Title: Preparing a graduate talent pipeline for the hybrid workplace: rethinking digital upskilling and employability

Author Names and Affiliations:

Helen P. N. Hughes*

Matthew C. Davis

Affiliation for All Authors:

University of Leeds, UK

***Corresponding Author:**

Helen P. N. Hughes

Tel: +44 (0)113 3438285

Fax: +44 (0)113 3434885

Email: h.hughes@leeds.ac.uk

Postal address: Management Department, Leeds University Business School, Maurice Keyworth Building, University of Leeds, Leeds, LS2 9JT, UK

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PREPARING A GRADUATE TALENT PIPELINE FOR THE HYBRID WORKPLACE: RETHINKING DIGITAL UPSKILLING AND EMPLOYABILITY

ABSTRACT

The Covid-19 pandemic triggered major changes in labor markets and to working practices worldwide. Hybrid working has become mainstream, and today's graduates are entering a substantially changed workplace to their pre-pandemic peers. While many of the challenges of hybrid working have been well documented elsewhere, this research considers the extent to which these trends create competency gaps for those entering a hybrid workplace early in their career, who are also new to the workforce, and the roles that Business Schools and employers can play in addressing this. Using a socio-technical systems lens, and adopting an abductive approach, the research explored the work experiences of Management interns employed full-time, between 2020 and 2021. We examined reflective essays written by 170 interns, alongside in-depth interviews with 22 of these interns. Thematic analysis explored the challenges and opportunities experienced through hybrid working, and interns' perceptions of how such experiences affected their development. Thematic analysis identified a series of socio-digital challenges that require attention by Business Schools, to adequately prepare Management graduates for the contemporary hybrid workplace. Implications are considered for the advancement of socio-technical theory, and its application to digital upskilling, employability, and inclusivity in Management Education and the career ecosystem.

BACKGROUND

The pandemic saw major shifts in workforce demographics, including an unprecedented exodus of workers leaving to retirement and/or retraining (Auginbaugh & Rothstein, 2022; Costa Dias et al., 2020), while global economic turbulence has been further exacerbated by the war in Ukraine (World Trade Organization, 2023). Collectively, such global factors have contributed to continued labor shortages in many areas of Business and Management (Costa Dias et al., 2020). It has been argued that Management graduates can and should play a pivotal role in filling these gaps (Hogan et al., 2021; Hughes & Thambar, 2023; Lund Dean, 2023; Tomlinson et al., 2023) with workforce surveys already showing that some organizations are promoting graduates more quickly than expected to plug workforce shortfalls (Institute of Student Employers, 2021).

However, the post-covid workplace is notably different to that preceding it (Mutebi & Hobbs, 2022; Parker & Grote, 2020), and continues to change at pace (Parker & Grote, 2022), perpetuated by accelerating Artificial Intelligence (AI) capabilities and automation possibilities (Glikson & Woolley, 2020; Schwab & Samans, 2016; World Economic Forum, 2021). In particular, employer responses to government guidance during the covid-19 pandemic led to extensive shifts in working routines (Wheatley et al., 2023) including the sustained prevalence of collaborative working platforms such as Zoom and Teams, alongside increasingly sophisticated technology-enabled services (Galanti et al., 2021; Hermann & Paris, 2020). At the peak of the pandemic, two-in-five workers in the UK reported home working entirely (*'remote working'*), which is consistent with other parts of Europe and the USA (Auginbaugh & Rothstein, 2022; Wheatley et al., 2023). This meant learning to undertake work activities without physical access to work colleagues, often undertaking tasks that had been reconfigured to enable remote collaboration (Parker & Grote, 2020). Prior research on remote working shows that such

practices can create challenges for managing work-life balance, employee relationships and wellbeing, as well as wider challenges associated with finding suitable workspace within the home (Wheatley, 2017). As the pandemic and associated restrictions have stabilized, organizations have settled into new patterns of *hybrid* working – allowing employees to utilize a combination of time spent in the workplace and time spent working at home or elsewhere (Blavo et al., 2023; Wheatley et al., 2023; Wu et al., 2023). Although hybrid working as an umbrella concept can be operationalized in different ways to reflect different preferences for location and working hours (Gratton, 2021; Wu et al., 2023), studies now consistently highlight a preference amongst employers and their employees for hybrid working (Birkinshaw et al., 2021; Mutebi & Hobbs, 2022; Wu et al., 2023). Routine navigation of new technological systems in a hybrid work environment will therefore be a vital skill set for Business graduates moving forwards (Hermann & Paris, 2020), so that they can switch seamlessly between office- and home-work environments, and collaborate with others to enable the development of their careers (Thambar & Hughes, 2023).

The impact of hybrid work practices on the experience and nature of work is still unfolding, however, emerging research demonstrates that the form of hybrid working can have differential effects on organizational outcomes such as workplace productivity and efficiency (Gajendran et al., 2024; Wu et al., 2023). Hybrid arrangements influence the experience of work for employees (Parent-Rocheleau et al, 2021), with both positive and negative effects on wellbeing and overall performance (Gagne et al., 2022; Johnson et al., 2020). Recent research on virtual interactions suggests that online interactions create new challenges around interdependency and workplace uncertainty. For instance, virtual conversations are found to be more stressful and effortful than face-to-face (Ratan et al., 2021; Shockley et al., 2021). Lower

quality virtual interactions can leave colleagues unclear about goals and priorities (Raghuram et al., 2001), and can lead to feelings of social isolation and loneliness, by reducing connection to colleagues (Johnson et al., 2020). Meanwhile, the absence of physical cues in online work environments has been found to empower mid-grade workers, by facilitating higher levels of autonomy (Gajendran & Harrison, 2007; Wang et al., 2021). Conversely, managers can resort to higher levels of monitoring in remote environments (Parker et al., 2020), thereby undermining opportunities for autonomy, and resulting in higher levels of disengagement amongst workers (Gajendran et al., 2024; Kossek et al., 2006). Collectively, these findings suggest that hybrid practices may affect the experience and conduct of work in ways that are not yet fully understood, and with differential effects across the workforce.

While many of the changes to work patterns and technological challenges of adjusting to hybrid working were well documented during the pandemic (Office for National Statistics (UK), 2020), far less consideration has been given to how these challenges affect early career employees entering the workforce for the first time (Donald et al., 2021; Thambar & Hughes, 2023), such as Management graduates and interns. On the one hand, today's *Generation Z* graduates are widely considered the most tech-savvy cohort in today's global workforce (Schroth, 2019), with good aptitude for engaging with digital resources and high technology systems (Lacka & Wong, 2021), so in principle, are well placed to enter today's workforce. Nevertheless, work tasks – however technological – are not completed in a vacuum, but are affected by the social context in which they are completed (Davis et al., 2011; Jandric & Loretto, 2021). In this way, graduates and interns must not only navigate the technologies themselves, but must also learn how to interpret them within a complex hybrid work environment. This will mean doing so without the environmental cues available to them in the physical workplace, and

for those entering the workforce for the first time, it means doing so without prior work-experiences to contextualize this workplace against.

This study draws on socio-technical systems thinking to consider the distinct challenges faced by new, early-career employees, as they enter a hybrid workplace. It seeks to understand the preparedness of Management graduates for the post-covid workplace by understanding the challenges and opportunities this might present them with. It also considers the responsibilities and challenges that their training needs create for actors (e.g., Business Schools, employers, and students themselves) in a graduate's career ecosystem.

Theoretical Perspective

Socio-technical systems theory (e.g., Clegg, 2000; Trist & Bamforth, 1951) proposes that organizations are complex systems in which people, processes, social structures, culture, technologies and physical work environments all interact to shape behavior and outcomes (Hughes et al., 2017), and so these aspects must be considered together, as a single work system (Davis et al., 2014; Hendrick, 1997). The introduction of new workplace technologies consistently generate an array of wider system implications that can undermine success, if ill-considered (e.g., Clegg & Shepherd, 2007; Parker & Grote, 2020, 2022; Wang et al., 2020). Socio-technical systems theory presents a view of work systems as dynamic and evolving entities, and which must *co*-evolve as the system develops (Mumford, 2006). In response, scholars have developed principles to guide the effective design of work systems (Cherns, 1987; Clegg, 2000; Mumford, 2006)). Collectively, these principles show how actors within such systems (employees, managers, clients, suppliers) are interdependent for their respective successes, yet may simultaneously have competing goals, and demands of the system (Hughes et al., 2017). Socio-technical theory underlines the importance of individuals having autonomy to

make changes within a work system, while simultaneously recognizing where and how their behaviors lead to disturbance elsewhere in the system (for instance, by disrupting the activities of their colleagues – e.g., Gagne et al., 2022). To this end, the theory highlights the importance of facilitating feedback loops, to enable employees to understand the impact of their activities and therefore develop a sense of 'task significance' (Parker et al., 2017), while also recognizing how their activities contribute to the work of others (Clegg, 2000). Task significance combined with autonomy is found to improve both belonging and community (Parker & Grote, 2020), while also offering employees a sense of *'place within the system'* (Mumford, 2006). Congruence within the system is key, with rewards, training, selection and promotion all barriers or facilitators of effective change (McKay et al., 2021; Wall et al., 1992).

While there are undoubtedly challenges in implementing a socio-technical approach in practice (Hughes et al., 2017), studies have long shown that applying such an approach to *technological* implementations of this kind, can offer widespread benefits for organizational change (Parker et al., 2017; Wang et al, 2020), ranging from improved job satisfaction, and productivity (Clegg et al., 2017), to improved learning and problem solving (e.g., Leach et al., 2003). Collectively these principles have been heavily influential for over half a century, in guiding work design theory and practice (Parker et al., 2017). We propose that socio-technical principles are equally relevant in a socio-*digital* era.

Organizational shifts toward hybrid work present widespread socio-technical challenges, because technological aspects of the hybrid system, necessitate changes to social components such as skills, training, and work design (Davis et al., 2022; Parker & Grote, 2022). Faster, more reliable, and more widespread access to communication platforms, have vastly accelerated an employee's options for connecting with colleagues and clients (Wang et al., 2020), leading to

sudden and significant changes in the ways that people must undertake everyday work activities, and how they collaborate to solve problems (Blavo et al., 2023; Howe et al., 2021). Workforce studies also show that multiple hybrid practices often now *co*-exist in organizations, with individuals frequently adopting personalized arrangements – with respect to place and hours of work – which may differ to those of their colleagues (Gratton, 2021). The precise systemic implications of operationalizing hybrid working are still unclear (Gagné et al., 2024; Johnson et al., 2020), since workspace, technology, and human requirements are differentially affected by the form(s) of hybrid work in place (Appel-Meulenbroek, et al, 2022; Gibson et al., 2023; Wohlers, & Hertel, 2017). However, it can be expected that the experience of autonomy and organizational belonging may vary (Parker & Grote, 2022), since hybrid technology can change the nature of tasks and processes for employees, and can create and remove interdependencies between people and work activities (e.g., Gagne et al., 2024; Wang et al., 2020). The dispersion of colleagues within a hybrid work system may affect how employees understand the 'place' of their role and activities within it, or require employees to redevelop work activities, alongside their sense of goals and shared purpose (Parker & Grote, 2022). All of this may require (re)learning how to navigate the work system as it evolves within the landscape of new technological opportunities.

Socio-technical systems thinking has to-date been broadly overlooked in research on digital upskilling. While digital skills for graduates have been a focus for some time (Oakman et al., 2020; Römgens et al., 2020), attention has typically focused on the *technical* capability of a talent pipeline (Department for Digital, Culture, Media, & Sport (UK) 2023; Zilberman & Ice, 2021) – such as helping graduates prepare high quality video productions, use social media, e-commerce and online trading, and solve problems in digital environments (Bateman, 2022;

Digital Skills Organisation, 2022; van Deursen & van Dijk, 2011). Viewing this problem from a socio-technical perspective reminds us that people learn job tasks in the context of the organization's politics, norms and culture (Curşeu et al., 2021; Hughes et al., 2017; Parker et al., 2017). We *make sense* of instructions by assimilating new experiences with old ones (Gerhardt, 2023; Lee, 2020), learning socially through interaction with others (Lund Dean et al., 2020; Maitlis & Lawrence, 2007; Prestridge et al., 2021; Vatrapu, 2009). *What* we come to know, is affected by *who* we know, who we *choose* to seek advice from, or have *access* to (Borgatti & Cross, 2003). Workplace relationships affect how we think, feel, and behave, because colleagues become role models, helping us navigate the working world, by learning acceptable boundaries, and modelling the successful behaviors of others (Maitlis & Lawrence, 2007; Prestridge et al., 2021).

A socio-technical perspective also reminds us that graduates learn digital skills and navigate shifts in work, tasks, and relationships, within a changing ecosystem, and that navigating this is vital to the trajectory and outcomes of a graduate (Donald & Jackson, 2023). There are synergies with recent career ecosystems discourse which have framed the pandemic as a *'career shock'* (Akkermans et al., 2020), with the potential for transformative change to the opportunities, experiences and skills required to navigate an early career in the post-pandemic workplace (Donald & Jackson, 2023; Thambar & Hughes, 2023). While the socio-technical perspective explains how hybrid work practices disrupt the work environment that graduates and interns are entering, Career Ecosystems Theory (Baruch, 2013; 2015; Baruch & Rousseau, 2019) complements and extends this understanding by articulating how such factors disrupt the overall equilibrium of the career ecosystem, and the opportunities for career development that unfold within it. Both perspectives take a holistic view, considering a graduate career as being

influenced by a web of interconnected factors, including personal attributes, social networks, organizational dynamics, economic conditions, and societal trends, which interact and influence each other in dynamic ways, shaping individuals' career trajectories and opportunities (Baruch & Rousseau, 2019; Le Rossignol & Kelly, 2023).

Development of Research Questions

Building on these perspectives, our study considers how well-prepared today's Management graduates are for success in the hybrid workplace. While studies have explored the response of the general working population to the challenges of hybrid working (Galanti et al., 2021), few have explored the distinct challenges of those new to the workforce altogether in this era. Do their superior digital (technological) skills offer advantage in the hybrid employment market, or does hybrid working expose new challenges, which necessitate new or adapted employability skills? And, are some students (e.g., those with disabilities or from particular socio-economic backgrounds) disadvantaged in these environments (Seale et al., 2010)? The aims of this research are to understand these experiences and perceptions of Management interns entering the workforce for the first time as hybrid workers, and to understand the extent to which they consider their hybrid experiences to be barriers or enablers of their development. Two research questions are posed:

1. How and why does the experience of hybrid working affect Management interns, entering the workforce for the first time?
2. What are the development and training needs for Management graduates who are new to workforce, and entering a hybrid work pattern?

Contributions

This study addresses a strategic challenge for Business Schools, Management students, and their employers, that sits at a systemic intersection between context, skills, and actors

(Garavan, 2007), and is essential to safeguarding the future Management talent pipeline, along with calls to develop pedagogic insight from the pandemic experience (Greenberg & Hibbert, 2020). The paper provides the following contributions. First, we extend socio-technical systems thinking to the domain of hybrid working, reinforcing the need to consider the home-work environment and the impact of the varying home-work set-up (e.g., presence of others as well as physical environment) in our theorizing, and demonstrating the place of socio-technical systems theory in understanding the career ecosystem. Second, we provide evidence as to the new ways in which the hybrid work environment can create and exacerbate established socio-technical principles. Third, we establish socio-digital skills as a missing component within socio-technical systems thinking that helps to explain how and why adaptation to technology driven change occurs. In so doing, the study addresses the practical challenge of how Business Schools can draw on socio-technical principles to better manage the pressures and roles of different actors in the graduate's career ecosystem.

METHOD AND MATERIAL

Overview

Internships (sometimes referred to as 'work placements') are a staple feature of UK Business Management degrees and are increasingly common in other disciplines and parts of the world (Jackson, 2015; Silva et al., 2018). In such cases, the internship forms part of a sandwich degree, in which a traditional undergraduate course is supplemented by an additional internship year, usually before the final year of study. The internship represents an augmented work experience during which the Business School supports the student, and completion contributes towards the final degree classification or title (Hughes et al., 2023). In most cases student internships are the first major workplace experience for aspiring graduates, so provide excellent

representation of early-career employees, with similar requirements to new graduates (Donald & Hughes, 2023; Jones & Wang, 2023).

The research adopted a qualitative approach (Creswell & Poth, 2016). Semi-structured interviews were undertaken with 22 students undertaking a 9-12 month paid internship, and reflective essays by 170 student interns about their work experiences were analyzed. These two data collection methods were chosen because they permit in-depth reflection, and authentic representation of the experiences and perceptions of participants in their own words (Hosein & Rao, 2017). The purpose of the interviews was to gather in-depth information on hybrid working experiences from a subset of the larger sample, whereas the purpose of the reflective essays was for Management interns to reflect on how their work experiences had affected the development of their competencies, work values, and life goals. Interviews enabled a specific range of hybrid working topics arising in essays to be probed in depth, and aided triangulation. The focus on interns' own perceptions of their employability was deliberate, because ultimately it is they who compete for work and opportunities. If they do not recognize, or feel they lack competencies, this is problematic for the employability remit of Business Schools (Hughes, 2023).

Participants

Participants were Management interns ranging from 19-31 in age (mean age of 22). Participants were undertaking a *'sandwich year'* internship, in which the three-year degree was extended to four, to enable them to undertake a full-time, paid, graduate-level internship role in industry instead of their third university year (Donald & Hughes, 2023). The Business School was not involved in the internship directly, except as a provider of interns, to quality assure the level of internship, and to supervise and set academic expectations during the term.

Participants were majoring in a business-management related subject (e.g., Management, Marketing, Economics, Accounting) at a UK Russell Group (research focused) University

Business School; and their internships were in either the UK, US, Europe, or Australia. Participants were based across 113 organizations, ranging from small, family enterprises through to multinational corporations, and in work teams that varied similarly in size. Most participants were employed in roles that could be described as 'white collar' in scope, though a small number were based in retail, manufacturing, and hospitality industries. All internships had been judged as providing graduate-level employment by the Business School prior to students commencing their internship. One of the authors was the academic program lead for internships in the Business School, but neither author had prior relationships with any of the participants.

Purposeful sampling was adopted (Bryman, 2016). All interns (N = 182) were required to complete the reflective essay as part of the formative assessment process within their internship program, and were subsequently asked to participate in the study. They were offered no incentive to participate, were told that the study was unrelated to the assessment, that there was no obligation to participate, and they could withdraw their permission to participate at any point. This approach was approved by the University's Research Ethics Committee. 170 of those interns gave permission to have their essays analyzed, representing a response rate of 93%. During the 2020-2021 year (the time period for data collection) the work experience of many white collar workers evolved in line with government restrictions and Covid-safety policies (Wheatley et al., 2023). Questionnaire data collected alongside the essays, provided some context about the sample's working patterns. Most had spent the majority of their internship working remotely (only 15% had been co-located with colleagues), with little face-to-face interaction with colleagues (47% reporting primarily communicating via scheduled video calls/meetings and a further 31% primarily communicating via online 'chats'). On average, interns reported communicating with peers more frequently than with their manager. Almost

10% of interns communicated with their manager just once or twice a month. The most common type of hybrid arrangement was to work from home 3-4 days a week.

An online poster was circulated to all interns inviting them to be interviewed about their hybrid experiences. 25 interested participants were given additional information, including a participant information sheet and consent forms, including description of the study, research goals, and ethical commitments. 22 participants confirmed participation and were interviewed. Interviewees represented different kinds of roles, sectors, organizations, and had a variety of hybrid working and living arrangements. No participants were compensated for their time.

Procedure

In-depth interviews took place with the subsample of participants, between 4 and 7 months into their internship. They were conducted one-on-one with a researcher, and were 50-80 minutes in length. Interviews probed the experience of hybrid working, covering questions relating to their living and working arrangements, working life (e.g., job role and characteristics, experience of working with others), and learning and development (e.g., formal and informal, onboarding experiences, development opportunities and needs, and work readiness).

Essays were written at the end of the internship, as participants reflected on their experiences, and interpretations as to how these had affected their personal development during their internship. Interns were asked to write 2500 words reflecting on the development of their competencies, workplace values, goals, considering their key internship achievements. To encourage broad thinking and provide data to help focus their reflections, interns (along with their manager and a workplace peer) each completed an in-depth questionnaire surveying the student's proficiency across 96 competencies (based on (Bartram, 2005) at 3-time points during the internship (Hughes, 2023). Interns were not directed to reflect on hybrid working in the

instructions or materials, so all references to hybrid working came from interns' believing these experiences were relevant to their work experiences and development.

Data analysis

Interview transcripts and essays were initially thematically analyzed separately, but using the same process with the support of NVivo software, as follows. Data analysis was underpinned by the approach of *"systematic combining"* – the *"non-linear, path dependent process of… matching theory and reality"* (Dubois & Gadde, 2002). Systematic combining is an *abductive* process which involves iterative cycles of analysis in which reality and theory are *'matched'* and challenged. Practically, it was similar to a grounded theory approach (Dubois & Gadde, 2002; Sætre & Van de Ven, 2021), as we sought to identify themes by reading and comparing transcripts, followed by an iterative coding scheme process (Gioia et al., 2013; Glaser & Strauss, 1967; Strauss & Corbin, 1998). This approach differs, because it does not begin with a truly *inductive* starting point. Rather, it recognizes the influence of our professional interest in the interplay between the hybrid work environment and the professional development of early career employees, and our curiosity about whether Management interns might experience specific challenges due to their lack of work experience.

Interview data were analyzed first, since these occurred earlier in the internship. Essay data were analyzed several months later. In each case, to ensure data trustworthiness (Gioia et al., 2013; Lincoln & Guba, 1985), the following process was followed. For both the interview transcripts and essays, initial coding was done line-by-line and then paragraph-by-paragraph by the authors. We labelled chunks of data with open codes, and summarizing labels, resulting in open codes with labels such as "networking", "workspace", "learning", "social cues". We then went back to the data with these codes to identify relationships between them and collapse them further. Then, we selectively coded, finding words or phrases to summarize all the data, under

individual open codes. Initially this revealed a coding structure that was loosely based around four higher order themes, which we describe as meta-level competencies: (1) cultural intelligence, (2) communication (3) networking, and (4) proactivity (see Figure 1), as the hybrid work environment, in each case, was found to necessitate new dimensions to these competencies, or accentuate existing characteristics of them. We found that this coding structure applied to both interview and essay analyses. No gender differences in experience were identified.

We then undertook the stages of the coding process again to try and identify reasons why and how these competency themes occurred. This process exposed three interrelated features of the hybrid work environment that affected interns' competency development. Specifically, the hybrid work environment affects: (1) the learning process; (2) information flows; (3) task participation and ownership. In the following section, findings relating to these aspects are presented in turn. For clarity, extracts from essays are followed by [e] and those from interviews are followed by [i].

-- INSERT FIGURE 1 ABOUT HERE --

FINDINGS

Overall Experience of Hybrid Working

Some participants had strong, polarized views on hybrid working, while others reported a balanced view of the upsides and downsides. Many pros and cons of hybrid working have been reported elsewhere (e.g., Charalampous et al., 2019; Galanti et al., 2021), with the benefits of travel time reduction and home comforts, traded against the isolation and associated strains to mental health, feelings of *technostress* (e.g., Tarafdar et al., 2007) and the challenges to work-life balance. Participants reported challenges specific to those entering the workforce for the first time, which clustered around four meta-level competencies: 1) Cultural intelligence; 2)

Communication; 3) Networking; 4) Proactivity, as summarized in Table 1. In each case, the hybrid work environment was found to necessitate new dimensions to these competencies, or accentuate existing characteristics of them, due to three interrelated features of hybrid working practices, that cut across each of the competencies: 1) the learning process; 2) information flows; 3) task participation and ownership. In the following section, these features are outlined in turn, together with their impact on interns' meta-competencies.

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1. Hybrid Working Affects the Learning Process

Task vs cultural learning. Participants reported that learning how to undertake technical and procedural elements of core job tasks was *enabled* by the hybrid workplace. Although some participants described remote onboarding processes as *"tedious"[i]*, *"dry"[e]*, and *"demotivating"[i]*, the use of collaboration technologies was beneficial for learning core job tasks (e.g., how to run or write particular reports, or undertake technical activities like an accounting audit task). Participants learned activities remotely, through recorded briefings, and virtual team or 1:1 introductions. Remote onboarding was beneficial to technical proficiency, because: 1. Participants could rehearse tasks and ask questions, through 'live' screen sharing; 2. participants could record, replay, and slow down instructions, reducing follow-up questions; and 3. participants could refer to recordings later, reducing the potential for error.

While collaboration technologies facilitated task proficiency, this benefit was overshadowed by the simultaneous challenges participants experienced in interpreting the meaning of messages relating to these tasks, in the context of wider politics and business. This was summarized by one participant: "*I know what I'm doing, but I have no idea why I'm being asked to do it, or who I would let down if I delivered it late"[i]*. Others gave examples of

unwritten rules and norms that they did not know about, in relation to the delivery of tasks – for instance, one reported discovering nine months into the internship that in their role, completing a written task *quickly* was deemed more important than the *quality* of it, as team members relied on a timely outline, but would expect to edit it. They believed this misunderstanding had affected their colleague's perceptions of their performance for most of their internship. In this way, the hybrid work environment created a new distinction between learning the 'job' and learning the 'workplace', such that the norms and social expectations *associated* with the tasks needed to be over-specified, to enable them to be interpreted and delivered to expected standards.

Participants reported struggles deciphering social and cultural ambiguities due to a lack of social cues, such as body language and facial expression (e.g., where cameras were turned to 'off' in online meetings). They struggled with *"reading the room"[i]* during periods of remote working, and over- or under-interpreting emails and audio conversations, in terms of tone, emotion or sentiment: *"It is so difficult when people don't turn cameras on. I found that to counteract the fact I could not read people's body language…I had to keep checking, and asking, and reinforcing points, just so that I could be sure they fully understood what it was I was saying… I don't think I always came across so well to my colleagues as a result"[i].* Participants often relied on emoticons and emojis to convey, underscore, or interpret emotional sentiment; and gave examples where the absence of social cues had created misunderstanding. One intern reported frustration at being perceived as *"shirking"[i]* because they had not contacted their manager about a project, when they were trying to demonstrate independence and courtesy, and so were deliberately not interrupting them - *"I wanted to make a good impression, so I would just sit there at home typing away without bothering anyone"[i]*. Such challenges

were often magnified by their lack of workplace experience, and suggested a simplified understanding of tasks, in which culture was underplayed.

As participants described their learning, there were examples of things they knew they did not know (*known unknowns*). For instance, many participants reported believing that they needed more face-to-face presentation experience or networking opportunities, offering remarks such as *"It is much easier to speak to a webcam than to people"[e]*. Participants also gave examples that suggested the hybrid workplace created *'unknown unknowns'* – things they did not know, that they did not know. For instance, many participants offered simplistic descriptions of networking, in which the value of building relationships during the internship was seemingly unclear to every intern: *"I was delighted to reach the goal I set to have fifty one-to-one conversations this side of the year, meaning I have expanded my network"[e]*. Taking time to build relationships with colleagues was even seen as time-wasteful to some, despite the benefits that serendipitous conversations are known to have on performance (Cross & Sproull, 2004): *"I'm here to work on what's expected of me, and I want to achieve that as best I can. And I won't go about achieving that, having willy-nilly conversations here and there"[i].*

Role models. While role models were identified as a key source of learning organizational culture and norms, the hybrid workplace affected the *nature* of role modelling in the learning process. Several participants believed they lacked obvious role models to confirm interpretations, or benchmark performance and perceptions against. In the absence of office-based role models, participants described benchmarking work standards against those of family members (parents and siblings) and friends. Participants with housemates working for the same organization often reported calibrating development opportunities and workloads against their housemates, and having conversations with them to make sense of cultural or political

challenges: *"...one day and I was painting my bedroom shelves during the daytime, and my housemate came into my room like, 'What are you doing? Have you not got loads of work like us?!' They were really, really busy. They were learning everything! And I was like, 'No, I've literally got nothing to do.' And they were like, 'Okay, you <u>really</u> need to talk to someone'"[i]*. Participants *without* personal role models, were particularly disadvantaged, as they reported relying on general assumptions about workplace etiquette, and on published or written resources.

For organizations, this meant that interns' learning (along with any mis-learning), was hidden from them, and that misunderstandings could take time to uncover. Participants reported that colleagues saw the *outputs* of their learning and not the *process* - none of the confusion, internet searching, or calls to friends and family(!): *"I have been able to somewhat hide my ability with this [with work being online] by preparing for things before having to do them, rather than being put on the spot."[i]*. Participants explained that they could hide their notes in online meetings and did not need to *"think on their feet"[e]* as often, which could mask their learning journey or misunderstanding.

2. Hybrid Working Affects Information Flows

Hybrid technology affected the ways that information flowed to and from interns, because communication primarily occurred via quick online 'chats' (e.g., through platforms like Teams Chat, Facebook Messenger, and WhatsApp) and email, or through live, online video-conferencing and meetings. Face-to-face interactions were rare, and where they occurred, often followed months of solely virtual interaction. While there were benefits to using hybrid collaboration technologies for workplace communication (c.f., Table 1), these tools negatively affected the nature of information flow. First, they created logistical challenges which led to slower, sequential, and transactional information sharing practices. Second, they created power

structures within the organizations, which affected how interns accessed colleagues and information. Each aspect is outlined, in turn.

Logistical challenges. Whereas those with opportunities to work in a traditional office environment reported learning through *"osmosis"*, interns working remotely had to *actively* seek information. All interview participants referred to a lack of opportunity for immersive learning, describing how they had *"missed out"[e]* on opportunities to *"simply absorb"[e]*: *"When I'm in the office I'm 'hearing'... I can then go, 'what do you mean by that? Or, is that the strategy you're talking about?' I'm not going to hear those conversations when they're going on in meetings at home. I'm not going to hear the office lingo and stuff like that"[i].* Participants described hybrid interactions as pre-planned and work-related, and reported difficulties accessing serendipitous conversation: *"I'm basically coming to this conversation with something to inform you, or I need something from you… Whereas, if I see you at the coffee machine… I don't have an agenda...We can just have a conversation about the football.... That's not really happening, because you join a meeting, and I need to communicate X, Y and Z in half an hour"[i].*

There were several logistical consequences of this. First, it restricted the types of advice that participants sought from colleagues – since conversation was less available, when it occurred, they felt unable to ask for anything they perceived as non-essential, which could range from clarifying business acronyms, through to making time for mentoring conversations. Second, for many interns, the process of information sharing felt de-personalized: *"It is much easier to speak to a webcam than to people"[e].* Third, interns noted that in the hybrid workplace their interactions with others relied on colleagues actively making introductions, because they did not always know who they *should* know, since boundaries and wider teams were not immediately visible. Over-reliance on colleagues meant that problem solving and communication could be

slow and stilted: *"You start to work out who doesn't mind helping, and who's going to get back to you quickest on your messages"[i].* It also meant that conversations could feel more formal: *"Working virtually has made it significantly harder to speak to people higher up the chain, as often a call or email seems much more formal than what I would imagine it to be like in a normal office environment"[e].* Fourth, interns described how these delays could limit their performance and development opportunities: *"It is sometimes difficult to learn new things remotely… It's also a lot harder to ask small questions. In an office environment its simply the case you ask them as they're next to you, whereas online there's the whole hassle of finding out if they are free, then calling them"[i].* To succeed, interns could not be *passive* recipients of information in the hybrid world, they had to *proactively* look for information and ways to improve visibility.

Power structures. Sequential informational sharing also made power structures more salient. In some organizations, hybrid collaboration technologies created power advantages for interns, by for example, enabling them to attend meetings that might previously have been restricted due to room size or travel costs. They also perceived remote aspects of hybrid working to be a *"leveler"[i]* because in meetings other colleagues did not always realize they were *"the intern"[i]*, or because the 'hands up' function forced others to listen to what they had to say, when they might otherwise find it impossible to interject.

However, hybrid working also had a negative impact on power balance. Participants described difficulties building relationships in the hybrid workplace. They typically had a small number of close *'peer'* contacts, which arose through task or project dependencies. Participants described how new relationships with senior colleagues would only be developed if they were invited *into* a network, but they felt that there were few opportunities to reach out to people without introduction, due to the absence of serendipitous conversation. Participants also reported

difficulties building trust with their colleagues, which they believed limited opportunities, as their managers sought to manage risk: *"There was (sic) also times when I wasn't really getting much work. I was the one sitting at home waiting, kind of feeling a bit useless, and my HR manager had to speak to my Line Manager and say, 'Look, the only way it's going to get better is if you do trust her with the work'… There was kind of this miscommunication due to not fully trusting me, because she hadn't seen me work in person"[i].*

While many participants reported becoming quickly proficient at their directed tasks, several reported difficulties in accessing new activities that would widen their portfolio, because they struggled to find opportunity to showcase their work while hybrid working, or because they realized they were being too passive: *"I realized I was used to being 'passive' when it comes to online interactions, I was often just a 'listener' when put outside of the usual bubble, which was my small team"[e].* Some gave examples of projects that had arisen through face-to-face office conversations, while others expressed frustration at being slow to gain new experiences. They gave several explanations for this: 1) They felt they were more easily overlooked, because others did not know of them or their role remit. Sometimes this was because their team was small and self-contained, so they had few opportunities to engage with the wider business. In an office they felt they would have been *"noticed"[e]*. 2) They believed they were *"out of sight, out of mind"[e]*, and that longer-standing employees already had their established networks to offer new work to. They felt that others incorrectly assumed they would be too busy to take on anything new, and because they were less visible than they would be if physically in the workplace, they could not correct or challenge this assumption. 3) They believed there were few opportunities for ad hoc office conversations, which might have led to opportunities to meet with likeminded people or to get involved in new things. Sequential information flows made visibility

and exposure slower and more difficult for interns, because they made power structures more salient and created silos and cliques in social networks that could be hard for interns to break.

3. Hybrid Working Reduces Task Participation and Ownership.

Hybrid working practices affected how interns experienced work autonomy and what they understood to be the significance of their work tasks. They often reported having ownership of a small number of activities or tasks, but could not always see the whole system or where their work fit within it, and could not draw on previous work experiences to make sense of this: *"At the start of the year I was quite unclear of how my work impacted the rest of the business. This was due to not being able to see in person how all our work was linked and the different aspects of each department"[e].* Some participants felt that although they understood the tasks they needed to do or processes they needed to follow, they had often missed the *"bigger picture"[e]* because they lacked clarity on how their activities contributed to the wider team or organization.

This theme connected with the learning challenges outlined earlier, because while few participants expressed difficulties with mastering work tasks, several interns identified challenges in making sense of their employer's norms and values. Some interns were shown 'welcome videos' during inductions, which generally articulated the company's mission statement and values, but none recalled having other prescriptive training on organizational culture. Several participants explained how their interpretations of organizational culture had affected their workplace behaviors. For instance, they gave examples relating to communication etiquette (e.g., using forms of instant messaging rather than email or telephoning), or learning how and when to schedule meetings and events. Although some participants said that they felt they had eventually developed a good understanding of communication practices, dress codes, hierarchy, and expectations, several were keen to highlight that this had taken considerable time and conscious effort. They often reiterated that this was only the case within their immediate

team, and that they had limited insight into whether those were shared across the wider organization: *"I have no grasp of office culture or anything like that… I feel like it's really tough – they can't possibly teach you it… I think we all acknowledge that you only really get a feel for that when you're in that day-to-day working environment"[i].*

Participants described being allocated parts of tasks, because they were convenient to allocate via hybrid technology. However, interns often reported a low sense of connection with both the tasks they were completing, and also to colleagues who they were dependent on to complete them, to the extent that the idea of going into the office at all could be stressful: *"In order to overcome my nerves of this, I planned to go in with a fellow [intern] who lives close by, so I did not have to enter alone"[e].* In contrast, interns who had spent time in the office, reported examples of beneficial proactive behaviors that were driven by a sense of comradery and social comparison, with one participant describing how being in the office environment *"forced me to up my game"[e]*, rather than *"settle on getting through"[i]*.

Participants found it hard to take ownership of their learning, particularly earlier on in their internships. While they expressed *known unknowns* such as knowing how to identify appropriate times to ask questions, they felt uncertain about what they *should* already know, and did not know how to ask questions, for instance about processes or acronyms. *"I need to be more active in sharing my projects with the team and asking questions, so they can see the work that I have done. However, this was difficult to do when working from home, as you don't always know what sorts of things someone needs to know"[e].* Several admitted waiting too long to ask questions because they were worried about appearing incompetent: *"I have on some occasions, found myself struggling to complete a task but decided to move on to a different task rather than*

ask for help in fear of looking stupid. These tasks can then be left too long, until someone is chasing me up about that piece of work and asking why I did not approach them for help"[e].

While hybrid technology was functional, participants felt that hybrid technology removed social connection, and often, along with it, a sense of connection with others, and empathy to those around them: *"I definitely do have some sort of connection to my colleagues, but it's not like a deep emotional thing. I just want to develop and get opportunities so that I can get on in my career"[i]*. Being personally proactive therefore became especially important: *"Although I still found it difficult to build a rapport with my colleagues over Zoom..... I found there were factors, such as ensuring to have your camera on and being fully present during meetings, that I will carry forward"[e].* An unfortunate consequence of the lack of socialization was that some employees became hyper-focused on their own achievements and individual development, at the expense of others: *"I'm here to work, not increase my social circle or whatever… I want to develop and get opportunities so that I can get on in my career"[i]*. Meanwhile, those who managed to spend time in the office reported a renewed sense of excitement, loyalty and belonging to the organization and their team: *"I attended the office and met my team for the first time in my final week of placement. It was this experience that made me increase the importance I placed on social contact with co-workers…I realized how much this boosted my mood, productivity and feeling of belonging in the team. Having social contact with my team is now a very important value to me and would have a large part of my decision-making process when selecting a graduate job"[e].*

Collectively, these examples illustrate the under acknowledged role of informal in-person interactions and the physical aspects of the office (e.g., aesthetics, branding) in communicating culture and values. Interns felt they were slowly gaining insights into values and norms through

dealings with clients and colleagues. The physical environment also gave meaning to interns and helped them orientate, for instance through office layout and design, mission statements and activity boards: *"You've got street clinic boards with upcoming modules, upcoming launches, you know straight away as you walk in that this company is [company name]… It's very reflective of the people in the company, and I knew it was for me..."[i].* Frequently, participants suggested that 'cultural' learning would have been achieved more rapidly in the physical workplace, as this helped them make sense of how their work fit within the wider business.

DISCUSSION

Theoretical Contributions

Our findings illustrate the extent to which hybrid work practices create new training needs for graduates entering the workplace for the first time, due to the ways that hybrid working affects learning opportunities and practices, information flows, task participation and ownership (Research Question 1). These training needs (Research Question 2) are reflected in the meta-competencies and challenges outlined in Table 1, where they are summarily expressed.

The findings of this study reinforce the importance of taking a socio-technical perspective to the design of employability provision for Management graduates, and to graduate roles in employing organizations. Socio-technical systems theory has long advocated a view that changes to technical aspects of a system (in this case a transition to hybrid work) must be integrated with social aspects such as structure, actors, and tasks (Clegg, 2000), including the design of the physical workplace (Davis et al., 2011). However, this research further progresses socio-technical thinking in three key ways: first, by extending socio-technical systems thinking to the domain of hybrid working. Second, by providing evidence as to the new ways in which the hybrid work environment can create and exacerbate established socio-technical phenomena.

Third, by explicitly recognising the existence and role of *socio*-digital skills along with the processes through which socio-digital upskilling happens in Business graduates.

Our findings demonstrate the relevance of socio-technical systems thinking to understanding the hybrid workplace. While there has been some limited consideration of the interplay between socio-technical interdependencies within home-working (i.e., fully remote) arrangements (Bélanger et al., 2013), examination of the specific implications of more dynamic forms of home and office working combinations, particularly where structures and processes are not developed to support solely one mode of working, has not been considered. Our participants' experiences reinforce the need to consider the home-work environment and the impact of varying home-working set-ups (e.g., presence of others, as well as the physical or ergonomic environment) in theorizing what constitutes a *'work system'* (Davis et al., 2022), and ensuring equitable outcomes across a diverse workforce that includes new and established workers.

Our research provides rich and detailed evidence as to the new ways in which the hybrid work environment can create and exacerbate established socio-technical principles. For instance, we offer compelling evidence as to the relevance of the core socio-technical principle, that systems perform best when both technical and social components are jointly considered and optimized (Cherns, 1987). The findings show how technology can too easily become a primary driver of how work is organized in the hybrid workplace, for example, with tasks arranged and allocated based on logistical viability, and that this can cause difficulties for how individuals both work and learn. They also demonstrate the presence of unintended socio-technical consequences of technology-led system change (Clegg, 2000; Mumford, 2006). For instance, during periods of home working, interns who were physically separated from work colleagues relied instead on technological channels for task feedback, yet these were often absent,

structurally altered (e.g., a face-to-face meeting would become an 'online chat' message), or significantly reduced, providing the intern with a different range of, or absence of, social cues. In other cases, we saw how hybrid technology could inadvertently promote the subdivision of team tasks, downplaying perceptions of task dependence amongst interns, and inaccurately conveying a sense of silo or task independence. These perceptions were shown to reinforce individualistic work behaviours, and diminish a sense of wider belonging and task ownership. Furthermore, where interns were unable to socialise with colleagues in the workplace they often struggled to feel ownership of their work or a sense of belonging in the organization.

Our findings illustrate new forms of the established socio-technical phenomena relating to autonomy and task significance (Cherns, 1987; Oldham & Brass, 1979). For example, hybrid collaboration technologies changed the nature of key work tasks, often creating smaller fragmented tasks and reducing opportunities for feedback and visibility of task interdependence. While interns reported being able to complete assigned tasks from a technical perspective, they could not adequately make sense of how these fitted with the work of others. Rather than proactively participating in tasks, they reported passively receiving their instructions. Similarly, the reduction of frequency and quality of feedback loops created invisibilities to interns about how their work fitted with the work of their colleagues and the wider organizational system. This speaks to socio-technical principles around designing structures and processes in a way that helps employees to understand their *'place in the system'* and consequently to see the significance of their discrete tasks and meaningfulness in their work (Oldham & Brass, 1979). We argue that this is particularly pertinent to Management graduates and interns at the start of their careers as they often lack the broader contextual knowledge to see how their work may contribute to the collective effort and outcomes. There is a greater need to explicitly demonstrate

how graduate roles fit within broader organizational structures and activities, and to reflect on the shared purpose and outcomes.

This study establishes socio-digital skills as a missing component within socio-technical systems thinking, and in so doing, we help to explain how and why adaptation to technology driven change occurs. The findings show how digital skills and work tasks are socially contextualized, and are mastered and applied through interpretation of social context (Prestridge et al., 2021; Vatrapu, 2009). While those entering the hybrid workplace for the first time remained capable of the *technical* aspects of job tasks, they were not always clear about how such tasks were culturally embedded, and needed additional support to navigate politics, understand norms and fit, and develop their networks, so that they could demonstrate their potential within their organizations. Without prior workplace experiences, the lack of wider social cues in the information (e.g., emotion, political context, facial expression, wider team interaction) could create blind spots in the learning experience, because it gave rise to *'unknown unknowns'* about what they needed to learn. Demonstrating proactivity could be difficult, for instance, as interns could not adequately make sense of where to invest their efforts. This was demonstrated by some interns' lack of insight into the value of informal interactions with colleagues, for anything other than task completion. Moreover, where interns recognised *known* unknowns, they looked for and replaced cues in other ways by, for instance, using or interpreting emoticons. These findings resonate with insights from social information processing theorists, who have shown that the more uncertain or ambiguous a situation is, the more social cues are relied upon to assist sensemaking (c.f., Salancik & Pfeffer, 1978). They suggest that sensemaking in the hybrid workplace is a socio-cognitive process, in which socio-technical

factors dynamically interact to bind an intern's beliefs about the workplace and their actions (c.f., Weick, 1995).

The findings show how digital platforms change the ways that interns and graduates experience social structures, and the way information and advice flows through those structures; and this had a profound impact on interns' experiences and navigation of the work environment. Hybrid interns were not immersed or *'flooded'* with social information about culture, processes, goals, layout and social cues in the online work environment, which limited opportunities to passively learn through absorption or *osmosis*. They relied on information being shared more explicitly, often through hierarchically sequenced channels (e.g., their line manager would liaise with a superior, and relay instructions via a chain of command). The findings demonstrate how there is a duality and interplay between the social (power and influence) aspects of information flows, and the technical (more logistical) aspects of them, which together affect the experience of hybrid interns, and often led to an intern's work or development prospects being overlooked.

Socio-technical theory often refers to the need to consider training needs, knowledge gaps or competency requirements when implementing technological change (e.g., Clegg, 2000), however, consideration of the underpinning learning process is absent from such discussion. For instance, several studies have shown how the presence of autonomy in work design enables opportunities for learning (Leach et al., 2003; Prestridge et al., 2021; Upadhyaya & Mallik, 2013), because employees learn how to anticipate problems ahead of them occurring and can thereby *'control variance [problems] at the source'* (Wall et al., 1992). The processes through which the learning of this competency occurs, however, have not been explicitly considered previously by socio-technical theorists. Our study deepens understanding of the socio-technical aspects of learning, by showing how digital platforms change the social structures that

Management interns have access to, and the ways that information flows through them. The study shows how the digital communication technologies implicit in hybrid working practices, reduce the social cues that interns can access, and change the nature of their exposure to role models. For instance, lost access to rich media and reduced opportunities to read facial expressions and hear tone of voice (Ishii et al., 2019; Whittle et al., 2023), meant that Management graduates needed to make sense of their social environment in new ways to thrive in the hybrid workplace.

The findings also present new opportunities to connect the socio-technical perspective to contemporary discussions around graduate career ecosystems (Baruch & Rousseau, 2019; Donald et al., 2021), extending the scope of "systems" as typically considered within socio-technical systems thinking, and contributing important synergy. The findings show how socio-technical features of the hybrid work system can serve as a dynamic entity within the career ecosystem, producing push and pull levers for actors within it such as Business Schools, students, recruiters, Careers Professionals, and employers (Hughes & Thambar, 2023). For instance, the introduction of digital platforms and technology can provide opportunities for employers, but can simultaneously serve to restrict the latitude that students have over certain career opportunities and experiences. The socio-technical implications of the hybrid work system that we have uncovered, underline the importance of dialogue between each actor in the ecosystem. This is because, as Career Ecosystem Theory (Baruch, 2013, 2015) shows us, the activities that comprise the career ecosystem are entangled, such that the success of each actor within the career ecosystem, is contingent on the success of the others (Donald et al., 2021).

Practical Contributions and Training Needs

These findings also offer clear practical value and reflect distinct training needs. First, we argue that the prevalence of hybrid working and pervasive use of digital communication

technologies in the workplace mean that we need to start to think differently about what digital upskilling might mean for today's Management graduates as they start out in their careers. Our findings suggest that we should be less concerned about training graduates and new recruits in new technical skills for digital working and focus instead on how we best equip them with the inter-personal and professional skills they need to help them navigate both how and what they learn at this crucial early career phase. While the competencies uncovered in this research are not all *new*, the intern experiences outlined in this study suggest that a new *variant* or balance of traditional competencies may be required by Management graduates if they are to thrive in employment post-Covid. Therefore, Business Schools must rethink what *digital* training means to ensure that it captures these *socio*-digital aspects (Hughes & Thambar, 2023), as well as providing more detailed training that helps interns and graduates to anticipate and/or recognize the identified challenges so they can work more effectively when hybrid. The success of this approach will require a refocusing of employability provision in Business Schools (Thambar & Hughes, 2023), and relies on recruiters and employers being attuned to the challenges being faced by graduates as they enter the hybrid workplace (Donald et al., 2021). Studies have previously shown how sustainable careers can be facilitated by organizations and employers working together (Akkermans et al., 2023; Donald et al., 2021; Narayanan et al., 2010), since no actor in the career ecosystem can solve this problem alone (Donald & Jackson, 2023).

Our findings demonstrate that remote and hybrid work practices hindered the parameters of the graduate intern's network, along with their perceptions of social capital and their ability to demonstrate proactivity, which are essential components of human capital and perceived employability (Donald et al., 2019), and related to career success (Seibert et al., 1999). While this is arguably not an issue unique to hybrid working, the online environment appeared to

accentuate transactional beliefs about networking. Building on the work of scholars like Akkermans et al. (2013) and Donald et al. (2019), this research underlines how more needs to be done to support Management graduates in understanding the value of their peer networks (Kulkarni & Nithyanand, 2013; Ruschoff et al., 2018), and helping them to recognize ways that peers and other ecosystem actors can contribute to their career capital (Baruch, 2006; Donald et al., 2019).

The findings also raise wider challenges for Business Schools and employers around social mobility and inclusivity. Echoing recent calls for action (Brammer & Clark, 2020; Fleming, 2023; Lund Dean, 2023), our research reiterates the importance of Business Schools being more agile in course and program development. The findings suggest that the move to hybrid working may accentuate existing inequalities across graduate cohorts – with students more reliant than ever on personal networks to recognize and understand the unwritten rules of the game of the workplace. Similarly, the findings show how Management interns used new technologies to develop work-arounds that masked insecurities or created new norms and standards that were difficult to sustain. In this way, organizations could see the standard of performance required, without the intern actually having attained the competency, because they were relying instead on internet searches or parents. This raises further issues for those concerned with social mobility (Wainwright & Watts, 2019), and should challenge actors in the socio-technical career ecosystem to consider how they can simulate or facilitate osmosis learning in a Business School setting or during hybrid-based company inductions (Crawford & Wang, 2019; Jackson & Collings, 2018). Relying on getting disadvantaged students *into* good internships may be insufficient to close the gap with better connected peers, if the workplace

they are entering is providing fewer opportunities to develop insights into organizational culture and norms.

The research resurfaces questions about the extent to which responsibility lies with Business Schools for addressing these challenges and training needs (Narayanan et al., 2010). Internships play a crucial role within Management education, serving as a bridge between theoretical knowledge gained in the classroom and practical application in real-world organizational settings (Jackson & Collings, 2018), allowing students to develop vital practical skills, and gain insights into industry practices (Hughes, 2023). While internships provide opportunities for *applying* knowledge within the hybrid workplace, we suggest that the responsibility for equitably operationalizing the hybrid work environment must surely sit with internship employers. Business Schools play an important role in facilitating such discussions, however, they do not have full control over the ecosystem (Donald et al., 2021). This is reflected in the hybrid training needs identified in Table 1. Employers themselves must be more active in the socialization and acquizition of emerging hybrid skills within their intern and graduate populations. For example, *'accessing development opportunities'* requires employers to consider the design, delivery and promotion of development activities and programs within hybrid arrangements, in addition to expecting interns or graduates to actively access and pursue these. The relationship between universities and the employers of interns must be considered a dynamic and symbiotic partnership within the career ecosystem (Thambar & Hughes, 2023), in which each party has respective responsibilities for providing interns with valuable learning experiences, facilitating their transition from academia to the workforce, and meeting the needs of the labor market (Narayanan et al., 2010).

Limitations and Future Work

As with all studies, there are limitations to the research. First, although participants were in full-time graduate employment for a year, they had not yet graduated from their degree, so there could be maturity effects that are unaccounted for in the study. Second, the study recorded the lived experiences of interns during the pandemic period (2020-21), during which remote working was at times enforced, limiting wider opportunities for socialization during this time (McKinlay et al., 2021). It is possible that some of these aspects would be less pronounced in a more relaxed hybrid work context. Third, since the sample was cross-sectional, and data was not collected on interns or graduates pre-2020, it is not possible to conclude whether some of these challenges would have been experienced prior to the mainstreaming of hybrid work. No doubt, the findings offer new insight on challenges for graduates, and highlight the need for a revised focus on digital upskilling, but it would be useful to revisit the questions with subsequent cohorts of interns and graduate, to understand whether and how graduate experiences are changing.

Conclusions

This study has highlighted ways in which Business Schools must apply socio-technical principles to their employability provision, as these are fundamental in preparing Management graduates for the contemporary hybrid workplace. Further, it shows how organizations involved in the design of hybrid, graduate roles must incorporate socio-technical principles if they are to effectively support graduate-to-workplace transitions. It is clear that despite Gen-Z's technical prowess, HE institutions and employers still have a role to play in honing digital working skills for new graduates. We need to listen to the experiences of Management graduates so that we can recognize skill deficits, challenge misperceptions, and then refine training and onboarding programs accordingly. The findings of this research show that hybrid working skills are a nuanced socio-technical challenge, but that there is a need to prepare interns and graduates for hybrid working, if they are to build thriving, sustainable careers in the post-covid workplace.

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Meta-Competency	*Challenges*	*Illustrative data examples*
1. Cultural intelligence Participants reported difficulties making sense of their employer's organizational norms, values, and etiquette in the hybrid work environment, and in acting in accordance with them. *Training Needs:* • *To understand norms, social expectations and etiquette, and how these should be applied, in the workplace, in the absence of cues from the physical environment.* • *To understand how work tasks fit alongside the work and core business of others.*	***Learning culture versus learning work tasks.*** Participants reported being well prepared to complete key work tasks, but reported challenges in applying them to problems, or understanding how their work activities fit with wider aspects of business operation.	*"I just wasn't getting it… There were a lot of missing pieces"[i]*
	Learning through osmosis. Participants felt it took longer to learn components of culture (e.g., norms and etiquette), and that their understanding of cultural nuance was underdeveloped, even by the end of the internship, due to missed opportunities for social learning.	*"Working from home for the duration of my placement has meant that I have missed out on a huge learning opportunity which is as simple as listening to the conversations around me. Especially when starting out you pick up on little things that you hear which piece by piece help build a picture"[e]*
	Role models and social comparison. Participants reported struggling to confirm interpretations or benchmark experiences, due to reduced opportunities for social learning; or, they relied on role models such as parents, siblings, and housemates.	*"If someone's working within the flat, you would then work as well because you don't really want to be the inefficient one"[i]*
2. Communication Participants reported communication challenges because of their reduced access to social cues such as facial expression and tone of voice in online and written forms of communication; as well as logistical challenges such as response time lags. *Training Needs:* • *To practice online and face-to-face presenting and understand the difference in requirements, styles, and challenge.* • *To learn to use, interpret, and recognize intentions, in different forms of communication.* • *To develop skills in positive conflict management and resolution in hybrid work environments.*	***Online versus face-to-face presentations*** Participants perceived there to be big differences between online and face-to-face presentations, and felt ill-prepared for face-to-face presentation opportunities.	*"I felt more confident behind a screen"[i]* *"Because of our current context, I had not yet been confronted with any sort of 'in person' presentation. Most of our communications were made via chat, and my reports sent via email. Video-presentations did happen but were limited to my 3-person team"[e]*
	Addressing and managing conflict Participants reported challenges interpretating words, particularly where these were written. Sometimes they (mis)perceived criticism where it was not intended. Other times, they failed to deal with conflict because they found they could avoid people in remote work environments.	*"Criticism coming through virtually can be taken badly and I still was not taking it on to benefit my quality."*
	Communication is slower Virtual communication mean that there were often time lags that could delay task completion, or slow down development opportunities. This could also enable participants to mask deficiencies by giving them time to prepare, or rehearse, their response.	*"In normal times my boss could come over to my desk and ask a question on analysis. On Teams this would be done by scheduling a meeting, and by that time I was able to gather my thoughts in preparation"[i]*

• *To decipher instructions and learn how and when to take action, in ambiguous situations, or without access to immediate feedback.*		
3. Networking While participants were well adept at using networking tools such as LinkedIn for purposeful and planned networking, they felt they depended on these platforms, and lacked ability to build networks more naturally. They consistently reported feeling that this was more difficult to do 'online'. Interns described 'networking' as a deliberate practice, and reserved for interactions with more senior colleagues, for harnessing career opportunities. They considered this to be different to building workplace *relationships* more broadly. The value of building relationships and networking was not clear to every intern, and considered time-wasteful to some. *Training Needs:* • *To develop a broader understanding of the purpose of workplace relationships and their value.* • *Learn techniques for developing workplace networks in online and hybrid environments.*	***Understanding the purpose and value of networks*** Participants considered building *relationships* in the workplace and building their *network* to be two different things. They generally only used the term *'networking'* to describe formal practices that were intended to help them build social capital, leverage a development opportunity, or gain visibility for their work. Participants expressed difficulties doing this in the hybrid workplace, although the same participants described easily building relationships with their peers for purposes of social support and comradery. However, they did not believe that such peer relationships were valuable for *'networking'* purposes.	*"I need to improve on [networking] as I am still inexperienced in the professional world and need to learn how to distinguish between social and work connections"[e]*
	Network size Participants believed it was difficult to build a network online, because serendipitous conversation was harder to find, and because they typically found themselves working in small teams with reduced exposure to others. Networking and social structures were rarely put in place by the organization. Participants often expressed a view that this limited their development opportunities.	*"The lack of formal, in-person meetings with seniors, means that networking opportunities are limited"[i]*
4. Proactivity Participants found it difficult to make themselves and their work visible, to take ownership of their learning, and to access development opportunities. Sometimes they understood there were things they did not know (*known unknowns*) that led to misperceptions. Sometimes they found it difficult to demonstrate proactivity, because due to their lack of interaction with others, they simply did not know what they	***Managing learning*** Participants found it hard to take ownership of their learning. They felt uncertainties could be slow to resolve, and this limited the speed of their progression. In other cases, they were able to mask uncertainties through hybrid work.	*"It is sometimes difficult to learn new things remotely… It's also a lot harder to ask small questions"[i]* *"I have been able to somewhat hide my ability with this [with work being online] by preparing for things before having to do them, rather than being put on the spot"[i]*
	Securing visibility and exposure. Many participants recognized that to be noticed in the organization, they needed to make themselves and their work visible. Some developed strategies to overcome this, but others found it difficult to do so.	*"I realized the importance of taking ownership of my work, speaking up and challenging others in meetings, so I started using the 'hand function' more in meetings when I felt it was hard to get a word in"[e]*

should/could do to be proactive (*unknown unknowns*). *Training Needs:* • *To develop techniques in proactively to be able to showcase work, seek clarification, and/or secure opportunities, without being intrusive or demanding.* • *To learn how to take ownership for learning and development, in hybrid work environments.*	***Misunderstanding requirements and norms*** The lack of face-to-face interaction could mean they misunderstood requirements, particularly where this required them to interpret emotion or sentiment.	*"It is so difficult when people don't turn cameras on. I found that to counteract the fact I could not read people's body language…I had to keep checking, and asking, and reinforcing points, just so that I could be sure they fully understood what it was I was saying…"[i]*
	Accessing development opportunities Participants often found it difficult to get involved in new activities, because they struggled to showcase their work in the hybrid environment. They believed this occurred for three reasons. a) They were more easily overlooked, because others did not know of them; b) Colleagues incorrectly assumed they would be too busy for new opportunities because they could not see their work; c) mentoring opportunities were reduced.	*"Working from home resulting in little if any time in the office, therefore making it harder to meet people and build relationships… increasing my visibility within the team was a goal that I set back in December… so that people would notice me for new opportunities"[e]* *"My mentoring was not as strong as it would have been had I been sitting in an office"[e]*

Table 1: Hybrid-working competencies and their associated challenges (as reported by participants), and training needs identified

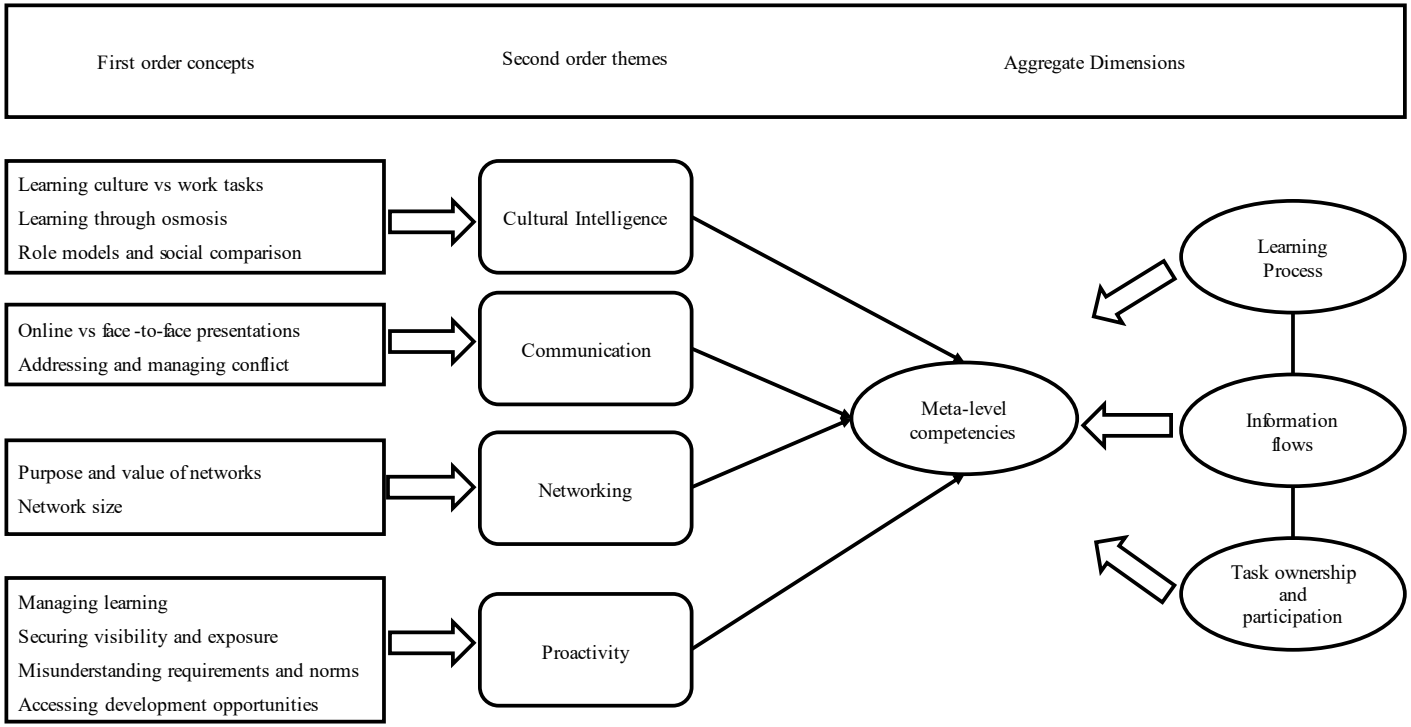

Figure 1: Thematic Analysis Report for the Study