

# One Size Does Not Fit All – Towards a Typology of Knowledge-Centric Organisations

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**Abstract:** Organisations are increasingly turning their attention to the creation and use of knowledge as a strategic resource. Too often however, knowledge management initiatives fail to deliver the competitive advantage expected from a strategic resource. The knowledge management literature is characterised by frameworks for knowledge management implementation which tend to prescribe best-practice methods to a large range of companies. Although useful, a key weakness of these frameworks is their inability to account for contextual differences. Consequently many organisations attempt to apply a knowledge management framework that simply doesn't fit the organisational context resulting in little or no benefit from their efforts. A shift in focus from best practice to best fit is necessary to account for the difference in organisational contexts.

Systems thinking emphasises context as an important element in understanding a system, and five concepts from systems theory are used to define the criteria for establishing a best-fit approach. A social constructionist approach to the research further affords the opportunity to identify areas of significant variation in knowledge management context and practices within knowledge-centric organisations. A multi-method research strategy, comprising cluster analysis and case study research, is proposed to develop insight into the emergence of different configurations of knowledge management capabilities within different organisational contexts.

The proposed conceptual framework forms the foundation for building a typology of knowledge-centric organisations which will enable organisations to choose the most appropriate approach to knowledge management based on their specific context which varies along the dimensions of their knowledge-orientation, knowledge management intent and knowledge management enactment.

**Keywords:** knowledge management, knowledge-centric organisations, typology, social constructionism, configurational approach, systems thinking

## 1. Introduction

Managing knowledge is not a new phenomenon. Knowledge about discoveries made thousands of years ago, passed on through generations through storytelling, apprenticeships and in written form, has led to the rise of the modern industries we know today. Sharing know-how and exchanging ideas lead to the creation of new knowledge, and applying the new knowledge to common problems have resulted in countless innovations through the past few centuries.

Over the past decade it became apparent that the industrial era has entered the end of its lifecycle. During this period technological advancements started to emerge that rapidly changed the way in which production was being organised, trade occurred and value was delivered to consumers (Greenspan, 1998). Although the fundamental rules of the economy have not changed, the structure and drivers of the economy have changed and knowledge is increasingly being recognised as a strategic resource. When managers consequently started to shift their attention from physical resources to the more intangible, which includes knowledge, the term knowledge management was coined to describe the emerging discipline of the conscious effort to examine and promote the sharing, use and creation of knowledge in organisations in a formal manner.

With knowledge management being positioned as a strategic imperative, numerous studies have explored its resource-base and its management alternatives. These studies and frameworks have played an important role in establishing knowledge management as a field of inquiry within the business sciences and although useful, a number of weaknesses have limited the successful implementation of knowledge management. Most knowledge management frameworks present knowledge management best practices while failing to address contextual differences between organisations. The implication is that knowledge management initiatives fail too often, fuelling the fear that knowledge management is simply another passing fad.

To account for contextual differences between organisations, knowledge management frameworks should shift the focus from a best practice to a best fit approach. This means a framework should first provide a mechanism to investigate and understand an organisation's context, and then, based on the context, provide insight into the most suitable approach to knowledge management.

The primary objective of the research is to develop a facilitative framework for becoming a knowledge-centric organisation, which in this context, is defined as an organisation that views and manages knowledge as a strategic resource based on an understanding of its own organisational context.

This paper focuses on describing the approach that will be followed to develop the knowledge-centric framework. First the best-fit concepts that form the foundation of the knowledge-centric framework are described and the compatibility of existing knowledge management frameworks is evaluated against these criteria. Second, the choice of research philosophy and research approaches is explained. Finally, a multi-method research methodology is described, highlighting the contribution of each of the proposed methods to the development of the knowledge-centric framework.

## **2. Foundational concepts of best-fit approaches**

Identifying knowledge management best practices, benchmarks or influencing factors seem to be the goal of the majority of empirical studies in knowledge management (APQC, 2005; Chase, 1997; Choi & Lee, 2003; Darroch, 2003; Davenport et al., 1998; De Long & Fahey, 2000; Gold et al., 2001; C. W. Holsapple & Joshi, 2000; Khalifa & Liu, 2003; KPMG, 2003; López et al., 2004; Lucas & Ogilvie, 2006; Martini & Pelligrini, 2005; O'Dell et al., 1999; Skyrme & Amidon, 1997; Sveiby & Simons, 2002; Viitala, 2004; Wong & Aspinwall, 2005). These studies play an important role in developing a better understanding of the components of knowledge management and in some cases, the interaction between the components. A void however still remains in developing insight into the differences in context between organisations, and the implications of these differences in terms of choice of knowledge management approaches. This highlights the need for a best-fit approach to knowledge management, and such a framework will have different characteristics than a framework promoting a best-practice approach.

The focus on contextual differences is a key differentiator of best-fit approaches, immediately reminding of systems thinking where the context of a system plays a central role in understanding the system. Five key concepts of systems theory can be used as criteria for best-fit approaches. The first concept is that a system is an integrated whole consisting of parts (Jackson, 2003). Translated to the context of knowledge management, this means that knowledge management could be viewed as a system consisting of parts, or a subset of knowledge management activities. Incorporating the concept into a knowledge management framework, would mean that the knowledge management framework should identify or prescribe the activities that make up knowledge management. This alludes to a prescriptive function embedded in a knowledge management framework, and a large number of knowledge management frameworks do exactly that. A knowledge life-cycle is a typical example of a prescriptive framework and some examples from the literature include Nonaka and Takeuchi's (1995) knowledge spiral, the American Productivity & Quality Centre's (APQC) knowledge management process (O'Dell et al., 1999), Lee and Yang's (2000) knowledge value chain, Mack, Ravin and Byrd's (2001) knowledge work tasks and Birkenshaw and Sheehan's (2002) knowledge life cycle.

A second systems concept says that the parts of an integrated system are organised around a specific purpose (Dostal, 2005). In the knowledge management context this means that knowledge management activities are organised to achieve specific organisational goals. A knowledge management framework therefore should establish a link between knowledge management activities and organisational goals or objectives. A number of knowledge management studies (Davenport et al., 1998; Khalifa & Liu, 2003; Skyrme & Amidon, 1997; Wong & Aspinwall, 2005) have identified the linkage of knowledge management activities to organisational goals as a knowledge management success factor, however few knowledge management frameworks have incorporated this.

A third systems theory concept is that the whole is larger than the sum of its parts (Capra, 1997). This means the characteristics of a system (the whole) emerges from the configuration of relationships or interdependencies of the parts. The properties of a system can therefore not be understood by looking at the parts independently - the focus needs to be on the relationships between the parts and with the whole (Jackson, 2003). It is the pattern of relationships that determines the characteristics of a system. In terms of knowledge management frameworks, this means that knowledge management cannot be described simply

by describing the various components of knowledge management as many descriptive frameworks tend to do (Gallagher & Hazlett, 2000; C.W. Holsapple & Joshi, 2002; Weerdmeester et al., 2002). The properties of knowledge management are destroyed when it is simply dissected into the underlying components. Instead, a knowledge management framework should facilitate the investigation of the configuration of relationships and interdependence among all the components in order to understand the characteristics of knowledge management.

A fourth concept borrowed from systems theory is that a system is a whole in its own right, but also part of one or more larger wholes (Dostal, 2005). This means that any system should be viewed in the context of its parts, which are systems themselves, as well as the larger system it forms part of. In terms of knowledge management this means that knowledge management should not only be viewed in terms of its underlying activities, but also in terms of the organisation in which it is or will be deployed. Contextual-sensitivity therefore needs to be embedded in a knowledge management framework, facilitating the investigation or identification of the context in which knowledge management is deployed. Although a few recent studies have started to investigate aspects such as knowledge management styles (Choi & Lee, 2003) and organisational capabilities (Gold et al., 2001), the majority of knowledge management frameworks fail to identify or address the contextual differences between organisations.

A fifth systems theory concept is that systems co-produce each other (Dostal, 2005). This means that a system is co-produced by factors present in other systems. In terms of knowledge management this means that knowledge management is not only shaped by its underlying knowledge management activities, but also by factors belonging to other systems, for example the industry within which an organisation operates, organisational structures and leadership, to name a few. A number of knowledge management studies have investigated the relationships that exist between knowledge management and factors such as culture (De Long & Fahey, 2000; López et al., 2004; Lucas & Ogilvie, 2006; Ribière, 2001), leadership (Viitala, 2004), organisational performance (Choi & Lee, 2003) or a combination of factors (Darroch, 2003; Davenport et al., 1998; Gold et al., 2001; C. W. Holsapple & Joshi, 2000; Khalifa & Liu, 2003; Martini & Pelligrini, 2005; Wong & Aspinwall, 2005). Although these factors are often described in knowledge management frameworks, these frameworks fail to provide insight into which approach to knowledge management might best suit a particular organisational configuration.

Best-practice knowledge management frameworks are prescriptive on the types of knowledge management practices and procedures organisations should follow. On the other hand, a best-fit approach involves considering an organisation in its entirety, including its internal and external environment, and examining the relationships between its various entities, before recommending the most suitable approach to knowledge management. Although knowledge management studies and existing frameworks have addressed a number of the concepts described above, a knowledge management framework that meets the criteria of a best-fit framework has yet to emerge.

### **3. Theoretical framework**

The overarching objective of the study is to develop a facilitative framework for becoming knowledge-centric, which in this context, is defined as an organisational property or quality to view, manage and use knowledge as a strategic resource *with a grounded understanding of the organisational context*. From a theoretical perspective it is important to understand what knowledge is and how it can be used as a strategic resource. The study is therefore grounded in two main theoretical strands, namely epistemology and the resource-based perspective.

Epistemology is the subject area that investigates the origin, structure, methods and validity of knowledge by addressing what is known as the three basic questions of epistemology. First epistemology is concerned with the nature and sufficient conditions of knowledge (Steup, 2006), in other words 'what is knowledge?' A second set of questions concerns the sources of knowledge (Steup, 2006), asking 'where do we get knowledge from?', 'how do we know if it is reliable?' and 'when are we justified in saying we know something?' Finally epistemology is concerned with the scope and structure of knowledge (Steup, 2006), in other words 'what are the limits of knowledge?' and 'are there any in the first place?' The theoretical framework of the study is built on the premise that knowledge is a social construct, with communal interchange as the main source of knowledge. Social constructionism emphasises the importance of language, context, and interaction with the environment, which leads to the view that organisational knowledge is created through interaction between people both in an organisation's internal and external environment. Organisational knowledge-creation in the theoretical framework is built on a combination of the

models proposed by Cook & Brown (1999), Powell & Swart (2005), Tsoukas (1996), Tsoukas & Vladimirou (2001) and Von Krogh & Roos (1994).

The resource-based perspective shifts the focus away from analysing organisations from the product side towards analysis from the resource side (Wernerfelt, 1984). Organisations are therefore viewed as different collections of physical and intangible assets and capabilities. Resource-based theory views these assets and capabilities as potential sources of sustained competitive advantage (Barney, 1991). For an organisational resource to hold the potential of sustained competitive advantage, they must simultaneously be valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1991). Some major criticism against the resource-based view is the absence of a theory of the environment and of a convincing treatment of dynamic factors and processes (Foss, 1998). Any conceptual framework which views knowledge as a strategic resource therefore will have to address these two weaknesses.

The knowledge-based view, which evolved from the resource-based perspective, views knowledge as the primary resource of sustainable competitive advantage (Grant, 1996). The knowledge-based view considers five characteristics as important for the utilisation of knowledge within an organisation to create value, namely transferability, capacity for aggregation, appropriability, specialisation in acquisition and the knowledge requirements of production (Grant, 1996). These characteristics however fail to address conditions of an evolutionary theory of the organisation (Von Krogh & Grand, 2002), whereby organisations appropriate returns from innovation and knowledge creation in order to create competitive advantage. Von Krogh & Grand (2002) propose a further five conditions for a knowledge-based view, namely a concept of knowledge origin, a concept of the knowledge creation process, a concept of corporate coherence, a concept of change and a concept of management. In the theoretical framework, the concepts of knowledge origin and the knowledge creation process are addressed in the epistemological view of knowledge as a social construct and a combination of Cook and Brown's (1999) model for organisational knowledge-creation, Tsoukas' (1996) view of the organisation as a distributed knowledge system and Powel and Swart's (2005) description of organisational knowing.

The concepts of corporate coherence, change and management are addressed in the dynamic capabilities theory. In the context of knowledge, dynamic capabilities can be viewed as the ability of an organisation to integrate, build and reconfigure internal and external knowledge to address changes in its external environment (Teece et al., 1997). It is argued that the competitive advantage of an organisation lies within its processes, specific asset positions and available paths (Teece et al., 1997). The roles of managerial and organisational processes are to coordinate and integrate the knowledge efforts of the organisation, resulting in a certain level of corporate coherence. Learning processes in turn enable tasks to be performed more efficiently and effectively and opportunities to be identified. Reconfiguration and transformation processes enable an organisation to sense the need to adapt to changes in its external environment. An organisation's asset position is influenced by various types of assets, for example technological, financial and structural assets, along with organisational boundaries (Teece et al., 1997). Path dependencies are influenced by an organisation's current position, which in turn is influenced by its previous investments and processes. Paths are however also influenced by considering the opportunities available to an organisation (Teece et al., 1997).

The specific configuration of the dynamic capabilities of an organisation thus has a large impact on the potential competitive advantage of the organisation.

#### **4. Research philosophy and approach**

Many knowledge management studies follow a positivistic research philosophy which is characterised by a reductionistic analysis of knowledge management. In attempting to statistically isolate the effects of variables, complex forms of interaction are downplayed and nonlinear relationships are ignored.

Developing a facilitative framework for becoming a knowledge-centric organisation, requires an approach that affords the opportunity to explain how being knowledge-centric emerges from the interaction of various organisational entities as a whole, and from the interaction of the organisation as a whole with its external environment. The research objective can be attained by addressing three questions. First, which dimensions can be used to describe an organisation's knowledge management abilities? Second, given these dimensions, what configuration of knowledge management abilities will emerge in different organisational contexts? Third, why do these configurations emerge, in other words, how are the dimensions related to each other within a specific context?

In order to address these questions, organisations are viewed as a function of a particular set of circumstances and individuals. Social constructionism therefore is an appropriate research philosophy to obtain rich insights into the unique and complex contexts of organisations (Saunders et al., 2003). Social constructionism affords the opportunity to develop an understanding of the subjective reality of an organisation’s knowledge management abilities by exploring its knowledge management motives, actions and intentions.

The research’s strong focus on identifying emerging patterns or configurations of knowledge management abilities highlights the necessity of a configurational research approach. Configurational research aims to identify multidimensional constellations of conceptually distinct characteristics that commonly occur together (Meyer et al., 1993). The approach is built on the premise that various “dimensions of environments, industries, technologies, strategies, structures, cultures, ideologies, groups, members, processes, practices, beliefs, and outcomes cluster into configurations” which can then be represented in conceptually-developed typologies (Meyer et al., 1993). These configurations can also be viewed as a quality or property that varies among organisations (Miller, 1996). Identifying configurations of knowledge management abilities within varying organisational contexts is therefore grounded in a configurational approach.

## 5. Research methodology

### 5.1 Multi-method

Different research methods will be employed to address the three research questions (figure 1). First a conceptual framework will be developed to identify the dimensions that can be used to describe an organisation’s knowledge management abilities. Second a survey, based on the dimensions of the conceptual framework, will be employed to obtain the data from which the configurations of knowledge management abilities will be derived. Third, case studies will be developed to explore the emergence of configurations within specific organisational contexts.

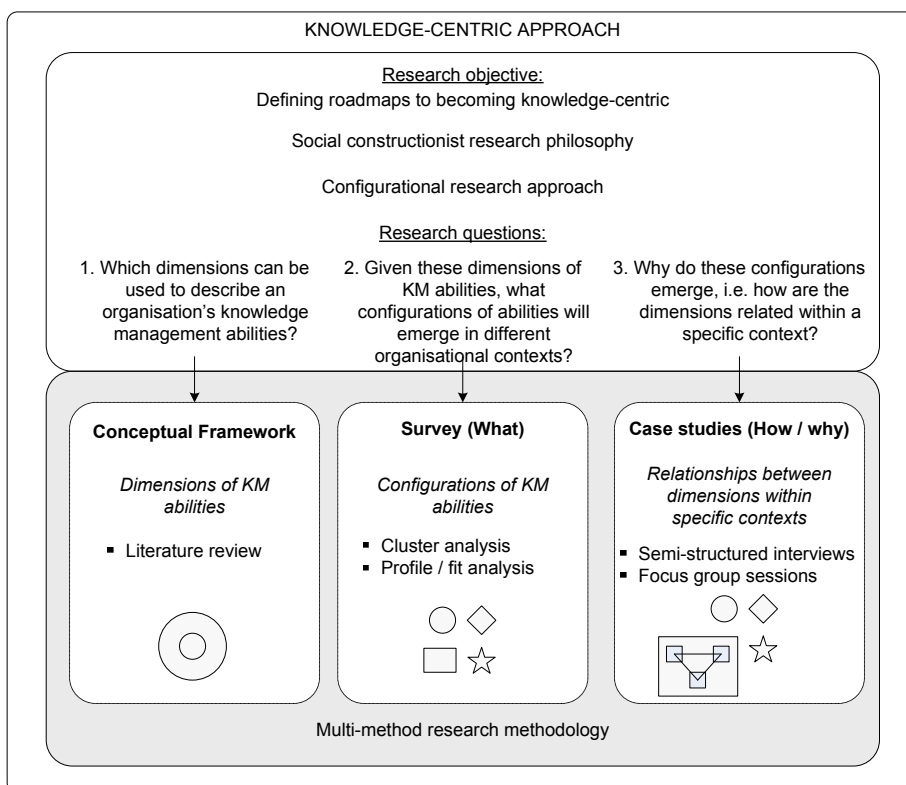
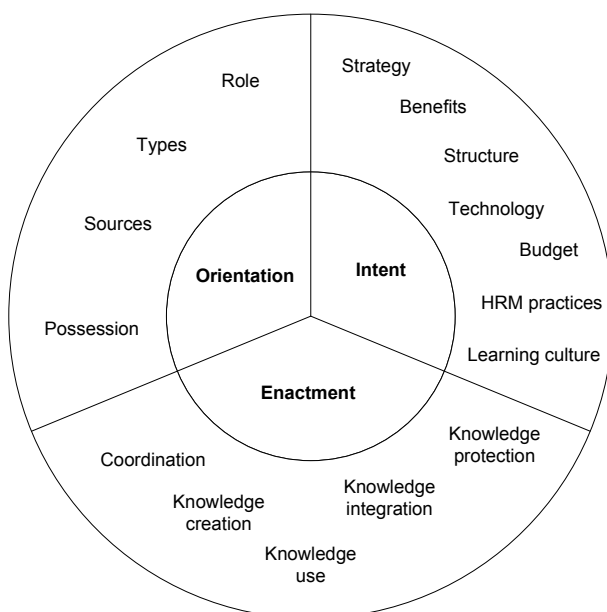


Figure 1: Multi-method research strategy

### 5.2 Conceptual framework

The conceptual knowledge management framework (figure 2) was developed with the theoretical framework as foundation and consists of three main dimensions. The first dimension, knowledge-orientation,

investigates the basic attitude of an organisation towards knowledge. The second dimension, intent, investigates the inclination of an organisation to manage and use knowledge as a strategic resource. The third dimension, enactment, investigates the processes an organisation has in place to manage and use knowledge as a strategic resource. An organisation's ability to manage and use knowledge as a strategic resource will emerge from the interaction between all the entities within and between each dimension.



**Figure 2:** Conceptual knowledge management framework

An organisation's knowledge-orientation is investigated by looking at four entities. It investigates the role knowledge plays within the organisation by establishing its importance in the organisation's ability to grow and compete. It further establishes what types of knowledge and forms of knowing are prevalent within the organisation, by assessing the importance of explicit and tacit knowledge, as well as the importance of four forms of organisational knowing, i.e. knowing what, knowing how, knowing why and knowing why, described by Powell & Swart (2005). The dominant sources of knowledge are investigated to establish the importance of external knowledge sources to the organisation. Finally the organisation's view of the ownership of knowledge is investigated to establish the importance of individual knowledge and organisational knowledge.

The second dimension, intent, establishes whether an organisation is inclined to use knowledge as a strategic resource, and what benefits it intends to obtain from this usage. It further looks at the actions take within an organisation to build an environment conducive to using knowledge as a strategic resource. These include the structure that an organisation has in place to manage knowledge; the prevalence of technologies that facilitate knowledge management activities; the availability and growth or decline of financial resources that might impact on an organisation's capacity to management knowledge; human resource management (HRM) practices and incentives that facilitate and encourage the creation, sharing and use of knowledge; and the intentional development of a learning culture within an organisation.

The third dimension, enactment, investigates the prevalence of knowledge management processes within an organisation. Specifically the focus is on an organisation's processes to integrate, build and reconfigure internal and external knowledge to address changes in its external environment.

Although the conceptual framework describes the dimensions of knowledge management abilities, another mechanism is required to investigate the configuration of the three dimensions and their underlying parts in different organisational contexts.

### 5.3 Survey

A survey will be used to collect the data from which the emerging configurations of knowledge management abilities will be identified. The survey items will be developed from the dimensions and entities defined in the conceptual framework.

Although all industries are dependent on knowledge inputs to some extent, the study will focus on organisations that are highly-dependent on the intensive use of knowledge and skills as input. An adaptation

(figure 3) of the classification system used by Eurostat (Amil et al., 2007) to classify manufacturing and service industries according to their global technology and knowledge-intensity will be used to choose the industries to be included in the sample.

The sample will consist of organisations whose head office is located in South Africa, or whose operational capacity is largely based in South Africa. The sample will consist of small, medium and large organisations.

<p><i>High-technology manufacturing</i></p> <ul style="list-style-type: none"> <li>▪ Aerospace</li> <li>▪ Computers</li> <li>▪ Office machinery</li> <li>▪ Electronics</li> <li>▪ Communications</li> <li>▪ Pharmaceuticals</li> <li>▪ Biotechnology</li> </ul>	<p><i>High-technology knowledge-intensive services</i></p> <ul style="list-style-type: none"> <li>▪ Post and telecommunications</li> <li>▪ Computer and related services</li> <li>▪ Research and development</li> </ul>
<p><i>Medium high-technology manufacturing</i></p> <ul style="list-style-type: none"> <li>▪ Scientific instruments</li> <li>▪ Motor vehicles</li> <li>▪ Electrical machinery</li> <li>▪ Chemicals</li> <li>▪ Other transport equipment</li> <li>▪ Non-electrical machinery</li> </ul>	<p><i>Medium high-technology knowledge-intensive services</i></p> <ul style="list-style-type: none"> <li>▪ Water transport</li> <li>▪ Air transport</li> <li>▪ Advertising</li> <li>▪ Consulting engineers</li> <li>▪ Management consulting</li> <li>▪ Accounting services</li> <li>▪ Legal services</li> </ul>

**Figure 3:** Adapted industry classification system

Cluster analysis will subsequently be used to identify the configurations of knowledge management abilities or clusters that emerge from the data. The cluster solution will be validated for reliability, external validity and criterion-related validity based on the recommendations made by Ketchen and Shook (1996).

#### **5.4 Case studies**

Using profiling techniques described by Doty, Glick and Huber (1993) a number of organisations will be selected whose profiles are similar to the clusters that were identified. These organisations will be the subject of in-depth field studies to further explore the nature of the emerging configurations of each of the main clusters in more detail.

Using the survey items as a point of departure, unstructured interviews will be used to explore the relationships between the various dimensions within a specific context, and to arrive at an understanding of how these interdependencies contribute to the emergence of a specific configuration of knowledge management abilities. The resulting case studies can be used to describe roadmaps to becoming a knowledge-centric organisation, thereby concluding the knowledge-centric framework.

Case study research cannot use the same criteria used to test the credibility of research findings in a positivist paradigm. The requirements for evaluating case studies described by Klein and Myers (199) will be used to evaluate the credibility of the research findings.

The proposed multi-method approach will also enable triangulation to take place. The unstructured interviews conducted as part of the field studies could be a valuable way of triangulating the data collected by means of the survey.

#### **6. Conclusion**

This paper has described an approach to developing a knowledge-centric framework. The framework is aligned with the characteristics of a best-fit approach and consists of three main components. First, a conceptual framework describes knowledge management along the dimensions of knowledge-orientation, knowledge management intent and enactment. The second component of the knowledge-centric framework is a typology of organisational configurations of knowledge management capacity. The third component of

the framework is a description of the knowledge management approaches most suited to the configurations identified in the typology.

This knowledge-centric approach is based on key concepts from systems theory and configurational theory and will enable organisations to choose the most appropriate approach to knowledge management, based on their specific context.

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