


Digital Skills Mobilization within Incumbent Organizations: The Agentic Role of Digital Champions

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In a world increasingly influenced by digital technologies, incumbent organizations are urged to equip their employees with digital skills to unlock the transformative power of digitalization for their strategy and business model. Yet, extant research lacks guidance on how to mobilize and implement effective initiatives to develop digital skills in incumbents. Therefore, through an in-depth case study of a utility company, this paper explores how an incumbent can mobilize its digital skills to embrace digital transformation. Based on the process perspective of resource mobilization, we shed light on the mechanisms for searching, accessing and transferring digital skills, namely: (i) *unearthing dormant digital skills*; (ii) *awakening digital skill-holders*; and (iii) *disseminating digital skills*. In the investigation of these mechanisms, we uncover the agentic role of digital champions, who become an organizational capability for mobilizing digital skills in incumbents. We also document how digital technologies, as operant resources, can transversally support all stages of the mobilization of digital skills aimed at developing and leveraging digital skills in incumbents. In doing so, we explore the role of digitalization, both as the content of resource mobilization, in terms of digital skills, and as the means through which mobilization is enacted, in terms of digital assets and initiatives. Based on the findings of this study, we contribute to knowledge at the interface between digitalization and resource mobilization in the broader context of digital transformation.

Introduction

The emergence and the rapid development of new digital technologies, digital platforms and digital infrastructure provide new opportunities for organizations and their employees in terms of developing and launching new products, services and business models (Cavallo et al., 2022; Dąbrowska et al., 2022; Nambisan, 2017; Oberländer, Röglinger and Rosemann, 2021). Nevertheless, the possibilities for action afforded by digital technologies can only be unlocked in combination with skilled employees and executives (Sousa and Rocha, 2019; Ostmeier and Strobel, 2022; Verhoef et al., 2021), and thus increasing attention is being directed towards the notion of digital skills.

Digital skills are defined as the ability to identify digital needs, make informed decisions on appropriate tools, creatively solve problems, and continually update one's personal and others' skills (Claro et al., 2012; Ferrari, 2013). Digital skills have become critical for organizations and their employees (Rayna and Striukova, 2021); this is even more so as a result of the accelerated

digitalization driven by the COVID-19 pandemic, during which organizations realized that they needed to be able to adapt to a constantly evolving scenario and respond to the needs of digital transformation (Brem, Viardot and Nylund, 2021; Giones et al., 2020). Indeed, digital skills represent an increasingly relevant form of resources related to human capital needed for firms to thrive in the digital age (Colbert, Yee and George, 2016; Ferrari, 2013). However, the integration of digital skills in incumbent companies, namely well-established organizations with a rich pool of human resources that are larger than startups (Oberländer, Röglinger and Rosemann, 2021, p. 3), can be challenging for both the organizations and their employees (Dąbrowska et al., 2022; Nadkarni and Prügl, 2021). As a result, the selection, assessment, development and leverage of digital skills by incumbents can generate tensions caused by the difficulty of merging digital skills with existing capabilities and the digital divide between existing employees with institutional memory and the new breed of worker, which can result in cultural conflict (Lythreitis, Singh and El-Kassar, 2021). While extant research

underlines the need to provide an in-depth examination of the mechanisms required to facilitate the integration of digital skills in incumbent organizations (Zhou et al., 2021), few studies have investigated digital skills in the corporate context and explored how incumbent firms develop and integrate them and deal with the related challenges (Shakina, Parshakov and Alsufiev, 2021).

Drawing on these observations, we argue that the current academic and practitioner discussion on digital skills in a digital transformation context could benefit from the lens provided by resource mobilization. Resource mobilization encompasses the broad processes that entrepreneurs or organizations (either new ventures or incumbents) engage in when searching for, gaining access to and transferring resources to capitalize on an opportunity (e.g. see Clough et al., 2019). Starting from the assumption that digital skills constitute a certain form of digital resource (Ferrari, 2013), we suggest investigating the process of digital skills mobilization in incumbent organizations through the lens of resource mobilization. As a result, our study addresses the following overarching question: *How does an incumbent organization mobilize employees' digital skills?*

To address this research question and uncover the mechanisms through which incumbents execute digital skills mobilization, we employ a qualitative approach, which is a particularly suitable method to uncover and open the 'black box' of the resource mobilization process (Clough et al., 2019, p. 241). Specifically, in studying a large international incumbent in the utility industry that undertook a digital transformation programme with a specific focus on digital skills development, our findings reveal that mobilization should first assess the organization's initial condition and internal digital skills endowment, which, it is suggested, should be considered the primary input for the mobilization process. Owing to the pervasiveness of digital technologies and affordances in everyday life (Brennen and Kreiss, 2016; Gratch and Gratch, 2021), combined with the technological legacy each firm possesses in terms of existing assets and initiatives (Fitzgerald et al., 2014), incumbent organizations seldom begin their digital skills mobilization journey from a clean slate. Instead, organizations are to be seen as a pool of digital skills, resulting from the combination of formal strategic or tactical attempts to develop them top-down (for instance, through training initiatives) and informal and unstructured individual abilities that employees and managers may have nurtured outside of the organization boundaries and that could be conveyed bottom-up (for instance, the presence of an employee capable of developing mobile apps as a hobby). Therefore, although incumbents currently operate in an open innovation context where the quest for external resources seems to be the strategic imperative (Cavallo et al., 2022; D'Angelo, Ghezzi and Cavallo, 2021; West and Bogers, 2014), we suggest that they

should first seek for digital skills internally by designing the proper mechanisms for internal skills to surface, be assessed and, eventually, mobilized.

In investigating these mechanisms, we uncover the importance of a new organizational role that may facilitate the spreading and the enhancement of digital skills in the whole organization during the transformation journey: that of the so-called 'digital champion' (Drechsler et al., 2021; Wilson and Mergel, 2022). The role of a digital champion appears to be a newly formed, formal, middle-management one that results from – and, in a certain way, embodies – the digital skills mobilization process; the strong organizational identity distinguishing them is easily recognized by other employees and managers, partly thanks to the 'sacrality' of the selection process that the organization designed to appoint them (Corley, 2004; Thomas and Linstead, 2002). This identity and formal recognition make it easier for digital champions to bridge knowledge gaps, reduce employee digital divide (Shakina, Parshakov and Alsufiev, 2021; Zhou et al., 2021) and become agents of change and resource mobilization: digital champions act as intermediaries for digital technologies (which, per se, may be perceived as detached, cold and obscure) and the broader pool of employees and managers in the organization, in the attempt to uncover and access internal digital skills, possibly pair them with external skills, and finally transfer those digital skills that are considered strategic (i.e. all people belonging to a certain organizational domain should possess them) in order to capitalize on opportunities and enable digital transformation (Jones, Hutcheson and Camba, 2021). As such, the team of digital champions becomes an organizational capability to propagate digital skills mobilization to the whole organization, thus managing tensions between employees whose skills have become obsolete and the need to recruit employees with new skillsets in a 'humanized' manner.

Our findings also revealed that digital skills are mobilized primarily through digital assets and means, such as digital communication channels, digitally submitted surveys, digital events, online training programmes, and the digitally orchestrated community of digital champions. Digitalization hence plays a paramount role in the search for, access to and transfer steps of digital skills mobilization. Although apparently tautological, this evidence shows the 'multiplier effect' of digital technologies in supporting the promotion of their own adoption and leverage. Digitalization for resource mobilization also displays a number of benefits beyond cost savings, such as, on the one hand, the possibility of relying on a large, scattered and dispersed pool of individual skills, and, on the other hand, the reduction of social, cultural and hierarchical biases in the selection process, because initiatives such as the creation of a digital champions team put together lower-ranked employees with top

managers based on their actual knowledge rather on than their original hierarchical status.

As a concluding remark, the standpoint adopted in our study allows the connection of research on digital transformation, which is often carried out at the organizational level, with that on digital skills, typically involving the individual level. Digital skills are seen from an organizational level as a firm's resource endowment that must be mobilized and orchestrated; in turn, digital transformation and the changes it entails derive from the accrual of individual digital skills through a mobilization process, which could be digitalized in its main steps. Within such a framework, 'digital' becomes both the content of resource mobilization, in terms of digital skills, and the means through which mobilization is enacted, in terms of digital assets and initiatives.

Literature review

Digitalization, digital skills, and resource mobilization

The emergence and the rapid development of digital technologies require organizations to transform and redesign their processes so as to integrate, build and reconfigure their resources and competences (Baiyere, Salmela and Tapanainen, 2020; D'Angelo et al., 2024; Dąbrowska et al., 2022; Lepore et al., 2019). The COVID-19 pandemic accelerated such a digital transformation process (Amankwah-Amoah et al., 2021; Blackburn et al., 2020). Digital transformation is not merely a technology-driven challenge, as it needs both technology and people and requires organizations to prepare their employees with an adaptive skillset and digital know-how (Allmann and Blank, 2021; Jones, Hutcheson and Camba, 2021). In this context, digital skills – understood as those skills necessary to accomplish a broad range of cognitive tasks in a digital world (Claro et al., 2012; Kereluik et al., 2013; Van Laar et al., 2017) – are critical for organizations. Owing to their increasing relevance, the literature on digital skills has grown rapidly in recent years (Kinkel, Baumgartner and Cherubini, 2022; Van Deursen and Van Dijk, 2014). Ciarli *et al.* (2021) emphasize how organizations need to equip their employees with digital skills in order to be competitive and for long-term survival (Ciarli et al., 2021). To face the current digital dynamic environment, incumbent organizations are increasingly looking with interest to the development of digital skills for their employees in response to digital transformation and to improve their innovation capacity in the digital age (D'Angelo et al., 2024). Organizations need more and more employees who can find, process and structure information, solve problems, be creative innovators, and exhibit effective communication and cooperation

abilities (Ghosh et al., 2021). Because employees' skills drive organizations' competitiveness and innovation capacity, integrating these new skills in organizations is crucial (Allmann and Blank, 2021; Jones, Hutcheson and Camba, 2021). Helping organizations to address their digital skills gap is considered a primary objective for research and practice (Ferreira, Robertson and Pitt, 2023). Yet, the problem is not restricted to the search for digital skills. Firms tackle some important challenges when integrating digital skills into their existing organizational structures, routines and processes. Such challenges could prevent them from successfully embracing the possibilities enabled by digital skills. For instance, employees struggling with developing digital skills may feel threatened by 'digitally-savvy' employees – an issue as diffused in practice as it is neglected in the literature (Shakina, Parshakov and Alsufiev, 2021; Zhou et al., 2021). Additionally, the resistance of many employees who envisage digital technologies as a job destroyer can represent a barrier to the integration of digital skills in the corporate context (Cortellazzo, Bruni and Zampieri, 2019). As a result, incumbents must deal with tensions arising from the implementation of digital skills in their organizations, caused by the difficulty in integrating new capabilities with established ones, as well as with cultural conflicts between existing employees with institutional memory and the new breed of worker (Kohli and Johnson, 2011). Taken together, these and other organizational factors might prevent organizations from effectively integrating digital skills. Despite the relevance of this organizational issue, few studies to date have recognized the role of digital skills at the organizational level – and those that have are mostly conceptual rather than empirical (Oberländer, Beinicke and Bipp, 2020). The organizational level should instead be investigated in greater detail and in conjunction with the individual level, because organizing and governing digital transformation requires a multilevel approach to look for, incorporate and strategically act upon digital skills (Shakina, Parshakov and Alsufiev, 2021; Zhou et al., 2021).

As digital skills represent an increasingly relevant form of resources related to human capital for firms (Colbert, Yee and George, 2016; Ferrari, 2013), the issue of mobilizing digital skills is becoming extremely interesting for both researchers and practitioners. The current academic and practitioner discussion on digital skills in a digital transformation context could hence benefit from an investigation performed through the lens of resource mobilization theory (Savio et al., 2024). As recent and comprehensive reviews contend (Clough et al., 2019; Jenkins, 1983; Klandermans, 1984; confirmed by Villanueva, Van de Ven and Sapienza, 2012), the process of resource mobilization encompasses the following stages: (i) search; (ii) access; and (iii) transfer. 'Search' refers to the processes

through which individuals or organizations, acting as resource seekers, identify where potentially relevant resource holders are. 'Access' refers to processes that allow resource seekers to secure attention and agreement from resource holders to deploy the resource within the seekers' organization. 'Transfer' refers to processes through which resource seekers redeploy resources by explicitly or implicitly agreeing with resource holders on the governance of the resource, including regarding decisions on the allocation of property rights over the resource deployment and the resulting created value. While research on resource mobilization has flourished in recent years (Clough et al., 2019), the connection between resource mobilization and digitalization is still under-investigated (Inceoglu, Vanacker and Vismara, 2022). More specifically, the research field exhibits a disproportionate focus on financial resources, whereas in-depth discussion is scarce on digital skills and the mechanisms with which to mobilize them within incumbent firms; also, there is limited investigation of mobilization attempts in which resource usage is governed through informal means, such as those that could be provided by digitalization, and the intermediate or operational steps to execute the digital resource mobilization process, including the roles and tools involved, are often disregarded or taken for granted. Indeed, to date, we lack a deep theoretical and empirical understanding of how incumbents mobilize digital skills, intended as digital resources to embrace digital transformation, and of the role of digital skills and human capital as the transmitters of digitalization in incumbent organizations (Blanka, Krumay and Rueckel, 2022). Filling this gap will advance our understanding of the development of digital skills in incumbent organizations, which can yield important implications for theory and practice. In view of the above comments, our research was guided by the following question: How does an incumbent organization mobilize employees' digital skills? We answer such a relevant research call through an in-depth case study of a utility company.

Methods

Research design

As research linking digitalization and resource mobilization is in its early stage of development, and as we were interested in exploring a 'how' question, we adopted a qualitative inductive method (Denzin and Lincoln, 2011; Gartner and Birley, 2002; Miles, Huberman and Saldaña, 2013; Strauss and Corbin, 1998). An inductive qualitative methodology is suitable to shed light on the process of mobilization of digital skills because 'within the management literature as a whole, much of the work on resource mobilisation has taken

a variable-centric approach, examining correlations between [...] actors or situations and the final outcome of resource mobilisation episodes, leaving the intervening processes as something of a black box' (Clough et al., 2019, p. 241). More specifically, we chose the single-case methodology for four main reasons. First, a case study as empirical enquiry is suitable to 'investigate a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used' (Yin, 1984, p. 23), allowing conceptual development of a phenomenon when little is known, especially with reference to the context where it occurs (Yin, 2009). Second, an in-depth case study allows us to investigate an under-explored phenomenon at various levels, without being constrained by initial decisions over the tools or types of data to use, and to acquire an in-depth understanding, together with the needed depth and insight, which is difficult to replicate on a wider sample through a multiple-case study (Eisenhardt, 1989; Yin, 2013). Third, recent studies have pointed out the necessity of investigating in a detailed and comprehensive manner the challenges arising from the integration of digital skills with pre-existing competences in incumbents, as well as the need for a deep understanding of resource mobilization in the digital age (Inceoglu, Vanacker and Vismara, 2022; Potocnik et al., 2021; Tambe, Cappelli and Yakubovich, 2019). Finally, in order to disclose the peculiar mechanisms of mobilizing digital skills in a corporate context, namely 'to peer into the box of causality to locate the factors lying between some critical cause and its purported effect' (Tsang, 2014, p. 374), we chose an in-depth single case in line with extant literature.

Empirical setting: Industry and case selection

To pursue our research goal, we adhered to theoretical and convenience sampling criteria (Eisenhardt, 1989; Voss, Tsikriktsis and Frohlich, 2002). First, we selected an industry and then subsequently identified a firm that relies on the mobilization of digital skills to facilitate digital transformation. Moreover, it was imperative that this chosen firm had implemented specific programmes and actions for the execution of digital skills mobilization. To ensure anonymity while encouraging candour (Ozcan and Eisenhardt, 2009), we employed the pseudonym 'EnerWaterGas' when referring to the firm. We chose to concentrate our attention on the utility industry for several reasons. First, it has traditionally been slow in embracing digital transformation (Stewart et al., 2018), despite increasing pressure for its implementation, particularly regarding the benefits of ecological transition (Pereira, Niesten and Pinkse, 2022). Second, digital transformation has the potential

to enhance productivity and financial performance, as well as to unlock emerging opportunities for innovation, thereby transforming the utility industry (Correani et al., 2020). Third, this industry is dominated by large incumbents (owing to the traditionally high entry cost), which are much in need of digital transformation and innovation (Latilla et al., 2021; Nason, McKelvie and Lumpkin, 2015) through leveraging on their internal resource endowment – such as their employees' digital skills. To our knowledge, however, no study has relied on this empirical setting to explore digital skills mobilization. To investigate the mechanisms that enable digital skill mobilization in a corporate context, we decided to study EnerWaterGas, a leading multinational incumbent organization operating in the utility industry that was established in 2002 and is headquartered in northern Italy. EnerWaterGas had annual revenues of between 8.5 and 9 billion dollars, from 3.2 to 4.3 million customers, and between 8000 and 10,000 employees. The selection of EnerWaterGas for our study proved particularly relevant as the company placed digital skills mobilization at the forefront of its digital transformation strategy through the dedicated programme 'Digi4Future': initiated in 2019 after 2 years of preliminary investigation into best practices, the programme was strategically significant and involved multiple functions (mainly Human Resources, Information Technology and Innovation functions) and the assistance of an external consulting firm. Digi4Future aimed to address the pervasive digitalization by starting from the resources and skills that incumbent companies possess. Additionally, it sought to support a people strategy by nurturing and developing the existing individual digital skills of the entire company population.

Given these considerations, we regard EnerWaterGas as an academically relevant case that aligns with our research question. In the following section, we elaborate on how data for this case were collected and analysed.

Data collection

Data were collected through multiple sources of information (Yin, 1984), including primary sources – in the form of semi-structured interviews and participant observations – and various secondary sources (e.g. internal documents, company websites and reports). The combination of primary and secondary sources allowed us to triangulate data by 'looking at data in multiple ways' (Eisenhardt, 1989; Gibbert, Ruigrok and Wicki, 2008; Yin, 2013) and to increase the validity and reliability of a single-case study and the quality of the data. The primary data source consists of 27 semi-standardized interviews (23 interviewees, four of whom were interviewed twice to consolidate information collected and clarify important issues that emerged during the first round of

interviews). Interviews involved key informants engaged in the digital skills mobilization process of the company (Aguinis and Solarino, 2019), that is, department heads, directors, managers recognized as digital champions, employees, and consultants from a consulting company that supported EnerWaterGas in the assessment and development of digital skills within the organization (see Appendix 1). Interviews were conducted remotely between May 2020 and March 2023 and lasted between 55 and 70 minutes, with an average duration of 63 minutes, resulting in 261 pages of transcript. All 27 interviews were recorded and then transcribed within 2 days to preserve the quality of the data (Gibbert, Ruigrok and Wicki, 2008). Interviews were performed by at least two researchers, to reduce investigator bias and enhance the trustworthiness of qualitative research (Pratt, Kaplan and Whittington, 2020).

The decision to interview top managers was dictated by the fact that they are the primary agents for decision-making actions with a legitimate right to drive digital transformation (Cennamo et al., 2020) and corporate innovation initiatives (Cabral, Francis and Kumar, 2021). In addition, the decision to also interview middle managers and employees was driven by our willingness to take a broader perspective within our research and capture different perceptions at diverse levels of seniority, thus obtaining a more complete understanding of the internal mechanisms and implications of the process investigated – spanning from the operational to the strategic level. The interviews were conducted with the support of an interview protocol consistent with the research question and the aim of the research, while we kept the protocol open-ended and flexible, allowing participants to express their views and experiences freely (see Appendix 2). In accordance with our research question, the interviewees were asked to describe and comment on how Digi4Future allowed digital skills to surface and on how digital skills assessment was performed, within the broader context of the digital transformation journey undertaken by the firm. As a result, the first set of questions explored the assessment of individual digital skills in the incumbent organization (e.g. 'How does the company assess digital skills?', 'What are the challenges faced in assessing digital skills in your organization?'). Following this, the second set of questions investigated more closely those practices carried out by the firm to develop digital skills internally (e.g. 'How does the company develop digital skills considering different levels of digital fluency within corporate population?', 'What are the challenges faced in developing digital skills in an incumbent organization?'). Finally, the third set of questions focused on the internal exploitation of digital skills (e.g. 'How does the organization leverage digital skills?', 'How does the organization manage these initiatives?', 'What are the impacts of these initiatives on your organizational role?').

Table 1. Data sources

| Method | Data type | Quantity | Original data source |
|-------------------|--------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Single-case study | Semi-structured interviews | 27 (interviews) | Interviews with key informants. Participants: department heads, directors, managers recognized as digital champions, employees of EnerWaterGas, and external consultants. |
| | Participant observation | 5 (strategic meetings) | Strategic meetings |
| | Archival records | 76 (pages) | Presentations, reports, excel files, videos, informal emails, notes |
| | External documents and sources | 42 (pages) | Company website, consolidated financial statements, sustainability reports, news articles, online interviews, industry reports |

In addition to the semi-structured interviews, we also collected data through participant observation at five strategic meetings, to gain further understanding of the context of the investigation and to obtain a holistic view of the organization. We participated in part of the process definition as outside observers during strategic meetings involving managers and informants. These meetings involved 11 managers (including six of our informants), were all held at the headquarters of the company, and lasted 280 minutes in total.

To further increase the validity and reliability of our case study, we complemented the primary data with secondary sources by collecting information from internal documents (e.g. presentations, emails, reports, additional memos, and minutes from meetings) and external documents (e.g. news articles, industry reports). A selection of these secondary sources – for example, internet pages and reports – were partly analysed before running the interviews, so as to ensure the reliability of the interview protocol and aid case understanding, whereas other sources – for example, presentations – were addressed only afterwards to enhance result validity. This combination of sources allowed ‘data triangulation’, which is essential for assuring rigorous results in qualitative research (Bonoma, 1985; Jick, 1979).

The integrity of the data collected was ensured in several ways. First, we decided to look at data in multiple ways and triangulated them from multiple sources to increase the robustness of the overall findings (Siggelkow, 2007). Second, each researcher read the data collected independently. Finally, all the researchers gathered to discuss their interpretations and to come to an agreement on the inferences, while also establishing a connection between the literature and the data collected. Table 1 below summarizes all data sources considered for this study. Our data collection ended once conceptual saturation was reached (Bowen, 2008).

Data analysis

The primary and secondary data were analysed by applying the ‘open coding’ practice taken from grounded theory methodology (Glaser and Strauss, 1967; Strauss and Corbin, 1998), a method suitable for studying com-

plex phenomena through a clearly defined procedure based on coding – that is, labels, concepts and words are used to produce theory from interviews, rather than merely to find out facts (Glaser and Strauss, 1967). Overall, the coding process was inspired by the method proposed by Gioia, Corley and Hamilton (2013). We began by identifying first-order (or ‘core’) categories, a first-order pool of concepts from the specific wording used by the respondents, which allowed us to label the interviews. In other words, with the aim of retaining an initial abstraction level in the information provided, we coded information terms that remain close to the text, which naturally resulted in many codes (Gioia, Corley and Hamilton, 2013). Then, we grouped the first-order categories around a set of second-order themes, thus enabling a view of the data at a higher level of abstraction and the identification of potential nascent concepts or mismatches (Clark et al., 2010). Specifically, by linking the first-order categories with the extant literature, we discussed and specified the deeper structure of the data, which reduced the number of categories (Gioia, Corley and Hamilton, 2013). Finally, the second-order themes were grouped into overarching dimensions, namely aggregate dimensions or third-order categories (Gioia, 2004), which reflect the key themes emerging from the case and which have a direct connection with the research direction. Through this three-order analysis, we were able to highlight the connection between the data and the inductive concepts as a proof of a high-quality qualitative study (Gioia, Corley and Hamilton, 2013). To grant credibility and validity of qualitative research, the above-mentioned coding process was simultaneously performed by the authors multiple times (Jia et al., 2023; Pratt, Kaplan and Whittington, 2020). The results of our data analysis are compiled in a data structure (see Table 2) that provides ‘a graphic representation of how we progressed from raw data to terms and themes in conducting the analyses’ (Gioia, Corley and Hamilton, 2013, p. 20) and focuses on the mechanism for digital skills mobilization within an incumbent organization. Appendix 3 details the data underlying the codes and representative quotes. At the end of the process, the findings and case results were reviewed, aggregated and eventually confirmed by the interviewees, in order to potentially reduce

Table 2. Data structure

| First-order codes | Second-order themes | Aggregated dimension |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Realizing that there is a subset of potentially relevant corporate individuals with valuable digital skills Realizing the need for a different deployment strategy search for digital skills based on the pre-existing personal digital skills endowment Digital means (digitally submitted surveys) are the ‘pipes’ to search for digital skills in incumbent firms Executing a different deployment strategy search mixing online means (for the ‘easy access’ segment) and offline alternative means (for the ‘hindered access’ segment) | <p>Understanding the search for digital skills</p> <p>Executing search through digital means</p> | <p>Unearthing dormant digital skills (1st phase: search phase)</p> |
| <ul style="list-style-type: none"> Digital skills assessment as a way to certify digital skills quality Reply to digitally submitted survey represents per se an initial signal of propensity and interest for digital skills Affiliation to digital champions community is interpreted as endorsement and formal recognition and certification as resourceful individuals | <p>Signalling underlying digital skills quality</p> | <p>Awakening digital skills holders (2nd phase: access phase)</p> |
| <ul style="list-style-type: none"> Digital means (online survey software) are the ‘pipes’ through which credible information about individual digital skills quality are analysed Gamification logic to profile and engage individuals on the relevance of digital skills Notification of digital champions selection and digital champions appointment ceremony are organized and hosted digitally | <p>Executing access through digital means</p> | |
| <ul style="list-style-type: none"> Organizing and structuring an overall digital engagement programme Conceiving the role of digital champions within and across programmes (digital labs, digital envisioning, digital mindset) Digital means are the ‘pipes’ to transfer digital skills in incumbent firms in every ‘transfer’ programme (digital labs, digital envisioning, digital mindset) The digitally orchestrated community of digital champions acts as a transmitter to disseminate and enact digital skills in incumbent firms Enacting relational governance of digital champions together with formal appointments and recognitions in formal process (e.g. hiring) | <p>Structuring the transfer programmes and the role of digital champions</p> <p>Executing transfer through digital means, dedicated programmes, and digital champions</p> | <p>Disseminating digital skills (3rd phase: transfer phase)</p> |

any error or bias and ultimately enhance the correctness of our interpretations (Pratt, Kaplan and Whittington, 2020).

Findings

Through the lens of resource mobilization theory, we generated insights into ‘how’ the incumbent organization mobilizes its digital skills, encompassing search, access and transfer phases (Clough et al., 2019). From the findings, it emerged that the digital skills mobilization process requires a set of mechanisms for its execution in incumbent organizations. The three main mechanisms that enact the digital skills mobilization process by phase are: (i) *unearthing dormant digital skills (search phase)*; (ii) *awakening digital skills holders (access phase)*; and (iii) *disseminating digital skills (transfer phase)*. Next, we show how the organization arranged and executed such mechanisms, and we discuss the emergence of digital champions as a powerful organizational capability to enact digital transformation in incumbent organizations.

Unearthing dormant digital skills (search phase)

Understanding the search for digital skills. The starting point for searching for and acting upon digital skills endowment is understanding the search, before structuring and executing it. Through interviews administered to a sample of the company population, EnerWaterGas was able to detect two important emerging facts. First, several interviews showed that there is a sub-set of individuals with valuable digital skills, where personal interests and hobbies played a role, beyond the organizational structures and hierarchies. Therefore, the company understood that there was indeed a latent digital endowment in need of being discovered and used to enact digital transformation. This was well emphasized by one digital champion in particular:

‘I can code in iOS. That’s more of a hobby for me. However, due to my unrelated job title in the company - I work in Plants Security - this skill of mine has never been considered. Thanks to the digital survey, my skills could eventually surface and could help me improve my job position, while also helping the company in the process!’

Second, the company acknowledged that there are other sub-sets of individuals who are homogeneous in their relationship with digital technologies. For example, there is a sub-set of young and digitally oriented individuals, and a sub-set of the older generation that is more reluctant to learn and employ new digital means. Most fundamentally, the company recognized that some individuals in their organization had 'easy access' to digital means in their everyday job, whereas others did not have such easy access. Specifically, the 'easy access' segment included those employees who performed office work and were expected to be familiar with the use of online tools to participate in the survey without major problems. The second segment – referred to as 'hindered access' – included employees who did not perform their work in an office environment and could not rely on a fixed computer workstation, as well as senior figures who were unfamiliar with digital technologies.

These are important organizational issues and tensions to be understood in the search phase before structuring and executing it.

Executing search through digital means

In 2019, the Company launched an assessment of internal individual digital skills based on the scale developed by Van Laar et al. (2017) in order to map the individual digital skills of the entire company population. The assessment lasted for about a month and a half from the official launch to the close, with two reminders in addition to the initial invitation. It was preceded by 1 month of preparatory communications, through both online channels (i.e. emails) and offline channels (i.e. notice on the bulletin board of the company), starting with an institutional communication by the Chief Executive Officer. The digital skills assessment was driven by two main goals: first, mapping individual digital skills to let them surface; and second, detecting highly digitally skilled individuals – who would be referred to as 'digital champions'. The assessment was based on a *digitally submitted survey* extended to the entire company population, of about 8511 employees, with a final sample of 5010 respondents (approximately 59% response rate). The digital survey allowed virtually everyone to be involved in the organization, thus removing biases – such as the original hierarchical status. To take the segmentation of the aforementioned individuals into account, EnerWaterGas structured and executed a dedicated *deployment strategy* according to the different segments identified. Specifically, they considered two different deployment strategies for two different segments. For the 'easy access' segment, the deployment strategy consisted of a simple email communication with a direct link to the online survey, whereas for the 'hindered access' one, targeted actions were implemented for the deployment of the survey, such

as non-digital communication initiatives and offline measures (e.g. printed communications, fixed workstations made available, QR-codes or short message service to fill in the survey). As the Head of Learning and Organizational Development commented:

'Hindered access and easy access employees show a different propensity for responding to the digital survey. It is an obstacle of accessibility: easy access employees are in front of their computer all day, whereas hindered access employees are not and have to sit in front of one on purpose... for those hindered access employees who have no email we made fixed workstations available in the company to access the questionnaire; in some cases, we sent the QR-code to access the questionnaire from any device, even in payroll or even with an SMS'.

Moreover, the company decided to leverage a *reverse mentoring* process, whereby senior figures were joined by younger figures to facilitate their access to the digital skills mobilization initiative. Through this activity, the organization allowed junior figures to help the senior ones better understand and adopt digital technologies, while the latter had the chance to transmit their experience to the former, stimulating a contamination of tacit and explicit knowledge. This tactic of reverse mentoring, focused on the exchange of knowledge skills, performed beyond all expectations and led to an increase in the response of the company population.

Overall, through understanding the search for digital skills and dedicated structuring and executing practices, the underlying mechanisms of *unearthing dormant digital skills* in the search phase were enhanced.

Awakening digital skills holders (access phase)

Signalling underlying digital skills quality. During the access phase, the company analysed the results of the digital skill assessment as structured and executed in the search phase. Before performing such an analysis of results, the company had to define and establish criteria that could represent a signal of 'good-quality' digital skills. Specifically, the company measured digital skills through a scale proposed by Van Laar et al. (2017), which includes the following dimensions: technical; information management; communication; collaboration; creativity; critical thinking; problem solving. Based on a Likert scale ranging from 1 to 5, the criteria adopted to signal the quality of digital skills considered 3 as the neutral value, with values below 3 considered 'negative' and values above 3 considered 'positive' or a signal of good quality in the specific dimension of digital skills. Moreover, it is noteworthy that replying to the online survey represented for the company itself a signal of digital skills quality – or, as more prudently suggested by the Head of Learning and Organizational

Development – a ‘signal of interest and propensity to improve and learn new digital skills’.

Furthermore, based on the answers to the digital survey, a selected pool of individuals were formally appointed as ‘digital champions’ to secure their attention and commitment to the digital skills mobilization process and the overarching digital transformation project in general. The formal appointment of digital champions was interpreted as a formal signal of the selected individuals’ digital skills quality – or, as expressed by the Group Manager of Human Resources and Organization – as ‘an award and a recognition for their digital skills quality, and as a credible status within the organizational structure’.

Executing access through digital means. Once the criteria were settled, it was time to execute access by analysing the assessment results. Again, digital means were core resources in this case. First, a specific profile for each employee was identified following a *gamification* logic (Deterding et al., 2011, p. 9). The use of game design elements in non-game contexts made it possible to systematize and categorize the responses to the digital skills assessment by returning a profile for each respondent embodying a celebrity (e.g. Jeff Bezos, Elon Musk, Steve Jobs), through a direct e-mail communication. For instance, the more creative profiles were identified with Jobs, whereas those with a high score in management and problem solving were likely to be identified with Bezos. The underlying logic was based on a common belief that Bezos has a better profile for building giant organizations compared, for instance, with Jobs. Clearly, the approach was not scientifically based (and that was not the objective either), but it encouraged respondents to feel more engaged and enthusiastic about answering the survey and discovering to whom they were most similar among certain high-level/famous profiles.

Second, the company relied on digital survey software to identify the so-called ‘digital champions’ – intended to be highly digitally skilled individuals. Specifically, individuals who obtained an average value higher than 3 in at least five of seven dimensions of the digital skills assessment were grouped and analysed. Among the 5010 respondents, 502 profiles were in line with the digital champions’ criteria. With the support of the consulting firm, the Human Resources and Training and Development department managed to cluster profiles and return results to identify the digital champions as well as to define and develop customized and targeted activities based on the survey results. After interviewing all the 502 individuals, 12 digital champions were selected based on the results of the interviews, considering individuals’ willingness and availability to act as digital champions in the organization. Digital champions came from every hierarchical level and function: seven were

lower-ranked employees and five were higher-ranked managers.

Finally, the process of the notification of the selection of digital champions and the digital champions’ official appointment ceremony conducted by the Chief Executive Officer were largely organized and hosted digitally, during internal strategic meetings transmitted online and open as an exception for this special occasion to the whole company population. The selected digital champions were promoted within the organization through internal online communications such as emails, social network posts, and messages on digital signage totems.

In conclusion, setting up practices to signal digital skills quality and executing access to detect such quality was instrumental for *awakening digital skills holders* – the core mechanism emerging from the access phase of the mobilization process.

Disseminating digital skills (transfer phase)

Structuring the transfer programmes and the role of digital champions. The third phase lasted about 1 year. The activities following the assessment of digital skills were included in a ‘digital engagement programme’ aiming to nurture, develop and diffuse digital skills within the organization as well as to create a community of ‘digital champions’ to contribute to digital skills enhancement and, ultimately, facilitate digital transformation.

In structuring the *digital engagement programme*, the firm aimed to encourage every person at every hierarchical level of the organization to be proactive in their own training and self-development. The programme was structured into three main parts (or sub-programmes): ‘Digital Mindset’, ‘Digital Envisioning’ and ‘Digital Labs’. Each programme had a different objective and included specific initiatives addressing a specific segment of the company population. The process of designing and structuring a set of integrated interventions, targeting different organizational populations (i.e. employees, top managers and executives, and digital champions), was meant to help redeploy skills from individual digital skills holders to the organization (intended as the digital skills seeker). The decision to orchestrate three separate (though intertwined) levels of intervention was aimed at: (i) elevating the entire company’s population skillset, as digital skills are increasingly recognized as necessary to performing any role (i.e. through Digital Mindset); (ii) guaranteeing a strong commitment by the top managers, whose involvement was key to pursuing any digital transformation endeavour, at least in the form of ‘decision-making enablers’, regardless of the actual digital skills currently exhibited by the management (i.e. through Digital Envisioning); and (iii) engaging the newly formed organizational role of digital champions in the nurturing and exploitation of their digital skills,

through the launch of entrepreneurial projects that actualize those digital skills (i.e. through Digital Labs).

With reference to the digital champions, the company realized that their role could be extended and empowered. Indeed, while digital champions were directly involved into a dedicated programme (Digital Labs), digital champion involvement was designed to be diffused across and beyond programmes. The firm wanted to leverage a digitally orchestrated community of digital champions for digital skills mobilization across the whole organization to promote digital transformation: digital means hence became the 'pipes' through which information to and from the digital champions flowed. In the following, we describe how the company executed the three programmes and how digital champions were employed across and beyond them.

Executing transfer through digital means, dedicated programmes, and digital champions. *Digital Mindset.* Digital Mindset was a dedicated online training path built around training courses open to the entire company population to spread a participatory digital culture about the use of digital technologies. Digital Mindset activities included some mandatory courses and a broad list of related materials made available to all employees of EnerWaterGas, such as video clips, short training sessions, case studies, articles and infographics covering content related to digital technologies, entrepreneurship and innovation. This content was executed and delivered through the online learning platform of the consulting company and then also uploaded on the social networking platform of EnerWaterGas (Yammer).

Digital envisioning. Digital Envisioning was based on hybrid events to inspire and train the top management of EnerWaterGas on the opportunities offered by digital technologies and digital skills. These events involved external expert teachers coming from practice and academia, with the aim of promoting and sharing best practices and open debates on present and future digital innovation trends. Specifically, the programme was composed of two immersive live in-person sessions lasting half a day and involving the top managers of EnerWaterGas. Events were also shared through simultaneous online presentations on an online learning platform. These events and contents were registered and then made accessible to the entire company population through the group's intranet: they were shared with the rest of the company so that the strategic challenges of digital transformation could be successfully understood and managed at a broader level.

Digital labs. Digital Labs were structured as entrepreneurial programmes directly involving digital champions. Digital champions were divided into two teams (six digital champions in each) with the goal of initiating and developing digital transformation solutions focused on organizational improvement and

rejuvenation. The two teams were heterogeneous regarding gender, hierarchies and nationality. Each group had an internal sponsor (manager) who proposed a brief based on business needs that emerged through an internal dialogue with the top management. For instance, business needs revolved around how to allow employees to report real-time problems related to the operational services provided by EnerWaterGas; how to improve the employee experience with a focus on onboarding and participation in training activities; and how to encourage internal virtuous conduct leveraging on digital tools. The Digital Labs programme was executed through six in-person workshops of 8 hours each, over 12 months. Additionally, digital champions could participate in four 2-hour virtual coaching sessions to meet mentors belonging to the partner consulting firm. These virtual coaching sessions were held via Microsoft Teams, a virtual workspace app for real-time collaboration and communication.

Therefore, each programme had a very specific focus and target, with the aim of creating a comprehensive and inclusive digital transformation process. Table 3 gives a summary of the three main programmes developed by EnerWaterGas, in terms of focus, target and the digital means that enabled the execution. Next, we will delve into how the key role of digital champions was executed and orchestrated by the company.

Digital champions: A key role for the 'transfer'. The company identified three practices in which digital champions play a role. First, digital champions are known and recognized by colleagues and top managers, so that they can be contacted in case the latter need to access the Digital Mindset and Digital Envisioning initiatives and/or, more generally, need clarification in the use of the enterprise software (Yammer). With specific reference to the organizational hierarchy, within the digital champions' role, lower-ranked employees were teamed up with higher-ranked managers. This practice shows the impact of the rise of digital technologies and the key role of digital champions in terms of organizational design, making the organization less hierarchical and more interconnected at different levels. Digital champions were perceived as mentors who could diffuse and mobilize digital skills to the rest of the organization despite organizational structures. As expressed by an employee:

'We knew we could count on colleagues recognized as digital champions who helped us access Digital Mindset on the online learning platform; sometimes they were relevant and known managers in the company and sometimes just colleagues, peers, like me'.

Second, digital champions could suggest possible improvements in the organization by leveraging digital technologies. More specifically, digital champions act

Table 3. Executing the digital engagement programme

| Initiative | Description | Focus | Digital means | Target |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------|
| Digital Mindset | Online training programme based on video clips, case studies and infographics on the potential applications of digital technologies such as big data analytics and artificial intelligence | Creating a corporate digital culture | Online learning platform of consulting firm Enterprise social networking platform (i.e. Yammer) | Entire company population |
| Digital Envisioning | Hybrid events with external guests and experts to promote and share best practices and open debates on topics related to digital transformation and strategic implications of digitalization | Envisioning and strategizing leveraging on digital opportunities offered by digital technologies | Online learning platform of consulting firm Enterprise social networking platform (i.e. Yammer) | Top management |
| Digital Labs | Structured entrepreneurial programme aimed at developing digital transformation solutions leveraging digital skills | Initiating digital transformation initiatives focused on organizational rejuvenation | Collaboration app (i.e. Microsoft Teams) | Digital champions |

as digital resources mobilizers, bridging digital skills gaps in relation to two specific critical segments of the company population: employees working in front-end services (who feel threatened owing to their possible replacement) and the hindered-access employees, with both segments not being sufficiently familiar with digital technologies. For those employees, digital champions use socialization in informal moments (such as lunch or coffee breaks) to stress the benefits of digital skills mobilization. As a digital champion put it:

‘It is not easy to have employees understand the benefits derived from the digital skill initiative and the use of new digital technology tools; however, we are getting the first encouraging results, even though this is a process that takes time’.

Moreover, digital champions were called to formally support the Human Resources department in the hiring of young and highly digitally skilled professionals who could support those senior figures with limited digital skills. The idea was to build mixed teams, as having experienced profiles who know the company history and the relevant practice is equally as important for the organizations as facilitating the engagement of new, younger profiles.

Finally, as mentioned above, the digital champions started collaborating directly with the top management through the Digital Labs initiative, bringing potential benefits and solutions to specific units or directly to the whole organization in accordance with the specific business needs expressed by internal sponsors of EnerWaterGas. Digital champions become role models for their colleagues, constituting a source of motivation for them and ensuring *transfer* in the skills mobilization process. The selected digital champions were appointed

formally and directly by the Chief Executive Officer in a ceremony during internal strategic meetings and made known within the organization through internal communications (i.e. emails and social network communications). The motivation and engagement created through digital champions are confirmed through the words of one employee:

‘It is motivating to see that the pioneering spirit of colleagues in using digital technologies is recognized regardless of their hierarchical role in the company. This new perspective pushes you to give more and contribute to improving your work and that of colleagues’.

In summary, structuring transfer programmes and the role of digital champions, together with executing transfer through dedicated programmes, digital means and digital champions, were instrumental for *disseminating digital skills*, as a core mechanism emerging from the transfer phase of the mobilization process. In Figure 1, we illustrate the overall digital skills mobilization process of EnerWaterGas. In the next section, we discuss the findings that emerged from the case and make connections with the extant literature and theoretical framing.

Discussion

As we addressed our research question on how incumbent organizations mobilize their digital skills, our findings uncovered relevant and, to some extent, counterintuitive insights that could advance our theoretical and practical understanding of the interplay between digitalization and resource mobilization in the broader context of digital transformation.

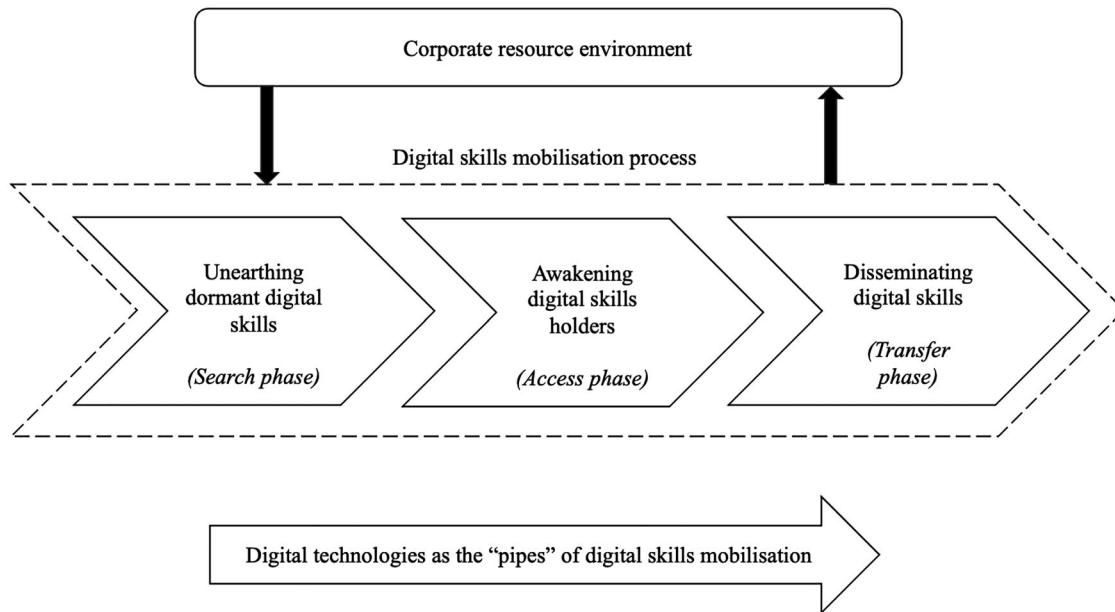


Figure 1. Digital skills mobilization process in an incumbent organization

As organizations strive to digitally transform themselves, they orchestrate an ever-growing set of digital resources. Starting from the proven assumption that digital skills are to be considered a certain form of digital resource, our study emphasizes how digital transformation could be oriented and enacted by: focusing the digital resource mobilization process on digital skills search, access and transfer; and enabling digital skills mobilization through digitalization. The digital skills mobilization process depicted in Figure 1 reveals how digital skills mobilization in incumbent firms is unlocked through the mechanisms of: (i) *unearthing dormant digital skills*; (ii) *awakening digital skills holders*; and (iii) *disseminating digital skills*.

As opposed to the predominant view in the extant digital transformation literature, which often exhibits a disproportionate focus on digital technologies and applications per se (Reis et al., 2018), our findings disclose the paramount role of personal digital skill endowment within the organization. In our case study, the organization's 'Digi4Future' plan started from the assumption that each and every individual in the organization possessed a given level of digital skills, either resulting from past training and work experience or coming from personal experience (e.g. the use of personal digital devices, gaming, passions and interests). Therefore, the firm could already be seen as a pool of both uncovered and hidden digital skills; it was the plan's objective to make these digital skills surface, so as to mobilize and recombine them in a broader Digital Transformation execution. The incumbent organization had to be capable of leveraging its own 'embedded digitalization', understood as the existing combination of formal and informal digital skills residing in individuals. Per-

sonal digital skills endowment hence served as the input for the mobilization process.

As for the search for digital skills, which required identifying where controlling resource holders are located (Clough et al., 2019), our case study reveals how the incumbent enacted search through the mechanism of *unearthing dormant digital skills*: contrary to what happens with new ventures, digital skills pre-exist within an incumbent organization but mostly lie idle, covered and bridled by established organizational processes and roles. Identifying and unearthing prospective resource providers internally represents a remedy for the common misleading interpretation of open innovation logic, which is often seen as a call for searching for resources – including skills – outside the firm's boundaries, such that the firm pursues a largely inbound open innovation approach (West and Bogers, 2014). Because of the rich resources and skills endowment that incumbent companies possess, coupled with the inherent complexity of accessing and incorporating external human capital and related skills *ex abrupto*, activating the digital transformation process with an internal unearthing mechanism for digital skills that the firm may already possess seems a promising avenue.

The case we investigated also shows how digitalization and digital means represented a key enabler to execute the digital skills search. The identification of individual digital skills needed to obtain a digital skills map at an organizational level largely relied on a digitally submitted survey, targeting almost everyone in the company, regardless of their location – in terms of function, unit and country – and of their hierarchical rank. Digitalization hence enabled the identification of resources and the building of new ties that would have otherwise

been almost impossible owing to the dispersed and scattered location of skills in the broad corporate setting. Unpacking the practice of digital assessment for digital skills also allowed us to address the question of whether digitalization reduces bias (e.g. gender, cultural, location or hierarchical bias) in the firm's search for prospective resource providers and in the resource-provision decision of resource holders. Thanks to the digital assessment of the whole company's organization via digital means, the firm's search for digital skills already existing in its people was made largely and to a significant extent unbiased as far as gender, corporate position and formal hierarchical role are concerned. Such a bias mitigation effect is perfectly embodied in the role of digital champions (Drechsler et al., 2021; Wilson and Mergel, 2022), surfacing from the search phase through unearthing. As our findings show, digital champions are individuals who took part in the digital survey and who, based on the assessment results, exhibited a high level of digital skills: however, owing to the established organizational structure, their skills were largely inactive and dormant. Digital champions' identification, selection and appointment were hence based on an assessment of their actual knowledge and skills, rather than on any other preconception – such as the original hierarchical status. This resulted in a diverse and heterogeneous team of people in terms of gender, age, culture, nationality, and hierarchical level. With specific reference to the organizational hierarchy, within the digital champions' role, lower-ranked employees were teamed up with higher-ranked managers: this finding stimulates reflection on the impact that the rise of digital technologies has on organizational design. As digital innovations typically emerge as exogenous shocks impacting pre-existing organizational structures, in order to effectively embrace and pursue digital transformation, organizations have to accept the need to partly forgo extant roles and transform their structure on a skill-based logic rather than on an upper-echelon logic (Hambrick and Mason, 1984). Moreover, the introduction of hierarchically diverse roles such as that of digital champions may reduce hierarchical similarity, which has been recently proven to bias decision-making when it comes to innovation. (Schweisfurth et al., 2023). When facing digital transformation, firms have to limit upper-echelon influence and hierarchical similarity and realize that while top-down commitment will be essential for any strategic and organizational change to actually happen, the stimuli for such change in the digital world are likely to come bottom-up, because top managers' backgrounds and characteristics may not align well with the digitally disrupted context in which firms operate today.

Together with the organization-wide mapping of digital skills, prospective digital champions' identification constituted the primary outcome of the search and access phase in digital skills mobilization.

When it came to accessing digital skills – that is, securing attention and agreement from resource holders (Clough et al., 2019) – the incumbent organization put in place the mechanism of *awakening digital skills holders*. After unearthing digital skills through the first mechanism, their holders are awakened: people are made aware that they have been recognized and certified as resourceful individuals; they are persuaded or given the chance to commit themselves to the cause; and agreement is found on the terms of their engagement, through formal and informal appointment. The feedback from the digital survey that the organization received could be interpreted as an emerging informal signal for the possession of digital skills (Backes-Gellner and Werner, 2007). Based on these answers, a selected pool of individuals were formally appointed as digital champions, to secure their attention and commitment to the digital skills mobilization process and the overarching digital transformation project in general. Through formal appointment, digital champions became an emerging middle-management layer, characterized by strong organizational identity and external recognition from both employees and managers. Such identity and recognition was enabled by an engaging storytelling (Garud, Schildt and Lant, 2014), where the very label of 'champion' echoes heroic and medieval adventures and brings to mind those who fought to defend noble causes and eventually held the ground; thus, a certain degree of 'sacrality' was bestowed upon the selection and appointment process (Corley, 2004; Thomas and Linstead, 2002), which could also help limit organizational resistance from peers. The digital champion affiliation hence elevated the status of individuals, thus ensuring access to their idiosyncratic skills and reducing the chances that these people would leave the organization owing to feeling poorly motivated.

A strong identity and formal recognition motivated digital champions not only to mobilize their own individual digital skills, but also to become catalysers for the whole organization's digital skills mobilization process, by bridging knowledge gaps, reducing the employee digital divide (Shakina, Parshakov and Alsufiev, 2021; Zhou et al., 2021), and becoming agents of change. We found how digital champions were intermediaries between digital technologies (which, per se, may be perceived as detached, cold and obscure) and the broader pool of employees and managers in the organization, in the attempt to uncover and access internal digital skills, possibly pair them with external skills, and transfer those digital skills that are considered strategic (i.e. all people belonging to a certain organizational domain should possess them) in order to capitalize on opportunities and enable digital transformation. As such, the team of digital champions becomes an organizational capability to propagate digital skills mobilization to the

whole organization, thus managing tensions between employees whose skills have become obsolete and the need to recruit employees with new skillsets in a 'humanized' manner.

As per the search phase, digitalization enabled the execution of the access phase of mobilization, because the very processes of the notification of digital champions selection, appointment ceremony and community interaction were largely organized and hosted digitally. By becoming pipes for information flow, digital means allowed the amplification and expansion of the organizational effort meant to communicate broad strategic goals and stimulate engagement, thus orienting the decisions by resource holders (i.e. the champions themselves and other employees and managers) to commit themselves to the digital skills enhancement programme.

Concerning the digital skills transfer, which consists of redeploying resources from resource holder to resource seeker and agreeing on the governance thereof (Clough et al., 2019), the incumbent organization displayed the mechanism of *disseminating digital skills*. Through formal and informal appointments, digital champions became those primarily in charge of transferring digital skills and disseminating them throughout the organization; thanks to champions, digital skills were nurtured, circulated, and gradually crystallized to become an organizational endowment. The implementation activities of Digital Mindset, Digital Envisioning and Digital Labs emerging from our case study all constitute digital skill transfer and enactment initiatives, which are helpful for recirculating, recombining and eventually leveraging such skills. The design and implementation of a set of integrated interventions, targeting different organizational populations (i.e. the whole organizational population, top managers and executives, and Digital Champions, respectively), are meant to help redeploy skills from individual digital skills holders to the organization (intended as the digital skills seeker). The decision to orchestrate three separate (though intertwined) levels of intervention was aimed at: elevating the entire company's population skillset, because digital skills are increasingly recognized as a necessary resource to perform any role; guaranteeing a strong commitment by top managers, whose involvement is key to pursuing any digital transformation endeavour, at least in the form of 'decision-making enablers', regardless of the actual digital skills currently exhibited by the management; and engaging the newly formed organizational role of digital champions in the nurturing and exploitation of their digital skills, through the launch of entrepreneurial projects that actualize those digital skills. These entrepreneurial projects leveraging digital skills became the foundations for the firm's digital transformation. Unearthing and awakening internal skills and related holders also significantly facilitates the transfer process, because formal contracts are already in place

to encourage employees to provide their contribution, as well as to limit opportunistic behaviour.

The abovementioned initiatives were largely delivered through digital means (e.g. webinars, online training sessions, digital workshops), to reach a broad audience and engage the dispersed population of digital champions; such a finding confirms the crosscutting role of digitalization to enable digital skills mobilization in all of its phases.

The outcome of 'Digi4Future' and the digitalized mobilization process it entailed was then a more visible, structured and strategically oriented organizational digital skills endowment.

Contribution to research

We contribute to knowledge at the interface between digitalization and resource mobilization in multiple ways. First, we expand current understanding of the link between digitalization and resource mobilization by emphasizing the role of digital skills as increasingly relevant digital resources (Ferrari, 2013; Van Laar et al., 2020). While the extant literature largely equates the notion of digital resources with that of digital technologies (e.g. applications, systems and platforms), our study highlights how digital skills are the cornerstone of digital transformation and should therefore be among the main objects of mobilization. On the basis of the resource mobilization process (Clough et al., 2019), we shed light on the mechanisms of unearthing, awakening and disseminating through which incumbent organizations search, access and transfer digital skills. To the best of our knowledge, few studies have provided a detailed empirical examination of the digital skills mobilization process and its phases. In particular, we contribute to this by exploring how incumbents can address digital skills gaps in a corporate context and integrate such skills with the extant resource base, a phenomenon that is largely underexplored in prior research (Shakina, Parshakov and Alsufiev, 2021). The integration of digital skills in incumbent companies requires attention, because an incumbent's pre-existing resource base can be both an asset and a liability (Dąbrowska et al., 2022; Nadkarni and Prügl, 2021). For instance, some individuals in senior positions who did not perform well in the digital skills assessment still represent an important asset for the company, as they know its history and consolidated practices; they are hence an important resource for encouraging the integration of new highly digitally skilled employees. The various Digi4Future initiatives organized by the company, which often involved both lowly and highly digitally skilled employees, also served as an integration practice.

Second, we provide knowledge on the strategic and transformative role of digital technologies by showing

how digital technologies can act as operant resources, that is, means, in the digital skills mobilization process. The resource mobilization process comprises several intermediate steps (Clough et al., 2019), which can all be uniquely influenced and enacted by digital technologies: (i) how incumbents search for or unearth prospective relevant individuals with valuable digital skills; (ii) how incumbents gain access to digital skills through awakening their holders; and (iii) how incumbents govern and interact with digital skills through dissemination. In other words, digital technologies (e.g. digitally submitted surveys, webinars, online training sessions) are the ‘pipes’ through which the digital skills mobilization process flows. Drawing on the concept of digital affordances (Autio et al., 2018; Nambisan, Wright and Feldman, 2019, p. 3), digital technologies provide new possibilities on incumbents’ resource mobilization in the digital age, for instance, by increasing the degree of openness facilitated by digital technologies in resource mobilization ‘in terms of who can participate (actors), what they can contribute (inputs), how they can contribute (process), and to what ends (outcomes)’ (Nambisan, Wright and Feldman, 2019). In other words, digital technologies can enable the identification of resources and the forming of new ties that would have otherwise been almost impossible, owing to the dispersed and scattered location of skills in the broad corporate setting. For instance, the creation of the team of digital champions can put together lower-ranked employees with top managers based on their actual knowledge of the use of digital technologies, rather than on their hierarchical status. In particular, by unveiling how digital skills mobilization offers new ways of leveraging resources that can be better utilized in the digital age, we document the process of bricolage (Baker, Miner and Eesley, 2003; Clough et al., 2019) in the resource mobilization process.

Building on the knowledge conversion processes of socialization, externalization, combination and internalization (Nonaka et al., 1994), this study reveals how digital champions mobilize and diffuse digital skills by bridging knowledge gaps and how digital skills develop and move from an individual to the collective and organizational level. By acting as intermediaries between digital technologies and tools (which may be perceived as detached, cold and obscure) and the broader pool of employees in the organization, digital champions facilitate digital transformation in incumbent organizations, thereby addressing the lack of digital skills considered to be one of the most common barriers in implementing digital transformation (Jones, Hutcheson and Camba, 2021). As such, digital champions become the firm’s resource for managing tensions between employees whose skills have become obsolete and the need to recruit employees with new skillsets. We believe that providing a first study that explores a key organiza-

tional role performed by so-called digital champions is an important step towards expanding our knowledge of organizational practices and procedures that can alter and improve the organizational design of companies willing to fully embrace digital transformation.

Implications for practice

This study offers several practical implications for executives and managers as well as employees. First, incumbent organizations may find our mobilization mechanisms and their practices useful to initiate an internal search for the digital skills the firm may already possess, when they are actively committing themselves to digitally transforming their organization. We contend that there is a misleading and abused tendency to revert to external search as the dominant open innovation logic, which is often interpreted as a call to search for resources (including skills) outside of the firm’s boundaries. As access to resources may constitute a problematic issue in any entrepreneurial and innovative endeavour, starting the search process from within the firm, with a focus on the endowment currently owned, may reduce accessibility problems. This implies acknowledging that a firm can be seen as a pool of both uncovered and latent, not fully exploited, digital skills.

Second, incumbent organizations can leverage a new organizational capability, namely digital champions. We specifically offer practical suggestions for managers of incumbent organizations on how to identify potentially relevant individuals with valuable digital skills. We reveal the role in various formal and informal initiatives to mobilize digital skills to the whole organization. We also provide evidence that having dormant digital skills is frustrating for individuals within large, rigid incumbents. If given the chance to be engaged and involved in relevant projects, like Digi4Future proved to be, people commit to them without much persuasion needed – whereas persuasion could, in contrast, be necessary in other contexts where personal risk is higher, such as in new ventures (Clough et al., 2019). The common tendency to assume that ‘all corporate people are dull’, especially when facing change, is contradicted by our evidence.

Third, our study provides insights into the design and implementation of tactics to mitigate the digital skills gaps within an incumbent context. In this regard, digital champions mitigate and manage tensions coming from less digitally skilled employees. Specifically, this study highlights formal activities (e.g. through training) and informal activities (e.g. through the agentic role of digital champions) to manage corporate digital skills gaps. Moreover, designing mechanisms for the assessment and mobilization of internal skills holds the potential to yield crucial insights into identifying knowledge gaps. Assessing and mobilizing internal skills

facilitates the development of recruiting strategies aimed at addressing these gaps. In this regard, digital champions may play a pivotal role in contributing to the overarching human resources strategy of the organization. They should excel in unearthing and accessing internal digital skills, which can be effectively paired with external competencies. This integration serves the purpose of satisfying the organization's imperative to recruit individuals equipped with new skillsets. The ability to comprehend and mobilize the internal resource endowment, supplemented as necessary by the internalization of external resources, emerges as a strategic necessity deserving heightened scholarly attention within management studies (Cavallo et al., 2022).

Finally, in order to truly embrace and pursue digital transformation, our study advises companies to transform their structure on a skill-based logic rather than an upper-echelon logic. The creation of the team of digital champions put together lower-ranked employees with top managers based on their actual knowledge, rather than their hierarchical status. When facing digital transformation, firms have to opt for a top-down approach and realize that while top management commitment will be essential for any strategic and organizational change to happen, the stimuli for such change in the digital world are likely to come from the bottom up, because (for instance) top managers' background characteristics may not align well with the digitally disrupted context in which firms operate today. We believe that our study contributes significantly to the discussion on how corporations in the digital age can strategically unlock their innovative and entrepreneurial potential through internal resource mobilization (D'Angelo et al., 2024; Murtinu et al., 2021).

Limitations and future research developments

This study is not free of limitations, and the corresponding remedies point to possible future research. First, while a single-case study is consistent with our research goal to inductively explore an under-researched topic, it limits the generalizability of the results. Therefore, future research could employ multiple-case studies to document how the mechanisms we have documented unfold for different or polar types of firms. For example, it would be intriguing to sample firms from different industries, at different level of digital maturity, or operating in different contexts of turbulence. It is especially in the mixed method approach (Johnson, Onwuegbuzie and Turner, 2007) that we recognize opportunities for researchers to fully investigate digital skills mobilization within incumbent organizations. This approach would enable a more complete understanding of digital skill mobilization in incumbent organizations.

Additionally, by using a quantitative methodology, scholars could test to what extent digital skills can facilitate digital transformation activities and entrepreneurial behaviours in incumbent organizations. For instance, future quantitative studies may investigate under which conditions individual digital skills (Oggero, Rossi and Ughetto, 2020) may influence individual or team level entrepreneurial orientation (Bolton and Lane, 2012; Covin et al., 2020). This would connect and shed light on the intersection of digital transformation and corporate entrepreneurship (for a recent review see D'Angelo et al., 2024).

Second, because we could not observe the long-term consequences of the development of digital skills on company performance, research would benefit from longitudinal studies conducted over several years and documenting the outcomes of digital skill mobilization and diffusion in the organization. By doing so, scholars could offer a more dynamic understanding of the mobilization of digital skills and its implications over time. For example, we recommend future research exploring how the tactics for mobilizing digital skills in incumbent organizations change over time. Future studies could also test the dynamic nature and the effect over time of the agentic role of digital champions on propagating digital skills mobilization to the whole organization.

Finally, while our study documents an exemplary case of successful integration and development of digital skills, scholars and practitioners could greatly benefit from observing and analysing cases of incumbent inertia caused by failures in integrating and developing digital skills in incumbent organizations. By shedding light on the pitfalls that prevent incumbents from integrating and empowering digital skills in their organizations, scholars could offer further advancements to this scholarly conversation and actionable practical implications for practitioners.

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