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Application of Knowledge Management in Telecommunication Sector

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Abstract

Knowledge Management helps to share knowledge and has become an important success factor for business organizations. Globalization has made telecommunication sector as the backbone of industrial and economic development of many countries and has become the integral part of the infrastructure of the global economy. Telecom sector is in an ongoing process of transforming into next generation network. With its immense business growth, telecommunication companies have to implement knowledge management systems to systematically manage knowledge created within the organization. This study explores the emerging role of Knowledge Management (KM) system in the telecommunication sector.

Keywords: *Knowledge Management, Telecommunication Sector, Knowledge Management System.*

1. Introduction

We are living in a knowledge economy (Bartlett and Ghosal, 1993; Davenport and Prusak 1995; Drucker, 1997; Nonaka, Toyama and Konno, 2001; Stewart 2001). In an economy where the only certainty is uncertainty, the only source of lasting competitive advantage is knowledge (Nonaka et al., 1996).The extensive research done by most researchers' highlights four important concepts in the KM field, viz Knowledge hierarchy, Information technology, Knowledge-based systems and Knowledge management life cycle**.** Knowledge Management System (KM System) refers to a system for managing knowledge in organizations for supporting creation, capture, storage and dissemination of information. It's a method for the improvement of business process performance. A KM System is most often used in business in applications such as information systems, business administration, computer science, public policy and general management. Common company departments for KM systems include Human Resources, Business Process and Information Technology.

The global telecommunication industry had eventful development in 2012. As the main challenges for telecom companies is how to monetize new business models, leverage customer data by investing in analytics and define their response to over the top players, KM System in telecom sector will enable employees to have ready access to the organization's documented base of facts, sources of information, and solutions.

2. Literature Review

Knowledge Management is the set of processes that seeks to change the organization's present pattern of knowledge processing to enhance its outcomes (Joseph M. Firestone and Mark W. McElroy, 2005).Knowledge which is new to an organization has to either be invented internally, or acquired from external sources (Spender, 1996).There are two types of knowledge: explicit knowledge and tacit knowledge (TK). (Nonaka, 1994) and other authors such as Hall and Andriani (2002) describe explicit knowledge as what can be embodied in a code or a language and as a consequence it can be communicated, processed, transmitted and stored relatively easily. It can be shared in the form of data, scientific formulae, manuals and such like. In contrast, tacit knowledge is personal and hard to

formalise – it is rooted in action, procedures, commitment, values and emotions (Ambrosini and Bowman, 2001). Tacit knowledge is not codified, it is not communicated in a 'language', and it is acquired by sharing experiences, by observation and imitation (Hall and Andriani 2002).

Tacit and explicit knowledge are complementary, which means both types of knowledge are essential to knowledge creation (Grant, 1996). Explicit knowledge without tacit insight quickly loses its meaning (Herschel et al., 2001). Knowledge is created through interactions between tacit and explicit knowledge and not from either tacit or explicit knowledge alone (Nonaka et al. 2001). Compared to the work on explicit knowledge, the management of tacit knowledge is relatively unexplored. Polanyi (1967) also rightly points out that tacit knowledge is 'we know more than we can tell'. Knowledge creation and conversion lie between the tacit and explicit forms (Elie Geisler , 2009). Tacit knowledge is actionable, and therefore most valuable, and much recent attention has focused on the importance of tacit knowledge for sustaining competitiveness (Lam, 2000). It is also the most important basis for the generation of new knowledge. In their often-referenced work on innovation and knowledge creation, Nonaka and Takeuchi (1995) posit that organizational knowledge is created through a continuous and dynamic interpersonal interaction between tacit and explicit knowledge (Stenmark, 2000). They also emphasize in their work that there are four modes in which organizational knowledge is created through the interaction and conversion between tacit and explicit. These are socialization, externalization, combination, internalization (Weichoo, 1998).

KM is crucial to all or any styles of trades which might facilitate the organizations to think about how to capture the information within the organization. Mostly in telecommunication sector throughout the world, a large number of data staff has been hired to perform the schedule operation of the organization, it is vital for them to speak and share their knowledge. Therefore, telecom corporations today are willing to invest and capture the maximum amount of knowledge as attainable from their most experienced staff. Some massive telecommunications service provider begins to form a senior-level management position in their organization to make sure that KM operates effectively (Kogut, B. and Zander U, 1992 ;Lewis-Chan, Betsy, 1998). According to authors Strouse, and Karen G, (2001) some reputable telecom corporations like British Telecom, AT & T, and Deutsche Telekom have created chief information officer positions in their organization. Chang Mei Ying et al., (2010) claim telecommunication industry as the "Sunset industry" due to the reason of rapid growth in technological developments and product innovations. In the competitive environment, to hold a significant position in the market, business organizations have to keep updated with the global trend and current status about telecommunications.

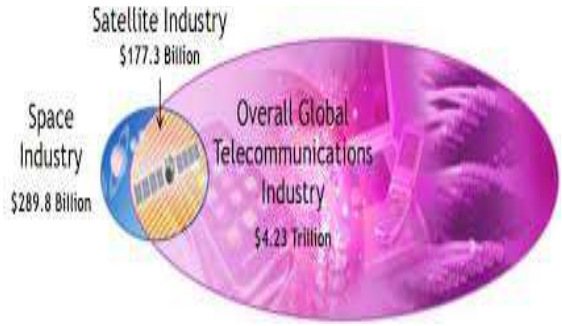

Figure 1: Overall Global Telecommunications Industry Share

Strouse, Karen G (2001) has identified the following factors that are important for an effective KM System in the Telecommunication sector

i. IT supports needs to be adequate in both scale and communications response time.
ii. Database should include user-friendly search capabilities.
iii. Tools in the search engine need to pinpoint the proper information when requested.
iv. Processes need to support the facilitation of information retrieval and must be in place to assist in the creation of new information.
v. System performance metrics should be maintained in order to help to determine the criteria for new data to enter the system.

vi. Type of data to be available must pass tests defined in the design phase, it should be limited to information that will increase the performance of employees or improve the customer's experience.
vii. Effective incentives and supportive core values should be encouraged to the most expert employees to share their knowledge.

3. KM System in Telecommunication Sector

KM integration in Telecom sector helps to improve monitoring and assessing the telecom market. Telecommunications is now considered an infrastructure essential to a country's economic development and competitiveness. Apart from facilitating communication and various economic activities, telecommunications is an economic sector in itself.

The mobile phone boom worldwide has created jobs and generated income for the government, operators, manufacturers, service providers, and application/content developers. In developing countries, mobile phones serve as the universal access tool, especially for their low-income populations.

The fact is, Telecommunications industry believes that intellectual assets have worth. People are the primary core in knowledge management application to assimilate several informative connections in the telecommunication market. As it's rightly pointed out by many, for conventional telecommunication company, typically sales persons work at the forefront in the business fabrication and deal with consumers to provide high-quality services and in return, gets frequent business connections.

By the resources of KM, data is held and kept with suitable arrangements so that it can be easily regained and transported concerning different needs urged from employees. In the past, employees had to hunt out the material in persons and such cases really tool up a long time and even a high cost for business processes. The integrated knowledge components of telecommunications revolve around People, Process and Technology. The advantage of shared knowledge system is to exchange knowledge from individuals to the whole enterprises, in order to retain valuable information and skillful experiences within the companies.

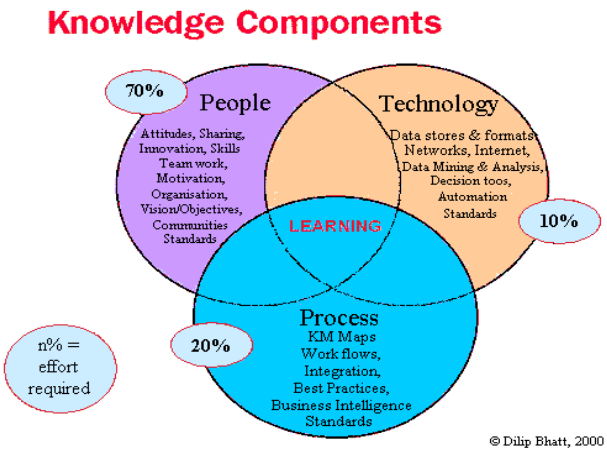

Figure 2: Knowledge Components

Initially, Knowledge Capture is initiated through Chief Information Officer. As mangers are overloaded with data, KM system helps to streamline data every day. Deployment of KM System would pave way for Knowledge Sharing through the experienced employees in the telecom sector. The key enablers for Knowledge sharing to be effective are Information Technology, Top Management support, Knowledge sharing Culture in the organization, Change acceptance, Best HR Practices, Motivation and Incentives to employees. The infrastructure and KM Tools facilitate the management to share and ultimately utilize knowledge.

Thus, some of the KM tools that can be deployed in the telecom sector for Knowledge utilization are Brainstorming session, physical demonstration of skills, apprenticeship or learning by observation, community of practice (CoP) , reservoirs of experience, social networks or informal interactions, forums, web logs, wikis, face-to-face interaction and experts interview or learning by being told, Collaborative Development, Gap Analysis.In addition, business intelligence enhances communications among departments so that co-operative team production can be more integrated

with strong collaboration from different divisions. Having a high degree of accuracy and accessibility for information enables the organizations to respond more quickly upon market changes and decision.

If proper KM system is installed in this sector then Front Line staff can be used to solve customer complaints. If Quality of service is given to customers then Customer service centre will excel. The marketing environment can be improved by regular Knowledge Communication about the telecom market. The application of KM System in Telecom sector integrates Knowledge capture, Knowledge Sharing and Knowledge Utilization which in turn would pave way for high Market share, Networking, Customer Satisfaction and Retention, improved financial performance by cutting down unnecessary costs and Decision-making.

4. Conclusion and Future Research

Thus, by appointing Chief Information officer (CIO) information retrieval and Knowledge capture can be facilitated. Through experienced staff Knowledge sharing can be effectively done. Information technology, change acceptance, organization culture, proper communication plan and top management support greatly affect knowledge management implementation in telecom sector. Employees should also be motivated, recognized and rewarded for their new ideas. Thus, KM will create awareness and support effective decision-making in the telecom sector. In order to develop an enterprise-wide KM in telecom sector, apart from theoretical and technological aspects, the cultural adoption should also be given importance. In addition to this paper, it would be interesting to test the role of KM in other industry such as IT, Education, Healthcare, Food, Banking and many more.

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