



Building a Knowledge Management System in a Design Firm: The Case of XYZ Structural Department

Toufic Mezher, American University of Beirut, Lebanon

M.A. Abdul-Malak, American University of Beirut, Lebanon

Mohamad Khaled, XYZ Engineering Company, Beirut, Lebanon

Ibrahim El-Khatib, XYZ Engineering Company, Beirut, Lebanon

EXECUTIVE SUMMARY

Knowledge management represents a strategic vision for developing an organization's performance and its likelihood of success in dealing with future challenges in its industry. The case starts by discussing the importance of knowledge management in improving the competitive edge of firms in general and of consulting firms in particular. Then, the case discusses the process of building a knowledge management system in the structural engineering department at a leading engineering design consulting firm, based in the Republic of Lebanon. The knowledge, both tacit and explicit, needed during the design phase is identified and mapped according to the adopted design process, and an expert system was built to capture some of the tacit knowledge needed in the conceptual design stage of the process. In addition, an intranet Web-based knowledge management system was developed with the aim of helping diffuse both explicit and tacit knowledge. [Article copies are available for purchase from InfoSci-on-Demand.com]

Keywords: *Engineering Design; Knowledge Management; Knowledge Mapping*

ORGANIZATION BACKGROUND

As engineering becomes more complicated and advanced in application, a vision must be drawn to meet tomorrow's consulting needs. Engineering companies must look forward to adopt new technologies as well as improve available technical skills in order to accelerate the work process and compete with other consulting companies. The goal of any engineering firm is to attract as many projects as possible and deliver the services required on such projects to the clients'

established standards and within the limited timeframes allowed. One key approach to achieve such an objective is for a company to leverage its knowledge, by adopting proven knowledge management practices.

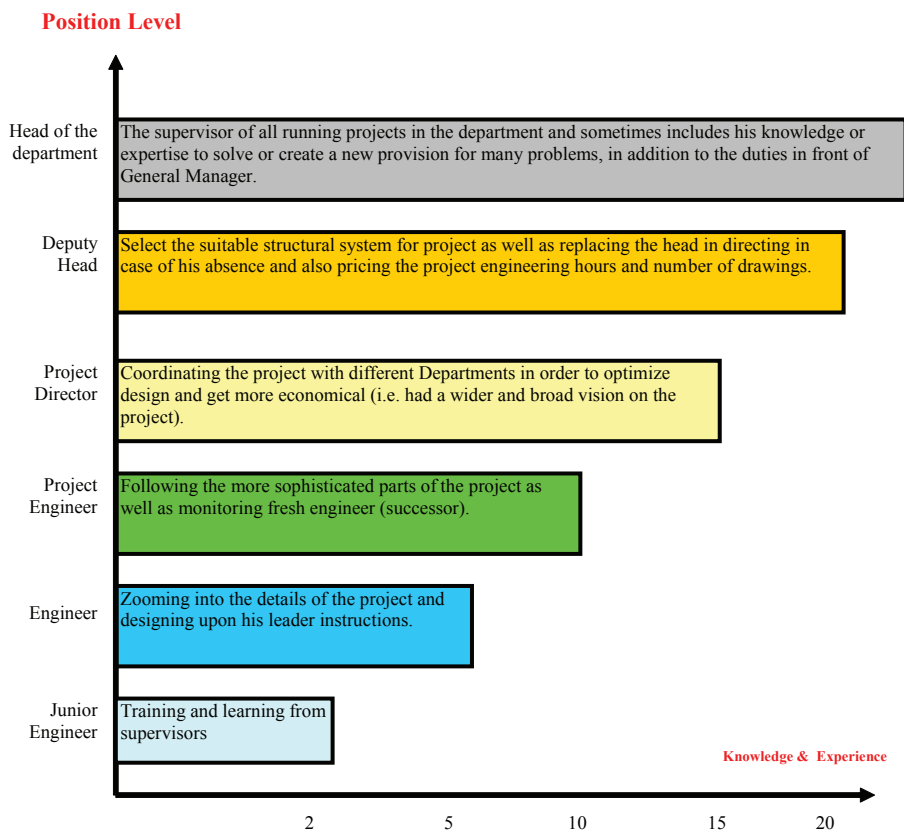
Knowledge management is known as an evolving field that has currently attracted much attention. Knowing that skilled employees are considered as real assets for their organizations, wise management can be characterized as one that shall always uphold such values and resources. However, these assets usually live in the collective human memory and are poorly reserved and managed (Augier & Knudsen, 2004; Raub & Von Wittich, 2004).

The objective of this case is to share the experience of building a knowledge management system (KMS) in a consulting firm, mainly, the Structure Engineering Department at XYZ consulting firm, one of the top 100 engineering firms operating worldwide.

XYZ is a multidisciplinary architectural and engineering consulting company that offers clients an integrated approach towards the ever-increasing need for concrete and reliable project delivery systems. The firm provides consulting services in architecture & planning; structural, electrical, mechanical, transportation, environmental, telecommunication, industrial, and process engineering; geographic information systems (GIS); and information technology (IT).

Figure 1 presents the knowledge level and decision-making process for each position inside the structural department. It has a hierarchical form starting from the lowest position (Junior

Figure 1. Level of knowledge and experience in structure engineering department at XYZ



15 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/article/building-knowledge-management-system-design/4116

Related Content

Determinants of Mobile Cloud Computing Adoption by Financial Services Firms

Milind Sathye, Sam Goundarand Akashdeep Bhardwaj (2022). *Journal of Information Technology Research* (pp. 1-17).

www.irma-international.org/article/determinants-of-mobile-cloud-computing-adoption-by-financial-services-firms/299921

Bridging the Digital Divide in Scotland

Anna Malina (2005). *Encyclopedia of Information Science and Technology, First Edition* (pp. 278-283).

www.irma-international.org/chapter/bridging-digital-divide-scotland/14250

Deliberate and Emergent Changes on a Way Towards Electronic Document Management

Tero Paivarintaand Airi Salminen (2001). *Annals of Cases on Information Technology: Applications and Management in Organizations* (pp. 320-333).

www.irma-international.org/article/deliberate-emergent-changes-way-towards/44624

A Network Data Science Approach to People Analytics

Nan Wangand Evangelos Katsamakas (2019). *Information Resources Management Journal* (pp. 28-51).

www.irma-international.org/article/a-network-data-science-approach-to-people-analytics/225016

Hierarchical Organization as a Facilitator of Information Management in Human Collaboration

Khaled Ahmed Nagaty (2009). *Open Information Management: Applications of Interconnectivity and Collaboration* (pp. 44-109).

www.irma-international.org/chapter/hierarchical-organization-facilitator-information-management/27791