

Pornpunsa Wuttisanwattana 2014: Knowledge Transfer Framework for Process Plant Construction Project in Transition Phase. Master of Engineering (Engineering Management), Major Field: Engineering Management, Department of Industrial Engineering. Thesis Advisor: Mr. Punnamee Sachakamol, Ph.D. 98 pages.

This study has two major purposes: (1) to investigate the relationship between the risk index (RI) of each risk type and the knowledge element (KE) (2) to build the knowledge transfer framework for process plant construction project in order to minimize the risk. These two purposes aim to achieve the best performance of the project, which will lead a company to be able to compete in the market. In studying the relationship of the RI and the KE, the survey was conducted in Thailand in general organization with negative situation which could be incurred in process plant construction project. The survey was conducted in Thailand totally 71 surveys, the result has shown the KE of “people” was affecting to most of the RI both directly and indirectly. The results provide some support for KE weighted for the effort required by KM gurus that 10% of technology, 20% process, 70% people. The results were also validated by literature review for the cause of construction project factors of failures. Not only the element of “people” as the main factors was validated, it also has shown that the element of “people” and “process” are inseparable.

With the result of the first purpose, the framework to transfer the knowledge in process plant construction project from the construction phase to operation phase was built based on the 4 modes knowledge transfer of Nonaka and the activities that acted as a medium to transfer knowledge. The framework was parallel verified by interviewing of the experienced person. Finally, the framework indicates the timeframe and the mode of knowledge transfer to be focused. This information will be useful for management decision making for improvement.

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