

Digitally transformed Knowledge management

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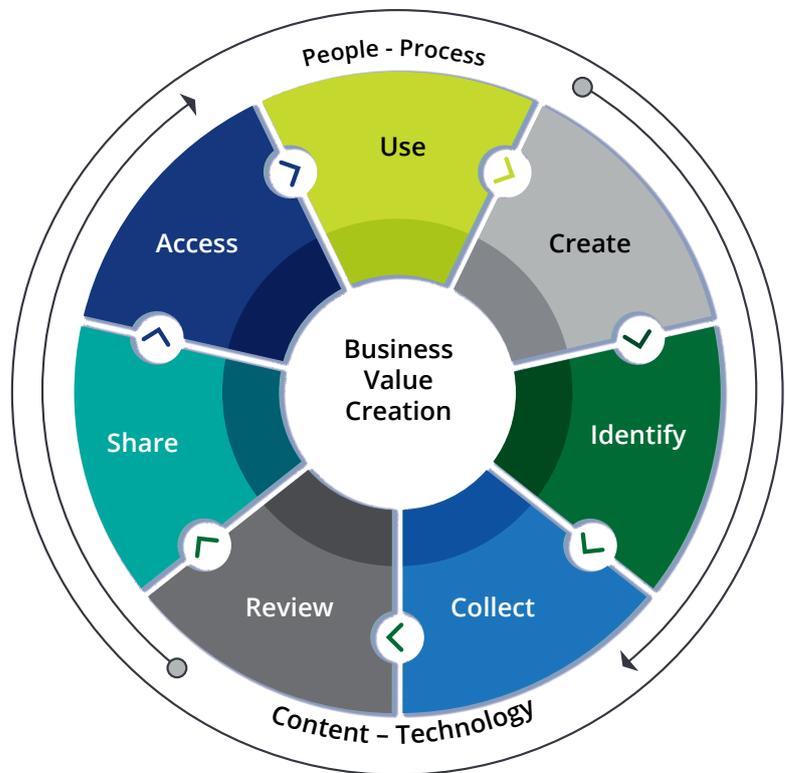
Knowledge management will be increasingly relevant in the setting of the digitally transformed organisation. This is accompanied by consensus on the need for a reconceptualisation of the design principles of the Knowledge management construct.

Technology or digital transformation will change the way people work, make decisions and affect the operating model of organisations. Prevailing management and work processes will become almost unrecognisable. Digital transformation is the result of the Fourth Industrial Revolution and its associated emphasis on technological innovation and digital productivity. Timperley (2018) indicates that although technological and digital productivity have been a gradual process it will require workers to acquire an altered state of skilfulness and mindfulness. Workers need to find a new “state of competitiveness” in the so-called gig economy simply because the rules of employment engagement have altered. In this economy, employment opportunities will not be awarded based on the experience or qualifications of workers

but rather on their ability to perform work which machines are unable to do.

Furthermore, workers need to create and develop the ability to work alongside and collaborate with machines that are able to learn, make decisions and perform a variety of cognitive functions. It is therefore a fair assumption that the new world of work and the associated characteristics of workers will have a fundamental impact on the manifestation of Knowledge management in organisations. What will the role of Knowledge management and knowledge workers be in organisations and societies where humans can be replaced by machines? Machines that will have the cognitive and computational power to perform both repetitive but also highly complex “knowledge” work.

Knowledge management is aimed at optimising and enabling the workflow and work processes in organisations and invariably lead to an improvement in productivity and the identification of opportunities for innovation. Knowledge management has been recognised as “the deliberate and systematic coordination of an organisation’s people, technology, processes, and organisational structure in order to add value through reuse and innovation. This is achieved through the promotion of creating, sharing, and applying knowledge as well as through the feeding of valuable lessons learned and best practices into corporate memory in order to foster continued organisational learning” (Dalkir, 2005). The American Productivity and Quality Centre (APQC) adds four more knowledge processes as an extension to Dalkir’s (2005) proposed knowledge process value chain and include the identification, collecting, reviewing, accessing and utilisation of knowledge resources.



Knowledge processes (APQC, 2018)

In the digitally transformed organisation or the digital-native enterprise (DNE) knowledge in its most primal form will manifest in the form of “big data” received by sensors and transmitted to actuators, and analysed in a cloud based cyber-physical system. The analyses of big data sets will enable the seamless integration of the design, development or manufacturing and the commercialisation of products in response to the needs and requirements of society. All with relatively little intervention from workers and a low dependency on their ability to apply their acquired knowledge and experience to perform knowledge work or physical labour. However, it is noteworthy that although Knowledge management has traditionally focused on managing information and tacit knowledge as organisational resources and excluded the domain of data management. But in the DNE the fusion and integration between data, information and knowledge is unmistakable and hence affect the design principles of the knowledge management construct.

Knowledge management strategies are focused on codification and personalisation and it is evident that the organisations that derive the most competitive and sustainable value from Knowledge management are those that have a balanced approach towards codification and personalisation (Hansen, Nohria & Tierney, 1999; Van der Spek, Hofer-Alfeis & Kingma, 2003; Venkitachalam & Willmott, 2016). Codification focuses on codifying and capturing knowledge in the form of information in databases while a personalisation strategy enables communication and person-to-person or person-to-team dialogues as opposed to codifying and capturing knowledge objects in a database. Personalisation ensures that the tacit knowledge (experiences, narratives, stories, heuristics, mental models, values) of employees can be leveraged in teams and between teams and hence make provision for highly contextualised knowledge.

The majority of organisational knowledge management initiatives are biased towards a technological approach and hence support a codification strategy. Organisations should guard against an overemphasis on a technology driven and in some instances a compliancy driven approach towards Knowledge management. The quantity and frequency of knowledge management initiatives should not dominate nor dictate the quality and value of the knowledge resources that are managed during an intervention. This implies that a focus on how “much and how often” knowledge is shared should not be more important than the value and practicality of the contextualised knowledge that is shared. Natarajan (2018) explains: “While KM practises and tools achieved considerable success across industries more specifically in knowledge driven industries such as Consulting, IT, legal, pharma, life sciences, etc. they mostly focused on codifying explicit knowledge artefacts and providing search and retrieve capabilities to discover the artefacts from the repository.”

As “knowledge” in the form of data will be embedded in seamlessly interconnected devices, equipment and machines it is evident that the existing relationship between codification and personalisation knowledge management strategies will need to be reconfigured and should mirror the digital “maturity” of the organisation. Natarajan (2018) states “the key challenge for Fourth Industrial Revolution organisations is to harness the real potential for digital transformation by having an integrated strategy and a holistic approach towards Knowledge management, building internal systems and processes to streamline information exchange and data analytics, along with a strong culture of data-driven decision-making.”

Future considerations for Knowledge management in the setting of a DNE should therefore make provision for the following characteristics of knowledge:

Embedded: Knowledge that is embedded in big data should be unlocked, processed, and eventually embedded in products, services, or systems.

Ubiquitous: Knowledge management initiatives should work towards the absence of barriers and boundaries to accelerate knowledge processes (creating, sharing, validation and use) of knowledge.

Inclusive: Facilitate large volumes of structured and unstructured data to be managed across organisational work processes and process flows.

Locality: The inclusion of sensors as the conduit of data as opposed to the human worker as the “owner” of intellectual property in the form of knowledge and information.

Validity: Increased emphasis on need for the evaluation and validation of knowledge as data will flow from a multitude of devices and equipment.

Automated: The incorporation of an ecosystem of advanced technologies (cognitive search; enhanced discovery and predictive recommendations; chatbots and intelligent assistants) to enable the automation of routine knowledge processing and analysis.

Contextualised: Text analysis to ensure that large data sets are analysed and synthesised to provide highly contextualised knowledge and hence the need for just-in-time-knowledge.

Evidently, Knowledge management will be increasingly relevant in the DNE setting but similarly there is a universal acceptance that the manifestation and density of knowledge will necessitate an altered conceptualisation of the knowledge management construct and the approach needed to manage a digital knowledge resource.

Contacts

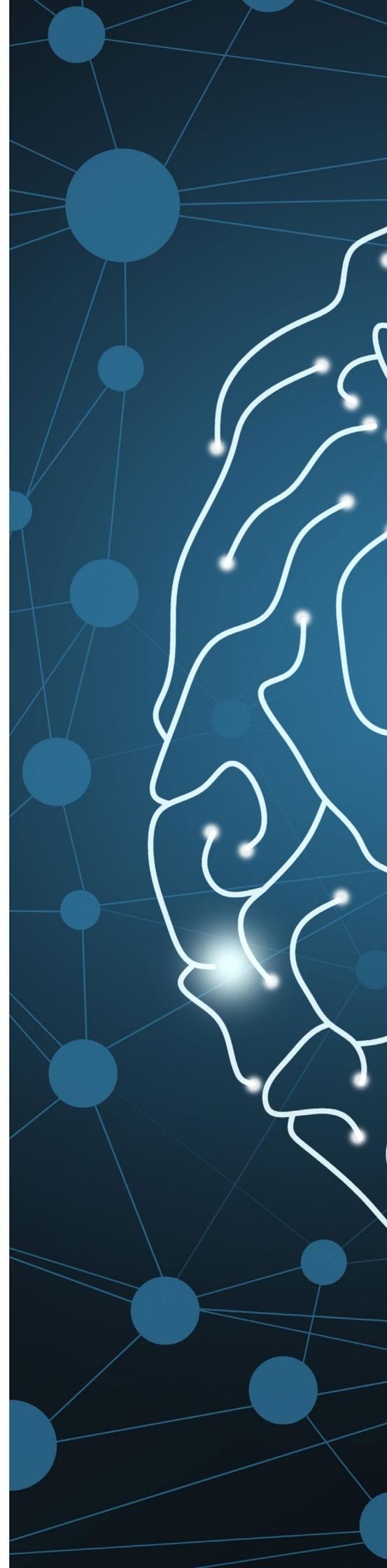
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