Project 2.21
New Project Management Models for Productivity Improvement in Infrastructure

RESEARCH PROGRAM 2: PEOPLE, PROCESSES AND PROCUREMENT

Construction productivity has been a focus for both industry and academia for at least 20 years; yet demonstrable productivity improvement has proven elusive. In contrast, other major industries have achieved a doubling of their productivity over the same period. In an environment where disruptive technologies are becoming the norm (mobile and cloud) it is time to reassess the fundamentals of project management processes and their supporting data structures to reduce transaction costs.

Rethinking processes to move beyond compliance to productive application of project domain knowledge has been identified by industry as a major barrier to increasing construction sector productivity. The sheer size and complexity of infrastructure projects places significant challenges on traditional methods. Alternative approaches are required to deliver informed and supported, productive work environments by amending existing project management systems through smarter use of construction data.

Objectives

This project considers capital works: buildings and linear infrastructure and their associated project management systems. The objectives of the project are to provide stakeholders with tools to increase productivity levels by lowering project and construction management costs using location-based thinking and location as the unit of analysis for:

- Guidance on the feasibility of increasing levels of productivity through application of location-based data structures.
- Identification of the value of proximity minimisation for project and portfolio asset management of roads, rail and infrastructure buildings.
- Contributions to re-forming processes for identified common industry excessive data-handing duplication.

Project Outcomes

- An extension of this project as part of SBEnrc Project 2.33 New Project Management Structures: Infrastructure Modelling (BIM) and Location (GIS) with additional (project only) partners.
- Industry Report and Recommendations.
- Four Position Papers:
  - The Role of Location in Existing Project Management Structures
  - Construction Production Systems: Delivering Value for Money
  - Geographic Data and Systems in Project Planning
  - Managing Road Assets in Times of Multiple Extreme Flooding Events.
- Presentations at project management industry international conferences.
- Online paper: Kenley, R & Harfield, T (2014) Reviewing the IJPM for WBS: The Search for Planning and Control. Procedia - Social and Behavioral Sciences 119, 887-893. http://www.sciencedirect.com/science/article/pii/S1877042814021909
- Online paper: Kenley, R, Harfield, T & Bedggood, J (2014) Road asset management: the role of location in mitigating extreme flood maintenance. Procedia Economic and Finance, 18, 198-205. www.sciencedirect.com/science/article/pii/S2212567114009319
- An academic conference paper in CIB 2014 Proceedings. http://www.irbnet.de/daten/iconda/CIB_DC27620.pdf

Professor Russell Kenley
BBldg(QS)(Hons) PhD MAIB AAIQS
Swinburne University of Technology
P: +61 405 069 792
E: rkenley@swin.edu.au

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