

BIG DATA AND KNOWLEDGE MANAGEMENT-A CONCEPTUAL STUDY

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ABSTRACT

Knowledge management (KM) is the process of capturing, developing, sharing, and effectively using organisational knowledge. The field of knowledge management have always distinguished between data, information, and knowledge. Big data is one of important technological roadmap, which main function is modelling behaviour and helping organisation decision support. Knowledge management efforts typically focus on organisational objectives such as improved performance, competitive advantage, innovation, the sharing of lessons learned, integration and continuous improvement of the organisation As a result, we believe we can help the field better understand the idea of big data and how it relates to knowledge assets as well as provide a justification for bringing proven knowledge management strategies and tools to bear on big data and business analytics. Big data, which refers to the data sets that are too big to be handled using the existing database management tools. Big data presents a grand challenge for database and data analytics research. In order to benefit from this data, organizations must have a well-defined strategy to collect, store, synthesize, and disseminate it in the form of knowledge required for various business functions. Organizational knowledge for development of products is not available in a simple format, but is generally in large volumes, and is dispersed across the enterprise.

KEYWORDS: Knowledge Management, Big Data Implications, Business Analytics

INTRODUCTION

Knowledge management comprises a range of strategies and practices used in an organisation to identify, create, represent, distribute and enable adoption of insights and experiences. Growth of interest in both learning in organisation and knowledge management occurred at very similar time. The new way of acquiring and spreading knowledge i.e. exchanging ideas, values, information flow and behaviours is developing rapidly, by the influence from outside the organisation such as internet or social media, and inside the organisation.

Big data is widely anticipated in many big corporations with objectives to increase their performance on business intelligence; competitive advantage and others. The field of knowledge management (KM) are identifying and managing knowledge assets effectively in order to gain the competitive advantage. Big-data analytics now drives almost every aspect of our modern society, including telecom, retail, manufacturing, and life sciences creating new challenges for Knowledge Management Systems (KMS). Knowledge management increases the value of an organization by identifying the assets and expertise available within the organization as well as efficiently managing the resources.

REVIEW OF LITERATURE

The Gartner Group (2005) defines Knowledge Management as a discipline that promotes an integrated approach to identifying managing and sharing of all of an enterprise's information assets. These information assets may include database documents, policies procedures as well as previously unarticulated expertise and experience resident in individual workers. Knowledge management issues include developing, implementing and maintaining the appropriate technical and organisational infrastructure to enable knowledge sharing.

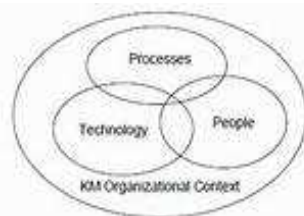
Abdul Kalam (2004) emphasized Knowledge Management helps an organisation to gain insight and understanding from its own experience. Specific knowledge management activities help focus on organisation on acquiring, storing and utilizing knowledge for problem solving, dynamic learning, strategic planning and decision making. It also prevents intellectual assets from decay, adds to firm intelligence and provides increased flexibility.

Sen (2000) defines requisites of making Big Data work for development are a solid technological (hardware) infrastructure, generic (software) services, and human capacities and skills. These horizontal layers are used to analyze different aspects and kinds of data, such as words, locations, nature's elements, and human behaviour, among others. While this set-up is necessary for Big Data Analysis, it is not sufficient for development. In the context of this article, (under)development is broadly understood as (the deprivation of) capabilities.

Components of Knowledge Management

Based on actual experiences of the leading global Knowledge Management case studies, the components for Knowledge Management can be broadly categorized into three classes - People, Processes, and Technology. While all three are critical to build a learning organisation and get business results from Knowledge Management, a majority of organisations worldwide implementing Knowledge Management have found it relatively easier to put technology and processes in place, whereas in this the people component has posed greater challenges.

The biggest challenge in Knowledge Management is to ensure participation by the **People** or employees in the knowledge sharing, collaboration and re-use to achieve business results. In many organisations, it requires changing traditional mindsets and organisational culture from "knowledge-hoarding" (to keep hidden or private) to "knowledge-sharing"(share among team members) and creating an atmosphere of trust. This is achieved through a combination of motivation recognition and rewards, re-alignment of performance appraisal systems, and other measurement systems.



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The **Process** component include standard processes for knowledge-contribution, content management, retrieval, membership on communities of practice, implementation-projects based on knowledge-reuse, methodology and standard formats to document best-practices and case studies. It is important for processes to be as clear and simple as possible and

well- understood by employees across the organisation.

Knowledge Management **technology** solutions provide functionality to support knowledge-sharing, collaboration, workflow, document-management across the enterprise and beyond into the extended enterprise. These tools typically provide a secure central space where employees, customers, partners and suppliers can exchange information, share knowledge and guide each other and the organisation to better decisions. A company must choose a technology option that meets its Knowledge Management objectives and investment plan.

Business Analytics and Knowledge Management

Many research contributions have emphasized the importance of taking care of (big) data, information and knowledge assets for efficient and effective decision support, management, or leadership. Consequently, business analytics (BA) & knowledge management (KM) are essential for organizations' daily business, directly influencing competitive advantage and business development in a networked society or culture.

In addition to a kind of traditional organizational focus, Business Analytics & Knowledge Management is more and more happening in social environments (networks). Thus it increasingly develop the networked society by providing technologies and methods that allow for gathering, preparing, and analyzing data generated in social environments.

The estimate is based on **four** indicators, most of which have some relation to common knowledge concepts.

- **Talent** would be closely related to our common understanding of human capital. In particular, human capital with a tacit emphasis as individual talent or know-how may be difficult to share.
- **IT Intensity** has a connection to structural capital. Although the latter term has other facets (corporate culture and other enduring common knowledge of the organization), the IT structure of the firm for managing data, information, and knowledge is also a substantial part of structural capital. Another aspect of this indicator would be that the firm has a good amount of explicit knowledge (capable of management with IT systems) and/or data and information, making it easier to leverage and share.
- **Data-Driven Mindset** goes back to human capital, specifically the knowledge of the firm's managers and leaders. As this is likely very personal knowledge, it is likely highly tacit and extremely difficult to replicate.
- **Data Availability** is the one indicator that is not really knowledge-related but has to do with the knowledge precursors, data and information.

Business Analytics

- Strategic management issues of Business Analytics (strategy, governance, models, business value)
- Organizational issues in BA implementation & success (readiness, culture, and strategy)
- Applications of Business Analytics (e.g., customer relationship management, business performance management, business intelligence)

Big Data

- Big data driven business model innovation and applications by innovative use of big data
- Analytics in the network society

- Technical and organizational approaches that enable the handling of big data

BIG DATA HAS BIG IMPLICATIONS FOR KNOWLEDGE MANAGEMENT

The big data implications are that these industries are significant users of data. The big data implications are that these industries are significant users of data. But these industries are exactly the type to benefit from a combination of big data, carefully managed from Knowledge Management. While there is little benefit KM systems, big data may provide a lower cost, lower risk approach to seeking those rare creative insights

A goal of knowledge management over the years has been the ability to integrate information from multiple perspectives to provide the insights required for valid decision-making. In the past, the cost of collecting and storing limited the ability of enterprises to obtain the comprehensive information needed to create this holistic picture. There are some components of big data for Knowledge Management. They are Volume, Variety and Velocity.

Volume

Volume is the first dimension that defines big data. New solutions have now emerged to deal with big data. Volume crosses into that realm when a relational database is no longer effective in analyzing the data.

Variety

Mark Beyer defines Variety is also a factor because many different types of data may be pertinent to an analysis. With the amount of information in documents enterprises need to be able to combine their analyses to include information from both structured relational databases and content such as word processing documents, videos and images.

Velocity

Velocity is a third factor associated with big data. Not only a lot of data, but also it is coming in quickly and must often be processed quickly. In addition, velocity itself can vary.. If data is being collected over time, some users will produce more within a given time period. "The variation in velocity affects analytical outcomes particularly if the data model specifies an event.

CONCLUSIONS

A knowledge management exists connection towards the application of big data and business analytics. All deal with some sort of intangible asset, information, knowledge, or intelligence. By focusing on the strategic aspects of developing and protecting knowledge, we can get a better sense of when and how big data might fit into our conception of how knowledge assets can benefit an organization. By reviewing variables such as the nature of knowledge we can get a handle of what types of knowledge is suitable to develop in various industries. From this perspective we can start to get an idea of when and where further contributions from big data may be helpful.

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