

The Development of Simulation Logic Model that Dealing with Uncertainty for Piping Construction Industry

Zirawani Baharum¹*, **HairulNizam M.2^{*}, **Fauziah Abdul Rahman¹****

¹Malaysian Institute of Industrial Technology, Universiti Kuala Lumpur
Persiaran Sinaran Ilmu, Bandar Seri Alam, 81750 Johor Bahru

²Faculty of Computer Science and Information Technology, Universiti Tun Hussein Onn Malaysia

* zirawani@unikl.edu.my, [*hairuln@uthm.edu.my](mailto:hairuln@uthm.edu.my)

Abstract

Basically, multi processes and activities involve in the piping construction (PC) projects needs to be followed before the project is handed over to the customer or client, called multi-project construction environment (MPCE). In PC, the MPCEs exist where more than one project is managed simultaneously within an organization become as a common phenomenon faced by managers that highly possible to face with uncertainty issues, lead to project completion late delivery (PCLD). Dealing with uncertainty in MPCE is a common, though managing uncertainty in PC become more complicated rather that others industry. Therefore, the objective of this paper is to develop the simulation logic model to deal with the uncertainty for PC projects that focused on environmental issues (EI). This result will be proceed for uncertainty model development in the next phase of this research. The simulation logic model development began with qualitative data collection towards the case study, to get all the activities throughout the water supply company. Then, the business model is developed with 14 activities before integrated with the uncertainty factors in EI. The integration of business model and uncertainty factors generated the simulation logic model as main contribution. Once the uncertainty model completely developed, it will provide a medium for PC that confront with MPCE to monitor the uncertainties and prepared to encounter any matters in future. Therefore, it is important to pursue in providing the PC company to all inclusive-model, and helping them in managing and tackling the uncertainty, especially for EI.