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Knowledge Management as A Catalyst for Business Process Digitalisation

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Abstract

Digital transformations challenge enterprises' adaptability, development, technology integration, and resilience to evolve their business models. Accelerated by the COVID-19 pandemic, businesses are increasingly characterised by a pervasive role of business digitalisation redefining organisations' management of customer experience efficiencies. It redefines value creation strategies. This paper argues that enterprises should rethink the creation and delivery of value to their customers, not based on technologies but on knowledge management strategies instead. As technologies transform business processes, KM is a catalyst in the evolving nature, knowledge assets, and transformation preparedness of enterprises' value drivers. Integrating Osterwalder and Pigneur's Business Model Canvas, Parmar et al.'s five patterns for value creation, and Goncalves' cloud enterprise transcoding proxy, a few cases are briefly discussed. Digital transformation drivers and the role of KM for strategic relevance are underlined through digitalised knowledge processes and customer-centric global marketing strategies to access and manage resources, core competencies, and dynamic capabilities. This research raises awareness of adopting KM as a catalyst for digital business transformation's role as a strategy to respond to the acceleration of digitalization during and after the COVID-19 pandemic, along with knowledge management principles.

Keywords: Knowledge management, Digital transformation, Digital technologies, Deep learning, Digital wallets, COVID-19

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Introduction

Today's global business landscape is increasingly characterised by the pervasive role of digital technologies that redefine how enterprises manage their client's experiences and govern operations efficiencies (El-Darwiche et al., 2012; El-Darwiche et al., 2014). To cope with the internet advancements, including 5G infrastructure and the latest integrated communications digital technologies, the race for business' digital transformation has accelerated, especially since the global COVID-19 pandemic broke out in 2019 (Barann et al., 2019).

Digitalisation is the adoption of digital technologies to alter a business model and offer innovative value-producing opportunities and revenue sources; the process of moving

to a digital business platform (Cochoy et al., 2017; Härting, Reichstein and Jozinovic, 2017). In this paper, per Gartner's (2019) and Bloomberg's (2018) definitions, digitisation is converting something into a digital format, such as encoding data and documents. Both terms are quite distinct from *digital transformation*, which is not something that enterprises can implement as projects. This broader term refers to the customer-driven strategic business transformation requiring cross-cutting organisational change and implementation of digital technologies. It revolves around converting business processes over to digital technologies instead of analogue or offline systems. Digital transformation emphasises the enterprise's challenge to adopt, develop and integrate new digitalisation of business processes, but it also highlights the fundamental importance of evolving its business models and redefining its value creation programs (Aleksej et al., 2018; Uddin and Hoque, 2020).

A global shift into digital transformation is challenging enterprises to develop a more holistic integration of business processes, requiring a rethinking of how products and value are delivered to their customers and stakeholders. The COVID-19 pandemic not only has affected the economic soundness of businesses across the globe through scarcity of financial resources and lack of specialized knowledge but also in an accelerated increase of demand in digital transformation, changes in market and customer behaviour, and the managerial and technological knowledge gap to address them (Barann et al., 2019; Klein and Todesco, 2021).

The latest digital technologies foster a paradigm shift in how business, as an enterprise asset, is being used to shape value drivers, especially those related to data processing, to manage and access crucial data resources and shape core competencies' dynamic capabilities. Business decision-makers must assess how business data is being created, managed, and shared across the enterprise. This paper discusses the potential role of KM as a catalyst for such digital transformations in the face of increased digitalization of business processes brought by the pandemic. This paper argues, in line with other scholars (Bartik et al., 2020; Klein and Todesco, 2021) findings, that KM strategies might be the catalyst for digital business transformation opportunities.

Technological innovations and human ingenuity have persistently contributed to managing strategic data and business capabilities. Indeed, digital technologies now offer ubiquitous and timely access to a vast array of business and market resources, opening significant prospects across the globe and several business challenges. Considering the rising influence and dependence on digital technologies and applications across global markets and business sectors/industries, the ability and level of connectedness of managed business data and strategies encompass a more significant impact on the growth and sustainability of competitive advantages (Venkitachalam and Willmott, 2015; Dragicevic et al., 2019; Bartik et al., 2020; Islam, Igwe, Rahman, & Saif, 2021). Besides the importance of strategic data, the extant literature on digitally connected conceptualisations, such as big and thick data, cloud computing, deep learning, Internet of Things (IoT), augmented reality, virtual worlds, digital wallets, applied business analytics, highlights several challenges associated with attaining and maintaining business value for customers and stakeholders (Pauleen and Wang, 2017; Uden and He, 2017). Scholars such as Edwards and Taborda (2019, p.36) have argued that while applied business analytics might generate data and business intelligence, there is still the need to understand data inputs and intelligence in a more human sense. In other words, while big data (quantitative) may offer business insight into "what" is happening in the industry, it does not tell why. For that, we

need to analyse the thick data (qualitative). There remains an associate degree of an inherent risk of how decision-makers use, interpret, and apply strategic data effectively in their enterprises to realise and sustain competitive advantage, which is still not clear (Edwards and Taborda, 2019; Dragicevic, 2019).

Existing literature suggests that decision-makers usually have a limited understanding of the role of strategic data management and its influence on the competitive advantages of the enterprise (Grant, 1996; Zack, 1999; von Krogh, Nonaka, and Aben, 2001; Casselman and Samson, 2007; Choi et al., 2008; Venkitachalam and Willmott, 2015; Venkitachalam and Willmott, 2016). Oversight of strategic data management within the context of the growing stress of digital transformation across numerous industries worldwide generates substantial challenges, such as non-adaptive and dysfunctional data processes, including but not limited to the creation, transfer, use, and application of data (Heinze et al., 2018). Consequently, such inefficiencies could result in reinvention and loss of data assets at substantial costs to the enterprise (Venkitachalam and Willmott, 2016; Dragicevic et al., 2019; Bartik et al., 2020). Hence, it is enthralling that decision-makers develop a better understanding of the intersection between strategic knowledge management and the need to adopt a digital transformation at the enterprise.

Competing Technologies Accelerating Business Digitalisation

If there were any protracted disbeliefs about the need for businesses to engage in digital transformation to extend their lifespan and enhance competitive advantage, the global COVID-19 pandemic has quashed it. As the global business sector is deterred from physical contact with supply chains, distribution channels, and especially its customers, most exchanges are being pushed to a virtual platform. For many businesses, digital operations have become the only alternative due to mandated shutdowns and constrained in-person activities. Enterprises face the terrible choices of going digital or dark (Leatherby and Gelles, 2020).

The pandemic has fast-tracked industries' transformation, forcing business decision-makers to rethink their business models (Iansiti & Lakhani, 2014). Digital transformation has become a megatrend, threatening existing businesses and promising all-encompassing new opportunities concurrently. More than ever before, digital transformation processes are becoming part of every aspect of business worldwide with a significant impact on business growth and sustainability, without restrictions to any industry or business division, affecting cross-divisional or cross-departmental functions that impact businesses. To avoid shrinking profitability and make effective decisions, enterprises worldwide must understand the significance and scale of changes caused by digital transformation. Business models need to be adapted to integrate these rapidly developing digital processes and translate them into value and economic success (Paulus-Rohmer, Schatton, and Bauernhansl, 2016).

This digital mandate is not a reaction to the global pandemic, as it has been around since integrated communications technologies became a reality back in the dot-com era. Such a paradigm shift towards the global economy's digital transformation has been underway for quite some time. The pandemic brought the need for businesses' digital transformation into a sharper focus (Grossman, 2017). The global pandemic and the several business and economic challenges it has created have accelerated the adoption of such a digital paradigm, evidenced by the marked shift in digital businesses' spending. This forced shift into business processes digitalisation serves as a widespread test case for

digital solutions' effectiveness. In healthcare, telehealth doctor visits are set to replace the traditional annual physical by 2025. Real estate is also changing, with all new construction of multi-family homes beginning in 2021, including coworking spaces. In the financial services industry, integration of tokenisation technology to better secure and track individual purchases and transactions is targeted by 2023, while manufacturing's full adoption of supply chain 4.0 might debut by 2025. Many of these digital business transformations will become permanent fixtures and lead to long-term changes for many other interconnected businesses (ARK Report, 2021).

Through digital transformation, speedier changing internal and external structure conditions, and new customer expectations for the fastest delivery and best quality of goods, to list a few, are challenging enterprises to optimise their internal business processes. Driven by the Internet, real and virtual worlds have grown further, giving birth to the IoT and cloud computing data importing capabilities. Digital transformation is taking processes, and managing processes customarily managed internally by people into the cloud, where they can be adapted and analysed from anywhere.

Deep learning (DL), as a form of artificial intelligence (AI), has become a driving force for digital transformation. Until recently, humans programmed all software, but DL can use data to write software by itself. DL is turbocharging every industry by automating software creation, from object-oriented programming languages and graphical user interfaces to translation systems and intelligent games (ARK Report, 2021). Virtual worlds, here defined as a computer-simulated environment that anyone can access at any time, although in their infancy, are undergoing a substantial digital transformation, enabling businesses and consumers to interact daily with platform markets, buying and selling goods. The percentage of global virtual gaming revenues is shrinking from 80 per cent in 2010 to 25 per cent in 2020, while revenues from in-game purchases have grown from only 20 per cent in 2010 to more than 75 per cent in 2020. Digital transformation strategies in virtual worlds are forecasted to generate compound revenues of 17 per cent yearly, from about \$180 billion in 2020 to \$390 billion by 2025 ARK Report (2020).

Digital transformation has a profound effect on the way businesses operate and interact with customers. Digital wallets, one of the alternatives to digitising consumer payables and corporate receivables, are becoming increasingly prevalent worldwide (Khoa, 2020). The Cimigo report (2020) found that most leading digital wallet brands offer similar features to their users. The global competitive landscape is already crowded, with brands taking dominance in their respective continents, such as Venmo, MOGO, Chime, Robinhood, Sofi, and Cash App in North America; Mercado Pago, Uala, PicPay, Movil, and Albo in Latin America; Lydia, Revolut, Satispay, BN-XT and N26 in Europe; M-Pesa, MTN, TymeBank, KKudo in Africa; and WeChatPay, AlyPay, PayPay, toss, PayTM, PhonePe, GrobPay, and MoMo in Asia (ARK Report, 2021).

Despite modest successes, KM has not entirely delivered on the potential of the learning organisation. Many organisations lack the basic building blocks in KM. Still, given the latest data transformation trends, including a fluid workforce, KM is getting back the importance it deserves with increasing interest, with the Asia region engaging in several KM initiatives. Companies have understood that in the high-tech industry, retaining their workforce, fostering innovation, and staying ahead of the competition requires effective KM strategies (Goncalves, 2012a and 2012b; Chanias and Hess, 2016; Castagna et al., 2020; Starita, 2021). Information systems and technologies researchers have found evidence that digitalisation has a pivotal role in enabling external knowledge acquisition

activities. This paper suggests that enterprises must focus their efforts on digitalising their innovation process by using KM strategies as a catalyst for their objectives (Nambisan et al., 2017; Trantopoulos et al., 2017).

Methodology

An integration of Osterwalder and Pigneur's (2010) Business Model Canvas (BMC) with Parmar et al.'s (2014) five patterns for value creation and Goncalves' (2012b) cloud enterprise transcoding proxy is adopted as lenses to analyse the digitalised knowledge processes and customer-centric strategies to access and manage resources, core competencies, and dynamic capabilities. A few corporate adoption examples of digital transformation drivers and the role of KM for strategic relevance are mentioned to underline the

Integrated business model management is a strategic imperative for those responsible for sustainable success. A three-step approach is implemented to understand the strategic relevance of digital transformation as an innovation driver for business model development and a critical success factor facilitating sustainable economic success. The first step addresses the need to understand the current business. Osterwalder and Pigneur's (2010) BMC evaluates the business logic and elucidates vital interrelationships within an enterprise. Next, digital innovation drivers are identified based on Parmar et al.'s (2014) five value creation patterns.

Besides the significance of strategic knowledge, the extant literature on digitally connected conceptualisations (i.e., cloud computing, IoT, big data, thick data, business analytics, etc.) also argues as functional pathways to solve enterprises' challenges related to attaining and sustaining value for its stakeholders (Edwards and Taborda, 2016; Pauleen and Wang, 2017; Uden and He, 2017). To comply with sustainability requirements, elements of Goncalves' (2012b) FASTCloud, a cloud enterprise transcoding proxy, are employed to utilise the strategic potential of digital transformation. As depicted in Figure 1, the FASTCloud and RAINBOW (Remote Agent for Intelligent Normalization of Bytes Over Wireless) framework enable ubiquitous information mobility on both wired and wireless devices over the Internet. FASTCloud provides a synchronisation facility through two intelligent agents, VAPOR (Virtual Agent for Parsing of Objects and Records) and RAIN (Remote Agent for Intelligent Normalization), with its original repository available on demand. RAINBOW enables users to capture, store, analyse, and share data from these applications simultaneously, without sacrificing application performance, data integrity, or platform interoperability (Goncalves, 2001, 2012b).

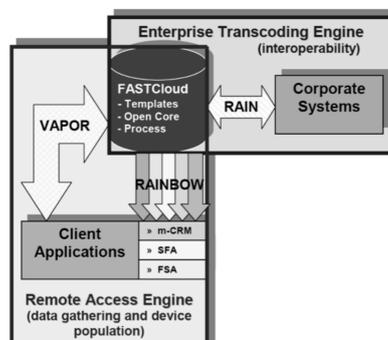


Figure 1: FASTCloud, a cloud enterprise transcoding proxy. SOURCE: Goncalves, 2001 and 2012b.
Analysing the Existing Business Model

Osterwalder & Pigneur (2010) use nine basic building blocks that illustrate an organisation's value chain to analyse and describe the organisation's current business model. The model covers "four principal areas of a business: customers, offer, infrastructure, and financial viability." The Canvas can be applied in all industries by integrating all aspects and functions of a business model. As business model innovation is crucial, the tool helps develop, visualise, validate, and concretise novel ideas. To analyse a model's existing and potential digital value drivers, Parmar et al.'s five patterns of innovation are applied.

Identifying existing and potential digital value drivers has gained significant attention, although it is still in its early days. The disruptive force experienced so far is very likely modest compared to the transformation business exposed within 3-5 years. To systematically exploit value drivers caused by digitisation and benefit from disruptive forces, Parmar et al. (2014) suggest five innovation patterns. The first pattern describes the augmentation of products, such as using digital technologies to improve the business model. Digital transformation of assets represents wholly or digital assets or can be digitalised. The third pattern is aimed at combining data within and across industries. This pattern is the first to enter the area of big and thick data and highlights how to use and integrate data held by other parties. Trading data is the sale or exchange of data to yield higher-value information. The fifth pattern, codifying a capability, enables an organisation with a distinctive ability to sell a world-class, often standardised, process to other parties (Parmar et al., 2014). The five patterns deepen an understanding and structuring of digital value drivers and help identify new business opportunities.

Exploiting the Strategic Relevance of Digital Transformation

As digital transformation can change entire industries with few resources, new and innovative businesses are expected to emerge on a large scale (Hoffmeister & von Borcke, 2015;), providing excellent entrepreneurs opportunities to create new market space. Goncalves' (2012b) learning framework, as depicted in Figure 2, is a learning organisation instrument complementing the three-step approach in the quest for sustainability. By identifying signals, applying business theory, and closing the learning stage by translating new knowledge into a business strategy, a learning organisation can be better equipped to sense and respond to unique business needs, such as those caused by the global pandemic. Developing a new strategy enables decision-makers to sustain organisational success by creating uncontested market space. Extant literature argues that decision-makers often have a limited understanding of the role of strategic KM and its influence on the competitiveness of organisations (Grant, 1996; Zack, 1999; von Krogh, Nonaka, and Aben, 2001; Goncalves, 2002, 2012a, 2012b; Casselman and Samson, 2007; Choi et al., 2008; Venkitachalam and Willmott, 2015; Venkitachalam and Willmott, 2016).

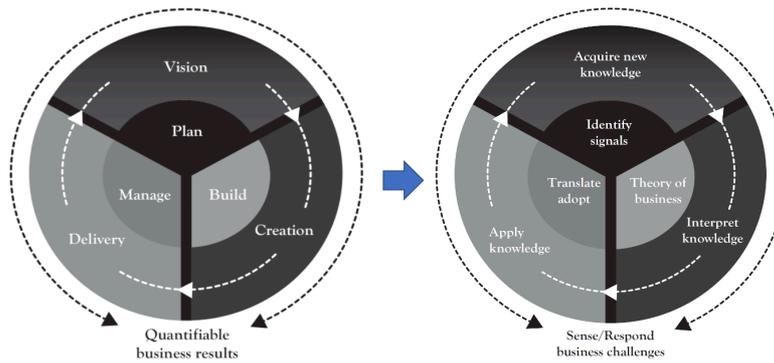


Figure 2: KM strategies enable learning organisations to quantify business results and then sense and respond to business challenges. SOURCE: Goncalves, 2012b.

Goncalves (2012b) argued that digital transformation requires excellence in strategy, organisation, and systems, with the goal of KM to enable the development of collaborative enterprise systems that allow every individual inside the organisation to become a learner. Combining Osterwalder and Pigneur's (2010) BMC with Parmar et al.'s five patterns for value creation and Goncalves' cloud-based enterprise transcoding proxy strategy enables the translation of a challenging approach into a more realistic implementation concept through a learning organisation process, as depicted in Figure 2.

Through this three-step approach, enterprises' strategic execution weaknesses can be exposed. Kaplan and Norton (2005) have identified an implementation failure rate of up to 90 per cent. The framework enables decision-makers to align an enterprise's strategic goals and harness a better business understanding and crucial interrelationships. A typical business understanding is a basis for meaningful implementation and commitment among key players. The application of this framework to real-life business cases finds support and similarities in APQC's (2019) five key basic steps to accelerate KM maturity: the documentation of a KM strategy and roadmap, development of a cross-functional steering committee, creation of knowledge maps to identify gaps and needs, development of a change management strategy and communication plan, and measurement, benchmarking and analyses of KM efforts.

Discussion: Cases of KM as Catalyst for Digital Transformation

The recent and rapid proliferation of intelligent digital technologies (e.g., AI and DL) relies on intelligent digital devices and data repositories. Data is extracted automatically, through web scrappers, by analysing, classifying, labelling, and correlating volumes of structured and unstructured data, including free-form text. Structured or not, enterprises undergoing digital transformation rely on KM as a catalyst for innovation and creativity, providing how innovative ideas can be captured, shared, and leveraged, leading to more innovative ideas. For instance, the medical diagnostic or financial advisory available through intelligent devices is due to its capacity to generate its knowledge base by absorbing automatically significant structured and unstructured datasets and free-form text. Data science methods are utilised to attain KM objectives, even though KM is rarely mentioned explicitly.

There has also been a growing interest in augmented and virtual reality on how enterprises may use KM as a competitive advantage. For instance, service engineers and physicians wearing augmented reality goggles can offer consultations, send, and receive data regarding a product or service directly overlaid on the device without the fumbling for

a laptop or tablet, as the necessary information would be readily accessible and manipulated through eye movements. Other real-world applications of the framework suggested in this paper are exemplified in cases such as Waymo, TikTok, Facebook, the World Bank, and Pratt & Whitney.

Waymo is arguably at an advantage in the race to introduce a driverless car onto the market. It is ahead of leading automakers such as General Motors, Mercedes-Benz, and Audi by at least a year to announce driverless vehicles to the broader public. The company is tapping into KM strategies in their digital transformation of self-driving cars by collecting over 20 million real-world driving miles throughout 25 cities in the United States (Candelo, 2019). The Waymo Open Dataset has been released recently, providing a platform to crowdsource some fundamental challenges for automated vehicles (AVs), such as 3D detection and tracking. The dataset offers a large amount of high-quality and multi-source driving information stored in a cloud-based environment (Gu, 2020).

TikTok uses DL models such as convolutional neural networks, recurrent neural networks, or graph neural networks (Kombrink et al., 2011; Kalchbrenner, Grefenstette, and Blunsom, 2014; Zhou et al., 2018) to achieve considerable success in various machine learning tasks for video recommendations, enabling the company to outgrow Snapchat and Pinterest combined (ARK Report, 2021). The company uses DL to handle relational data more efficiently and effectively than its competitors.

Facebook uses machine learning to provide a broad range of competencies that manage several user experience characteristics, content understanding, incorporating posts' ranking, object recognition, and training for augmented reality, speech recognition, and text translations. While machine learning models are trained on tailored data-centre infrastructure, Facebook can bring machine learning inference to the edge. The user experience is improved with reduced inference time and becomes less dependent on network connectivity (Wu et al., 2019).

The World Bank underwent a dramatic transformation from a hierarchical source of low-interest loans to a decentralised organisation that uses knowledge-management technologies to fight poverty and disease in developing nations. The bank's information infrastructure and communications network had to be overhauled (World Bank, 2018). Pratt & Whitney has been digitalising its business processes, enabling airline engines to constantly transmit data about their parts' status even when airborne. Simultaneously, on the ground, data recorders at the manufacturer capture this data and compare it to optimum levels to ensure the engines' ongoing health. Data streams are readily available through a KM Web portal (Salam and Bhuiyan, 2016).

Conclusions

This research raises awareness of adopting KM as a catalyst for digital business transformation's role as a strategy to respond to the acceleration of digitalization during and after the COVID-19 pandemic, along with knowledge management principles. Further scholars might use the findings of this study as a conceptual guide to starting their response and adaptation plans.

Before the COVID-19 pandemic lockdowns, digital transformations were already imposing some specific challenges to enterprises across the globe. Such digitalization and digital transformations require comprehensive and sophisticated information system and technologies improvements to help increase market responsiveness, learning capability, and resources reorganizations and coordination (Wang and Shi, 2009). Nonetheless, global

enterprises' higher proximity with stakeholders and more fluid communication can help them catch opportunities coming from their customers' new needs and preferences (Torres, 2004).

Considering the rising influence and dependence on digital technologies and applications in many different sectors/industries, the relevance of managing strategic knowledge in learning organisations has a more significant impact than ever before. Inadvertence towards strategic knowledge management in the growing emphasis on digital transformation across diverse industries can present enormous concerns like non-adaptive and dysfunctional knowledge processes such as creation, transfer, use, and application. Consequently, such inadvertence can result in reinvention and loss of knowledge assets and massive organisations costs (Venkitachalam and Willmott, 2016; Dragicevic et al., 2019). Business decision-makers must beware that not all innovative ideas and digitalisation strategies are suitable or ideal. By capturing these ideas and sharing them with others, they can be developed and perhaps used as a springboard for new ones. Several researchers (Berman and Marshall, 2014; Alhassan et al., 2016; Buschmeyer et al., 2016; Chantias and Hess, 2016) have argued a lack of an integrated all-encompassing description of digital transformation as well as discrepancies in the current literature. While digital transformation involves using digital capabilities and technologies to impact distinct aspects of the enterprise to create value, it is also essential to precisely understand how diverse types of digital technologies, paired with capabilities, can affect particular business elements. Moreover, it is critical to understand the nature of the value created through this transformation. Such research would have a significant impact on both theory and practice. Digital transformation forces are not evolving exclusively from technology. The challenge decision-makers face is recognising how digital technologies are changing business logic and strategies across entire industries and learning how to transform associated challenges into innovative business models (Kane et al., 2016). The accelerating pace of digital transformation, especially after the breakout of the COVID-19 pandemic in 2019, makes it increasingly important for business decision-makers to develop innovative digital business models (Bereznoi, 2014). Research shows that more than 80 per cent of business decision-makers are aware of the pressure to transform their organisations, though about a third of them have little confidence in their capabilities to cope with severe challenges, such as the one brought by the COVID-19 global pandemic (Bertolini, Duncon, and Waldeck, 2015).

Limitations and Future Research

There are several limitations of this study. First, this research is limited to examining a specific dimension of KM as a catalyst for global marketing strategies, restricting the generalizability of the results. Therefore, there is an opportunity for future researchers to examine the effect of digital transformations accelerated by the COVID-19 pandemic that started in 2019, particularly the digitalisation of business processes, with broader sample size.

Secondly, this study is limited to exploring the effects of digital technologies transforming business processes and KM as a catalyst in the evolving nature, knowledge assets, and transformation preparedness of enterprises' value drivers. Further studies assessing the individual impact of many other technologies, including machine learning, deep learning, artificial intelligence, and virtual and augmented reality, not to mention the necessary strategic policies to support these technological innovation systems, may further contribute to theory and practice.

Also, this study is confined to examining the integration of Osterwalder and Pigneur's Business Model Canvas, Parmar et al.'s five patterns for value creation, and Goncalves' cloud enterprise transcoding proxy only. Other frameworks and digital technologies such as those listed above may provide critical sources of insights and become alternative drivers for digital transformation implementations and the role of KM for strategic relevance through digitalised knowledge processes and customer-centric global marketing strategies as a valuable tool in accessing and managing business resources, core competencies, and dynamic capabilities.

There remains another fruitful avenue for future scholarship to examine the effectiveness of support measures originating from recognizing the KM framework and strategies as a catalyst for digital transformation, particularly from industry associations and private institutions. From a theoretical perspective, exploring the effect of other institutional aspects, namely, normative and cognitive institutions, may offer additional insights into future research through the lens of KM. Thus, additional insights may be gained by examining the phenomenon in a longitudinal setting, such as pre, during, and post COVID-19.

Thirdly, the data was collected during the pandemic, while the full effects of the pandemic might not have been clearly understood. This study did not seek to elicit personal views from executives of the companies analysed regarding the merits of KM as a catalyst for digital transformation projects, any ongoing political issues affecting such digitalization of business processes for international business and trade, their experience, and day-to-day activities. Instead, the study intended to analyze and reflect the experiences and perspectives of KM solely concerning its effectiveness for digital transformation implementations. While such international digital KM implementations are subject to various geo-political and socio-economic aspects, as well as target countries' economic, political, and trading policies that may affect digitalization strategies at a macro and microeconomic levels, this study was directed only at the selected adoption of KM frameworks, as a model, for coping with digital business transformations.

Finally, since the literature and the models adopted were based on past events, conclusions may be affected by common method bias (Gerschewski et al., 2015). Based on the conclusions of this study, it is still not clear how various KM frameworks and digital technologies impact global digital transformations. Although KM has received increased policy and research attention in recent years, prior studies have not addressed the performance implications of KM implementations explicitly and systematically as integral actors in digital business transformations at the enterprise's level. The literature provides little insight into the contribution of KM to digital transformation performance. Aside from the more structural and logistic aspects of business processes' digitalization, further study is necessary to assess the performance implications of KM as a catalyst in this process. There is a need for a model to be developed which focuses on the determinants of enterprise digital transformation to ascertain the unique contribution KM frameworks make to understanding an SME's global marketing strategies.

To this end, further research is also necessary to best understand the level of global marketing strategies relying on digital technologies and KM as a critical variable affecting its performance. The difficulties in assessing the performance of organizations reacting to the accelerated demand for digitalization of business processes caused by the COVID-19 pandemic and the shutdown of businesses brick-and-mortar venues, and the increasing of customers in front of digital screens presence (e.g., mobile phones, tablets, laptops, and

TV), especially in an international context, need to be better understood as well, as it evaluates the global marketing and business performance of these enterprises, is an elusive goal. The task of assessing global marketing and international business performance is complex and challenging due to the diversity of approaches and measures employed in conceptual and empirical research on this topic (Cavusgil & Zou, 1994). Moreover, since these issues have previously received only scant attention, the findings of this study offer several fruitful areas for additional research. One such place involves the need to refine further the dimensions of KM in digital transformation performance. Although the proposed multidimensional conceptualization of performance and its systematic measurement represents an essential contribution to this study, its efforts can best be considered preliminary, necessitating considerable additional work.

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