Summary

With 40 years of public housing experience HDB has achieved meritorious improvements over the residential environment of Singapore. An intimate knowledge of residents' needs and aspirations has enabled HDB to draw up a master plan that would yield a quality living environment for residents.

In the constantly reviewing of its building and design standard process, Design & Build is the new procurement. It offers the employer a single source of responsibility. The contractor accepts the responsibility of both the design and the construction of the building to meet the requirements of the client/employer. To a great extent, this scheme eliminates the division of responsibility between design and construction inherent in the traditional form.

Design & Build scheme can be adopted as an alternative procurement system as the employer can enjoy the benefit of having single source of responsibility, obtaining a range of designs from the tender process for selection and saving in overall construction time and cost. But how efficient is this scheme in terms of design quality and product quality in fulfilling its objectives to provide quality living environment. Wide variety of designs, better quality of finishes, better buildability are not the prerequisite of better living environment.

This dilemma figured out the silhouette of this dissertation. This is to evaluate the design quality of D & B scheme and its impact on the total building performance and compare it with the HDB public housing done by traditional approach.

The procedure taken for the completion of this dissertation is a three step approach. Firstly, literature review, which provides a thorough theoretical understanding of the whole concept of Design & Build procurement method and the framework; Total Building Performance, which is used for organising activities and process for building projects. Research hypothesis has been developed from literature review.
Secondly, Subjective evaluation through postal questionnaire surveys, which gives an up-to-date and in-depth analysis of the architects’ and residents’ perception.

Two sets of survey questionnaires were designed. Survey was conducted among the design architects seeking their individual opinions and among the residents on their perception of indoor building performance using Post-Occupancy Evaluation (POE). The findings revealed that the scheme is not effective in fulfilling its main objectives to provide quality living environment rather its success lies on technical aspects like in achieving integration in design and construction, buildability, better teamwork, saving time and cost.

Finally, various design controls in terms of site planning, block design, flat design were discussed for the both types of scheme. An objective observation exercise was carried out to give an overview to the physical environment in the research area.

Although the study reveals that Design & Build scheme is not so effective in fulfilling its objectives, it should not be a reason to discount the effectiveness of design & build. More importantly, D & B has added a new dimension for HDB by providing a different outlook to satisfy the demand for new creation and new design. Its success can be enhanced with the right modifications on the part of HDB and Design & Build team.

All in all, this study serves as a feedback and guide to the planning of public housing in Singapore. In the quest for a total living environment and higher quality of life, such improvements in provision and planning should not cease upon achieving success, but be characterised by the process of change with continuity.