

## Extensive case study of Hong Kong's the development service engineering project management

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### Abstract

Most of a Quantity Surveyor's day is spent reviewing nominations from subcontractors, say those in the field. Nonetheless, there are a few major clients who haven't been satisfied "Rather than relying on the current system of nominated subcontracting, the Hong Kong Jockey Club is trying out domestic subcontracting for building services in the hopes that it will better help them avoid disputes and claims from contractors. Increasingly, we see the "bills of quantities for commercial building services in recent years. There is not much of a premium included in the tender price if BQ is included in the contract compared to

a contract without it. It's crucial to maintain a "maintaining an It is also useful to serve as a vehicle for the building services consultant to create more methodical designs while keeping a close eye on the project's costs. A few years ago, many of Hong Kong's leading consulting and quantity surveying firms worked together to establish a uniform method of measurement for building services projects across the city. QS companies are more likely to come up with their own method of measurement now that the established method has been shown to be excessively complex "assessment.

**Keyword:** Methodical Designs, Measurement of Buildings, Quantity Surveyor's Day, Building Services,

### INTRODUCTION

When it comes to Hong Kong's construction industry, projects are constantly under a tight timetable for design and construction. Time allocated for building design is viewed as being relatively short, with insufficient design considerations - There is always strong competition between building consultancy firms to get the projects and low consultant fees to ensure market competitiveness and business for the company's businesses.

During economic downturns, when there are fewer building projects, this is a regular occurrence. As a result, the amount of time and effort invested into projects is always insufficient to fulfil the project's restricted budget. Team members begin working on their own designs as soon as the design brief and specifications are finalised. A lack of coordination on the building's systems is a constant problem Due to the lack of coordination and specification, the building design is put out to bidding. The contractor

is responsible for resolving any design and coordination issues. Building development in Hong Kong is rife with the problem, which has no known end.

From my experience, it is clear that coordination issues arise throughout the building phase of a project. Confusion over architectural, structural, and building service drawings is a problem that plagues many projects, making it difficult to resolve. At the beginning of the design process, there is often a lack of coordination and integration between various building systems.

## **LITERATURE REVIEW**

Contractual arrangements throughout the design and construction phases of a building project are the primary means of procuring a project. The procurement system's most important component is the process of hiring designers and contractors for the building project. Contract preparation, tendering, and the selection of suppliers and sub-contractors may all be part of the process of hiring designers and contractors. Procurement systems may have a significant impact on the success of a project in terms of time, cost, and quality if they are chosen at an early stage of feasibility. There are many considerations to take into account when developing a procurement system for a project. These include factors such as the division of responsibility for both design and construction, overlapping design and construction activities, the client's ability to manage a project, cost control, and more. The procurement methods in Hong Kong's building sector are nearly identical to those in the United Kingdom. Different forms of contracts developed dramatically in the UK in the 1970s, and new contractual arrangements, such as design and build, management contracting, and project management, then appeared and became extensively employed in the construction sector. Similar development trends, albeit at a slower rate, may be seen in Hong Kong. To be sure, Hong Kong's climate and inherent qualities have led to certain recent building projects experimenting with non-traditional procedures such as joint ventures, management contracts, and design-and-build.

As a result, the client-contractor risk-sharing relationship, consultant-contractor connection, design and construction duties, programming, and project costs will all change. Building services work is becoming increasingly important in the construction contract, thus it is imperative that the contractual arrangements for building services be examined closely to keep up with the aforementioned trends.

## **STATEMENT OF THE PROBLEM**

One of the characteristics of the construction sector is its fragmented nature, which separates design from construction. When it comes to building services installation, this places a heavy burden on the team's ability to get the job done on time and on budget. The phrase "building team" refers to the people involved in the design and construction of a specific project, including the client, the designer, and the contractor. In addition to architects and structural engineers, the team also includes building services engineers and other experts. The first step in this investigation is to examine the relationships between the variables in the Building Services Process Model.

A project's success is defined as the level of success it achieves after it is finished. As long as a building's technical performance requirements are met and the objective is accomplished, it is regarded a total success by De Wit (1986). Even more so, if there are high levels of satisfaction among key stakeholders, including those who are directly involved in implementing the project and those who are directly impacted by it. Building team members have different criteria for success (Naoum (1989), Sidwell (1984), and Sanvido (1992). Building projects are considered a success if they are finished on time; within budget; and to a high level. A marketable building may also help the customer make back some of the money they put in the project.

happy customer; quality architectural and building services product design fee, profit objective, professional staff fulfilment; meet project budget and time; marketable product; minimum construction difficulties; no liability or claims; socially recognised and well-defined scope of work.

If you're working as a building services engineer, some of the criteria for success might include conserving energy and being environmentally friendly. On the other side, in order to keep the customer happy and please the shareholders, the primary contractor may view conflict-free projects as a success. Met or surpassed quality specifications; no claims; safety; and customer satisfaction are some of the metrics used by contractors to gauge their level of success. Aspirations like these are great, but there are several obstacles to their success, many of which are related to the procurement process problem.

### **Objective of the Study**

The purpose of this study is to first,

- To perform an investigation of how procurement strategies affect project integration and performance in building services engineering will be conducted.

### **Research Questions**

The purpose of this study is to know,

- When it comes to integrating projects, procurement procedures have a significant influence on the amount of integration?

### **Research Methodology**

After doing a literature analysis, data will be collected through interviews with Building Services Engineers, clients, architects, and construction managers in order to meet the study's goals. Personal contacts, the building services journal, the building magazine, and the employer confederation will be used to compile a list of names and addresses.

### **Research Design**

Building Services Process Model factors are studied in six primary categories in the research model, which identifies and investigates their interrelationships.

- (a) Client characteristics
- (b) Designers (Architect and Building Services Engineer) characteristics
- (c) Project characteristics
- (d) Contract procedure
- (e) Procurement method
- (f) Project performance

The average cost per square metre and the cost range within which 60% of the project falls will be computed after the projects have been grouped. Projects that cost more than 60% of the whole cost were considered costly, while those that cost less than 60% of the total cost were considered inexpensive. The Chi-square test and Pearson's Correlation Coefficient are two of the statistical tests to utilised.

### **Data Analysis**

What follows is a breakdown of how the data for this study was analysed:

The findings of the survey questionnaire will be put by hand into a "spreadsheet with coded variables."

The analytical "tools will be utilised to assess if the customer and building services engineering designer have an influence on how well building services engineering" operates, per clause (b). (c) "we will separate the Design-and-Build data from the usual" ones for "the objective of finding out if building services project performance changes based on the kind of customer and building services engineering designer."

## **CONCLUSION**

In light of "It is intended that by doing this research, we may learn more about the aspects (such as client background, building services engineering designer traits, and procurement strategies) that affect the performance of building services engineering projects. Ten performance measures were used to assess the building services' contribution to the project's success, all of which were taken directly from the Building Services Process Model. There are two approaches to assess the results of a project to improve a building's services. Pre-construction, construction, and total construction times, construction area per week, construction unit cost per square metre (\$/m<sup>2</sup>), and construction overrun as a percentage are all examples of quantitative measures. In a second, more subjective assessment, participants were asked to judge how well the project met their expectations in terms of timeliness, affordability, and overall quality.

In terms of facilities management, these two buildings couldn't be more different. The quantity of quality standard specified by customers at design stage also has a significant influence on building services design. Since this is the case, it is possible that the building services installation unit cost is not a reliable indicator of the project's success "effectiveness.

## **LIMITATIONS OF THE STUDY**

The Building Services Engineering Designer is referred to as the Project Building Services Engineer in this study. The Project Building Services Engineering Designer, on the other hand, plays a prominent role in the project management process, although there are more than one building services engineering designer involved in the design of heating, ventilation, and air conditioning (HVAC).

Intermingling of the Tasks Only 48 of the questionnaires that were sent out were successful. Personal contracts, building services journal, building magazine, and employer confederation were used to gather a list of names and addresses.

The building services engineering designer's personal and professional details may be unknown to the replies. As a result, they may be able to judge the performance of the building services engineering designer based on their performance over the course of the project.

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