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An examination of the dynamics of intergenerational tensions and technological change in the context of post-pandemic recovery

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ABSTRACT

Technological change is a feature of contemporary life encompassing interactivity, collaboration and, above all, real-time content sharing and live streaming. The COVID-19 pandemic has introduced new dynamics in relation to digitisation and technology usage. Within organisations, these changes have been swift and profound, leading to online meetings, events and virtual team management. An exploration of literature has accompanied these changes and their human impacts. However, the generational and intergenerational issues remain under-examined and therefore constitute an important gap. The paper examines the literature on workplace technology, digitalisation and human impacts in relation to the COVID-19, and particularly, through the lens of different generational adoptive patterns. Taking an inductive qualitative approach, the paper's empirical focus is analyses of semi-structured questionnaire data from intergenerational senior executives. The findings showcase alternative understandings of technology in the late-COVID-19 era and of Xer generational (i.e. born 1961–1981) resilience and operational change dynamics. This allows a number of contributions and implications to be developed.

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COVID-19; technology; digitisation generational analysis; well-being; resilience

Introduction

This paper investigates intergenerational workplace dynamics regarding technology adoption and usage in post-pandemic contexts. More specifically, the argument explores the antecedent behaviours of 'Xer' (born 1961–1981) and 'Millennial' managers (born 1982–1998) in relation to their use of office information technology set against the temporal context of pre- and during COVID-19 periods, as well as the gradual planned exit from the COVID-19 pandemic. Building on a conceptual framework of social influence (Fulk 2017) and social constructionist and sensemaking literature (Claussen, Haga and Ravn 2019; Berger and Luckmann 1991; Weick 1995, 2012), the argument considers the competing perceptions and manners in which workforce populations are managing technology and employee digitalisation. In addition, the paper explores varied organisational/technological contexts, and generates fresh and important insights into the dynamics of technology adoption and usage across generational cohorts. More broadly, the empirical data outlined and analysed in this paper seek to make a contribution to existing understandings of individual resilience, together with issues relating to employee well-being and operational change dynamics.

Over the past decade, within the sub-stream of management science, there has been a great deal of focus on how to analyse and improve management techniques in line with

changes taking place in the surrounding business environment (Kumkale 2022; Mrugalska and Ahmed 2021; Walter 2021). This has on occasion included the impact on the different generations in the workforce. It remains unclear, however, why research into generations and technology in organisations has insisted on often (over-)simplifying each cohort in relation to *specific* technology usage – rather than acknowledging the various ways in which technology is *actually experienced* and consumed by each generation. Framed within the extant corpus of scholarly work on the impact of technology and digitalisation, especially within workplace settings in relation to COVID-19 (Livari, Sharma and Ventä-Olkkonen 2020), this study seeks to contribute to the emerging yet fragmented literature on generations in the workplace. It focuses on a nuanced understanding of technology adoption and usage by Generation X (hereafter referred to as 'Xers') and Generation Y (hereafter referred to as 'Millennials'). In order to do this, we investigate through the lens of the 'lived experience' (Kleinmans et al. 2015) of senior executives to further understand the dynamics of intergenerational tensions and technological change in the context of post-pandemic recovery. More broadly, we develop extant knowledge on the forms and manifestations of forms of individual resilience (Cooper et al. 2013) within different organisational/technological settings (Marcucci et al. 2021). This produces the following research question (RQ):

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RQ: *What are the dynamics of senior executive intergenerational tensions and resilience in relation to technological change in the context of post-pandemic recovery?*

Reporting the findings of data collected from semi-structured questionnaires with seventy-nine senior executives, each having over five years' management experience, the paper showcases the evident and abrupt shift from in-person to online work practices, brought about by the COVID-19 pandemic and the lesser considered concomitant impact across different generations. Our empirical findings raise questions regarding the apparent dichotomies of so-called 'digital native' Millennials, compared with the so-called 'digital immigrant' Xers (Prensky 2001) by engaging in an exploration of influences and factors on the digital proficiency spectrum (Wang, Myers and Sundaram 2013). Equally, it is important to acknowledge that there is as much difference *within* generations as between generations (Lichy 2016), with various groups of younger generations being portrayed as having particular digital distractions and sources of information to manage (Nakagawa and Yellowlees 2020). Such work challenges the existing literature on intergenerational technology adoption and usage in the workplace, which typically proposes Millennials as more 'tech-savvy' (Lichy 2016). More nuanced gaps between digital natives and millennials (and between digital immigrants and Xers) refer to the gap in the cycle of technology appropriated by each generation. In line with Nakagawa and Yellowlees (2020), we refer to a 'digital immigrant' as a person who started using digital technology, computers, the internet, etc. during their adult life, but did not grow up using them. In contrast, Xers – who never had cell phones when they were growing up – tend to have higher anxiety associated with technology, and take longer to adopt new technologies and use fewer digital devices (Lichy 2016).

Specifically, our empirical findings showcase how Xers demonstrate a greater ability to cope with technological change than previously understood, and have the capacity to develop forms of individual resilience in the context of the COVID-19 setting (Bardoel et al. 2014; Kossek and Perrigino 2016). In this paper, resilience refers to: "the ability to maintain a dynamic balance in an ecosystem" (Kong, Jiang and Liu 2021, 1549). We use the concept of resilience to study the ability of Xer and Millennial senior executives to withstand the impact of external shocks, recover from crises, and, reposition and renew themselves in the post-COVID-19 operations era. More broadly, our findings also shed light on a number of issues relating to employee well-being and operational change dynamics, from which it can be deduced that there is a relationship between the psychosocial work environment and employee well-being (Urbanaviciute et al. 2021).

The remainder of the paper is structured as follows: the literature review examines the role of technological change and digitalisation and how different generations adapt work practices and develop resilience; following this, the methodological considerations involved in this research project are outlined before the findings are presented and analysed; the discussion and conclusions follow, including an outline of

the implications of the paper's findings for practitioners and policy-makers as well as the paper's limitations.

Literature review

A review of the literature signals that there appears to be under-developed knowledge regarding several conceptual issues relating to the dynamics of intergenerational tensions and technological change in the context of post-pandemic recovery. These areas are considered below.

ICT as a contemporary change agent

Information Communication Technologies (ICT) constitute one of the most visible manifestations of change in contemporary society. They have irreversibly altered social relations, economic interactions and political processes (Faik, Barrett and Oborn 2020). Advances in ICT have attracted much interest from scholars and practitioners, particularly concerning the impact of technology disruption in different sectors of the economy (Brougham and Haar 2020). However, few prior studies of ICT adoption and usage either reflect, or predict, current practices brought about by the COVID-19 pandemic, which has significantly transformed the context for research and practice (Barnes 2020). Furthermore, there is currently a lack of conceptual models that can assist in analysing the dynamics and impacts of technology transformation in relation to specific populations experiencing them (Manning et al. 2018).

The twenty-first century has witnessed a well-cited range of Internet-based technological advancements that have transformed the landscapes of business organisations and management. Digital modes and drivers of change, such as for example: artificial intelligence; machine learning; blockchain; cloud and data analytics, are exerting profound impacts on workforce operations and management (Aker et al. 2020; Abraham et al. 2019; Santoro et al. 2018). The pace and complexity of these changes have resulted in myriad management issues, challenges and opportunities. For example, in the field of operational efficiency, the application of technology in attempts to optimise productivity has generated intense debate (Duggan et al. 2020; Trehan 2019). The development of artificial intelligence in areas such as customer service and employee interaction has facilitated heightened security and ethical considerations (Chang 2021; Gregorio 2019). Similarly, the growth in data-driven decision-making has generated an array of governance-related management challenges and issues (Connolly-Barker 2020; Tooby 2019). Furthermore, in the field of logistics, new e-commerce infrastructures are simplifying and superseding extant systems hardware, software and networks, thereby reducing costs and shifting specialist capabilities away from centralised technologists to end users and managers via cloud-based software (Financial Times 2021a). Therefore, it should be noted that what already constituted a dynamic and rich socio-technical situation has now been rendered increasingly complex with the advent of the COVID-19 pandemic impacting all areas of the population. Nevertheless, it is important

to underline the technological deterministic dimensions at play, namely, that it is not simply the implementation of a technological innovation that delivers performance but rather the interaction of human beings with technology that effectively (co-)creates such changes (Boyd and Holton 2018). Moreover, this means that human beings and their far from homogenous nature, engender a diversity of transformational patterns. Nevertheless, there may be the possibility of identifying sections and generations of society that display and share some comparable traits and characteristics. This infers the possibility of differing generational patterns of behaviour in relation to technology in varying contexts.

Technological change exacerbated by the COVID-19 pandemic: generational issues

As noted above, the COVID-19 pandemic has intensified technological dynamics and pressures and has also transformed organisational operations for varying work populations. For example, it has become apparent from the earlier research of Bloom et al. (2015) and Felstead and Reuschke (2020) that workers can be trusted to be productive when working from home, thus more permanent shifts seem likely given that:

“When considering the hours spent commuting could either be used to be more productive at work, or to increase the work-life balance, this could be a strong push to reorganizing how we work in the future to being a hybrid of both work at the office and working remotely” (Zwanka and Buff 2021, 62).

More widely, these shifting patterns of increased digitisation and technological development have had profound implications for the interface between work and domestic life (Field and Chan 2018; Timms et al. 2020). Citing evidence of workers being simultaneously empowered and enslaved by technology, scholars argue that the demarcation between work and domestic life is becoming increasingly blurred (Norgate and Cooper 2020; Palm et al. 2020). Here again, the COVID-19 pandemic has acted as a catalyst and accelerated changes to the work-life balance (Anwer 2020). This shift is underlined by, for example, the experience of Microsoft which estimates that the daily use of its MSTEams™ and 365™ software collaboration tools increased from 20 million individuals in November 2019 to 115 million by November 2020 (Microsoft 2020). Microsoft believes that its contribution will lead to an Internet-enabled evolution requiring ‘synchronous and asynchronous’ 365™ powered tools to underpin the notion of a digital portal for the workplace (Financial Times 2021b). Microsoft’s vision of the future of work combined with the post-pandemic recovery and a growing appetite for flexibility around location and hours seemingly provides a technological revolution catalyst significant enough to reinvigorate and incentivise less-technological attuned older workers (Burlon & Vilalta-Buff 2016). As ICT plays an increasingly prominent role in our daily lives, both professionally and socially, understanding how different generational cohorts use ICT is of growing and topical interest (Zwanka and Buff 2021). Commenting on how the COVID-19 pandemic has caused disruptions to

people’s work-related and general wellbeing, Chaudhuri (2019, 70) draws attention to the changing dynamics:

“We are amidst a technological revolution so much so that newer and advanced technology is disrupting the world of work to the extent that employees are forced either to adapt to the change or are left behind if they cannot catch up. As a result, more aged and experienced employees in organizations are willing to engage digitally if they want to remain employable.”

Given this heightened complexity in the pandemic digitised workspace, there is now an urgent need to expand understanding of the intersection of technology usage and resilience within intergenerational elements within workplace contexts.

Individual and organisational forms of resilience

In management studies, resilience has been studied primarily from organisational (Herbane 2019) and individual (Branzei and Abdelnour 2010) perspectives. The organisational perspective views resilience as a ‘reaction’ to a crisis or moment of adversity, in which resilience is seen as the capacity for the firm to ‘bounce back’ or the ability to absorb strain with little disruption to the ongoing business operations (Herbane 2019). As such, resilience capacity is a multidimensional characteristic within organisations, which enables firms both to absorb, and respond to, unexpected disruptions as well as potentially even benefit from such events (Lengnick-Hall and Beck 2005). Therefore, we see ‘resilience capacity’ as a generative capacity that enables the transfer of individual-level resources, motivations, tactics and strategies into firm-level resources and competencies. These skills can be effectively utilised to respond to severe disruptions, and in doing so, transform the firm into a more adaptive and flexible organisation.

Alternatively, literature on individual resilience – rooted in the field of positive organisational psychology (Bardoel et al. 2014) – sees resilience as an individual attribute, defined as: “the developable capacity to rebound or bounce back from adversity, conflict, and failure” (Luthans 2002, 702). Two notable contributions to understanding individual resilience are related to *sources* of resilience, which comprise a pool of resilience resources and protective factors. These may also involve levels of social support available and/or the quality of their personal relationships either in a work setting or externally (Kossek and Perrigino 2016). The ‘resource pool’ perspective states that resilient individuals can use these resources to prepare for, and then deal with, difficult situations when they occur. Connected to this, Bimrose & Hearne (2012) argue that individuals possess qualities, which serve as protective factors that aide individuals to navigate challenging situations. Such protective factors may include self-esteem, self-efficiency, subjective well-being and self-determination (Bullough et al. 2014).

Within extant research, there is therefore a clear distinction between how resilience is conceptualised at the individual and the organisational levels. Also, distinctions are underlined between resilience to everyday challenges (Stokes et al. 2019) and the role of micro-moments, and those with

respect to extreme (macro) events (Nisula and Olander 2020; Wankhade et al, 2020) such as conflict or terrorist attacks (Branicki et al. 2018). However, hitherto, there has been little focus on the mechanisms of how individual resilience may fuse with organisational resilience capacity, especially within the context of varying generations within firms engaging in rapid technological change during a period of a global pandemic.

Generational group resilience in the dynamics of technological change

The online community of Internet users is often grouped into distinct 'generational cohorts' to demonstrate how different age groups engage with ICT in their daily routines (Lichy and Racat 2021). The logic of 'generation' was pioneered by Mannheim (1952) who developed the concept of 'Generational Theory' (or GT) to refer to a cohort of individuals who were raised in the same general chronological, social and historical setting, as follows:

- GI Generation (1901–1924)
- Silent Generation (1925–1942)
- Baby Boomers (1943–1960)
- Gen X (1961–1981) aka Xers
- Gen Y (1982–1998) aka Millennials
- Gen Z (1999–2019)

Generational cohorts focus on cataclysmic events that bring about a change in the value structure of society and bring a new set of values to those coming of age during those events (Zwanka and Buff 2021). The position in time and impact of shared experiences and major life events are fundamental in defining generational cohesion. Despite the popularity of the concept among scholars and practitioners, the GT framework is criticised for its lack of consensus on the exact calendar years or common definition for each generation, and for the Anglo-American interpretation which overlooks other cultural contexts (Pendergast 2009). Furthermore, it is worth bearing in mind that the dates for each generation (every 20 years after WWII) are entirely random, with an arbitrary starting date. And, that by grouping individuals into generational brackets, much information may be lost. In reality, each generation is far from homogenous. Individuals age differently and are subject to numerous factors that shape their user behaviour. Nevertheless, the overarching view in the literature prompts us to believe that an individual's challenges with technology can be linked to age, as evidenced by differences in adoption and usage between older and younger adults (Hargittai and Dobransky 2017). For example, Lissitsa and Kol (2016) found Xers and Millennials have higher rates of Internet adoption than Baby Boomers; describing Xers as one of the most highly educated generations in history, tech and media savvy, sceptical and pragmatic. They describe Millennials as the first high-tech generation and consumption-oriented. Bordonaba-Juste, Lucia-Palacios and Pérez-López (2020) found that ubiquity, data loss protection and ease of sharing are relevant aspects of the likelihood of older users paying for cloud services; whereas access

to greater online resources is the most important technology-related aspect for younger users. This resonates with research suggesting that younger users are also more adept at searching for jobs online and social media usage in general (Karaoglu, Hargittai and Nguyen 2021). Nevertheless, although younger users have a wide range of digital skills for finding information and communicating, older users have a greater ability to use digital skills for creating information and developing strategies. This calls into question popular notions about the abilities of the so-called 'digital generation' (Lichy 2016).

Importantly, research also shows that age stereotypes can act as a barrier to ICT usage, impeding older individuals from taking full advantage of its potential benefits for their health and well-being (Hartanto et al. 2020). Yet, research also suggests that age is not consistently associated with low use of technology since, while older users may employ fewer technologies than younger users and use them less frequently, they nevertheless use ICT for a longer period of their lives (Staddon 2020). Thus, although demographics offer a rough proxy for expected behaviour, it may be more accurate to segment individuals based on their individual media and consumption habits (or experience), rather than by grouping them into the segments that marketers assume are homogenous – i.e. a segmentation based on online and offline consumption. In this regard, the theory of digital inequality (c.f., Wolfson et al. 2017; Hargittai, Piper and Morris 2019), suggests differences in online skills emerge in important ways with considerable variation in Internet know-how linked to differences in socioeconomic status and usage autonomy. In other words, 'tech savviness' is thought to be more related to socio-economic status than it is to generation segmentation. Nevertheless, while this framework has shown that the higher status segment of the population is better equipped to exploit the potential of digital media, Gui and Büchi (2021) show that this segment is also more able to counter the negative outcomes of excessive tech usage, such as potential digital overuse.

It is possible that the firmly established notion in the literature relating to the so-called 'digital native' Gen Y and 'digital immigrant' Gen X (Lichy 2016) may overlook and oversimplify the nuances of an ability to adapt to a technological shift and develop individual resilience in an environment of the 'new normal' (Lichy 2021a). Severo, de Guimarães and Dorion (2018) state that Xers are more focussed on career and job maintenance, whereas Millennials are highly connected with new information technologies and are prone to taking risks. However, while these views may hold true for the consumption of popular online services such as communications, information retrieval/storage, social networking and financial transactions, it is likely that the intensity and frequency with which Millennials consume these services will vary greatly among members of this cohort.

Furthermore, there is a difference between knowing how to access the technology and being able to use the technology in a constructive way. Some individuals may experience ICT fatigue caused by their inability to manage online workload and excessive screentime, exacerbated by heightened negative emotions, stress levels and anxiety due to fear of

contracting COVID-19 (Hussain, Mirza and Hassan 2020). Additionally, a number of complex factors influence Internet user behaviour, for example, experience, well-being and resilience (see Wroclawski and Heldwein 2021). In other words, Xers may be more agile (than Millennial 'digital natives') in adopting and adapting new technology to suit their needs and maintain continuity in the face of adversity caused by the pandemic. In contrast, Millennials may have experienced more difficulties coping with COVID-19 workplace disruptions. It is possible that Millennials may need more attention, support (both professional and psychosocial) and encouragement (Urbanaviciute et al. 2021). They may also be unaccustomed to having to think autonomously while working from home, having had far higher levels of support than older generations, or they may simply lack the life experience of older colleagues to deal with certain unforeseen changes (Prime, Wade and Browne 2020). Millennials may lack resilience compared to Xers and therefore have well-being vulnerability. Furthermore, Xers distinguish themselves from Millennials in their consumption of news media. They were the first generation to have access to extensive news reports. Consequently, they became acutely and explicitly aware of rising crime rates, military conflict (e.g. the Gulf War) and health crises, such as HIV, for example. In addition, many Xers grew up witnessing domestic upheaval owing to accelerating divorce rates and unprecedented numbers of households where both parents worked long hours. The result was a generation of 'latchkey kids' who developed the characteristics of self-sufficiency, determination and resilience (Tulgan 2004; Martin and Prince 2008; Hansen and Leuty 2012; Field and Chan 2018). Moreover, underscoring the mediatisation of emotion in today's society, Gonyea and Hudson (2020, 53) draw attention to the growing tension between the generations:

"...the 2019 viral spreading of the 'OK Boomer' meme, the equivalent of 'a dismissive eye roll' by young adults to perceived judgments by old people, via the launching of the 'OK Boomer' song on the social media platform TikTok (with over one million viewings) and its subsequent crossing over to mainstream media, has brought the question of a deepening generational divide to the forefront."

Given the diverse opinions regarding intergenerational issues and the use of technology (see Figure 1 for a framework of tensions), little is known about how factors such as *how intergenerational tensions apply to the use of technology* in the workforce population and especially since the advent of COVID-19 has further heightened the complexity of these issues. As such, the literature presents a somewhat: "jumbled narrative of a still-urgent problem with digitally immersed generations, both in terms of what the problems are and what solutions there might be" (Evans and Robertson 2020, 274).

Against this backdrop of dislocation and change, the new millennium has also experienced a tectonic shift in the nature of the global workforce. As Xers enter the retirement phase, Millennials have begun to dominate organisational life (Anderson et al. 2016). Indeed, Millennials have now become the most represented generational group in the global workforce (Beauchamp and Barnes 2015; Lichy 2016; Howe and Strauss 2009; Mondres 2019). The children of Baby Boomers, these individuals are now approaching early middle age and many have progressed to become middle and senior managers. It is estimated that by 2025, 75% of the global workforce will be Millennials and the majority of these will occupy management positions (Gabriel et al. 2020). This trend has led to periodic intergenerational transitional tension between Millennials and Xers – with the latter feeling that their managerial identity is being challenged and

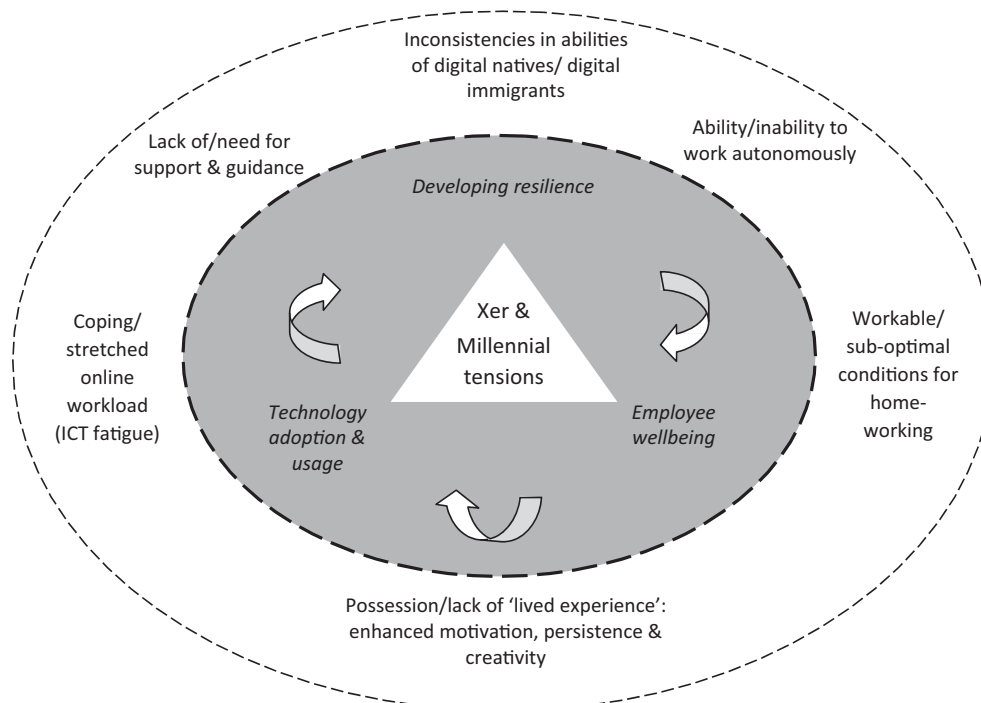


Figure 1. The dynamics of Xer/Millennial intergenerational tensions and technological change in the context of post-pandemic recovery.

undervalued. A fundamental issue here is that Millennials have traits that distinguish them from older generations, over and above their connected lifestyle (Lichy and Racat 2021). For instance, they have been described in the literature as being over-confident (Cole et al. 2002; Anderson et al. 2016) and rude (Loh, Strachan and Johns 2021); having an attitude of self-entitlement (Allen et al. 2015; Morrell and Abston 2018); displaying an over-reliance on others (Balda and Mora 2011; Torsello 2019); and demonstrating a high degree of technological proficiency (Arnold 2018; Ferri-Reed 2014). It is perhaps this final characteristic that is one of the most distinctive differences between Millennials and Xers reported hitherto in existing studies: younger generations use technology more fluently than older generations – *or so we are led to believe in the pre-pandemic body of literature*. Yet it is worth noting that while younger generations may have digital agency, they do not necessarily have the *discernment* to use digital technology in the most *appropriate* manner (Lichy 2021b).

In managerial terms, for many long-serving and established Xer managers, the need to adopt and integrate contemporary technology may constitute a major source of stress – challenging long-held entrenched beliefs and work practices on how organisations should function. The Xer generation is often regarded as being digitally illiterate and somewhat limited in their ability to adopt and use new technology (Trentham et al. 2015) – yet Xer managers are eager to: “learn from millennials whose multitasking abilities are recognised from adaptability, language, networking skills and digital devices” (Fadhilah and Adiarsi 2019, 114). This prompts the epitaph of ‘naturalized digitals’ (Hoffmann, Lutz and Meckel 2014) in contrast to Millennial ‘digital natives’ (Prensky 2001). The Millennials are certainly more technically proficient than previous generations (Ferri-Reed 2014; Arnold 2018) and see technological developments as integral (rather than supplementary – as with many Xers) to their work and social lives (Bushardt et al. 2018; Stewart et al. 2017). Clearly, these intergenerational differences were already impacting prior to the COVID-19 pandemic; however, the pandemic has catalysed technological transition, revealing important insights into the degree to which these differences have been accentuated. Reflecting the ramifications of a world reduced to a screen, Zwanka and Buff (2021) put forward the term ‘COVID-19 Generation’ to describe the behaviour shifts that have emerged as a result of the pandemic.

Along with these intergenerational tensions, an associated issue is the extent to which the technological transitions undertaken during the pandemic will endure as a permanent feature of the post-Covid operations environment. Equally, how will the prospective new ways of working impact Xer and Millennial managers? Early evidence already suggests that many transitions undertaken to accommodate new ways of operating are fragile and susceptible to fracture. For example, pervasive technology in the home can be a source of considerable domestic tension and stress, which leaves many homeworkers nostalgic for their office routines and environments (Felstead and Reuschke 2020; Lockwood and Nath 2021; Predețeanu-Dragne et al. 2020). In the next stage

of the paper, the argument develops a methodology that allows a closer examination of these COVID-19 contextualised workspace generational-technological issues.

Methodological considerations

Research design

This study undertakes an interpretive approach to explore the *lived experiences* of Xer and Millennial senior executives as they managed the challenges of dealing with the digital disruption brought about by the COVID-19 pandemic. Lived experience refers to: “the pre-reflective, immediate consciousness of the experiences which are then subsequently reflected upon and interpreted in hermeneutic phenomenology” (Kleinhans et al. 2015, 89). Lived experience can be understood as an immediate, pre-reflexive awareness of life, lived as it is, in everyday, historical contexts – the: “expressions and objectification (texts) of lived experience in the attempt to determine the meanings embodied in them” (van Manen 1990, 38).

The research approach is informed by an interpretive/constructivist epistemology, which allows socially constructed data to be drawn from interaction and exploration of meaning and understanding through exploratory questionnaires with a diversity of respondents (Easterby-Smith, Thorpe and Jackson 2012; Ulin, Robinson and Tolley 2005). The interpretive paradigm accepts that reality and the researcher are inextricably linked, and epistemologically that acquired knowledge is formed through one’s own conceptions (Neuman 2003; Ulin, Robinson and Tolley 2005). Yet, it is important to acknowledge the researcher’s ability to maintain integrity and truth to ensure that meaningful and valid reality is constructed (Angen 2000). A crucial benefit of interpretivism is the opportunity to gather: “rich and textured evidence” allowing the researcher to elicit socially constructed data with which to explore inter-subjective experiences (Angen 2000; Cameron and Price 2009, 56). An inductive approach facilitates the development of emergent theory by reducing boundaries to the generation and exploration of comprehensive data whereby all participants and issues may be considered within a given setting (Stokes and Wall 2014, 142). The research focussed on two generational cohorts of senior executives defined by the literature on Xers and Millennials. The participants were engaged in an employer-sponsored, work-based MBA programme in the North West of England. The senior executives represent a range of industries and sectors and constitute a detailed “snapshot picture” by exploring the phenomena within, rather than independent of, “real-world” contexts (Gibbert, Ruigrok and Wicki 2008).

Data collection

The researchers developed an exploratory semi-structured questionnaire intended to discover individual interpretations, attitudes and beliefs and to provide a more comprehensive view of social processes (McGuirk and O’Neill 2016). The inclusion of qualitative questioning enabled the researchers

to undertake an interpretive individualism approach to reveal previously undiscovered phenomena and unique insights (Eckerdal and Hagström 2017). The questionnaire was developed to explore the views of the respondents in alignment with the research constructs drawn from the literature review (De Vaus 2014). It incorporated five open questions to: elicit the views of the respondents concerning their experience of using technology for work during the pandemic; identify the perceived impact of remote working on well-being and resilience upon themselves and their staff; and, signal potential technological influences on future practice, career progression and work-life balance. The questionnaire was developed through *Online Surveys*[®], a digital tool created by the Joint Information Systems Committee (JISC) the specific purpose of which is to support higher education global research. The sample was e-mailed on March 8th, 2021 with an introduction explaining the purpose and relevance of the research and an invitation to visit the *Online Survey*[®] host page to complete the questionnaire anonymously (Jankowicz 2013). The explanatory email and three-month deadline allowed respondents time to consider their response to each question, whilst the open-ended nature of the questions enabled the participants to relate their “own story” and thereby facilitated a clearer insight into their lived experiences, effectively strengthening the richness of the data collected (Bryman and Bell 2015; Bansal et al. 2018) The questions were piloted and modified by integrating feedback to strengthen the quality, reliability and validity of the data collected (Jankowicz 2013). The responses were recorded and transcribed for analysis, resulting in the generation of rich, descriptive material (Gehman et al. 2018).

Sample

Given that the investigation adopted an exploratory inductive approach, a non-probability purposive sampling technique was adopted. The sample was drawn from a total population of 122 senior executives with a minimum of five years of previous management experience across the business and organisational span, and who were studying in an employer-sponsored, work-based MBA programme at a United Kingdom (UK) university (See Table 1 for details of respondent participants).

The sample included representation from a range of participants drawn from the Xer and Millennial age spectrum working in a range of UK public and private sector organisations. The original sample was drawn from a wide range of sectors and job families; 79 responses were recorded with an overall response rate of 65% (71% Xer and 29% Millennials).

Ethical considerations

Ethical approval complied with the authors’ own institutional protocol and the Chartered Association of Business Schools’ (2015) ethics guide.

Reliability and validity (credibility)

The exploratory questionnaire data were categorised and analysed soon after each response was submitted to help obtain valid and reliable qualitative data using thematic analysis (Maguire and Delahunt 2017). Specifically, Braun and Clarke’s (2006) six-phase approach of the thematic analysis model was adopted as this offers a flexible, clear and rigorous framework that facilitates: “an iterative and reflective process that develops over time” (Maguire and Delahunt 2017, 4).

Data analysis

As the study involved a cross-case analysis of different management roles, contexts, experiences and perceptions, the researchers elected to adopt an essentially variable-oriented approach (Miles, Huberman and Saldana 2013), inductively coding the data to help identify any recurring themes and patterns (Eisenhardt 1989). The exploratory questionnaire data from individuals were also carefully examined to determine whether emergent patterns were replicated in others (Yin 2013). The researchers carried out repeated readings of the data to reinforce reliability, moving back and forth through individual cases as well as conducting a holistic exploration of themes across cases This allowed a richer understanding of the perceptions and experiences of the participants across the sample as a whole. Analysis began with the use of descriptive codes to identify common themes, adding layers of meaning through underpinning interpretive and pattern codes (Braun and Clarke 2006). To further reduce the limitations of coding, emerging ideas simultaneously informed “conceptual memoing” to support the theorising of data, through the “write up of ideas about codes and their relationships” (Glaser and Strauss 2017, 83–84). A recursive approach was adopted by constantly moving back and forth from the data, coding, clustering memos and early write-up, continually refining discoveries made throughout the whole analysis and coding process to reveal latent themes (Braun and Clarke 2006). This systematic analysis of the transcripts enabled the researchers to uncover key themes and commonalities among cases, facilitating the generation of insights that go beyond mere description and raising awareness of aspects that may inform the future technological strategy for post-COVID-19 operational practice.

Finally, the research team was conscious of the potential dangers of possible bias associated with the data collection method (Miles et al. 2013; Nisbett and Ross 1980) potentially leading to spurious interpretation of the findings. Here, measures were taken to cross-check analysis and sensemaking interpretation of the semi-structured questionnaire data amongst the research team. Importantly, the researchers recognise that in following general qualitative approaches these findings are not extensively generalisable but instead provide insights into emergent themes in the field (Eisenhardt and Graebner 2007; Siggelkow 2007).

Table 1. Respondent sample by managerial level job family & sector.

Job family & sector	Clinical services	Client services	Data analysis	Finance	HRM – learning & development	HRM – talent acquisition	Logistics	Marketing	Director engagement	Partnerships & engagement	Procurement & supply	Production	Quality assurance	Research & development	Total X	Total Y
Accountancy, banking & finance				1X1Y		1X			1X						3	1
Business, consultancy & management	1X					1X	1X		1X					1X	4	1
Energy & utilities			1X	1X	1X						1X		1Y		2	1
Engineering & manufacturing					1X		1X				1X	2Y			4	2
Healthcare	2X2Y		1X	2X	1Y		1X		1X		1X		1X	1Y	8	4
Information technology			2Y		1X					1X					3	1
Law enforcement, fire & security services			1X		2X				1Y						3	1
Leisure, sport & tourism								1Y		1X					1	1
Marketing & PR	1X						1Y	1Y							1	1
Property & construction													1X		1	1
Public services				1X	1Y		1Y		2X	1X			2X		6	1
Public services administration															1	1
Recruitment & HR				1X	1X			1X							1	1
Retail				1X		2Y									1	1
Science & pharmaceuticals							2X				1X			1Y	1	1
Social care			2X		1X										3	1
Education		1Y			1X								1X1Y		4	2
Transport & logistics	2X			2Y	1X		1X						1X		2	2
Total X	4	2	6	8	10	1	4	2	4	4	3	2	6	1	56	23
Total Y	2	1	3	3	2	2	1	2	2	0	0	0	2	2	–	–
Total	6	3	9	11	12	3	5	4	6	4	3	2	8	3	56	23

X = Generation X (Xers).

Y = Generation Y (Millennials).

Findings and discussion

The findings point toward a number of differences in technical ability between Xers and Millennials. However, when the data are explored in detail, additional interesting insights emerge. The findings and discussion are centred around three emergent key themes.

Theme 1 – Xers meeting the challenge of digital assimilation through flexibility, perseverance and resilience

The data indicate that despite the fast pace of change and the need to respond quickly, Millennial employees were able to cope effectively with the additional demands of COVID-19. Evidence suggests that this generational group was able to go beyond minimum requirements and explore more ambitious and complex approaches and solutions. For example, one participant commented:

'During the pandemic I have moved at a faster pace than ever before and I have been braver in trying to see what can and can't work.' (Q2, 7Y).

Similarly, another Millennial respondent said: *'I have adapted to using the new technology quickly and I've started to explore advanced features with a view to using it to replace other approaches...'* (Q2, 9Y). This corroborates the prevailing view (Lichy and Racat 2021) that Millennial employees are well placed to cope with the new challenges associated with adopting new practices and work patterns.

In contrast, as noted above, a large body of literature describes Gen X employees as being slow to change and somewhat reluctant to adopt new ways of working (Lichy 2016; Hargittai and Dobransky 2017; Gonyea and Hudson 2020; Raišienė, Rapuano and Varkulevičiūt 2021). However, our data challenge this perspective. For example, respondents commented that they:

'...enjoyed the [work] challenges and opportunities that the pandemic has brought.' (Q3, 29X) and that *'This has been an enjoyable experience... I've learned fast and liked the challenge...'* (Q2, 4X).

Moreover, the findings indicate that, along with embracing change, participants also 'value' the changes that the pandemic had brought and recognise the benefits that result from new ways of working. For instance, a senior manager expressed that: *'I have felt just as connected if not even more so than I have done previously.'* (Q2, 36X). Similarly, a respondent said: *'... the ability to respond, adapt and manage was hugely important as guidance was changing on a daily basis.'* (Q3, 20X). Thus, at first sight, the readiness for Xers to embrace, adopt and value change is surprising. The data support the broader assertion of those who advance that when faced with extreme and difficult challenges Xers are able to be resourceful, independent and pragmatic (Kupperschmidt 2000; Scheef & Thielfoldt 2004; Bargavi, Samuel and Paul 2017). The existing literature on technology adoption and usage from a generational perspective has focussed heavily on the younger 'tech-savvy' cohorts, perhaps to the exclusion of offering a deeper reflection on Xers

who have manifested greater ability to resolve unforeseen issues resulting from suddenly changed circumstances and the data reveal this.

Despite the positivity expressed by Xers, the data also suggest that the challenges resulting from the pandemic have not been without their frustrations. Key issues here relate to the reliability of the technology. The majority of respondents cited problems with hardware as being a major challenge. For instance, one senior manager commented that:

'... networks can often cause problems such as loss of sound, loss of picture and people dropping out of meetings and having to re-join.' (Q2, 22X).

Allied to this, a recurring issue was internet speed and connectivity. One participant commented: *'A poor internet connection and slow speed can cause work delays and increase stress.'* (Q3, 24X) Likewise, a project manager explained: *'There were some initial issues around connectivity... I had team members who were new to working from home and took longer to adjust.'* (Q3, 16X).

In addition to technology-related frustrations, the data indicate that Xers are challenged by expectations of increased availability whilst working away from the office. Respondents indicated that using technology made them feel that they were constantly accessible. For instance, one participant expressed that: *'I feel that it can generate an 'always available' culture'* (Q3, 16X) and another said that: *'I don't like that family/home life blurs into my professional role.'* (Q3, 10X). Given the propensity for Xers to value their lifestyle away from work this tension is perhaps unsurprising (Tulgan 2000; Ilhami, Armanu and Noermijati 2020). Indeed, homeworking creates a significant dichotomy for Xers in that the work flexibility it affords is appealing but it is also problematic because it has the potential to challenge the maintenance of a healthy work-life balance (Losyk 1997; Hansen and Leuty 2012; Field and Chan 2018; Zhang and Farndale 2022). A further frustration related to the home-work interface is that many Xer respondents felt isolated and remote from their colleagues: *'I find that it can be lonely and isolating.'* (Q3, 10X) Similarly, a respondent explained that: *'In person face-to-face contact has been missed.'* (Q3, 5X) and another suggested that: *'... some people struggle in terms of social interaction, and it has affected some individuals' well-being.'* (Q3, 22X) Given the propensity of Xers to value teamwork and social relationships in the workplace (Lyons and Kuron 2014; Jabłońska-Wołoszyn and Kurek 2021), this is concerning and if left unchecked has the potential to impede performance and productivity (Bhayana, Gupta and Sharda 2021; Zhang and Farndale 2022).

Notwithstanding the significant challenges and frustrations highlighted in the data, Xers evidenced high levels of individual resilience and a determination to overcome the challenges they faced. For instance, one respondent indicated that she: *'... wouldn't have been able to survive personally and professionally without being resilient.'* (Q3, 23X). Similarly, another Xer emphasised that: *'... lots of resilience and patience were needed.'* (Q3, 20X). Likewise, another respondent stated: *'The last year has required a significant*

amount of resilience in every way.' (Q3, 13X). Resilience in the face of challenging circumstances is a recognised trait of Xers with scholars arguing that this generation had childhood experiences that have resulted in them having high levels of resilience in adulthood (Martin and Prince 2008; Hansen and Leuty 2012; Taylor 2018). The turbulent formative years that Xers experienced, in the contexts in which they have experienced them, have forged their resilience to cope with adversity (Tulgan 2004; Martin and Prince 2008; Hansen and Leuty 2012; Field and Chan 2018). The findings indicate that it is these traits that helped Xers to bridge the technological gap that they face.

In summary, our data challenge the orthodox view that Xers are slow to change and unable to meet many of the demands of the contemporary business environment. Instead, the findings point towards a more nuanced picture and suggest that for many Xers, necessity is indeed the 'Mother of Invention'. In essence, the pandemic has afforded some Xers an opportunity to demonstrate their resourcefulness, resilience and adaptability. In comparison to Millennials, the 'distance travelled' by many Xers as they successfully come to terms with digital disruption, and learn to embrace the 'new normal', counters the mainstream view that they are a generation characterised by inertia and intransigence. Our findings reveal that the previous characterisation of Xers as 'digital immigrants' and Millennials as 'digital natives' fails to capture fully the resilience that Xers have exhibited in the global pandemic. The assumption that Xers will be less effective than Millennials due to differences in technology adoption and usage is not borne out by the data. It may have been briefly accurate when the digital transformation was emerging but probably, *even then*, it represented an over-statement that Xers (as a group) react in a uniform manner. Our findings demonstrate that prevailing generational theories of technology adoption and usage are not only outdated but also potentially inapplicable in the post-pandemic era, failing to take into account issues of resilience especially Xers generation.

Theme 2 – the health and wellbeing of Xers and Millennials

The data indicate that Xers and Millennials both experienced challenges and issues that impacted negatively upon their wellbeing. Both groups reported frustrations with inadequate hardware provision and poor broadband speeds. This was exacerbated by multiple demands from other family members in sharing bandwidth and home space for school and work. Similarly, they commented that the nature of their work had changed as a consequence of the pandemic. One Xer said:

'Work-life balance has been compromised by using technology. I have become available by a combination of my own making and other peoples' adjusted work patterns 14 hours per day.' (Q5, 38X).

While a Millennial commented: *'I've probably worked an extra 10–12 hours per week through doing this.'* (Q4, 2Y) and another observed that technology had quickly facilitated an *'elongated working day.'* (Q2, 8Y). Along with longer working

hours, the amount of time spent at a computer screen increased – replacing commuting, physical work and moving between meetings. As a consequence, unsurprisingly both generations mentioned health issues associated with extended periods of sedentary activity and impaired mobility. Weight gain and back, shoulder, neck and head pain was also cited by 10% of Xer respondents and 22% of Millennials.

Both generational groups faced broadly the same challenges and issues. Millennial respondents, in contrast to Xers, described negative effects on their wellbeing. For instance, one commented: *'I have back-to-back meetings. I don't get natural breaks, and this can be mentally draining and negatively impacts on my resilience.'* (Q3, 12Y). Yet, despite Millennials' more frequent acknowledgement of the subsequent impact on their health and well-being, they seem less inclined to manage the risks, admitting that they spend insufficient time on exercise:

'Due to the amount of time spent in meetings, I've not been able to exercise between meetings. I have gained weight which has impacted my mental health and well-being.' (Q4, 3Y).

Conversely, it appears that Xers have generally built exercise into their workload schedules: *'I know I have to be much more organised to fit in a long walk or cycle a few times a week.'* (Q4, 3X). This observation resonates with the work of Gui and Büchi (2021) who found that disparities in the ability to cope with the potential negative effects of Internet usage are emerging as a new facet of digital inequality, one which is no longer linked to the scarcity of access and usage opportunities but rather to the management of their over-abundance. In fact, the findings suggest that Millennials emerge as the epitome of Zwanka and Buff's (2021) so-called 'COVID-19 Generation' in terms of being able to cope only partially with stress and cognitive dissonance, brought about by the ongoing post-Covid circumstances. Yet, the disparity here may be in part be influenced by levels of seniority, the heterogeneity within each generation, and, the individual's workplace context.

A further issue that appeared more acutely for Millennials was reduced social interaction and longer-term disconnection with peers, teams, mentors and managers. Although problematic for both generational groups (Raisienė, Rapuano and Varkulevičiūt 2021), Millennials appear to attach greater value to face-to-face interaction and support, with an overwhelming consensus that a virtual environment reduces the level and type of support provided by peers:

'Human interaction over virtual sessions is less fluid and so you're not getting those organic social experiences you would naturally. It is not the same as perhaps the opportunity for a 1:1 or group forum in person where support is better expressed.' (Q4, 4Y).

Millennial managers also cite the difficulty in arranging less formal, impromptu meetings with individuals as well as challenges faced in larger more formal meetings: *'I struggle to speak out so I would often talk to the person sat next to me before the meeting starts and build a rapport.'* (Q4, 18Y). The findings suggest that levels of confidence and self-esteem among Millennials are beginning to erode, exacerbated by an inability to read the atmosphere, body language and

other non-verbal/para-verbal cues in virtual meetings risking: *'miscommunication and conflict between individuals'* (Q4, 23Y). Given the predicted numbers of Millennial managers by 2025 (Gabriel et al. 2020), the challenge of increasingly formalised work cultures and measurable communication through employer-managed platforms is concerning for a generation who appear to prefer the spontaneity derived from informal office dialogue or via social media platforms (Karaoglu, Hargittai and Nguyen 2021). Here, the work of Bloom et al. (2015) highlights a critical issue in terms of insufficient opportunities for home-workers to develop top-level interpersonal skills. There is nevertheless an argument in favour of celebrating the relevance of developing new soft skills for working online in the post-pandemic environment. This evokes a sense of connectedness among interlocutors, for example by using voice (instead of email) to reframe the relationship – and to reduce the risk of impersonalising communication.

In addition, the data suggest that the extended period of workplace isolation has made it increasingly difficult for Millennial managers to gain insight into and benchmark their peers. This is particularly taxing and stressful for this generational group because they tend to seek ongoing feedback regarding their work performance (Campione 2015; Morrell and Abston 2018; Raišienė, Rapuano and Varkulevičiūt 2021). Regular affirmation that they are progressing and moving in the right direction is important and, according to Smith and Nichols (2015), if confirmation is absent, Millennials may interpret their performance as being sub-standard. This appears to contradict the prevailing notion that Millennials are highly confident individuals; however, a more accurate summation is that Millennials have a 'fragile confidence' that can be easily undermined if regular feedback is absent (Cole et al. 2002; Anderson et al. 2016; Taylor 2018).

In summary, the Xer generation appears to remain unphased by, and resilient to, pervasive technology and digital devices. The data suggest that at a more profound level, the new ways of working afforded by technology are having a severe impact on Millennial well-being and emotional health. Here again, the orthodox view is challenged. Despite a reputation for confidence and self-assurance, the findings indicate that, for some Millennials, the new ways of working have had a negative impact and resulted in a cognitive dissonance which may have long-term effects on work performance and well-being. This may point to a need for Millennials to work on developing new soft skills for the 'next new normal' – noting that, up until now, they have surfed on the wave of being categorised as tech-savvy without ever having had that skill challenged by a major situation (unlike, for example, Xer counterparts). Alongside the need for Millennials constantly to develop new soft skills, there is a clear need for these in order to assist in the emotional well-being of this generational group. The pandemic has challenged the fibre of every company and employee to develop resilience and innovative responses to the unprecedented changes taking place, whilst being aware of the impact of work on their wellbeing.

Theme 3 – Embracing the 'new normal': Facing the challenges of the post-COVID-19 operations environment

In terms of the impact of technology on the post-COVID-19 operations environment, the data suggest that, in some instances, the pandemic may have had the effect of 'purging' the workforce of those who are unable to cope with digital disruption. The changes required to function effectively with new technologies may ordinarily have taken months (if not years) to become accepted and embedded in work practices. However, it is important to underline that the rapid advent of the pandemic has meant that such changes were introduced in a matter of weeks and, for some, this has led to a realisation that the 'new normal' is not for them and that it is time to move on. This is akin to a form of natural selection, where those who are most able to adapt and embrace change will survive and thrive in the post-COVID-19 environment. One Generation X respondent explained:

'My confidence has been shaken ... I've been thinking of retiring for a while now but Covid and the new ways of working have made me realise that it's time for me to finish and take retirement.' (Q5, X32).

For others there was recognition that they needed to leave their current role but, rather than retiring, they were actively looking to change their career path. One participant commented:

'I've been assessing my options during the pandemic. I've decided that the new ways of working and the expectations that come with that are too much for me. I am looking to change careers to something that I know I'll be able to cope with.' (Q5, X17).

Similarly, another related:

'The pandemic has confirmed that my future career is in IT and not what I'm doing now – I'm really looking forward to the switch and seeing what the future brings.' (Q5, X18).

Despite the need for some to retire or change careers, the data suggest that others intend to remain in their current roles and are determined to adapt and embrace the challenges and changes of the post-COVID-19 operations environment. This is congruent with the earlier findings that indicated that Xers, in particular, have demonstrated considerable resourcefulness and resilience, and have developed new work skills and behaviours during the pandemic. Here the inference is that for many of the respondents this mindset will remain and that their newly acquired skills and behaviours will continue to be important as the new normal becomes established. One Xer explained: *'My career is not a worry to me... I have expanded my learning in other ways such as software, IT, etc. which is all beneficial to my career now and in the future.'* (Q5, X30). Likewise, another respondent reflected: *'I have gained so many new skills, my resilience is better and I think the opportunities I have had will enhance my future career.'* (Q5, X35). Similarly, in relation to her approach to leadership, a newly appointed executive commented: *'I think that the leadership skills that I have demonstrated leading a team through the pandemic with uncertain challenges and meeting constantly changing guidelines will improve my future career prospects.'* (Q5, X34). Despite Vrontis

et al.'s (2022) suggestion that problem solving and communication cannot be replicated by computers, the extended break in contact between employees and managers has undoubtedly accelerated this and the lasting implications of evolving working habits upon the future nature of work remain unclear. The data also indicate that Xers felt that the pandemic was likely to bring lasting change and may have even brought about a seismic shift in the post-pandemic operating environment. One senior executive asserted that:

'The whole pandemic proves that mass change is possible, and quickly, and that perhaps sometimes we spend too long worrying and analysing it. At times we had no choice but to change for example face-to-face to virtual appointments, I spent years trying to make this happen, and yet within a week of the pandemic it was just accepted. In future, this pandemic will be a shining example of what we can achieve quickly.' (Q5, X30).

The findings endorse the view that enhanced motivation, persistence, resilience and creativity can stem from intermittently stretching workloads to produce optimum and sustainable performance levels (Williams 1994; Gardner 2012; Mitchell et al. 2018).

In terms of adapting to the post-COVID –19 workplace, Millennials create a more nuanced picture. For instance, the data indicate that for some Millennials the pandemic has brought about a realisation that future career progression may not be limited by geographical boundaries. One respondent explained: *'There is scope to extend job searches now if home-working is an option ... I am not limited by location which could open new opportunities.'* (Q5, Y5). Similarly, another commented: *'The ability to work remotely will hopefully open more opportunities for my future career allowing me to work in roles that previously I would have discounted due to the location.'* (Q5, Y19). Along with this, there is also evidence of early concern over increased national and global competition for jobs: *'Where you live and travelling distance starts to become irrelevant therefore more individuals applying for positions.'* (Q5, 14Y). Aside from the career ambitions of some Millennial respondents, others expressed a reluctance to engage in career advancement because a new 'comfort zone' has been established:

'Unfortunately, I feel that this has the potential to be detrimental to my future career ... I now feel much more reluctant to take another role unless I am able to guarantee the same level of flexibility. I feel this is likely to hinder my career progression as I will therefore probably end up staying within a role that I have outgrown simply for the sake of not wanting to give up the freedom it permits me.' (Q5, Y14).

Here, the findings suggest temporary inertia has been created, with a number of Millennials valuing the organisational system, culture and norms more highly than promotion elsewhere, echoing Billett's (2004) observation of the importance of employee security. Notwithstanding the unprecedented circumstances created by the pandemic, the findings here also expose the "out of sight, out of mind" dilemma raised by Bloom et al. (2015, 17) in terms of promotional discrimination against home-workers, regardless of their performance levels.

A further area of concern for Millennials was that owing to the high levels of adaptability and performance displayed

during the pandemic, this has established a new 'baseline' of expectations. The concern here is that in the post-COVID-19 operating environment, new 'norms' of productivity and work practices will be established and as a consequence, employees will not be able to return to pre-pandemic approaches and performance levels. For instance, a respondent commented: *'I think I will need to ensure I maintain and improve my digital skills and be open to different communication practices ... I'll need to keep up with changes if they are to survive in the post-Covid world.'* (Q5, Y10). The findings suggest a correlation with Bloom et al.'s (2015) research which reveals a 13% increase in productivity in home-workers compared with office-based workers. However, the pandemic has undermined the opportunity for employers to adopt a carefully managed productivity strategy, essential for optimum performance conditions (Pangarkar 2007). Instead, the findings suggest that for employees of both generations, the pandemic has created unreasonable performance expectations which have the potential to erode the employee-employer psychological contract (Mitchell et al. 2018; Duggan et al. 2020; Urbanaviciute et al. 2021). At this stage, it is unclear as to what ongoing post-pandemic performance expectations may be. However, the ongoing intensification of workloads facilitated by increased technology usage along with tech-innovation, such as electronic performance monitoring via wearable devices and desk heat sensors (Duggan et al. 2020; Ravid et al. 2020), suggest that performance expectations established during the pandemic are likely to continue and intensify as new norms are established, with unknown and often latent impact on employee wellbeing.

Conclusions

Our findings highlight and respond to the need for empirical research into exploring the hitherto under-examined impact of technological changes within workplace settings, across different generations and for such scholarly enquiry to move beyond previously developed over generalisations and oversimplification of intergenerational ICT user behaviour. Over the next decade, technology will not replace managers, but managers who use technology will replace those who do not. It is reasonable to wonder if the COVID-19 pandemic will, in effect, form a new generational cohort, as represented by the collective response of such a group. Moreover, despite the belief held in the marketing literature that demographic segments define generation-specific behaviour, given the accelerating pace of technological developments, it may be more realistic to use shorter time spans such as five or 10 years (maximum) to designate an 'age bracket' of technology user behaviour. Following Lichy (2021b), research and practice may benefit from a moratorium on time-based operationalisations of generations as units for understanding complex dynamics in technology usage. In reality, each generation *per se* is far from homogenous, individuals age differently and are subject to numerous factors that shape their user behaviour. Demographics offer only a rough proxy for expected behaviour. It would perhaps be more accurate to segment individuals based on their individual media and

consumption habits (or lived experience), rather than by grouping them into segments that marketers assume are homogenous – i.e. a segmentation based on online and offline consumption. Following Vrontis et al. (2022), managers will therefore need to consider ways to use these technologies for the benefit of firms and employees. This entails assisting diverse actors to use different technologies to perform shared work arrangements (Jonsson et al. 2018). More research is clearly needed to understand employee reactions and responses to the technology-induced shift in organisations.

Regarding the notion of resilience, our findings make contributions to existing scholarly work in this area. In particular, regarding the context (Liu and Vrontis 2017) in which resilience emerges, whilst there has been a nascent stream of literature on how resilience emerges with respect to extreme events (Nisula and Olander 2020; Wankhade et al. 2020), primarily such work has focussed on conflict or terrorist attacks (Branicki et al. 2018). Our paper extends this stream, showcasing our findings from an entirely novel ‘extreme’ context: the milieu of a continuing global pandemic. Secondly, we provide a unique and more nuanced extension to understanding the importance of generational differences in the workplace. We signal how they adapt to the implementation of technological and digital change, uncovering the hitherto unknown ability of the Xer generation to generate positive forms of individual resilience in response to a pandemic. More broadly, our findings showcase important linkages between technology change and shifting forms of resilience and wellbeing in the work setting.

Managerial implications

Our study offers important empirical evidence regarding contributions to practice for both managers and policymakers. For business managers, the findings clearly demonstrate the need to take into account the huge impact technological innovations and digitalisation have on employees during periods of rapid implementation of new systems, processes and ‘ways of doing things’ in the workplace. Whilst undoubtedly such shifts can bring about enormous efficiency savings for the organisation, there are serious consequences to consider in terms of employee wellbeing. On a practical level, it is imperative that human resource departments are included in the planning of technological innovations. At the same time, our findings also highlight the importance of organisations not ‘putting in a box’ their own employees and providing overly restrictive categorisations which fail to capture the ability of employees to adapt to change. The ability of Xers for example, in times of tumultuous change, to adapt and learn new skills, shows not only individual resilience but also the perhaps often uncaptured potential of more mature employees. There may also be scope in organisations investing in training programmes that bring together employees from across generations as well as across internal sectors within the organisation in an effort to promote cross-generational forms of learning, especially in terms of dealing with stress and tensions in the workplace.

Limitations and future avenues for research

Despite providing important novel and insights, this study, as with all studies, has some limitations. Due to the exploratory nature of this study, it was not intended to provide a generalised detailed analysis of executives’ perceptions of workforce management via technology during the pandemic. Rather, it provided deep and rich insights into a subjective human factor under transition in a given setting and context. Moreover, it should be noted that the research took place in March 2021, therefore the executives themselves were operating in a challenging external COVID-19 environment. As such, executive experiences and evaluations are still emerging and will inevitably change over time. Moreover, this study was limited by the use of a monolingual, monocultural sample, which focussed exclusively on senior executives belonging to two generation cohorts: Xers and Millennials.

The perennial limitations of generational analysis, which include generalisation, stereotyping and criticism for lack of scientific basis, have been widely discussed within the field. Our work extends beyond this to expose a common tension in generational analysis between homogeneity amongst generational cohorts and their nuanced differences. This tension is worthy of further investigation. Of particular interest are the generational differences that exist *across sectors*. Future studies might engage in a deeper analysis of generational characteristics and behaviours within sectors themselves, including different socio-economic groups and also other generational cohorts (e.g. Baby Boomers and Generation Z) in cross-cultural (non-Anglophone) settings. Furthermore, it might be useful in future research projects to engage in a more longitudinal-type study to provide an analysis of the impact over a period of time of technological change and digitalisation on employees. This could deepen our understanding of the dynamic interplay between forms of technological change in the workplace, generational differences, individual resilience and wellbeing. Investing proactively in such schemes may not only bring together diverse generational segments of the workforce but more broadly lead to increased levels of group cohesiveness and productivity. Finally, it might be valuable to develop new research which seeks to uncover how forms of emerging individual resilience (as observed in our empirical findings) may fuse, through technology, with overarching organisational resilience capacity.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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agility, ambidexterity and resilience.

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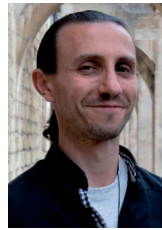
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