



Knowledge Management – A Pursuit of Continuous Engineering Education

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INTRODUCTION

Knowledge has been the basis of economic development all through the decades, although the importance of knowledge as a competitive asset was only apparent by mid 1980s [2]. In the context of the modern economy, knowledge as an invaluable resource has evolved to becoming the key source of wealth [5]. Together with the traditional resources of land, labour and capital, knowledge has increasingly been utilised by organisations and nations to create economic value and to achieve competitive success [2, 10 and 16].

The emergence of knowledge as a critical resource for business activities has resulted in concerns on how to deal with an exponential increase in the amount of available knowledge. As a result, how to manage knowledge has become a central focus of academic research. The early roots of knowledge management can be traced back to the early 1980s with the emergence of terms such as invisible assets, knowledge innovation and intellectual capital [17 and 18]. The mid 1990s saw a rapid spread of the influence of knowledge management and resulted in many organisations in Europe and US engaging in knowledge management programmes and accepting it as part of the business agenda [9].

Knowledge management goes beyond the storage and manipulation of data and information, despite the close relationship between knowledge with data and information. In fact, it has been noted in literature that there is a clear distinction between knowledge management and information management. The former implies an intentional effort in creating and using knowledge to accomplish organisational objectives, while the latter is concerned with making information available to others [6 and 7].

Because knowledge is the focus of knowledge management, the cumulative experience of creating new knowledge

has become a key factor to further expand and enhance the overall knowledge base. The basis of accumulating knowledge and expertise is rooted in human being's learning ability involving operational learning to learn new routines and conceptual learning to think why things are done in the prevailing condition [8]. More importantly, learning must be a continuous process that encompasses two facets consisting of learning about "know-how" and "know-why" [1].

The process of knowledge management on acquisition, processing, transfer and application of knowledge places great emphasis on developing knowledge through learning and understanding how knowledge is used to perform work effectively. At organisational level, knowledge management has been linked to organisational learning which is built based on the development of human resources, in the form of continuous learning and structured education. Furthermore, in technologically and knowledge-intensive industries, such as in the biotechnology, engineering and pharmaceutical industries, organisational learning can take place through transfer of technology, external collaboration and customer-supplier partnerships [12 and 14].

Knowledge management is now an emerging trend in industries and its application covers a diverse area. For example, in the knowledge-intensive pharmaceutical industry, knowledge management has been employed to improve R&D productivity and reduce product cycle times. Knowledge management efforts undertaken to achieve these goals include sharing of findings and lessons learned among R&D professionals, collaborative relationships with a widening field of players and deployment of global management perspectives for the advantages of economies of scale [11 and 15].

Meanwhile, Ernst & Young, one of the world's largest professional services firms, employed knowledge management practices to capture and leverage knowledge from consulting engagements, transfer them to the firm's stock of knowledge and to use this knowledge to speed up the process of providing consulting solutions for clients [4]. Whereas, a high technology manufacturing industry, knowledge management was successfully employed to improve product development processes in Hewlett-Packard [3].

In the Malaysian context, the embarkation on a journey towards becoming a knowledge-based economy in 1991 has resulted in high technology and capital-intensive organisations shifting the focus of resource development to the area of production, distribution and utilisation of knowledge. To intensify the development of these knowledge-based industries covering business and financial services, manufacturing, scientific research, software and telecommunications services, a long-term human resource development strategy has been drawn up to improve the quality of human resource by increasing knowledge and upgrading the education level [13].

In summary, the increase of corporate-wide knowledge management activities and the successes achieved through the diversity of knowledge management practices warrant a meaningful placement of human resources development in areas of continuous learning and higher education. Furthermore, as knowledge management practices are closely integrated to create economic value, it is important to ensure that the pursuit of knowledge management is in relation to the company's overall ultimate business objectives. ■

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