences and chronotelic behaviours, by linking observations from the Groundhog Day movie to behaviours and experiences identified in the existing literature, whereby we interpret these through the lens of the Negative Theology of Time. Future work should focus on mobilising our conceptualisation of perpetual present, alternative present and reinvention empirically. Second, we chose to leverage a specific movie as our 'research' instrument and explore how the new world of work may be interpreted. We acknowledge that this choice inescapably frames our observations and influences the implications of our study. We would thus be interested to see studies such as ours that, however, leverage different metaphors (e.g., other movies and possibly novels) with the view to explore alternative implications and foci.

Last but not least, an inherent limitation is that our method entails linking descriptions and arguments made on the basis of the movie analysis to existing studies with a temporality/time focus. The study is thus limited to what previous scholars have focused on. We note that, on the basis of the studies we identified through our review, the extreme majority have been focused on primarily on knowledge workers and organisational contexts typically within the Global North, with too few studies exploring inequities due to e.g., gender and abilities. Considering the potential implications and differential impacts of the new world of work, we highlight the importance of exploring the above from a more critical perspective, to understand the implications of context and personal characteristics on the experiences and perspectives of workers.

7.   References

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Highlights

- New ways of working (remote/hybrid) require a renewed exploration into the affective temporal experiences of knowledge workers.
- Alternative interpretations of time can lead to a more nuanced understanding of affective temporal experiences of knowledge workers.
- Workers experiencing negative temporal experiences may cope by adopting helpful and unhelpful behaviours, through the more or less mindful use of technology.