

Digitalization and Resource Mobilization

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Digitalization can profoundly change resource mobilization, including the search, access and governance of resources. In this introductory paper to the Special Issue on Digitalization and Resource Mobilization, we review existing research to identify different approaches towards digitalization, different conceptualizations of what resources are in this context and different aspects of resource mobilization across studies and theories. Drawing on these insights, we illustrate contemporary research examples and outline the way forward for two research streams focusing on resource mobilization in a digital context – specifically, the crowdfunding and human resources literature. We conclude by proposing four new areas to further advance the field.

Introduction

Firms are ‘open systems’ that depend on their environment to obtain a variety of resources, necessary for survival and growth (Clough *et al.*, 2019; DeSantola and Gulati, 2017; Pfeffer and Salancik, 1978). Digitalization – ‘the way many domains of social life are restructured around digital communication and media infrastructures’ (Brennen and Kreiss, 2016: 1) – can dramatically transform how firms mobilize resources from their environments and interact with (prospective) resource providers (Amit and Han, 2017; Cumming, Vanacker and Zahra, 2021b). For example, firms increasingly use modern technologies for the recruitment and selection of new employees and to manage employees working remotely (Potočnik *et al.*, 2021; Tambe, Cappelli and Yakubovich, 2019). Furthermore, new firms without a track record can nowadays mobilize financial resources via digital platforms from prospective investors located across the globe.

The aim of this introductory paper is to stimulate more research on the multitude of ways in which digitalization impacts resource mobilization. There is significant and recent research on digitalization and how it, for example, impacts human resource management (Tambe, Cappelli and Yakubovich, 2019), entrepreneurship and innovation (Nambisan, Wright and Feldman, 2019), firm strategy (Hanelt *et al.*, 2021;

Menz *et al.*, 2021), the use of data for strategic decision-making (Hartmann and Henkel, 2020; Lee *et al.*, 2022) and the creation of new financing sources (Bertoni *et al.*, 2022). However, to date, we lack a deep theoretical and empirical understanding of how digitalization affects the process of resource mobilization, that is, the search for resources, resource access and resource governance (Clough *et al.*, 2019).

In this paper, we first perform a review of the very recent literature on digitalization *and* resource mobilization covering leading management, entrepreneurship and human resource management journals. We identify five approaches to how digitalization has been used by scholars. We also identify different conceptualizations of what resources are. Next, we continue the conversation by identifying a collection of contemporary research on digitalization and resource mobilization performance. Then, we build on these insights to outline a research agenda for theory development in two streams of digital research, namely crowdfunding in management, entrepreneurship and finance and human resource management (HRM). We close with a brief conclusion.

Digitalization and resource mobilization: The state-of-the-art

In this section, we present a review of state-of-the-art research on digitalization *and* resource mobilization. For this purpose, in November 2023, we queried Scopus for articles meeting the following criteria: (i) articles

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published in ABS 4 and 4* ranked journals from 2017 to 2023 and (ii) articles having the following keywords: ('Digital*') and ('Reso*') included in either the title, abstract and/or listed among the keywords. We screened these articles for relevance/fit with our topic, resulting in 29 articles for inclusion in our review. The articles are listed in Table 1, reporting the authors, year of publication, journal, title, year of publication, research question or focus, sample, key findings, how digitalization is exploited and what resources are considered. Some interesting conceptual insights emerged, with regard to both digitalization and resources. We first discuss the five approaches that we have identified in how research has approached digitalization, and then focus on resources.

Digitalization

The studies in Table 1 have exploited digitalization in at least five different ways, which we describe with specific examples in more detail below.

Approach 1: Digitalization as a research context to examine management issues beyond digitalization. Multiple studies examine digitalization as an interesting (empirical) context to examine broader management issues beyond digitalization. Hampel, Tracey and Weber (2020), for example, examine how an analogue instant film producer, which focused on a niche community, pivoted to become an analogue–digital photography firm focused on making analogue photography relevant to the digital world. Their focus is not so much on the effects of digitalization itself but on how a firm's pivot (in this case from analogue to analogue–digital) impacts a firm's relationship with (resource-providing) stakeholders. In essence, any other pivot could have been used for the purpose of the study. In a similar way, Khanagha *et al.* (2018) examine how Ericsson responded to cloud computing, which served as a technological disruption in its environment. But in essence, any technological disruption (linked to digitalization or not), or any source of disruption, could have served a similar purpose of understanding how such disruptions require the redeployment of existing and/or the acquisition of new resources. Malik *et al.* (2023) examine how the construct of employee experience is linked to employee engagement in the context of an artificial intelligence (AI)-based human resource (HR) ecosystem, thereby addressing a theoretical question that is important beyond digitalization.

Approach 2: Digitalization as a research context within which to (re)examine management issues. Another stream of studies presents digitalization as a context with more or less pressing problems for firms, which requires the examination (or re-examination) of broader management issues in this interesting context. For ex-

ample, prior research – outside the digital context – has examined how new firms can influence the level of attention they receive from information intermediaries through their sense-giving activities and how the information provided by information intermediaries affects people's impressions (and valuation) of firms (e.g. Petkova, Rindova and Gupta, 2013; Pollock and Rindova, 2003). However, winning support from an intermediary is expected to become more decisive but also more challenging as digital entrepreneurship grows (Nambisan, Wright and Feldman, 2019). Accordingly, Pollock *et al.* (2023) examine how new digital ventures attract intermediary coverage and benefit from intermediary support.

As another example, Parhankangas and Colbourne (2023) examine Indigenous entrepreneurship within the crowdfunding context. As they argue, marginalized groups usually lack access to capital or are unable to obtain financial support from traditional sources of entrepreneurial finance. However, the crowdfunding context has been heralded as 'democratizing' capital access (e.g. Buttice and Vismara, 2022; Cumming *et al.*, 2021a; Fisch, Meoli and Vismara, 2022), thereby presenting new opportunities for marginalized entrepreneurs or groups. Accordingly, Parhankangas and Colbourne (2023) tackle the important question of how Indigenous peoples and organizations use crowdfunding to address individual or community socioeconomic needs and objectives. Pekkala (2022) examines inequality regarding digital participation in organizations, where, for example, social media serve an important communication function.

Approach 3: Digitalization providing access to unique data. Other scholars exploit the digitalization context to obtain unique data that uncovers processes, actions or firms that otherwise remain invisible. For example, Lucas, Bellavitis and Park (2023) examine over 220,000 recruiting interactions between technology ventures and job candidates on a digital networking platform. This study focuses on the 'two-sided' labour market dynamics between technology ventures and prospective employees that are rarely accounted for in employee recruitment studies. The digital networking platform, however, provided unique data to examine issues that would otherwise remain largely invisible to researchers. As another example, Colombo *et al.* (2022) delve into the market, laden with uncertainty, of blockchain digital finance. They apply research from social psychology and labour economics to investigate how the facial attractiveness of founder chief executive officers influences firm valuation. Digitalization provides access to unique data about founders and allows for the exploitation of a context with unsophisticated individual investors making decisions amidst high information asymmetries.

Table 1. The 29 articles included in our review

Reference	Journal	Title	Research question/focus	Data	Findings	Digital	Resources
Amit and Han (2017)	SEJ	Value creation through novel resource configurations in a digitally enabled world	How firms create value through resource configurations in a digitally enabled world	NA (conceptual)	Digital advances have expanded firms' reach to resources and enhanced the effectiveness at which resources are exchanged, combined and integrated	Approach 4: A context that has ramifications for resource orchestration	Customers as contributors of value-creating resources, including data, money, insights about product innovation, time, space, vehicles
Khanagha <i>et al.</i> (2018)	JMS	Embracing bewilderment: responding to technological disruption in heterogeneous market environments	How firms respond to the emergence of disruptive technologies	Longitudinal case study approach: Ericsson's response to the emergence of cloud computing	The success of incumbents' responses depends on their capability for misalignment, which allows them to manage the inconsistencies in strategic direction, structure and resource configuration associated with a complex innovation process	Approach 1: Source of disruption in the firm's environment that requires the redeployment of existing and acquisition of new resources	Especially human resources, but also technology and money
Browder, Aldrich and Bradley (2019)	JBV	The emergence of the maker movement: implications for entrepreneurship research	The conditions under which the maker movement can foster entrepreneurship, and the ways in which it can enrich disparate research streams	NA (conceptual)	Four external enabling forces (i.e. digitization, economization, collaboration and user innovation) shape the resource dimensions and outcomes of the maker movement	Approach 2: External enabler of the maker movement	Social, knowledge and technology
Cooke <i>et al.</i> (2019)	HRM	Human resource management and industrial relations in multinational corporations in and from China: challenges and new insights	HRM issues that multinational corporation in and from China might face	NA (conceptual): editorial to a special issue	Communication in a digital context can be harder across subsidiaries; implications of digital technology development for performance management and increasing productivity	Approach 4: Digitalization presenting unique aspects that require a need to update existing theories	Human capital/resources in (subsidiaries of) multinational corporations in and from China
Kaše, Saksida and Mihelič (2019)	HRM	Skill development in reverse mentoring: motivational processes of mentors and learners	Motivational processes in the transfer of digital skills from younger to older workers in a digital skill mentoring initiative	Cross-sectional study with survey data	Younger people more extrinsically motivated to mentor older workers; older individuals more intrinsically motivated to learn digital skills	Approach 2: Digitalization (focus on digital skills transfer) offers the empirical context within which to examine reverse mentoring	Digital knowledge skills in employees; essentially humans are the resources here

Table 1. (Continued)

Reference	Journal	Title	Research question/focus	Data	Findings	Digital	Resources
Hampel, Tracey and Weber (2020)	AMJ	The art of the pivot: how new ventures manage identification relationships with stakeholders as they change direction	How new ventures manage relationships with stakeholders as they pivot	Qualitative process study	Ventures can remove the hostility of stakeholders and rebuild connections by exposing their struggles	Approach 1: The research context: a venture pivoting from the niche analogue photography to analogue instant photography in a digital world	From finance and technical knowledge to visibility and sales
Silic <i>et al.</i> (2020)	HRM	The effects of a gamified human resource management system on job satisfaction and engagement	How does the experience of HR-based gaming predict job satisfaction and engagement?	398 employees (longitudinal survey study)	Experience of gaming (HR focused) positively predicted job satisfaction and job engagement	Approach 2: The effect of HR practices on job engagement and job satisfaction is examined by focusing on gamified HRM	Human resources
Sutherland <i>et al.</i> (2020)	WES	Work precarity and gig literacies in online freelancing	How online freelance gig workers need to adapt their skills to leverage online platforms	Qualitative interviews with 20 online freelancers and 19 clients	Gig workers need to adapt their skills and work strategies in order to leverage digital platforms for their productivity (e.g. building reputation, effective self-presentation through platforms' communication channels)	Approach 2: The gig economy (here professional freelance work) is a specific empirical context that requires different approaches to skill development in freelance work, working with online platforms	Knowledge/skill development in online freelance workers
Bai and Velamuri (2021)	JMS	Contextualizing the sharing economy	The effectiveness of the sharing economy as a governance structure	NA (conceptual)	The emergence of the sharing economy is enabled by the rise of digital applications and changes in consumption attitudes	Approach 4: External enabler of the sharing economy changes in consumption attitudes	Algorithms, marketing capabilities, coordinative capabilities, cars, services
Davis and DeWitt (2021)	JM	Organization theory and the resource-based view of the firm: the great divide	Describes a looming existential crisis for both strategy and organization theory as traditional firms are increasingly unsustainable due to the digital transformation	NA (conceptual)	Describes the impact of 'the digital revolution' on product, capital, labour and supply markets	Approach 5: Digitalization presents a threat to organization theory and strategy	Physical, financial and human resources

Table 1. (Continued)

Reference	Journal	Title	Research question/focus	Data	Findings	Digital	Resources
Markman <i>et al.</i> (2021)	JMS	The distinctive domain of the sharing economy: definitions, value creation and implications for research	Provide a definition that distinguishes the sharing economy from other forms of economic organization and resource orchestration	NA (conceptual)	The distinctive feature of sharing platforms is that they provide users with temporary access to assets	Approach 4: The sharing economy reduces commercial friction by easing resource access and orchestration	The types of assets, labour or resources employed in sharing platforms can vary greatly
Verbeke and Hutzschenreuter (2021)	AMP	The dark side of digital globalization	What is the dark side of digital globalization for the multinational enterprise?	NA (conceptual)	Most studies have focused on the bright side of digitalization for multinational enterprises but we need a balanced view that also accounts for the dark side	Approach 2: There are also challenges and costs of higher digital intensity and global digitalization	Digital and non-digital resources
Li (2022)	BJM	Sustainable competitive advantages via temporary advantages: insights from the competition between American and Chinese digital platforms in China	The nature of platform competition and how it differs from conventional multinational firms	Qualitative, longitudinal study	Some Chinese digital platforms used their institutional advantages in China to offset the competitive advantages of American digital platforms based on superior resources and capabilities and strong market positions	Approach 2: A context that challenges traditional ways of thinking about strategy and international competition	Not explicitly defined
Pekkala (2022)	HRMJ	Digital inclusion and inequalities at work in the age of social media	How importance of social media communication and interaction may affect inclusion in knowledge-based organizations	24 managers (interviews)	Individual and organizational factors can contribute to inequality related to digital participation in organizations, specifically using social media in organizations: 'increasing the significance of communicative work, is creating digital divides among the working population' (p. 14)	Approach 2: Digitalization requires re-examining inclusion in this specific context, as new challenges (e.g. diversity of digital skills) emerge	Human resources (knowledge) in a digital world; inclusion and (in)equality
Solberg <i>et al.</i> (2022)	HRMJ	When managers believe technological ability is fixed	Effect of managers' technological ability fixed mindset on supporting employees with digitalization initiatives	185 employees and 88 managers (survey)	Managers with a fixed technological ability mindset (i.e. belief that this ability is stable) provide less developmental support to employees in digitalization initiatives, this in turn has negative implications for employees' technology approach	Approach 2: Digitalization as an empirical context within which to (re)examine management issues, in this case developmental support by managers to increase digital skills in the workforce	Human resources, knowledge

Table 1. (Continued)

Reference	Journal	Title	Research question/focus	Data	Findings	Digital	Resources
Yu <i>et al.</i> (2022)	HRM	Winning applicants and influencing job seekers: an introduction to the special issue on employer branding and talent acquisition	Employer branding and talent acquisition in the digital age (e.g. using social media)	NA (conceptual)	With the use of social media, employer branding and talent acquisition have become more dynamic, more complex; there is a shift in power	Approach 2: Employer branding and talent acquisition in the digital age	People (human resources)
Aroles, Bonneau and Bhankaraully (2023)	WES	Conceptualising 'meta-work' in the context of continuous, global mobility: the case of digital nomadism	Examine the dimensions of meta-work (resource mobilization, articulation, transition and migration work) of digital nomads	A qualitative approach; online content analysis	The study shows the distinctiveness of the meta-work activities of digital nomads and conceptualizes meta-work in the context of continuous, global mobility	Approach 2: A context to examine meta-work	Socio-material infrastructures allowing digital nomads to work when they arrive in a new environment
Bucher, Bader and Deller (2023)	JMS	Cross-border knowledge transfer in the digital age: the final curtain call for long-term international assignments?	Can digital knowledge transfer across borders serve as a valuable alternative to long-term international assignments?	Interviews with HR managers and their subsidiary counterparts	Identified multiple core aspects of successful digital knowledge transfer	Approach 4: An alternative mechanism for cross-border knowledge transfer	Knowledge
Grimshaw <i>et al.</i> (2023)	HRMJ	Fragmenting work: theoretical contributions and insights for a future of work research and policy agenda	Importance of inter-organizational networks in the digital age	NA (conceptual)	Recommendation that for planning for the 'future of work' related to work on digital platforms, it is particularly important to understand inter-organizational relations (e.g. with partners, suppliers) for HRM theory and practice	Approach 2: A context to examine new questions about the future of work concerning digital platforms	Human capital
Keegan and Meijerink (2023)	HRM	Dynamism and realignment in the HR architecture: online labour ecosystems and the key role of contractors	How online labour platforms change the role/use of external contractors in organizations as a resource	NA (conceptual)	Online labour platforms enable organizations to recruit and manage contract-based workers in a gig economy more easily; challenge assumptions in HR architecture model – external contractors have more value-creating potential than previously assumed	Approach 4: Online labour platform ecosystems require updating propositions based on the HR architecture model; human capital can be external and of strategic value	Human resources/capital external to the organization; value creation through digital capability to access and manage these resources

Table 1. (Continued)

Reference	Journal	Title	Research question/focus	Data	Findings	Digital	Resources
Leonel <i>et al.</i> (2023)	JMS	Firms' response to slacktivism: when and why are e-petitions effective?	Do e-petitions matter? And if so, when and why are firms responsive to e-petition requests for social change?	1587 e-petitions targeting Fortune 500 firms from 2012 to 2017 through the platform Change.org	The activation of social media mechanisms pressures firms to concede to e-petitioner demands; firm visibility and resource availability can represent boundary conditions for the firm's vulnerability and ability to respond to digital activism	Approach 2: Enabler of digital activism	Free cash flow
Lucas, Bellavitis and Park (2023)	SEJ	A cloud's silver lining? The impact of policy interventions on new and maturing technology ventures' online recruitment	How do policy interventions affect technology ventures' recruitment efforts? Do they affect these ventures' ability to recruit entrepreneurial employees specifically? How do strategic recruiting responses to policy interventions differ for young versus maturing technology firms?	A quantitative study of over 220,000 recruiting interactions between technology ventures and candidates on a prominent digital networking platform	Young technology ventures were enabled to hire more during the early COVID-19 policy interventions, whereas maturing ventures were enabled to hire differently – acquiring candidates with greater entrepreneurial orientation	Approach 3: Provides unique data to observe the complete recruitment process	Human resources
Malik <i>et al.</i> (2023)	HRM	Employee experience – the missing link for engaging employees: insights from an MNE's AI-based HR ecosystem	Impact of AI-assisted HR on employee experience and engagement and how this fits into an organization's ecosystem	Single case study (qualitative design)	High levels of employee experience are related to high employee engagement through AI-assisted applications; engagement platform offers high level of personalization; can help HR with strategic talent management	Approach 1: Study suggests insights into the link between employee experience and employee engagement	Human resources
Parhankangas and Colbourne (2023)	ETP	Indigenous entrepreneurship and venture creation: a typology of indigenous crowdfunding campaigns	Explore the ways in which crowdfunding campaigns may act as pathways for emancipation for Indigenous peoples	Explorative study of over 1300 Indigenous crowdfunding campaigns launched between 2010 and 2020	A typology of Indigenous emancipatory crowdfunding across four orientations: (i) commercial, (ii) cultural, (iii) community and (iv) activist campaigns	Approach 2: A context that can facilitate access to finance for marginalized communities and give value back	Finance and community-based resources (people, land, capabilities, culture, etc.)
Pollock <i>et al.</i> (2023)	JMS	The valorising pitch: how digital start-ups leverage intermediary coverage	How do new digital ventures engage and benefit from intermediary support?	Qualitative, inductive study	Industry analysts do not just identify but also create the value of ventures	Approach 2: A context to examine how firms garner intermediary support	Potential customers and other resource providers

Table 1. (Continued)

Reference	Journal	Title	Research question/focus	Data	Findings	Digital	Resources
Putra, Pandza and Khanagha (2023)	SEJ	Strategic leadership in liminal space: framing exploration of digital opportunities at hierarchical interfaces	How leaders of an incumbent firm frame exploration of digital opportunities	A case study of an entrepreneurial initiative by a Fortune 500 provider of telecommunications infrastructure	Leaders adopt a paradoxical framing of exploration, thereby creating a liminal space with unstable boundaries between exploration activities aligned with core resources (i.e. convergent) and those perceived as divergent	Approach 1: A context to examine how firms explore new opportunities aligned and/or divergent with their existing resources	The firm's existing core resources, organizational resources and knowledge resources
Silva and Gerwe (2023)	JMS	Micro entry theory: understanding the drivers and effects of the entry of micro players in the context of digital platforms	What drives the entry of micro players (and specialists) in the market through digital platforms, and what are the performance consequences of entry?	Accommodation industry in Spain: a first panel dataset includes 4442 city/month observations of properties rented by micro players and specialists in the top tourist destinations in Spain; a second panel includes 2662 city/month observations of profitability	The entry of micro players is driven by high unemployment rates and platform legitimacy; the entry of specialists decreases generalists' performance, while micro players' entry is complementary	Approach 2: Digital platforms as enablers of micro entry because they drastically reduce transaction and entry costs for small players with limited resources and capabilities	Home, second residence, spare time, spare car, spare space in a car, etc.
Weststar and Dubois (2023)	WES	From crunch to grind: adopting servitization in project-based creative work				Approach 2: A context to examine servitization	
Zeng, Yang and Lee (2023)	JMS	Resource orchestration and scaling-up of platform-based entrepreneurial firms: the logic of dialectic tuning	What specific actions and capabilities do platform-based entrepreneurial firms possess and employ to scale up a platform ecosystem?	A longitudinal case study of Tencent, one of the largest platform-based entrepreneurial firms	While extant research predominantly associates firm growth with internal resources and capabilities, the authors argue that the relational properties of interaction and integration between internal and external resources are what gives rise to the capabilities needed to scale up a platform	Approach 2: A context to study scaling	Venture capital, customer data, technological resources, infrastructure and network ties

Approach 4: Digitalization presenting unique aspects that require a need to update existing theories. All of the above approaches towards digitalization can provide novel theoretical and empirical insights. They can also provide evidence on the generalizability – an increasingly pressing issue – of theories and prior empirical studies in a digital context. However, they cannot establish the *unique impact* of digitalization on theory (and people, firms, resource mobilization, etc.) because they only examine the digital context; hence, they lack a comparison group. For example, Putra, Pandza and Khanagha (2023) present important new insights on how firms explore new digital opportunities aligned with and/or divergent from their existing resources. However, these insights might not be unique or limited to digital opportunities and rather function for any new opportunity.

A fourth stream of research focuses on the unique aspects of digitalization. For example, Bai and Velamuri (2021) develop a conceptual model of how the sharing economy compares with traditional governance structures (i.e. markets and firms) and other new governance structures, including other platform economies and collaborative ecosystems. Moreover, as Amit and Han (2017: 229) argue in another conceptual paper, '[t]he profound ramifications of digitization have yet to be incorporated in conceptualizing how firms conceive of, design, and organize their resource configurations'. Ultimately, they present a framework of resource orchestration fit for a digitally enabled world that points towards novel resource configurations enabled by digitalization.

Approach 5: Digitalization challenging existing theories. Other studies have focused on the threats digitalization poses for prominent theories and entire fields. For example, Davis and DeWitt (2021) observe that traditional firms can become increasingly unsustainable due to the digital transformation. Accordingly, digitalization represents a major challenge for the field of strategy that focuses on explaining differences in firm performance (e.g. McGahan and Porter, 1997; Rumelt, 1991; Vanneste, 2017) and its key frameworks, such as the resource-based view of the firm (Barney, 1991). Similarly, organization theory focuses on the question of why firms do what they do. As Davis and DeWitt (2021: 1696) suggest, both fields 'face a new existential threat. What is organization theory without organizations? Why explain firm performance if there are no more firms?' As Davis (2010: 691) also observed, organizational theory can appear to be a 'living museum of the 1970s'. Sudaby, Hardy and Huy (2011) therefore ask: 'Where are the new theories of organization?' Overall, digitalization can provide a fertile ground for the development of novel perspectives.

As another example, Keegan and Meijerink (2023) theorize about online labour platform ecosystems and

the changed role of contractors (i.e. external human capital) in organizations. Their analysis and propositions question assumptions of the influential HR architecture model by Lepak and Snell (1999), according to which workers who are perceived as having high value (i.e. core to the firm's competitive advantage) have internal employment contracts to ensure skill retention, development and alignment with the organization's strategy. By contrast, human capital perceived to have 'limited strategic value' is 'acquired by means of an external employment mode' (Keegan and Meijerink, 2023: 16), for example, including contract-based work arrangements. Keegan and Meijerink (2023) propose a 'realignment of HR architecture' in the context of online labour market platforms, which changes the dynamics and challenges previous assumptions – where the capabilities of these platforms' external human capital (e.g. contractors) can be strategically valuable to platform firms.

Resources

The concept of resources is central to various theories across different fields, each with a distinct perspective on what constitutes a resource. For example, probably most influential in the management and strategy literature is the resource-based view (RBV) of the firm. Resources, as a general term, are 'all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. *controlled by a firm* that enable the firm to conceive of and implement strategies that improve its efficiency and effectiveness' (Barney, 1991: 101; emphasis added). However, the RBV particularly emphasizes 'strategic' resources or valuable, rare, inimitable and non-substitutable (VRIN) resources that firms possess and enable them to achieve competitive advantage (Barney, 1991; Crook *et al.*, 2008). Resources such as reputation, patents and unique knowledge have been identified in the literature as possible strategic resources (e.g. Barney and Arikan, 2005).

Alternatively, in social capital theory, the firm's external networks are expected to play a key role in its performance (e.g. Burt, 1992; Granovetter, 1985). Social capital represents 'the set of resources, tangible or virtual, that accrue to a corporate player through the player's social relationships, facilitating the attainment of goals' (Gabbay and Leenders, 1999: 3). Thus, social capital theory stresses the relational characteristics with *external* entities as the root for value creation (Lee, Lee and Pennings, 2001). The ability to mobilize resources, attract customers and identify entrepreneurial opportunities is conditional on external networks, as social relations mediate economic transactions and provide organizational legitimacy (Granovetter, 1985; Lee, Lee and Pennings, 2001). Relatedly, in agency theory, the third type of agency problem deals with the conflict of interests between shareholders and stakeholders. This

conflict can influence resource allocations and give rise to agency problems with various stakeholders such as governments, employees or debtholders (Savio *et al.*, 2024).

In HRM, resources are again conceptualized somewhat differently. The focus is on people here, also referred to as human resources, human capital or social capital, which are viewed as integral to an organization's capability and competitive advantage. HRM practices are seen as instrumental in deploying, developing and building these resources for organizational performance. Several theoretical models propose how HRM practices lead to organizational performance, arguing for an alignment between the business strategy and HRM systems in order to achieve organizational goals (e.g. Becker and Gerhart, 1996; Delery and Roumpi, 2017; Huselid, 1995). The RBV of an organization (Barney, 1991; Barney, Wright and Ketchen, 2001) has been particularly influential here, especially in the field of strategic HRM (e.g. Gerhart and Feng, 2021; Shaw, 2021), where approaches suggest that rather than focusing on individual best practices, HRM systems (i.e. combinations of HR practices) that are aligned with the business strategy are harder to imitate by competitors (Becker and Gerhart, 1996). At the heart of human capital are knowledge and skills (e.g. Crook *et al.*, 2011), which also play a central role in digitalization in organizations as people adapt to new processes, products and operations. Empirical evidence supports the RBV, showing that human capital is a key predictor of firm performance (e.g. see the meta-analytic review of Crook *et al.*, 2011).

In their review of the literature on how entrepreneurs mobilize resources, Clough *et al.* (2019: 243) noted that 'disproportionate attention is paid to financial capital as an outcome variable compared with other forms of capital'. In Table 1, we see a somewhat broader focus in the literature on digitalization and resource mobilization. However, this broader focus is generally observed in conceptual articles only. We also observe that empirical studies generally conceptualize resources more narrowly, as financial resources or human resources, most likely driven by data considerations.

Contemporary research on digitalization and resource mobilization

In this section, we examine how the selected papers in this special issue contribute to advancing our understanding of digitalization and resource mobilization.

The first approach uses digitalization as a research context to examine management issues beyond digitalization. As an example, the study by D'Angelo, Ghezzi and Cavallo (2024) examines how a traditional utility company can utilize its existing digital skills to embrace

digital transformation. Drawing on the concept of resource mobilization, it identifies mechanisms for discovering, accessing, and transferring digital skills within the organization. The study therefore highlights the crucial role of digital champions in driving this process and emphasizes the use of digital technologies as operational resources to facilitate skill development. Contrary to the prevailing focus on technology itself, the study underscores the importance of individual digital skill endowment within the organization. Through a case study, it reveals how the organization's 'Digi4Future' plan aimed to harness both uncovered and hidden digital skills among its employees to drive digital transformation. This emphasis on personal digital skill endowment can serve as the foundation for a broader mobilization process within established organizations, beyond digitalization.

Audretsch and Belitski (2024) exemplify the second approach to digitalization we previously discussed by utilizing digitalization as an empirical context to re-examine management issues. Their focus on the impact of digital technologies on firm growth and resource mobilization within emerging industries contributes to merging two distinct literature strands on firm growth and resource mobilization. The paper distinguishes firm growth from other outcomes resulting from investments in digital technology, encompassing the development of cost-efficient processes, innovation, scalability, resilience and resource allocation. Expanding on the knowledge-based view of a firm, the authors argue that the digital technologies and capabilities deployed by digitally advanced firms confer a competitive advantage. The study demonstrates that digitally advanced firms can enhance the rate of firm growth by simultaneously increasing both equity and debt capital intensity, shedding light on the factors influencing firms' attainment of higher growth levels. Furthermore, the paper elucidates the moderating role of two boundary conditions, namely firm age and size, in the relationship between digitally advanced firms and resource mobilization, as well as firm growth.

Altmeier and Fisch (2024) represent the third approach to digitalization, leveraging the digitalization context to obtain unique data for examining issues that are otherwise not readily visible to researchers. They enhance our understanding of the role of psychology, specifically psychological attributes, in business angel investments. While prior research acknowledges the significance of psychological attributes in shaping various aspects of business angels' decision-making, Altmeier and Fisch explore the largely unexplored relationship between business angel psychology and investments in successful portfolio ventures. Leveraging data from Twitter and employing a language-based text analysis, the authors gain insights into the psychological attributes of business angels.

Digitalization introduces unique aspects necessitating updates to existing theories, as identified by the fourth approach. Alexander and Dakos (2024) address this by reviewing the literature on blockchain finance within the context of entrepreneurial finance and signalling theory. Focusing on initial coin offerings, the paper explores how various token offering and venture characteristics serve as signals, reducing information asymmetry between ventures and prospective investors. The authors track changes in the fundraising success of token offerings over time, resolving conflicts in previous research based on smaller and different samples. They reveal that structural changes in the token-offering market have altered the determinants of fundraising success, introducing a new set of variables explaining why some token offerings are more successful than others.

Finally, Approach 5 is exemplified by Kazantsev, Batolas and White (2024), in which digitalization is used to challenge existing theories. The study starts from the observation that resource mobilization poses a significant challenge for firms navigating digital transformation, yet limited theory exists on how non-financial resources are mobilized via platforms in this context. This study adopts an inductive approach to address this gap and develops a conceptual framework illustrating how actors mobilize data and other resources in the digital transformation landscape. It challenges signalling theory to demonstrate how partnerships with universities enhance legitimacy and credibility for resource seekers. Focusing on the regulated animal healthcare industry, the study highlights asymmetries in information, dependence and orientation, proposing social exchange as a mechanism to address these challenges. Ultimately, the study contributes theoretical insights and practical implications for effectively mobilizing data in regulated environments amidst digital transformation.

Implications for future research

As we previously highlighted, our literature review on digitalization *and* resource mobilization did not aim to provide a comprehensive overview of all the literature on digitalization *or* resource mobilization in isolation. We believe the connection between the two is strong and offers avenues for future research from different lenses. For instance, entrepreneurial finance has traditionally dealt with what attracts investors to startups. Recent studies have focused on how digitalization impacts this process. A related perspective would be to investigate what attracts employees to startups. It is possible that many of the same factors are important for both parties, with the possibility of a positive feedback loop. For example, startups with strong founding teams may attract talent directly, but this effect may be amplified by the fact that they also attract top investors.

We provide two examples of research streams that have remained under-explored in our review, namely crowdfunding and HRM. By definition, the study of crowdfunding, where entrepreneurs aim to raise money through an open call on the Internet, involves an effort to mobilize financial resources in a digital context. HRM similarly focuses on people as resources in and outside organizations. Below, we describe how both research streams can benefit from our previous analysis of the multiple ways in which digitalization can be exploited by researchers and the multiple conceptualizations of resources.

Crowdfunding research

Crowdfunding research has shown tremendous growth in fields such as management, entrepreneurship and, to a somewhat lesser degree, finance (Vismara, 2022). Crowdfunding is an umbrella term that captures different forms of crowdfunding (e.g. Ahlers *et al.*, 2015; Mollick, 2014): donation crowdfunding, where the crowd simply donates funds; rewards-based crowdfunding, where the crowd provides funds in expectation of a reward such as an often personalized product or service; lending-based crowdfunding, where the crowd provides funds in return for the future repayment of the principal amount and interests; and equity-based crowdfunding, where the crowd provides funds in return for equity or equity-like claims.

Consistent with Approaches 1 and 2 to digitalization, extant crowdfunding research has primarily focused on the multitude of factors that relate to fundraising success on crowdfunding platforms (e.g. Ahlers *et al.*, 2015; Allison *et al.*, 2015, 2017, 2022; Kleinert, Volkman and Grünhagen, 2020; Piva and Rossi-Lamastra, 2018; Rossi, Vanacker and Vismara, 2021; Vismara, 2016) and the funding dynamics as firms are listed on crowdfunding platforms (e.g. Burtch, Ghose and Watal, 2016; Cong and Xiao, 2024; Cumming *et al.*, 2022; Hornuf and Schwienbacher, 2018; Kuppaswamy and Bayus, 2017; Vismara, 2018). For example, Ahlers *et al.* examine how human capital, social capital and intellectual capital, uncertainty and equity retention influence fundraising success in equity crowdfunding. Another stream of crowdfunding work has also pointed out that raising money on crowdfunding platforms only represents the beginning (e.g. Mollick and Kuppaswamy, 2014; Signori and Vismara, 2018). Once the money is raised, entrepreneurs still need to develop viable firms that grow and perform. Research has made progress in understanding what happens to firms after successful crowdfunding campaigns in terms of follow-on fundraising, firm survival, performance and innovation (e.g. Blaseg, Cumming and Koetter, 2021; Coakley, Lazos and Liñares-Zegarra, 2022; Hornuf, Schmitt and Stenzhorn, 2018; Signori and Vismara, 2018; Walthoff-Borm, Vanacker and Collewaert, 2018a).

Our framework of the multiple ways in which digitalization has been employed by researchers suggests important avenues forward for crowdfunding research. More specifically, we highlight three key issues and examples.

First, it is relatively easy to observe the firms that raised crowdfunding, venture capital and, to a lesser degree, business angel funding – these firms are usually covered in large-scale commercial databases, such as CrunchBase (e.g. Rossi, Vanacker and Vismara, 2021) or ThomsonOne (e.g. Dutta and Folta, 2016). However, consistent with Approach 3 on digitalization, the crowdfunding context has made visible a set of firms that generally remained invisible. In particular, researchers can now observe entrepreneurs who tried to raise money on crowdfunding platforms but failed to do so. This set of entrepreneurs is generally not visible in private (non-digital) financing markets, such as the angel or venture capital markets (Block *et al.*, 2021). Rather surprisingly then, only a limited set of studies have examined what happens to the entrepreneurs who were unsuccessful in raising funds (e.g. Piening *et al.*, 2021; Rossi, Vanacker and Vismara, 2023; Stevenson, Allen and Wang, 2022). While much research in entrepreneurial finance has focused on the intersection between demand and supply for financing (the financing obtained), crowdfunding represents a unique opportunity for scholars to present novel insights into the demand for entrepreneurial finance (e.g. Walthoff-Borm, Schwenbacher and Vanacker, 2018b).

Second, by focusing on what happens to firms on crowdfunding platforms, much less attention has been paid to the impact of the digital aspect of crowdfunding on resource mobilization. To provide a specific example, research by Kleinert, Volkmann and Grünhagen (2020) focuses on how signalling theory can serve as a useful framework to understand why prior financing and related third-party signals positively affect campaign success on crowdfunding platforms. While this represents an important insight, third-party signals might equally influence other types of investors and have similar effects in non-digital contexts, such as venture capital markets, public markets and inter-organizational collaborations (e.g. Ozmel, Reuer and Gulati, 2013; Plummer, Allison and Connelly, 2016; Stuart, Hoang and Hybels, 1999). Thus, consistent with Approach 4 on digitalization, an important question remains of whether signals are more or less effective for fundraising in crowdfunding markets versus different (non-digital) markets. It provides an opportunity to examine how and what aspects of the digital context influence the boundary conditions of signalling theory.

Third, the fact that there are so few scams being found and funded on crowdfunding platforms represents an anomaly for many theories on informational asymmetry and governance in financial markets. Early on, prac-

tioners also had very doubtful views: in the United States, state security regulators put the relatively new investment phenomenon of crowdfunding at the top of their annual investment scams list, arguing that the push of ‘crowdfunding ... to a true investment model, ... will make it even more of a lure for swindlers’.¹ Consistent with Approach 5 on digitalization, such an anomaly presents a challenge to existing theoretical frameworks and suggests a need for novel frameworks adapted to the crowdfunding (and, more broadly, digital) context. Some studies have pointed towards ‘wisdom of crowd’ effects (Mollick and Nanda, 2016; Vismara, 2018). Others have presented conceptual ideas on how governance models might work differently in crowdfunding markets to reduce adverse selection and moral hazard issues (Cumming, Vanacker and Zahra, 2021b). Still others have argued that many past theories on information scarcity require adjustment in a new digital world with informational abundance (Dushnitsky and Matusik, 2019). However, there is still a dearth of research on these issues within the crowdfunding literature.

Moreover, our focus on the broad definition of what resources and resource mobilization constitute in different theories and fields also presents opportunities. We highlight two in particular.

First, much of crowdfunding research has focused on fundraising success, thereby focusing on *financial* resource mobilization. This focus is logical but also somewhat surprising, because some scholars have argued that fundraising in crowdfunding is accompanied by extra-financial resources, including market feedback, referrals, prospective customer lists and social promotions (e.g. Stevenson, Allen and Wang, 2022). For example, one could wonder how important these extra-financial resources are. Once controlling for selection and the money raised, do these extra-financial resources influence the strategies, growth or performance of crowd-funded firms? Moreover, while successful crowdfunding campaigns entail an inflow of money, can the quality of the extra-financial resources vary? What drives the quality of these extra-financial resources? Is it linked to the pre-existing social capital of entrepreneurs? If yes, this could have important ramifications for the democratization potential of crowdfunding (Butticè and Vismara, 2022; Cumming, Meoli and Vismara, 2021a; Fisch, Meoli and Vismara, 2022).

Second, much of crowdfunding research has focused on the ability of firms to *access* financial resources (and the amount of financial resources raised, often relative to a target amount). However, resource mobilization covers multiple dimensions next to resource access, such as search and governance (Clough *et al.*, 2019). Much less research has focused on the question of why some

¹<https://www.reuters.com/article/us-investing-scams-threats-idUSBRE87K17W20120821/>.

entrepreneurs search for crowdfunding while others do not. Walthoff-Borm, Schwienbacher and Vanacker (2018b), for example, show that entrepreneurs with limited (or no) internal funds and additional debt capacity are more likely to search for equity crowdfunding. Why do entrepreneurs search for different types of crowdfunding? And, once they decide on the type of crowdfunding, how do they select a specific crowdfunding platform (e.g. Coakley and Lazos, 2021)? Moreover, not all crowdfunding is the same, and even within a category, there are important differences (e.g. equity crowdfunding can be very different on one platform vs. another). For example, Cumming, Meoli and Vismara (2019) have examined the value of dual-class equity crowdfunding as a digital governance model. Others have examined the impact of nominee versus direct shareholder structures on firm survival, innovation and performance (Walthoff-Borm, Vanacker and Collewaert, 2018a). While scholars have skimmed the surface of search and governance issues linked to crowdfunding, these issues have received much less attention than warranted.

Research in human resource management

Digitalization has several implications for resource mobilization in HRM, and research in this area is still emergent, as reflected in our literature review. Our framework of multiple ways in which digitalization has been considered by scholars also points to important areas for future research in HRM, which we highlight below.

First, digitalization affects the deployment, development and retention of resources (people) in organizations. These are core responsibilities of HRM and from the RBV (Barney, 1991; Barney *et al.*, 2001), for organizations to achieve competitive advantage, their resources need to be valuable, rare and not easy to imitate and substitute. Digitalization processes in organizations typically require new knowledge and skills, which need to be continuously and often rapidly updated. The importance of knowledge and skills in organizations, as emphasized by the RBV (Barney, 1991), is of course not new, but has become more pressing in the context of digitalization. As specific knowledge dates quickly, transferable skills and competencies, which are behaviours that are instrumental in the delivery of performance goals (Bartram, 2005; Bartram, Robertson and Callinan, 2002) – such as adapting to new tasks and responsibilities and being motivated and motivating others to learn continuously and be open to technological change – are of importance.

As a consequence, knowledge transfer has become a key goal for organizations and government initiatives, which now try out less ‘traditional’ methods to achieve this goal. Examples include reverse mentoring, where younger workers mentor older ones (e.g. Kaše, Saksida and Mihelič, 2019), and creating new roles such as

those of digital champions, by nurturing and further developing existing knowledge and skills within their own organization. The case study by D’Angelo, Ghezzi and Cavallo (2024) examines the mechanisms whereby resources in the form of digital skills are mobilized in organizations in the context of digital transformation, by searching, accessing and transferring these skills internally via the newly created formal middle-management role of digital champions. From the RBV (Barney, 1991), this case study provides insight into how combining new practices to unearth, develop and transfer digital skills creates a competitive advantage by increasing human capabilities to stay ahead and respond to digital transformation.

Research in the area of HRM also includes questions on how learning/the acquisition of digital skills in organizations can be supported formally and informally through managers, who play a central role in encouraging and enabling the development of their employees (e.g. Solberg *et al.*, 2022), and moving away from static models of knowledge and skills, requiring models that emphasize dynamic capabilities in organizations (e.g. Do *et al.*, 2022). Another under-researched area pertains to questions around digital inclusion and equality (e.g. Pekkala, 2022): for example, to what extent do employees in an organization have equal opportunities to access and further develop digital skills? Most of the studies relevant for HRM that we identified in our literature review adopted Approach 2, by focusing on digitalization as a context within which questions such as the above are being examined. The context is shaping research questions here, and there is an opportunity for more research to examine how digitalization as a research context can help address questions in HRM beyond digitalization. For example, what are the implications for the acquisition and development of skills and knowledge in organizations more generally? What are the wider theoretical implications?

A second line of research concerns questions around the digitalization of HRM practices and processes, such as gamified HRM systems to increase employee engagement (e.g. Silic *et al.*, 2020), the use of digital networking platforms in recruitment (e.g. Lucas, Bellavitis and Park, 2023) and using generative AI such as ChatGPT to increase efficiency and alleviate workload demands in HRM processes (e.g. Aguinis, Beltran and Cope, 2024). There are many open questions and research opportunities in this area, especially as digitalization provides access to unique data, for example, data obtained from digital network platforms (Lucas, Bellavitis and Park, 2023), recruitment processes and training and development. Avenues for research also include Approach 1, examining how the digitalization of HRM practices and processes is relevant for issues in HRM more generally, or challenging theoretical assumptions and models (Approaches 4 and 5). For example,

clarifying conceptual issues such as the link between employee experience and employee engagement (Malik *et al.*, 2023), or questioning theoretical propositions as suggested by the HR architecture model (Keegan and Meijerink, 2023). This research to date also demonstrates that resource mobilization in the context of digitalization changes labour dynamics (e.g. Lucas, Bellavitis and Park, 2023) and how organizational boundaries are viewed (i.e. becoming more permeable), as external labour resources are valued differently (e.g. Keegan and Meijerink, 2023). Especially with the use of generative AI, ethical questions (e.g. Malik *et al.*, 2023) need to be addressed in this context (Approaches 1, 2 and 5).

A third avenue of research concerns work design, employee attitudes and employee well-being. For example, Weststar and Dubois (2023) draw attention to the 'human side of the equation' (p. 773) in the context of servitization, which refers to a service model (Vandermerwe and Rada, 1988) that prioritizes customer motives and needs in the development of, for example, products (here, games). The results of their qualitative study show that game developers who work in a servitization context in the gaming industry report work intensification as 'new and continuously changing job demands related to the customer must be attended to in shorter time periods and with reduced worker autonomy' (Weststar and Dubois, 2023: 973). This study falls within Approach 3, where servitization is studied in the specific context of the fast-moving gaming industry. Digitalization impacts work design in several ways: for example, skills requirements, digitalized HRM practices (e.g. gamification) and changing job demands as outlined above, but also automation and augmentation of job tasks (e.g. Parent-Rochelleau and Parker, 2022; Parker and Grote, 2022; Raisch and Krakowski, 2021). These have implications for how we design jobs, also at the task level (Parker and Knight, 2023), the consideration of boundaries between work and non-work, which have become more permeable with the use of information communication technologies (Farivar *et al.*, 2023; Schlachter *et al.*, 2018), employee engagement (e.g. Malik *et al.*, 2023) and well-being (e.g. Weststar and Dubois, 2023). Avenues for research include questions that fall within Approaches 1 and 2: examining questions on work design, work attitudes and well-being in the context of digitalization and beyond to help us answer questions in HRM of how better jobs can be created, employees can be retained and their well-being enhanced. Digitalization provides a wealth of data now that can be used for examining questions in this area (Approach 3) via data collected through HRM platforms but also well-being-related data (e.g. Wenzel and Van Quaquebeke, 2018). Research in this area might lead us to challenge, review and revise existing theoretical models (Approaches 4 and 5).

Conclusions

Initiating a research agenda on digitalization and resource mobilization is both timely and justified, as numerous aspects remain unknown and others continue to evolve. We identify five ways in which the literature has leveraged digitalization, exemplified by the five papers included in our Special Issue. First, some researchers use digitalization as an empirical context to explore management issues beyond its direct effects, focusing on how a firm's pivot influences its relationship with resource-providing stakeholders. A second approach utilizes digitalization as an empirical context to re-examine management issues, with examples including changes in the role of information intermediaries and the democratizing potential of digitalization (Butticè and Vismara, 2022; Cumming, Meoli and Vismara, 2021a; Fisch, Meoli and Vismara, 2022). A third approach involves utilizing digitalization to access unique data, offering unprecedented opportunities to study phenomena like 'platformization'. A fourth approach centres on the distinctive aspects of digitalization that necessitate updates to existing theories, even addressing societal changes such as the sharing economy, decentralized governance, open innovation and digital ecosystems. Lastly, digitalization can challenge existing theories and entire fields, such as strategy, organization or human resources.

Resource mobilization assumes a central role in various theoretical perspectives, including the RBV, social capital theory and HR perspectives. While these theories traditionally emphasize tangible and intangible resources, the literature on digitalization and resource mobilization broadens its focus, particularly in conceptual articles. This expanded view recognizes the potential impact of digitalization on diverse resources beyond financial and human capital. However, empirical studies tend to narrow their focus, likely due to data constraints, emphasizing financial and human resources. Nevertheless, the acknowledgment of the importance of resources remains consistent across theoretical perspectives, with digitalization introducing a broader conceptualization in the literature.

In this introductory paper to the Special Issue on Digitalization and Resource Mobilization, we have discussed contemporary research and outlined implications for future research, especially concerning crowdfunding and human resources. Given the intricate and interconnected nature of digitalization spanning various research fields, we have only begun to address the issues that warrant investigation. We will deem our efforts successful if they inspire scholars to explore the outlined future research directions and contribute to advancing the field.

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