

Why Knowledge Management Fail? ; A multi case analysis

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ABSTRACT:

At the present time, business may need knowledge management (k-management) advantages to survive in a predicted competitive market. Invariably, k-management has been presented as a compelling strategy for organizations to improve their business processes and gain competitiveness. Organisations are told that they will not survive in the knowledge era unless they have strategies to manage and leverage value from their intellectual assets (workers brain), and at this case many strategies have been proposed. Yet, k-management application in construction industry is still an under-charted territory. Construction industry needs an instant kick-start to adopt k- management in their organization. Budgetary control, contract management, material planning, manpower planning and control were identified as important areas that k-management can help to improve. But do we have to jump into the bandwagon? Building a successful k-management strategy is a long term commitment which requires a large investment of money and time. Despite of the costly funding, 70% of project fails to deliver the proper result (Akhaven et al, 2005). What the industry need is to examine recent development of k-management in other industry. Moreover, they need to benchmark their initiatives, collect and manipulate their 'lesson learn' and avoid 'reinventing the wrong wheel'. This research dedicates to find the reasons behind those failures and help construction-based company to develop k-management strategy that fit the requirements and deliver fair good result. Further analysis shows that lack usability and flexibility of contents and is the most popular reason why k-management fails to fit into organisation. Ironically, most developer focussed more on technology enhancement but it appeared the less reason contributed to k-management failures.

1 INTRODUCTION

1.1 Definition on Knowledge Management

Knowledge management is a dynamic process of creating knowledge as knowledge itself is created in social interactions among individuals and organization (Nonaka & Takuechi, 1995). Davenport, (2000) has stated that knowledge management is a process of refining knowledge and adding value to information. Furthermore, it refers to the critical issues of organizational adaptation, survival and competence against discontinuous environmental change. The process should embodies organizational processes that seek synergistic combination of data and information processing capacity of information technologies, and the creative and innovative capacity of hu

man beings (Yogesh Malhorta, 2004). Allee Verna, (2001) wrote that knowledge management is the explicit and systematic organization of vital knowledge and its associated processes of finding, selecting, organizing, distilling, and presenting information in a way that improves an individuals comprehension of a specific area of interest. Tiwana, (2002) writes that Knowledge Management System (KMS) always refers to the technology components that facilitate application the integrations and management of knowledge. It can be embedded inside IT infrastructure, framework strategy

and company policy. It also a platform to generate greater value to knowledge.

1.2 Knowledge Management Effort in Construction Industry

As we all know, k-management is still under-charted territory in construction industry, however several pioneer projects have been done recently to develop a k-management strategy in construction-based organization. CAPRIKON Project (Capture and Reuse of project knowledge in construction) is a collaborated study by Loughborough University, University of Newcastle Upon Tyne, Arup (Consultant Engineer), Turner & Townsend Project Management, DEWJOC Partnership and Simon Design in the UK. The project addresses the tactical issues of capture and reuse of project knowledge in multidisciplinary organization. Amex, Amey, AWG, Taylor Woodrow Morrison Plc and University of Loughborough is collaborating in KnowBiz Project. The project aims to use knowledge management principle to facilitate construction companies in collating and keeping track of the data required for input into key business performance measurement model for construction-based companies. C-Sand Project is a project of IT in k-management. It focused on foster the creation on creating knowledge in construction project and ensure knowledge is available quickly using quality software.

1.3 Why K-Management fail – a study on other industry and lesson learned for construction industry

Due to very limited sources on k-management in construction industry this paper will evaluate the industry in general. Although, the failure may differ from one industry to another but the paper is intentionally written to get a universal reason why knowledge management fails to fit into organization. The research will outline the rationale and recommended the factors that should be taken seriously by k-management developer in order to implement any strategies, tools and framework to construction industry. It is a lesson learned to the industry and avoids the developer to 'reinventing the wrong wheel'

2.0 TYPE OF FAILURES

This paper will highlight the failure rates of k-management as reported in surveys, reports and lit-

eratures. Then, the paper will report the result from investigation in two corporate surveys (S1 and S2), four case studies of k-management failure (CS1, CS2, CS3 and CS4), supported by literature reviews about the failures. Then the failure was divided into 6 comprehensible categories which are technology, integration, knowledge capture, usability, managing contents and project management failure respectively. Each and every point of failures from case studies, reports or literatures were given a score (points) in the following scale: 0 (not relevant), 1 (to some extent is relevant), 2 (relevant) to 3 (the most relevant) according to the categories of failure. The paper will make conclusions and determine which type of failure occurred the most and less in the system.

2.1 The Investigations

The following are two companies survey each from KPMG and IBM sources, four cases and seven literature reviews. Surveys were labelled as S1 and S2, case studies were labelled as CS3 until CS4 and all literatures were labelled in L. Each and every failure characteristic was also labelled in alphabetical order for the analysis.

2.1.1 Survey (S1)

According to a KPMG consultant survey compiled by Cheng (2002), the cause of failure in KMS development shows in the report were as follows:

- a. Inadequate communication channel
- b. Unsuccessful integration of KM into daily working practices
- c. The system was too complicated
- d. Lack of training in orderly fashion
- e. Common sentiment that there was inadequate personal benefit for the user.

2.1.2 Survey (S2)

In addition, Fontain & Lesser, (2002) compiled IBM Institute for Knowledge-Based Organizations investigation and analysis. The assessment noted the sticky situation that leads to the failures in adopting KM strategies were as follows:

- a. Unsuccessful alignment of knowledge management efforts with the organization strategic objectives

- b. Overemphasis on KMS tools for sharing knowledge.
- c. Failed to address the need to manage contents.
- d. Failed to connect knowledge management activities into individual daily work activities
- e. The strategies only focus on knowledge within the organization.

2.1.3 Case Study (CS1)

According to research by Kalling, in 2003, one European- based manufacturing company that had 60 production houses worldwide keen to use KM to cut production cost. KMS had proven the ability to promote proper documenting and sharing methods. In addition, KMS had helped organization to secure the knowledge and best practice in organization. A better networking across geographical boundaries can encourage knowledge creation and improve the standard methods significantly. In addition, knowledge sharing helped their designers worldwide to design products with limited resources. Nevertheless, the failure occurred due to following factors:

- a. Many production houses were unconvinced about the value of knowledge contents
- b. The knowledge is always outdated to the present situation
- c. The system was too difficult and complex to understand

(Source: Chua & Lam, 2005)

2.1.4 Case Study (CS2)

A global telecommunication company in 70 countries tried to use KM initiatives to amalgamate global knowledge and set a connection between each of their branches. The coordination was intended to consolidate information across the branches and allow users to obtain information from integrated resources. Nevertheless, the system was abandoned and it failed to promote knowledge sharing. The reasons behind the failures were as follows:

- a. Technology infrastructure can not support the system
- b. The system did not involve the end users in the development phase and was unsuccessful in convincing them to use the system
- c. The system failed to encourage people to be more open and adopt the knowledge sharing culture

(Source: Chua & Lam, 2005)

2.1.5 Case Study (CS3)

E-bank case study highlighted the failure of integrating knowledge. KMS was introduced to spread knowledge across the geographical boundary to staff or providing knowledge to customer. In this case, however, the company developed 150 independent intranet sites so called a ‘virtual information silos’. Ironically, the actual outcome of the boundaries is electronic fences between functions and the department/group was doing their own thing. Furthermore, people were reluctant to share because it was clear in the past that knowledge had typically translated into organization power. Sharing the information with others was seen to reduce power. Indeed the developer gives only a little attention to this issue.

- a. Failure of integrating the knowledge
- b. The knowledge is seen as a source of organization power

(Source: Knowledge Management Institute of Personal Development, 1999)

2.1.6 Case Study (CS4)

One of the leading European engineering consultants keen to use KM learning organization as a key to cost effective management and a better way to deal with business risk. The IT system was a foundation in every activity and affected the strategies, methodologies and budget. The business environment changes the system requirement and contents. The system is not able to respond only to implement a major restructuring exercise. Moreover, KM initiative also failed to do the following action resulting in failure:

- a. Manage internal political issues
- b. Failed to respond the business climate and unable to recover from the first failure of development
- c. Spend a lot time deliberating potential barrier and analyzed the pilot study rather than quickly respond to the situations.

(Source: Chua & Lam, 2005)

2.1.7 Data from Literature Reviews

Table 1 below is a literature reviews from published source on the reason of failure in developing and implementing knowledge management initiatives.

Index	Sources	Point of views
L1	Malhorta (2004)	Developer failed to design a system that focus on intervening and moderating variables such as attention, motivation, commitment, creativity, and innovation for users to contribute any inputs (L1)
L2	Meadowcroft (2002)	Due to a poor result on project development practice including prototyping, testing and quality control (L2)
L3	Cockburn (2001)	Knowledge is hard to capture and integrate (L3a) because it is tacit and it had a diversity of interpretation. Some of the system were over designed and made it complicated to understand for every level of users (L3b)
L4	Bawker (1999)	KM systems partially fail due to rigidity. The people cannot be forced to use a unique system of knowledge representation (L4)
L5	Tiwana (2002)	The symptom of expert and novice goal conflict and agency-agent conflict where people reluctant to share or use knowledge (L5)
L6	Riege (2005)	Mismatch between individual needs requirements and integrated IT systems and processes restricts sharing practices; (L6a) Reluctance to use IT systems due to lack of familiarity and experience with them (L6b) Lack of communication and demonstration of all advantages of any new systems over existing ones (L6c) Lack of integration of IT systems and processes impedes the way people do things (L6d)

Table 1: Literature reviews on knowledge management failure

3.0 RESULTS

Table 2 is a scoring system in five different elements which are technology, usability, integration, managing contents, capturing knowledge and project management. The score are based on the mark given be-

low and score was given based on brainstorming session with lecturer and expert from University of East London, United Kingdom.

Marks:

- 1 point = slightly relevant
- 2 point = relevant
- 3 point = extremely relevant

T= Technology, U= Usability, I= Integration, M= Managing contents, CK=Capturing Knowledge, PM= Project Management

	T	U	I	CK	MC	PM
S1 a	1	2	3			
S1 b	1		3			2
S1 c		3				1
S1 d						2
S1 e		2				
S2 a		3	1			1
S2 b	2				3	
S2 c		3				
S2 d		3	3	2		
S2 e					3	
CS1 a					3	
CS1 b			2	2	3	
CS1 c	1	3			1	
CS2 a	3	1				
CS2 b		3		2		1
CS2 c		2				
CS3 a	1		3			
CS3 b				2		3
CS4 a						3
CS4 b					3	1
CS4 c						3
L1		3		2		
L2					1	3
L3a			3	3	3	
L3b		3			1	
L4		3				1
L5		3		3		1
L6a				3		1
L6 b	1	3				
L6 c		2	1			
L6 d	1		3			
TOTAL	11	42	22	19	21	23
%	8	30	16	14	15	17

Table 2: Scoring System to determine the failure of knowledge management development & implementation

4.0 ANALYSIS

Table 2 shows usability is the most frequent factor contributing to KMS failures to developer with 42 marks (30%). It was followed by a failure in Project Management (17%) by a large margin. Failure in integration (16%), managing contents (15%) and knowledge capture (14%) follows respectively. The very uncommon type of failure contributed to unsuccessful KMS comparatively is the technology failure which is only (8%) in percentage. The percentage is shown below in a pie chart. From the observation,

usability is the type of failure that commonly occurs due to a close connection between human (users) and the system. The research make a conclusion that knowledge often relates to individuality and personal perception. These two elements were due to happen because of three universal human factors which are culture, motivation and human perception. Additionally, other failures such as bad project management practice, difficulties in managing content, integration and knowledge capture problem were happen due to nature of knowledge which is tacit and difficult to control. In addition, bad project management practises that lead to project failures is a common threat in any project. However, contradictory to earlier prediction and common understanding to the importance of technological availability, the failure caused by technology fault and inadequate technological innovation lay at the bottom of the list. Technology factors which commonly lead to information transferability is important but less required in a successful k-management projects. It demonstrates again the point discussed above which clearly highlighted that knowledge is close related to humanistic character. Indeed, excellent technological facilities did not impact on the direct result of the system and its applications.

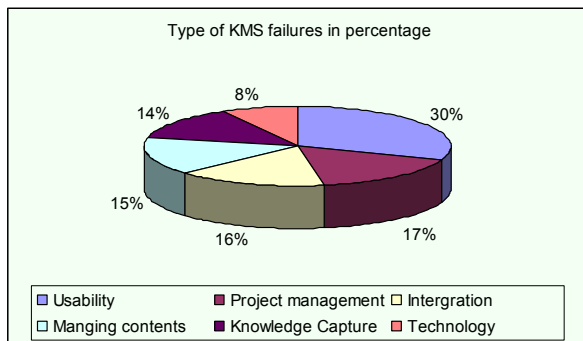


Chart 1 : The percentage of knowledge management failure

5.0 RECOMENDATIONS – What construction industry can learned ?

Recommendation 1 - User-Centric Design

Successful system establishes when the developers have knowledge about the users, the task they want to achieve and their working environment. It can be achieved by using a consistence feedback system. In other word, usability assured when developers follow users-centric design process. User centric or human centric design in definition is a development process that identifies and ensures end user needs are

met through an iterative cycle of prototyping and evaluation

Recommendation 2 - Flexible

Managing content initiative should allow a rapid changing in requirement depending on current environment in construction. K-management development must provide some degree of freedom but must wisely not turn into any information redundant trap and therefore act as an open book in developments to be filled, arranged and used by organizations.

Recommendation 3 - Leadership Attributions

Bixler, (2002) and Davenport (2004) also highlighted strong leadership and project coordination as the most important factor in successful k-management strategies. Either the system designed as a top-down or bottom-up approach, the leadership present is a must to ensure a good understanding and contribution to the system. Furthermore, a ‘carrot and stick’ is a recommended approach into the adoption of k-management strategy in organisation

Other Recommendations:

1. Link to economic performance or industry value
2. Knowledge-friendly culture
3. Clear purpose and clear language

6.0 CONCLUSIONS

The local construction industry must be ready for advancement and be prepared to take up challenge in developing k-management strategy. The effort to implement k-management system could lead to better competitive performance. Nevertheless the industry should learn from others and avoid reinventing the wrong wheel. Maybe this ‘lesson learned’ is the first knowledge need to be managed.

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