

INCORPORATING K-MAP INTO KM-ORIENTED BPR: A CASE STUDY AT
INDUSTRIAL TRAINING MANAGEMENT OF UTM

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This dissertation is dedicated to my family for their endless support and encouragement.

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ABSTRACT

Many organizations have realized that access to quality information and knowledge will help them remain competitive. However, with rapidly changing business environments, organizations have come to a term of realizing that they need to develop an effective knowledge strategy and provide the employees with the best available knowledge to support the decision making process. Furthermore, while traditional business output presumes it to be an inherent part of the business process, business knowledge is, in practice, downplayed or overlooked by many organizations. Practical business knowledge and experience is typically retained only in individuals and not transferred to the business organization. Hence, this study addresses this within the context of how knowledge mapping can aid by mapping knowledge with its related business process. The purpose of this study is to extend the existing KM-oriented BPR framework by incorporating Knowledge Map and propose a framework that could map knowledge with its related business process. This study will analyze clearly business knowledge asset and management demands for business operation process and fuse relevant KM activities into BPR and thus by incorporating knowledge mapping, it provides a concrete and tactical way of understanding the environment. Qualitative method with in-depth interview, observation and document analysis were applied to provide sufficient evidence to support the framework. The proposed framework has been illustrated at Industrial Training Management unit of UTM at Faculty of Computing and Faculty of Electrical Engineering and some future works are suggested at the end of this study.

ABSTRAK

Banyak organisasi telah sedar bahawa capaian kepada maklumat yang berkualiti dan pengetahuan akan membantu mereka untuk kekal berdaya saing. Walau bagaimanapun, dengan persekitaran perniagaan yang pesat berubah, kebanyakan organisasi menyedari bahawa mereka perlu membangunkan strategi pengetahuan yang berkesan dengan menyediakan pekerja yang berpengetahuan untuk menyokong proses membuat keputusan. Tambahan lagi, walaupun output perniagaan merupakan faktor yang penting dalam proses perniagaan, namun ilmu perniagaan telah dipandang ringan atau diabaikan oleh kebanyakan organisasi. Namun kebanyakan pengetahuan perniagaan terutama yang bersifat praktikal dan pengalaman biasanya disimpan hanya di peringkat individu dan tidak disebarluaskan di peringkat organisasi. Oleh itu, kajian ini menumpukan perhatian kepada permasalahan ini dalam konteks bagaimana pemetaan pengetahuan dapat membantu organisasi dalam menguruskan pengetahuan dengan lebih bersistematik. Oleh itu kajian ini telah melanjutkan rangka kerja BPR berorientasikan KM-yang sedia ada dengan menggabungkan pemetaan pengetahuan seterusnya mencadangkan satu rangka kerja yang boleh memetakan pengetahuan dengan proses perniagaan. Kajian ini akan menganalisis dengan terperinci pengetahuan seadanya berserta proses-proses yang terlibat dengan menggunakan kaedah kualitatif iaitu wawancara mendalam, pemerhatian dan analisis dokumen telah digunakan untuk menyediakan bukti sufficient untuk menyokong rangka kerja. Rangka kerja yang dicadangkan akan disahkan di Unit Pengurusan Latihan Industri UTM.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Business Process Reengineering (BPR) is the investigation and overhaul of work processes inside and between undertakings with a specific end goal to streamline end to end forms and mechanize non value added tasks. The idea of BPR was initially presented in the late Michael Hammer's 1990 Harvard Business Review article and got expanded consideration a couple of years later when Hammer and James Champy distributed their top rated book. They advanced the thought that occasionally radical redesign of an endeavour is important to lower the expenses and expand the nature of administration. Then again, by the mid-1990s, BPR got to be famous as an issue for downsizing. As per Hammer (1993), absence of maintained administration, duty and authority; doubtful degree and desires; and imperviousness to change has prompted many manager to abandon the concept of BPR. Additionally, Hammer brings to attention that one of the issues with BPR was the absence of a method that can adequately execute the process.

The absence of understanding of the problems proposed the need for integrating knowledge management and business processes. Lately numerous commercial ventures have expanded their consideration regarding the potential advantages of utilizing Knowledge Management (Cheng M.Y et al., 2012). Over

ten years back, Knowledge Management (KM) was hailed as an approach that would uncover and influence the buried knowledge held nearly by an organization's representatives and would drive development and productivity. Practically in parallel with the KM time, there started an arrangement of endeavours traversing various businesses to concentrate on enhancing, reengineering or overall overseeing business forms as key corporate resources. While KM and process redesigning were consistently developed in parallel, there was no genuine effort to wire them into a reliable and holistic architecture. KM programs over the previous decade have concentrated on organizing workers into groups of practise and building archives of "best" or demonstrated practises. There was and still is a general absence of understanding of how the processes and knowledge can be mapped towards achieving better productivity and improving the organization. Consequently, redesigning of business processes might occur driven by this process of mapping.

Generally, knowledge mapping is one of the techniques that can be used for several purposes, including finding resources of knowledge or opportunities for knowledge creation, identifying expertise and increasing knowledge-sharing, and helping to determine the knowledge competencies that exist within an organization and how they interact (Rao, L et al., 2012). Likewise, knowledge mapping serves to redesign the way work flows through an organization, often leading to system and infrastructure changes. Thus by incorporating knowledge mapping, BPR advances into a basic realignment of working methodologies and organization structure, concentrating on the organization's core competencies to accomplish sensational upgrades in hierarchical execution. In other words, it is a process by which any organization can realign the way it does business to expand its abilities of which a fundamental mapping competency is critical to success.

Recognizing that knowledge mapping in conjunction with process reengineering can be utilized widely in order to reduce cost and cycle time, but there is lack of frameworks and methodologies that assumes knowledge mapping

as a focal point particularly in KM oriented Business Process Redesign (Stary, C., 2014). Therefore, this study attempts to incorporate knowledge mapping into KM-oriented BPR framework to assist businesses and to merge KM on normal assignments and help to advance innovativeness, competitiveness and better productivity. This study will analyse clearly business knowledge asset and management demands for business process and fuse applicable KM activities into BPR and thus by incorporating knowledge mapping, it gives a concrete and strategic method for understanding the environment.

1.2 Research Statement

The huge rate of failure of BPR projects is a wellspring of concern. Recent research recognizes that the on-going vital improvement of reengineering requires a huge alert force. Various organizations have understood that access to quality information and knowledge will assist them to stay focused and competitive. However, with quickly changing business situations, organizations has arrived at a term of understanding that they have to create a compelling knowledge strategy and furnish the employees with the best accessible knowledge in order to support the decision making process. Improving productivity and competitive position are discriminating business issues to both individual organizations and nation.

On the other hand, KM has as of late turn into a popular trend despite the fact that many organizations are still not able to clarify what knowledge is. All the more significantly, they are not able to create and leverage knowledge to enhance organisational execution. One reason could be due to organizations are being progressively more unpredictable in structure, resulting in knowledge being divided, hard to spot, leverage, share and hard to reutilize them. Over the previous decades, constant difficulties have been made to conventional business practises.

Eventhough the traditional business and feedback assumed to be an inherent part of the business output, however business knowledge have been downplayed and overlooked by many organizations in practise. Most of the times the practical business knowledge and experience is retained only in individuals and not transferred or shared with the business organization. Hence, when an employee changes position or leaves the company, their knowledge leaves with them leading to permanent loss of the company (Cheng, M.Y et al., 2012). Moreover what motivated this study the most is that, when adapting a business process change, while the employees were mindful of the “what” the business process transform, they had restricted information in regards to “why”, “where”, “who” and “how” the redesigned process works thus diminishing their desire to adjust to the new process.

This study is conducted to propose a framework that incorporates knowledge mapping into KM-oriented BPR to ensure that both the process and its environment are displayed when reengineering is embraced at the Industrial Training Management unit of University of Technology Malaysia (UTM). Industrial Training management of UTM is chosen because the current business process flow ought to be manual even with the existence of the system called ITS. The results from interview and observation has proved that the current business process is not parallel with the system. Many of its process are still hand handled which in turn reduces the productivity and time. Compared to other industrial training management from other university for example, Multimedia University, this industrial training management definitely need some improvements.

1.3 Research Question

This study suggests that it is important to figure out in what way can the Knowledge Mapping can actually help in KM-oriented BPR. Therefore, this study

would like to investigate the following main research question:

How can Knowledge Mapping incorporated into KM-Oriented Business Process Reengineering towards improving productivity and organization performance at the Industrial Training management?

In addition to this, there are four sub questions to support the study:

- i. What are the current issues in Industrial Training Management business process?
- ii. What are the existing knowledge mapping models that can be incorporated into the reengineered business process that can serve as the premise to build a KM-oriented BPR environment at Industrial Training Management unit?
- iii. How to develop a conceptual framework to map knowledge with its related business process?
- iv. How to illustrate the proposed framework using Industrial Training Management?

1.4 Research Objectives

The main aim of this study is to incorporate knowledge mapping into KM-oriented Business Process Reengineering towards improving productivity and organization performance at the Industrial Training management. The objectives of this study are:

- i. To identify the current issues in business process of Industrial Training Management.
- ii. To identify existing knowledge mapping models that can effectively incorporate into BPR that can serve as the premise to build KM-oriented BPR environment at Industrial Training Management unit.

- iii. To extend existing KM-oriented BPR by developing a conceptual framework framework that could map knowledge with its related business process of Industrial Training Management.
- iv. To illustrate the proposed framework by demonstrating it to Industrial Training Management of Faculty of Computing and Faculty of Electrical Engineering.

1.5 Research Scope

The validity of the proposed framework has been illustrated using the Unit of Industrial Training Management UTM. Two faculties which are Faculty of Computing and Faculty of Electrical Engineering were chosen as the case study to illustrate the work. The Committee members of Industrial Training were the main participants of the research.

1.6 Research Importance

The main aim of this study is to incorporate knowledge mapping into KM-oriented Business Process Reengineering towards improving productivity and organization performance at the Industrial Training management. We are presently entering the post-entrance age where the criticism produced by past KM and BPR disappointments implies that an astute arrangement must have a wide acknowledgement by both the business and knowledge parts of the organization. Better approaches for taking process as information to be owned, changed and communicated from a focal database makes the administration of process as easy as the administration of knowledge. These progressions offer another method of

doing business which is more extensive than conventional process or knowledge management. Other than that, KM is connected with overseeing knowledge as an asset as well as to oversee business process that happens utilizing that asset. The knowledge management aims to support innovation and encourage the free stream of thoughts through the organizations. It helps expanding incomes and diminishing costs because it disposes repetitive and unnecessary business process. This process expands the time that staffs spend in the organization because their knowledge and efforts are valued by the system of rewards. Ultimately, knowledge management builds the estimation of an organization and its competitiveness as a whole because it increases the productivity and viability.

Since knowledge map is generally created based on the business processes that consists each one bit of knowledge, knowledge flows uncovers the attributes of corresponding business process. Similarly, if we ideally structure the knowledge flows then we can redesign the business processes accordingly. Thus the most fitting route for improving business processes is to ideally redesign the existing knowledge flows within a knowledge map.

1.7 Organization of Thesis

This chapter presents an overview of the KM-oriented BPR and about incorporating knowledge map into it. This chapter also provides the background to the problem which prompted the study as well as clarifying the the argument proposed in the research. The research objectives are then outlined, according to the scope of the research and then significance of the study is clarified. In chapter 2, the relevant literature will be reviewed in order to gain more understanding of the problems concerned and a strategy to fathom this issue. In chapter 3 ,the methodology and research design is described in detail where the data collection methods undertaken for this research elobrated precisely. Where else in chapter 4,

the illustration of incorporation of knowledge mapping into KM-oriented framework is visualized and in chapter 5 the more details of the analysis and the results are presented. Lastly, in chapter 6 the discussion, limitation and outlook of the study is summarized.

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