ABSTRACT

The process of project team formulation is by gathering the different trade disciplines together from inception stage to completion stage. Specialisation of the various trades has resulted in the fragmentation of the construction industry. This has caused the already complex industry to encounter more problems in relation to design efficiency and co-ordination. Hence, it is crucial to recognize the importance of intensive collaboration and efficient exchange and refinement of design information and knowledge during the initial stage of the project development.

Various models on design and information management have been proposed by past researches. However, this has not improved the efficiency of the design process. This is due to the failure to identify the root problems and definition of the projects while formulating or applying the models of design and information management.

This dissertation has explored the different types of design and information models. A conceptual framework has been devised by integrating the models using the Soft Systems Methodology (SSM). The SSM is a recognized management tool that promotes learning, cultural feasibility, participation and thinking in relation to abstract and ideal systems and specific context related real world. By using the SSM, the root definition and problems of the project are first identified and analysed. A conceptual model is then constructed based on the
root definition. Such model is then compared to the real world. Changes are identified during the comparison stage and actions are taken to make the change.

A development project on an airport terminal building is selected as the case study for the purpose of this dissertation. This is due to the size and complex nature of the project. Problems encountered by the design team of the project have been discussed and SSM has been applied to formulated a conceptual framework to improve the project design and information management.

A structured interview has been conducted to validate the efficiency of the proposed design and information management model. 15 project team members were selected to participate in the interview. The result and analysis obtained from the interviews showed that the application of the proposed model can improve the efficiency and effectiveness of the work flow processes within the project team. Hence, it is recommended that such model be applied to future projects.