INVENTORY FOR KNOWLEDGE MANAGEMENT IN CONSTRUCTION ORGANISATION

MUHAMMAD NAZIRUL BIN AHMAD FAUZI

UNIVERSITI TEKNOLOGI MALAYSIA

INVENTORY FOR KNOWLEDGE MANAGEMENT IN CONSTRUCTION ORGANISATION

MUHAMMAD NAZIRUL BIN AHMAD FAUZI

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This project report is dedicated to my parents and my family for their endless support and encouragement.

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ABSTRACT

Relating construction industry with the existence of knowledge management (KM) is significantly important. KM has created fundamental impact on the way of construction management processes being organise. This research aim to investigate the current state of inventory for knowledge management in Malaysia construction organisation, beside that to identify and recommend the standard format of inventory for knowledge management and further more to examine the significant role of knowledge management in Malaysia construction organisation. This research was focusing on organisational resource base model developed by Meir in 2007. A structured questionnaire was used in data collection and distributed to 100 selected respondents from different firms around Johor Bahru, and only 33 respondent answered the questionnaire survey the performance indicators were adopted from literature studies and collected data were analysed using Relative Importance Index. The result was created based on the same organisational resources based Meir model with an additional important element for construction industries.

ABSTRAK

Kesinambungan industri pembinaan dengan kewujudan pengurusan pengetahuan (KM) adalah amat penting. KM telah mencipta laluan asas ke dalam proses pengurusan pembinaan yang sedia ada. Kajian ini adalah bertujuan untuk menyiasat keadaan semasa inventori untuk pengurusan pengetahuan dalam organisasi pembinaan Malaysia. Di samping itu ia mengenal pasti dan mencadangkan format piawai inventori untuk pengurusan pengetahuan dan seterusnya untuk mengkaji peranan penting pengurusan pengetahuan dalam organisasi pembinaan Malaysia. Kajian ini memberi tumpuan kepada model asas sumber organisasi yang dibangunkan oleh Meir pada tahun 2007. Satu soal selidik berstruktur telah digunakan dalam pengumpulan data dan diedarkan kepada 100 orang responden yang dipilih daripada syarikat yang berbeza di sekitar Johor Bahru, dan hanya 33 responden memberi jawapan ke pada soal selidik. Petunjuk prestasi telah diambil daripada kajian literatur dan data yang dikumpul dan dianalisis dengan menggunakan indeks kepentingan relatif. Dengan berdasarkan kepada sumber-sumber organisasi yang serupa kepada model Meir, penambahbaikan dengan elemen tambahan yang penting untuk industri pembinaan telah di cadangkan.

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LIST OF ABBREVIATIONS

CIDB	Construction Industry Development Board
RII	Relative Importance Index
IT	Information Technology
KM	Knowledge Management
KMS	Knowledge Management System
UTM	Universiti Teknologi Malaysia
GDP	Gross Domestic Product
EQ	Emotion Quotient
IQ	Intellegent Quotient
SQ	Skill Quotient
R&D	Research & Development
TPS	Transaction Processing System
IS	Information System
DSS	Decision Support System
KBS	Knowledge-Based System
KWS	Knowledge Work System
CI	Construction Industry
CAD	Computer-Aided Design
GPS	Global Positioning System
TM	Time Management
OAS	Office Automation System
GSS	Group Support System
MIS	Management Information System
BIM	Building Information Modelling
BIFM	Building Information Facility Management
DSS	Decicion Support System
BEA	Building Environmental Assessment
LCA	Life Cycle Assessment

LCCA	Life Cycle Cost Assessment
BLCC	Building Life Cycle Cost
KIV	Keep In View

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Malaysia has developed its construction industry prior to its independence since 1957. According to Lewis (1955) more than half of nation capital formation consists of work in construction. Hence, the expansion of this capital is a function the rate at which the construction industry can be expanded. This can be seen in the initial first Malaysia economic plan (1956-1960) where it was basically a development expenditure plan. The primary concern was developing the country infrastructure after independence to an adequate level of development. In order for the nation's economy to reach its GDP quickly, the construction industry has to be the first to develop for the other industry to take a one step their first (Shareef, 2010).

The Malaysian construction industry is generally classified into two areas. One of the areas is general construction, which comprises residential construction, non-residential construction and civil engineering construction. The second area is special trade works, which comprises activities of metal works, electrical works, plumbing, sewerage and sanitary works, refrigeration and air-conditioning works, painting works, carpentry, tiling and flooring works and glass works. The construction industry makes up an important part of the Malaysian economy due to the amount of industry that linking to it such as those for basic metal products and electrical machinery. Hence, the construction industry could be described as a substantial economic driver for Malaysia and has contributes 3.5% to Malaysia GDP (Hasan, 2012) development of the nation. It is among the top three of the

major economic sectors. The other two sectors being manufacturing and agriculture, which contribute to the national output. The contribution of other than construction to gross domestic product (GDP) in 2004 by manufacturing, agriculture and construction sector is 57.1, 8.3, and 2.9 percent, respectively, (Sundaraj, 2006).

Relating construction industry to the existing knowledge management (KM) is significantly important. KM has created fundamental impact on the way of construction management processes are carried out. KM can no longer be viewed as an enhancement to traditional management procedures but as an innovation agent that will enables a new and different alternatives to operation management are processed. This new trend will enhance and systemized the management in the construction world towards utilization of KM to achieve quality products.

1.2 Problem Statement

Construction industry in Malaysia does not throughly practicing an inventory for knowledge management. Inventory knowledge management seems to be new to construction industry especially contractor graded G1 to G7.

1.3 Problem Background

Malaysian construction organisation is under constant pressure to improve its management technique. The Malaysian construction organisation has been characterized as adverse and inefficient, and in need of structural and cultural reform. Today challenge are far more complicated than ever before. They involve many stakeholders, embraces several disciplines, widely dispersed project participants, tighter schedules, mega information data and stringent quality standards. The changing of construction environment is also influenced by factors other than the project management requirement. Increases in project complexity has been due to extent of scope and fragmented parties around the world having to communicate with one another for efficient management practice. The complexity of the management practice is reflected by the large number of specialists who contribute to the knowledge sharing processes.

As in conventional management style is common practice in Malaysia before knowledge manegment exist in Malaysia, the paper work, the reports, the information sharing, the unstandardized data elements and attributes, this problem need to be overcomed by a systematic management practice such knowledge management. There are many registered construction company in Malaysia graded from G1 to G7 and all of them are practically practicing a different management system. Management system in construction industry consist of several part such financial management, human resource, project management, inventory management and few more. This thesis is focusing on inventory of information management to be use for knowledge management creation in construction sector. Sectors such industrial sector, manufacturing sector and agricultural sector has adopted information management system in their management system. Construction sector are not fully implement or rather practicing the knowledge management in their management and to be specific, the inventory for knowledge management.

1.4 Aim

The aim of the research is to adapt the concept of orginisation-specific resources model to create an inventory that usefull in creating the knowledge management for construction organisation.

1.5 Objectives of Study

Inventory that related to knowledge management in construction organisation are still fragmented and requires to be planned and sanitised before adapted to construction organisation. The objectives of this research are: -

a) To investigate the current state of inventory that related to knowledge management in construction organisation for G1 to G7 group of contractors.
b) To identify the existing and the desired element and attributes for inventory that related to knowledge management in construction organisation.
c) To examine whether inventory that related to knowledge management activities have a significant role in construction organisation.

1.6 Case Study

This study will focus on the construction contractor grade G1 to G7 around Johor Bahru, it will gather all the asset information, data collection and observation for inventory related to knowledge management.

The questionnaire will include the construction professionals such as contractor, project manager, engineer, architect, and stakeholders that involve with the contractors in construction.

1.7 Scope of Study

This research was carried out based on classification of resources in the specific resource-based view model, develop by (Maier, 2007). The scope of study was organization-specific resources for an organization. The element covered was the tangible resources and intangible resources. Under intangible resources there are two more sub-division, person-independent resources and person-dependent resources. Under person-independent resources there are intangible assets and organisational assets. All these resources will be check for construction organisation of G1 to G7 to reveal its current state of adoption that lead to a quality organisation

1.8 Significant of Study

This study is intended to check and improve the content of inventory that related to knowledge management in construction that lead to a certain satisfied level. It is to ensure that by having the real needed inventory, contractor to be easily managing the project to an accugatable quality of construction.

1.9 Brief of Methodology

A set of questionnaire was designed as the main information gathering for research process. It is designed to answer the objctive that has been outlined. The next step after data collection would be data analysis. This mathod includes compilling all the data collected.

A relevant literature and publications were reviewed in order to get an in-depth and gatis of information on inventory information. Also, a country specific information on the construction sector was also reviewed.

1.10 Summary of Chapter One

The study was conducted in order to meet certain interest and will be useful to the parties involved in the construction industry. The inventory that related to knowledge management will soon widely use in construction oganisation around Malaysia.

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