Developing Sustainable Competitive Advantage Through Knowledge Management

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Abstract: Today the general business environment is inundated with a plethora of challenges that can spur only those businesses sound strategies have chances of surviving the competition. The higher education landscape is facing fierce competition from some institutions that have introduced duplicate or differentiated educational programmes and courses. Knowledge management (KM) plays an indispensable role of acting as a precursor to attaining a more comprehensive and sustainable competitive advantage. It is imperative therefore that each and every organisation takes as a necessary step, self-reflection and audit areas of its gain and those that require redemption and correction. In the majority of cases this information is evident in the organisation's knowledge management repositories. Having this information and being able to harvest actionable information is the greatest challenge faced by the business world. Managers and strategy implementers need to be schooled on how to exploit the massive mountains of data that are already archived and those that are being generated on daily basis. Knowledge is fast becoming a strategic organisational resource that must be tapped and converted into competitive advantage [1]. The use of information technology (IT) and relevant information systems (IS) has helped organisations generate relevant information that an organisation needs to use to make informed decisions. Knowledge management system (KMS) be used to produce information that can give some insights about business performance and the organisation can whack into these skills and expertise to bolster its competitive advantage over the external competition. This work advocates for knowledge management to be implemented in an organisation as a guaranteed strategy to survive the dynamic changes currently redefining the turbulent business landscape.

Keywords: Data, information, knowledge, knowledge management (KM), KMS, Learning Organisation, K-maps

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1.0 Introduction

The recent dramatic application of information technology in most businesses today has led to many organisations to rethink about the best approaches to doing business. Firstly this is because many organisations are now handling more data than ever before. Secondly there is need to sift through the produced massive data to identify information that can be used for strategic decision making. Competition for customers and resources is high and yet barriers to entry are lower. Finally, strategic decision making is now a daunting task for company executives due to the uncertainty and volatility of the environment within which the business operates.   As a consequence knowledge about the business processes and the business assets has been reckoned with as a factor that can foster sustained competitive advantage. This knowledge has to be packaged and managed in a way that it is readily available for use by anyone throughout the organisation. If this knowledge is well aligned with organisational strategy, then the organisation can create new knowledge and new business values for the customers. In their attempt to define what knowledge is, [2] identified two ancillary but not interchangeable concepts. These are *data* and *information*. They argued that data are a set of discrete, objective facts about events (data is what is found in databases) while information is organised data presented in context (for instance information is what is in the book). They concluded by demonstrating that knowledge therefore is derived from information as information is derived from data. Knowledge is defined as meaningful information or understanding, awareness and familiarity acquired through study, observation or experience. It is contextual information or information combined with interpretation and reflection. It originates and is applied in the minds of the knowers [3], [4] cited in [5], [6]. On the other hand [7] defined knowledge management as a systematic and organizational framework to capture, acquire, organise and communicate both tacit and explicit knowledge of the employees.   Knowledge management systems are IT-based systems that facilitate the generation, preservation and sharing of the tacit and explicit knowledge of the organisation [8]. Understanding of

Knowledge and knowledge management is pertinent for any organisationthat strives for world class excellence. This study will address issues raised above as well as advocating for all types of organisations to consider implementing a knowledge management system. The paper is organised as follows. The following section looks at strategic evaluation of KM in corporations, strategic Information management in BAC and relevant case studies to be explored. This is followed by suggested KM solutions and an assessment of lessons that can be learned. Finally, conclusions and recommendations are presented.

2.0 Strategic Evaluation of the situation

Knowledge-based organisations are the envy of many corporations. The belief is that if organisational knowledge is properly managed and the process of creating knowledge become formalised, then an organisation achieves strategic competitive advantage over its competitors. The concept of KM has been confused as another repertoire of information systems that needs deployment. There is no holistic appreciation of what KM framework covers. An organisation could rely on financial information systems, email, human resource management systems and other legacy systems scattered throughout the operational business units. A lot of data is generated by such systems but there are questions pertaining to the quality and usefulness of the data produced. For instance, is the data necessary for decision making? Do we have knowledge management as a process in the organisation? In In such situations the role of the chief information officer (CIO) would then be to run the company's information and computing systems like a business to curb organisational knowledge drain from information systems. Large amount of data are produced by the systems and due care about data relevance and data integrity has been put into perspective. Whendiscussing data mining and knowledge discovery, [9] recounted that the abundance of data, coupled with the need for powerful data analysis tools, has been described as a data rich but information poor situation. Thus organisation must ensure they do not be labelled as such. Actionable information is

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required to address specific organisational problems or opportunities.

2.1 Strategic Information Management

Ideas that are espoused in strategic information management discipline can assist both the information services department, which is the custodian of the IS/IT infrastructure in an organisation and the top management, who formulate the long term strategic plans for the organisation. The strategic Information systems discipline considers information as a key resource and advocates that no corporate strategy can be complete without an IS/IT strategy. The IS/IT infrastructure is an enabler that should assist the business to achieve sustainable strategic competitive advantage. There must be a relationship between the business strategy and the IS/IT strategy. The IS/IT strategy must be realigned and blended with the strategic goals of the organisation if the organisation is to find value out of the huge IT/IS investment costs incurred. The research by [10] revealed that more than 65% of IT investments are judged to have failed, even when the people who are supposed to use it are included in the design of the systems. He further observed that it is not that the technology does not work, it usually does but it is just that the organisation does not benefit from it enough to justify the high investments costs. This is important because some projects take long to be built and to go live. By the period they are successfully deployed the business orientation may have long changed. There are many examples ofIT initiatives out there which remain work in progress even after two years of their commencement. We also concur with [11] whoobserved that the initial strategic enthusiasm for the strategic use of information technology has been reduced by evidence that IT can be a competitive burden instead of giving a competitive advantage and that the IT advantage might not be sustainable. For example, Taurus, the London Stock Exchange computer project was cancelled in early 1993 after 12 years of planning and a cost to the city was estimated at £400 million. Anyone can agree that an IT project such a lead time was too long given that the IT field is fast changing and competitors may have taken the lead. This is not uncommon to find many organisations trapped into this intricate dilemma. Findingslike these must warn organisations that acquisition and installation of IS/IT infrastructure is not all there is to propagate organisational change. Organisations that have adopted knowledge management approach as a core competency, are more innovative and have achieved sustainable competitive advantages over their competitors (see [12], [13], [14], [15]*).* Any organisation needs to create an IS/IT function that is responsive both to the external and internal business environment. The relationship of the IS/IT function to the rest of the organisation also needs to be clearly defined [16].

2.2 Knowledge Management

In the introduction we presented the definition of knowledge management in a rather simplistic perspective. There are actually several ways of considering KM. Many researchers agree that KM is still a new and emerging technology and that it is mainly concerned with identification, creation, dissemination optimal utilisation and application of knowledge of all kinds to achieve business goals [17]. KM is

currently being adopted by organisations in order to leverage knowledge both from within their organisation and externally to their shareholders and customers including tacit and explicit knowledge [18]. Tacit knowledge which results from experiences of the knower must be codified into explicit knowledge which can be stored in a knowledge repository like in documents, magazines and databases. [18]indicate that many organisations are developing information systems designed specifically to facilitate the sharing and integration of knowledge. From these researches we can see that KM is a broad concept that is concerned which looks at what is within and without the organisation. We can also categorise that KM can be process driven and competency based. The sources of knowledge for an organisation happen to be the systems and the infrastructure in the organisation as well as the customers of the organisation. For knowledge to be shared within an organisation, information systems must be able to capture and communicate this knowledge to where it is required in the organisation. Computer-based Information systems enhance the speed, efficiency and effectiveness of the distribution of information to the business stakeholders. In this manner KM as a core competence of an organisation must be the collective learning in the organisation concerned with how to coordinate diverse skills and integrate multiple streams of technologies [19]. To achieve sustainable competitive advantage, KM must bring to light the views expounded by Peter Drucker that organisations should understand what business they were in and what business they should be in (*ibid*). In reflecting on the concept of knowledge management (KM), [20] as cited in [21] argues that KM means different things to different companies and some organizations having tried KM have moved on to other things. [20] In opinionpolls indicated that only about 35% of their world-wide sample of 451 companies was using KM, and these companies reported a satisfaction rating of about 3.5 on a five-point scale. According to [20], this puts KM in 19th position, out of 25 management tools. This according to [21], [20] therefore concludes that the reality of the analysis of KM is that it is a management fad, promulgated mainly by consultancy companies. Although Wilson may sound to be at variance with other authorities, the article was attempting to establish the links between information communication technology (ICT) and KM. The observation may have been true in this respect but to say KM is another management fad is to be too critical. KM can really drive the business to new heights. Many companies everywhere are beginning to actively manage their knowledge and intellectual capital [22]. This view is substantiated by [6] cited in [23] who pointed out that most large companies in the USA and many in Europe, have some sort of KM initiative in place. We agree that sometimes KM projects may be unsuccessful but the reason is not the problem of the KM framework but that there are several reasons why KM projects fail. For example, organisations have over focus on IT, inappropriate KM strategies or ignorance of KM consequences and inability by managers to foster organisational knowledge [23]. This foregoing discussion is very important for an organisation to be aware of before it rushes to integrate knowledge management system. To more competitive the organisation must satisfy the customer needs, the staff (employee) needs and other

significant the stakeholders say the government, global strategic alliances and competitor needs. The organisation needs to know how to make key workers want to stay as long as they are needed. [10]Warned corporations that they own whatever other assets but employees own their personal tacit knowledge and abilities. He further gave an example that if the lecturer quits their employment they give back the books and other teaching resources but will take away all the skills and knowledge they have. This can happen in any field or business that skilled personnel may leave. Customers are as important as the employee. [10, p. 84] says "The more that customers know, the more corporation must know to attract and keep them". By keeping information about the business stakeholders, corporationscould capitalise on this intelligence to think of new and innovative ways to reach out more customers and their neighbours.

3.0 Evaluation of feasible solutions

To become a knowledge-based organisation, key critical success factors needs to be identified and ontologically represented. As we have seen previously that for credible decision making purposes, data, information, knowledge, individual and organizational processes need to be understood. [23]suggested a knowledge framework that is made up of the following key enablers: management initiatives, organisational culture, domain context, individual value system and benchmarking/standards. Generally this gives an abstract overview of all the various factors an organisation has to consider in the formulation of KM strategies. This system thinking approach is vital for KM since it takes atotal regard of all requirements across different corporations together with their different methodologies and tools.

3.1 Management initiative

Management initiatives include factors like technological infrastructure and communication. [24], [25] and [2] all agree that information communication technology (ICT) is significant for sharing information among stakeholders of an organisation and that it can create virtual organisations for sharing purposes. [25]argue that technology is multifaceted and as a result an organisation must invest in a comprehensive infrastructure that supports the various types of knowledge. On the other hand [24] purport that ICT supports network structures and organisational learning within and between collaborating companies. These researchers all believe that ICTs are enabling technologies and the type of information they generate and disseminate increase the knowledge within organisation as well as among individuals. The concept of learning organisation is very significant for an organisation aiming for strategic competitive dominance in the market place. A learning organisation creates, acquires and communicates information and knowledge, behaves differently as a consequence and produces organisational results from doing so [5, [26], [27]. Thus technology brings about an intelligent organisation. Knowledge mapping leads to positive organisation benefits. Knowledge maps (k-maps) are described in [5] as a method of coordinating, simplifying, highlighting and navigating through complex silos of knowledge artefacts (standards, rules). K-maps are not knowledge themselves but they do point to knowledge

repositories. For example in a business, the knowledge repositories could be people with certain expertise, documents with certain pieces of information, the database of student records, the service desk complaints database and spreadsheets. With k-maps therefore, people are directed where to go if in need of something. This could facilitate visibility of organisational knowledge and management can be in a position to trace knowledge drain or at least the magnitude. Technology can be used as an enabler for an organisation to achieve this. Knowledge can be created by employing new software tools. The market is jam-packed with business intelligence tools like SAP, PeopleSoft and data mining tools like SPSS, Clementine and Wiseman. These softwareapplications are intelligent agents that are able to prowl through data and extract some insight from the data, whose patterns and trends are ordinarily unseen. The agents are designed with form of artificial Intelligence to mimic the behaviour of human beings. Organisation, that exploit their data in this way obviously achieve sustained marginal profits and strategic competitive advantage.

3.2 Organisational culture

Organisations must uphold principle of good rapport amongst employees. Interaction between individuals is vital in an organisation for it leads to cross pollination of ideas that could be useful in an innovation process. Formal and informal interaction among individuals or groups must be encouraged, so that relationships, contact and perspectives are shared by those not working side by side [25]. This culture leads to creation of new ideas and the spirit of collaboration is hoisted high. This will result in a shared sense of purpose in pursuit of the same organisational agenda. In a way, tacit knowledge can be shared throughout the entire organisation. Organisational culture is a real reservoir if knowledge within an organisation. There are many other factors that are worth pursuing to assess how organisationscould beat the competition in the tertiary education landscape. But it must also be made clear that if these considerations are not done with respect to organisation strategy, the rewards from KM are rarely witnessed.

3.3 Implementing KM

There are many cases in literature about organisations that have managed to implement KM successful and we also learn a lot from those organisations that failed[28], [13], [14], [15]. We refer the reader to [31] article, *Successful Knowledge Management Projects*, in which they considered eight key factors that can help a company create share and use knowledge effectively. On the other hand [32] considered what they called the eleven Deadliest Sins committed by managers in a bid to implement KM. These factors are apt for consideration by any organisation thinking of adopting a KM framework thus organisations may benchmark their implementation strategies with such precincts. However, we must attest that not all factors were considered but the contributions are unreservedly recommended for any organisation thinking of adopting a KM philosophy.

4.0 Recommendations and conclusions

Knowledge management is an emerging management tool that is fast expanding and has merited a lot of researches over the last two decades. An organisation may turn a new leaf and begin to tap from the knowledge within the organisation with the aim of becoming a learning organisation. Only such types of organisation are bracing themselves to strategically gain a competitive advantage over rivals in the market place. Unless organisations embrace KM as one of the core competencies, they will not know more about what they know. Knowledge about the different stakeholders is important to know how best to package or customise good and services. Organisational culture has to change and promote a sense of belonging and collaboration among employees. IS/IT infrastructure must be a facilitator and a driving force with which to beat competition in any business industry. Corporations could harness, exploit and disseminate knowledge across the members of the organisation. The Internet, databases, documents, intranet, emails, podcasts, webinars, videoconferences, k-maps and social network forums can be used for knowledge sharing. On one hand, a lot can be learnt from literature about success stories elsewhere, challenges and best practices of adopting KM as an organisation innovation. This work is a precursor of what needs to be understood before diving into implementing KM. Further research is required to investigate effective ways of preserving intellectual capital is organisations to bolster and sustain competitive advantage.

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