Appendix 2.1 Questionnaire Survey:

SURVEY ON KNOWLEDGE MANAGEMENT (KM) IN CONSTRUCTION COMPANIES

INTRODUCTION

Knowledge management (KM) is a process that helps organizations to create, organize, store, use, and share expertise necessary for activities such as problem solving, dynamic learning, strategic planning, and decision making. Knowledge Management system refers to a type of IT-based information system developed to include information, documents, knowledge, experience, and perceptions of employees through e-messaging, e-chatting, and other tools. The aim of the survey is to capture the initiatives for KM and investigate the critical success factors for implementing knowledge management in the construction industry. You are kindly requested to participate in the survey. This will not take you more than 15 minutes to complete.

This survey is not aiming to capture any commercially sensitive information. Nevertheless, all information will be treated as strictly confidential with full anonymity to participating organizations.

INSTRUCTION

This questionnaire asks for your opinion about KM in general and also KM system in your organization.

The answer will depend on your own judgment that comes from your experience in this domain.

Note: If you don’t know or are unsure of how to respond, please leave the box blank.

Note: If your company does not practice knowledge management system, please go to section 4.

SECTION 1: GENERAL INFORMATION

This section seeks general information about and your company. This information is used only to analyze the results of submitted questionnaires. It will be treated as strictly confidential.

1. Company name
2. Your name (optional)
3. Job title
4. Your location
SECTION 2 : KM ACTIVITIES, TOOLS, AND PROCEDURES

This section seeks activities, procedures, and tools of KM in your company.

8. Which of the following KM activities and methods has implemented or used in your company, and please indicate the level of importance for each activity or method to successful KM implementation.

### ACTIVITIES & METHODS

#### A1. System Analysis

1. Conducting questionnaire and/or interviews employees
2. Identify business process and procedures
3. Identifying data & knowledge available and important for organization.
4. Identifying what tools appropriate for KM system

#### A2. System Design
1. Defining aims and objectives for KM.

2. Using KM models to represent KM activities Method, components.

3. Preparing an action plan and guideline for KM Implementation.

**A3. System Implementation**

1. Implementation of a prototype before applying Wide range KM system.

2. Appointing KM offices to provide training and Support to employees.

3. Embedding KM activities into employees work Processes.

**A4. System Maintaining and Monitoring**

1. Collecting feed backs from end users regarding Improvement requirement.

2. Observing the differences in operation after Implementing KM.

3. Monitoring the system performance and showing Bottle necks.

4. Monitoring the environmental factor such as Management strategy employee’s culture and technological factor.

**A5. System Evaluation**

1. Investigating business process improvement

2. Evaluating the system correctness and alignment
With design Specifications.

4. Evaluating the system usefulness ease of use And application.

A6. Knowledge capturing and storing

1. Recording problem solution & experience
   In electronic repository.
2. Referring knowledge to its sources
3. Recording new ideas and perception of experts
   And engineers.
4. Attaching pictures, video, and text files to clarify
   Knowledge content.

A7. Knowledge Reusing and sharing

1. Using internet to share and transfer knowledge.
2. Using sharing tools to find required knowledge.
3. Showing contact details and experience of employees.

A8. Knowledge reviewing and approving

1. Using internet to publish and edit knowledge
2. Reviewing knowledge contents by experts or knowledge team
3. Classifying knowledge to facilitate knowledge
   Searching function.

A9. Using database to create data
1. Capturing data and information of projects
   In electronic repository.
2. Using data mining, data analysis, and reporting tools.
3. Recording knowledge and information concluded
   By using previous tools.

**A10. System tools**
1. User manual and help desk.
2. Dataminting, analysis and reporting.
3. Document management.
4. Photo and/or video management.
5. Training and support.
7. Knowledge Map.
8. Yellow pages and/or contact details.
9. Subscribing and/or internet password interning
   To define authority level
10. E-meeting, messaging, chatting, discussion
    Board, forum.
11. Decision support system and or intelligent.

**Section 3: critical success factor**

This section seek your perception on the importance of factor for successful KM in your company

9. Which of the following statement can be used to describe the KMS in your company? Decide
The level of importance for each statement for successful KMS in general. Please use this scale

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<th>Describe your company knowledge system</th>
<th>Importance</th>
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Factors

Describing knowledge importance

System in your company

1 2 3 1 2 3 4 5 6

F1. CULTURE

1. Culture that values knowledge seeking and problem solving.

2. Providing time to employees to perform knowledge related activates.

3. Updating employees and other users about change in KMS.

4. Building up awareness and training on use of KMS.

F2. MANAGEMENT LEADERSHIP AND SUPPORT

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1. Management establishes the necessary
Condition for KM.

2. Leader encourage and support knowledge
Creation, sharing and use.

3. Knowledge managers constantly search
for new Approaches to KM.

4. Development of a km strategy which
Clear objectives and goals.

5. Sufficient financial resources for
Building up Technological system.

**F3. INFORMATION TECHNOLOGY**

1. Matching the kms with km objectives
And users’ needs.


3. Ease of use of the technology.

4. Protection knowledge from unauthorized
Exposure or being stolen.

5. 5. Ability of system to capture and store
Tacit knowledge.

6. Appropriate categorization and
Updating of knowledge.

7. Application of technological tools.
### F4. MEASUREMENT

1. Measurement benefits per unit of investment.

2. Mentoring the system performance and showing bottle neck.

3. Developing indicator for measurement of KM.

### F5 ORGANIZATION INFRASTRUCTURE

1. Appointing of km leader and /or km team or work.

2. Ensure of sufficient human resource to Support km initiatives.

3. Specifying activities, tasks and process for performing km.

4. Specifying roles and responsibilities for performing km tasks.

5. Recruiting and hiring of employees to fill knowledge gaps.

### F6 DRIVERS FOR KM

1. Building up and maintaining employees.

2. Sharing employees expertise and perception.

3. Identifying internal and or time to solve Problem in projects.
4. Enhancing work quality of projects

5. Reducing cost and /or to solve Problem in project.

6. Providing competitive advantages to The company.

7. Helping senior engineers and managers to avoid Many problems cause

8. Presenting accurate and timely Knowledge to Facilitate decision making.

9. Providing an effective tool to train Juniorengineer.

10. Enhancing relation and coordination With customer, Partners and suppliers.

11. Encouraging continuous improvement and/or new Product and services .


**F7 . SPECIFICATION OF KM SYSTEM**

1. The knowledge system easy to use .

2. It is easy for users to find useful Information for Problem solving.

3. The system collects knowledge that Important for organization.
4. The system ignores knowledge that is not important for the organization.

5. The system facilitate knowledge sharing between company’s employees.

6. The system maintains good relationship with customer and other partners.

7. The role of knowledge team worker is very important.

F8. KM barriers and challenges

1. The nature of construction projects (e.g. non-repetitive work, no standard procedure, pressure to complete on schedule, changing employee’s different phase).

2. Lack of organization culture for knowledge creation and sharing (e.g. build trust among employees, establish time and place for km transfer provide).

3. Lack of structured procedure and process to implement km.

4. Lack of knowledge manager or team to implement KM strategy.

5. Lack of awareness of the importance of KM organization.

6. Lack of training and support.
8. Lack of technology and techniques for km capture and sharing

9. Lack of leadership support

10. Lack of recourse in team of a budget, staff, and IT infrastructure.

11. Employee resistance to share knowledge

12. Lack of post-projects reviews and project documentation.

10. To what extent do you consider your company knowledge management effort to be successful?

11. To what extent do you consider the KM activities and critical success factor?
Presented earlier to successful in describing those which are crucial for KM adoption in construction industry.

SECTION 4: FOR NON-KNOWLEDGE MANAGEMENT ADOPTERS

12. Why do you not practise KM in your company (you may tick more than one answer).

- Lack of time
- Have never heard
- Lack of financial resources
- Don’t understand
- Top management does not support
- Unsure of its potential benefits
- Not needed
- Not interested
13. Do You Plan To Implement Km In The Future.

**Feedback**

14. If you’re interested to be contacted for follow up short interviews, please tick this box.

15. If your company is interested in participating in the research case study, please tick this box.

16. If you require summary of the funding of this survey, please tick this box.

17. If you ticked any of the feedback question, please enter your email address and/or contact details.

**Other comment**

*(Please Use The Space Provided To Reflect On How To Improve Km In Construction Industry)*

THANK YOU VERY MUCH FOR YOUR VALUABLE TIME AND CONTRIBUTION TO THIS SURVEY.

ALL RESPONSES WILL BE TREATED ANONYMOUSLY.