Editorial: Strategic knowledge management (SKM) in the digital age – insights and possible research directions

1. Introduction

Today's business landscape is increasingly characterised by the pervasive role of digital technologies that are redefining how organisations manage customer experiences and govern operational efficiencies. To denote the advancements in cyberspace and new digital technologies, the notion of digital transformation has been introduced. Digital transformation not only points out the organisations' challenge to adopt, develop and integrate new technologies of the digital era but also, most importantly, the fundamental importance for organisations to evolve their business models and redefine their value creation strategies. The advent of new digital technologies changes the nature and forms of knowledge assets defining the organisations' value drivers and the knowledge processes for accessing, assessing and managing critical knowledge resources, defining core competencies and dynamic capabilities of organisations. Therefore, digital transformation has a holistic impact on organisations requiring to re-think how they create and deliver value to their stakeholders. For this reason, it is central to understand how organisations approach or should approach the management of the knowledge foundations of their competitiveness.

Technological innovations and human mobility have persistently contributed to managing strategic knowledge and capabilities in organisations. Indeed, digital technologies can provide timely access, tremendous possibilities, as well as challenges for organisations. Considering the rising influence and dependence on digital technologies and applications in many different sectors/industries, the relevance and importance of managing strategic knowledge in organisations has a more significant impact than ever before in the growth and sustenance of organisational competitiveness and value (Dragicevic *et al.*, 2019; Venkitachalam and Willmott, 2015). Besides the significance of strategic knowledge, the extant literature on digitally connected conceptualisations [e.g. cloud computing, Internet of things (IoT), big data and business analytics] also see them as useful pathways to solve organisations' challenges that are often related to attaining and maintaining value for its stakeholders (Pauleen and Wang, 2017; Uden and He, 2017). Edwards and Taborda (2016, p. 36) further argue "while analytics may lead to knowledge and intelligence (in the military sense of that term), it also needs the input of knowledge and intelligence (in the human sense of that term). And somebody then has to do something new or different as a result of the new insights, or it won't have been done to any purpose". However, the inherent risk of how managers apply and use SKM effectively in their organisations to achieve and sustain competitive advantage is not entirely clear (Edwards and Taborda, 2016; Dragicevic *et al.*, 2019).

Rising evidence of political, economic and social changes, rapid technological innovations and developing dynamics in the contemporary business environment have contributed to the impact and relevance of SKM in organisations (Dragicevic *et al.*, 2019; Venkitachalam and Willmott, 2015). The existing literature contends that managers responsible for decision-making often have a curtailed understanding of the role of SKM and their influence on the competitiveness of organisations (Casselman and Samson, 2007; Choi *et al.*, 2008; Grant, 1996;

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Venkitachalam and Willmott, 2015; Venkitachalam and Willmott, 2016; von Krogh *et al.*, 2001; Zack, 1999). For better clarity on the concept of strategic knowledge management, Venkitachalam and Willmott (2016, p. 345) define it as "concerned with harnessing know-how that is comparatively nonreplicable to influence environments as well as respond to them".

An oversight of SKM in the context of growing emphasis on digital transformation across diverse industries can present enormous concerns such as non-adaptive and dysfunctional knowledge processes such as the creation, transfer, use and application. Consequently, this can result in reinvention and loss of knowledge assets and massive costs for organisations (Dragicevic *et al.*, 2019; Venkitachalam and Willmott, 2016). Hence, it is desirable to develop a fertile understanding of the relationship between SKM and digitalisation in organisations. This special issue welcomes three critical articles in this critically pertinent and intersecting domain/theme of SKM and digital transformation research. A background summary of the purpose and contributions of the three studies are presented in the following section.

2. Linking knowledge management to digital transformation: a strategic view

Knowledge management and digital transformation share the same strategic scope, i.e. continuously enhancing the organisational capacity to create value. Indeed, organisations are not interested in managing knowledge for the sake of knowledge but because they recognise knowledge processes as the foundation for developing operational and dynamic capabilities that distinguishing a company's activity. On the other hand, adopting technologies aims to enhance the operational capacity of an organisation to perform and deliver superior value to stakeholders. They are instruments for an end. Therefore, from a strategic point of view, knowledge management and digital transformation can be seen as two aspects of the same reality aiming to equip organisations with an ever-increasing capacity to define, create and deliver stakeholder value. An organisation's capacity for value creation is related to its tangible and intangible infrastructures. Technologies represent the critical dimension of the tangible infrastructure by incorporating essential codified knowledge and enabling organisations to be more effective. For the intangible infrastructure groups, the overall intangible knowledge assets are related to an organisation's intellectual capital components, i.e. human, relational and organisational capital, and defines the fabric of an organisation and the vital resources of any business model.

The landscape of available digital technologies has been radically changing in the last decades, with vital implications for knowledge management. New technologies are making organisations not simply more technology intensive but fundamentally more data-driven organisations, ensuring that data-driven insights strongly influence critical decisions, actions and processes. But the deployment and exploitation of data require their translation into knowledge and wisdom, pointing out that clear strategic knowledge management must accompany a successful digital transformation. On the other hand, an influential organisation's knowledge management system requires a digital technological infrastructure.

From a strategic point of view, the link between knowledge management and digital transformation can be investigated according to three main perspectives: *enabling-based factor*, i.e. digital transformation as a supporting instrument to enabling or facilitating the management of knowledge processes; *replacing-based factor*, i.e. digital transformation allows to extend the capacity for action of knowledge workers or, even, replace them performing autonomously knowledge-based activities with diverse level of specialisation and *converter-based factor*, i.e. digital technologies is the instrument to translate knowledge into tangible assets by embedding codified knowledge into technological solutions.

The first perspective relates to how digital technologies can support and enhance knowledge management processes and contribute to successfully developing and implementing organisational management systems. It is about deploying and exploiting the

digital technologies to support knowledge sharing, transfer, mapping, storing, applications, protection, creation and codification. The second perspective recognises that technologies are nowadays substituting people in many roles, and as a consequence, the job market is progressively radically changing. For example, artificial intelligence, automation and robotics are already replacing human beings in executing work activities that can be standardised and require mainly logical computation. Finally, the third perspective considers the use of digital technologies to extract and transform tacit knowledge into explicit knowledge and then in codified knowledge that can be embedded into a software or hardware solution driving the development of existing or new technologies.

2. Overview of papers and contributions

2.1 Article 1 – Big data analytics and competitive advantage: the strategic role of firm-specific knowledge

The first article in the issue proposes a conceptual framework by integrating the works of dynamic RBV perspective and absorptive capacity with the BDA and strategic KM in understanding firm competitive advantage. The study emphasises the relationship between big data analytics (BDA) knowledge specificity, strategic KM and competitive advantage of firms. The proposed BDA knowledge-competitive advantage framework identifies application customisation and data proprietorship as two critical factors and proposes BDA solutions for custom and non-custom applications. The study also illuminates the dynamic nature of BDA capabilities and the connected strategies of codification and personalisation of knowledge in firms. By reviewing the strategic KM and BDA literature, the article contributes to the KM strategy literature by arguing that the codification and personalisation of KM strategies lead to greater effectiveness in the founding and maturity stages of BDA capability development.

In contrast, a context-dependent mix of KM strategies seems effective in the development stage of the BDA capability framework. The study offers managerial insights on how and what kind of firm-specific strategic knowledge can be developed to increase the sustenance of firm advantages in the marketplace. The paper contends that "while managers may use BDA to support operational activities of the firm to increase the cost efficiencies, it is more critical to develop firm-specific BDA knowledge as focusing on the strategic role of BDA knowledge will enhance firm's long-term competitiveness" (Dahiya *et al.*, 2021). The conceptual study offers future research directions to build a deeper understanding of the relationships and links between different types of BDA knowledge and KM strategies in multiple industries and competitive environments.

2.2 Article 2 – Performing openness: how the interplay between knowledge sharing and digital infrastructure creates multiple accountabilities

The second article in the special issue provides an understanding of the performance of dispersed knowledge sources for innovation [i.e. open innovation (OI)] in platforms. Using a spiral case description, the study provides an understanding on "how a strategy of digitally enabled openness brings its issues as platforms enable knowledge sharing and perform a redistribution of accountability" in the focal firm (Träskman and Skoog, 2021). The study also extends the discourse on "how strategy, knowledge, cognition and culture are performed and continuously brought into being through relations between actors and technologies" (Träskman and Skoog, 2021). The paper argues that when firms interact with OI's apparent and tangible elements, such as knowledge sharing, productive friction performed on platforms can become more hierarchical. The findings offer further insight into how platforms can create knowledge to evaluate OI performance in situated practices from a performativity concept and SKM orientations.

2.3 Article 3 – "I cannot feel your print". How military-strategic knowledge managers respond to digitalisation

The third article in the issue examines the role of digitalisation in the context of military planning doctrine. The paper considers military planning doctrine as a KM technology and focusses on the interaction between military planners' strategic options and digitalisation. In this regard, the study explores "how military-strategic knowledge managers consider and respond to a digitalisation of operational processes in their revision of military knowledge management technologies" (Heltberg, 2021). Using a qualitative research design, the study findings suggest that military KM strategists need to be mindful of digitalisation and its likely impact on the professional roles and identities in an army organisational setting. The analysis contends that the digital transformation of KM technologies has a significant influence on a profession's self-relation and images. The study further suggests that "military KM strategists must navigate a spectrum between 'going all in' and taking a more cautious approach towards digitalisation" (Heltberg, 2021). In particular, the paper highlights the "notions of timing (i.e. of the commitment to a particular digital solution) and risk and how strategic KM developers relate to these notions" (Heltberg, 2021). Considering the permeability nature of digitalisation, future research can consider its impact on the images and conceptions of other professions in businesses in multiple industries and sectors. Moreover, when considering SKM for digital transformations, it is vital to look at the importance and impact of digitalisation on professional identities and associated managerial implications for leading the transformation.

3. Conclusions and possible research directions

In today's business landscape, digital transformation is becoming a mantra for company survival. The (r)evolution of digital technologies is radically changing the interaction and channels of organisations with customers, the operation management and how to achieve efficiency and the definition of winning business models. Therefore, the challenge is not simply to manage digital transformation but to make sure that digital transformation drives organisational growth and value creation enhancement. In this perspective, strategic knowledge management plays a fundamental role. We have identified three fundamental perspectives linking knowledge management and digital transformation: *enabling-based factor* – how digital transformation supports knowledge management processes; *replacing-based factor* – how digital transformation allows extending or replacing the capacity for action of knowledge workers and *converter-based factor* – to what extent digital technologies represents an instrument to translate knowledge into tangible assets. These three perspectives represent at the same time routes for future research directions and areas for exploring practical applications of managing knowledge for and with digital transformation.

Amongst the critical research areas to focus on, it is possible to identify four critical areas of investigations: (1) to what extent knowledge workers should embrace digital technologies, ranging from social tools to artificial intelligence at work; (2) understanding the limits of digital technologies in promoting the development of relational capital, building trust and supporting knowledge sharing and investigating the critical factors of using digital technologies to support knowledge sharing, transfer, mapping, storing and connecting and integrating knowledge resources; (3) explore the use of digital technologies for creating collective intelligence integrating diverse and multiple competencies and (4) how digital technologies can integrate and enhance organisational cognitive capacity fostering knowledge-creation and organisational learning.

Krishna Venkitachalam and Giovanni Schiuma

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About the authors

Krishna Venkitachalam (PhD, University of Melbourne) is Professor of Strategy at the Estonian Business School (EBS), Tallinn, Estonia. He previously held positions at Stockholm University, Sweden, Cardiff University, UK and La Trobe University, Australia. His research interests include strategy and knowledge management, strategic knowledge, KM dynamics, tacit knowledge and knowledge processes in organisations. His paper on strategic alignment in the *Journal of Knowledge Management* won the Emerald Literati Award in 2014. He serves as Associate Editor of the *Journal of Strategy and Management (JSMA)*, Emerald Publishing, UK and Regional Editor (Europe) of the *International Journal of Knowledge Management Studies (IJKMS)*, Inderscience Publishers, Switzerland and an editorial board member of the journal "*Knowledge Management Research and Practice (KMRP)*".

Giovanni Schiuma is Professor of Innovation Management and Head of Engineering Management programme in Digital Management for the Dipartimento di Management, Finanza e Tecnologia of the University LUM "Giuseppe Degennaro and visiting Professor of Arts Based Management at University of the Arts London", where he founded and directed from 2013 to 2015 the Innovation Insights Hub. He served as vice mayor and deputy mayor for economic development, strategic planning and innovation of Matera city, European Cultural Capital 2019. As a high international academic, he is widely recognised

as one of the world's leading experts in the arts in business and strategic knowledge management. Giovanni has held visiting teaching and research appointments around the world. He serves as Chief-Editor of the journal "*Knowledge Management Research and Practice*" and as Co-Editor in Chief of the international journal "*Measuring Business Excellence*". Giovanni chairs the International Forum on Knowledge Assets Dynamics. Currently, he is the scientific director of the Creative Lenses project financed by the programme Creative Europe with the scope of innovating business models of cultural and arts organisations.