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# **An Investigation of Critical Success Factors in Construction Project Briefing by Way of Content Analysis**

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# **An Investigation of Critical Success Factors in Construction Project Briefing by Way of Content Analysis**

## **Abstract**

Construction project briefing is a complex and dynamic process which involves identifying and conveying clients' actual needs and requirements accurately to the project team. The briefing process is critical to the successful delivery of a construction project and there are many limitations inhibiting its effectiveness. A study of factors which could contribute to a successful briefing (in this study referred to as critical success factors, CSFs) will enable special attention to be paid to those areas which could improve its performance. The objectives of this study are to identify, categorise and prioritise a general set of critical success factors for construction project briefing. This study is intended to complement the existing but limited research into the identification of such factors and to serve as a stepping stone to the identification and establishment of yardsticks which could be used by construction practitioners on all projects in future. A questionnaire was used to collect opinions from experienced construction practitioners. Thirty-seven factors were identified and coded, and the content analysis yielded five major categories. They include project-related factors, human-related factors, process-related factors, input-related factors and output-related factors. Thirty-six percent of respondents identified 'open and effective communication' as the most frequently mentioned factor critical to briefing. Other important factors, in descending order of importance, include such as 'clear and precise briefing documents,' 'clear intention and objectives of client' and 'clear project goal and objectives'. This set of critical success factors can serve as

a checklist for practitioners when conducting a briefing in their construction projects. The results of the questionnaire survey generally in line with the findings of a validation exercise by focus group meeting.

**Keywords:** Construction, briefing, critical success factors, content analysis

## **Introduction**

Construction project briefing/architectural programming is a dynamic process owing to the complexities in identifying and conveying clients' actual needs and requirements accurately to the project team and the immense magnitude of project information that needs to be considered during the process. It involves frequent interaction, shared understanding and commitment among a group of stakeholders of the project, including the client, the end users and the designers. The briefing process is of a complex and iterative nature, which must integrate business strategy with building requirements. Major problems reported in the literature include the inexperienced client who does not know how to proceed; lack of identification of client's needs; inadequate involvement of all the relevant parties of a project; inadequate communication between those involved in briefing; insufficient time allocated for briefing; briefing information still being given during late design and construction stages, and the contractor having no real understanding of client objectives (Kelly et al. 1992; Barrett and Stanley, 1999; Karama and Anumba, 2001; Kelly and Duerk, 2002; Yu et al. 2005).

The study of the factors which could contribute to a successful briefing (in this study referred to as critical success factors) will enable special attention to be paid to these critical areas, thus improving the performance of the briefing process. In addition, the identification of the critical success factors (CSFs) will enable the limited resources of time, manpower and money to be allocated appropriately (Chua et al. 1999; Shen and Liu, 2003). A limited number of studies in the literature concentrated on the CSFs that affect Construction project briefing. However, such CSFs can also be identified based on expert opinions. Indeed, the impact of experience possessed by key project personnel towards project outcomes has been widely recognised (Jaselskis and Ashley, 1991; Sanvido et al. 1992). Thus it would be reasonable to assume that experienced practitioners would be able to compose a set of CSFs after testing against their experience (Chua et al. 1999).

The aim of the aspect of the research study presented in this paper is to investigate the CSFs of construction project briefing. The specific objectives are to identify and prioritise a general set of CSFs which could be used by construction practitioners when conducting briefing to ensure successful construction projects. An open-ended question – in your opinion, what are the critical success factors of the briefing process, was included in a questionnaire to collect opinions from experienced professionals.

The study presented in this paper is part of a research project conducted by the Hong Kong Polytechnic University and Glasgow Caledonian University to investigate the briefing process in the construction industry. The aim of this research project is to investigate whether a value management framework for the briefing process can (1) systemically identify and clarify client requirements, and (2) represent these

requirements precisely and explicitly to facilitate the design process. Based on the survey results in this paper, the CSFs identified will be used to draft the practical framework for systematic identification and representation of client requirements in the briefing process.

## **Construction Project Briefing/Architectural Programming**

Construction project briefing is known as architectural programming in the USA. Hershberger (1999) defines architectural programming as the first stage of the architectural design process in which the relevant values of the client, users, architect, and society are identified; important project goals are articulated; facts about the project are uncovered; and facility needs are made explicit. It follows that the architectural program (brief) is the document in which the identified values, goals, facts, and needs are presented.

The briefing process involves gathering, analysing, and synthesising information needed in the building process in order to inform decision-making and decision implementation. Further, the brief document should contain all the information used in the design process as a set of evaluation criteria to ensure an optimal solution to the building problem (Kelly et al. 2005a). The briefing process is generally accepted to be divided into two major stages – Strategic Briefing and Project Briefing. It would seem that this two step approach is due to the nature of the early stage design problem. First, it is the task of strategic management to identify the organisational needs and then to decide whether a project of a general type and in a certain location is the most effective solution to those needs. Second, tactical management decisions are required

on the performance specification of the project given the activities to be accommodated.

### **Strategic Briefing**

The early stage of the briefing process is critical in ensuring that the objectives are clearly defined (Blyth and Worthington, 2001). The primary objective of the strategic briefing study is to develop a strategic brief which describes in business language the reason for an investment in a physical asset, its purpose for the organisation and its important parameters. Hence, questions to be answered include “Why invest?” “Why invest now?” and “For what purpose is the investment?” The strategic briefing study explores a range of options for delivering the ‘business project’ such as refurbishment, renovation, extension, and possibly new build. Alternative process location solutions include outsourcing, subcontracting, or deletion of the process which may lead to downsizing and loss of facilities rather than their expansion. The strategic briefing study will structure information in a clear and unambiguous way to permit the ‘decision to proceed’ to be taken in the full knowledge of all the relevant facts at the time. The product of this stage is the strategic brief, which is the statement of the broad scope and purpose of the project and its key parameters including overall budget and programme, agreed at an early stage of the project (CIB, 1997).

### **Project Briefing**

The project briefing study focuses on delivering the ‘technical project’; that is, the construction industry’s response to client requirements expressed in the strategic brief. The product of this stage is the project brief, which is the full statement of the client’s

functional and operational requirements for the completed project. The project brief translates the strategic brief into construction terms, specifying performance requirements for each of the elements of the project. It will also include spatial relationships. The project brief provides the basis on which design can proceed.

## **Critical Success Factors for Briefing**

Success has always been the ultimate goal of every activity of a project, and construction project briefing is no exception. In this paper, successful briefing is where the needs and requirements of the client and stakeholders are identified, understood, defined and represented accurately, and communicated effectively to the project team. From the literature, factors critical to success of briefing include the following (CIB, 1997):

1. Clear and agreed objectives
2. Carefully thought-out requirements
3. Provision of the essential information at each stage of the project
4. A flexible approach that balances the requirements for quality against the concern to 'freeze' requirements to control costs and meet deadlines
5. Trusting relationship

From the University of York's experience, seven factors for successful briefing can be identified (Blyth and Worthington, 2001):

- 1) The most vital factor for success is a template for consistently well integrated projects.

- 2) A transparent framework, which sets out expectations, procedures, and performance measures against which evaluation and improvements can be made.
- 3) Clarity of roles – the clarification of roles goes hand-in-hand with empowered clients who are able to articulate needs clearly within the long-term strategic framework.
- 4) Manageable buildings that absorb change.
- 5) Monitoring and feedback, by introducing quality improvement loops and greater customer-orientation.
- 6) Continuous review that tests assumptions and revisits hypotheses. The current focus is to provide a robust and transparent framework to test projects as they progress.
- 7) Concentrating innovation on items with greatest return. Organisations with a continuous building programme have the opportunity to reflect on poor performance, repeat those items that have been successful, and find new solutions for those areas where they can achieve the greatest return.

Furthermore, Blyth and Worthington (2001) identified clear and comprehensive communication as a key area that are important to appreciate in the briefing process. Successful briefing demands attention to communication and how information is structured and passed through the system. Designers speak different languages to users, yet they must understand the business language of their clients to allow for meaningful communication of needs.



## **Content Analysis**

Content analysis has been defined as ‘a method of studying and analysing communications in a systematic, objective and quantitative manner for the purpose of measuring variables’ (Kerlinger, 1973). Krippendorff (2004) defined content analysis as ‘a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use’. It is a method used to determine the presence of certain words or concepts within texts or sets of texts. Researchers quantify and analyse the presence, meanings and relationships of such words and concepts, then make inferences about the messages within texts, the writers, the audience, and even the culture and time of which these are a part. Texts can be defined broadly as any occurrence of communicative language such as books, book chapters, essays, interviews, discussions, newspaper headlines and articles, historical documents, advertising, speeches and conversations, etc.

### **Use of Content Analysis in Construction Research**

Fellows and Liu (2003) introduced content analysis as a data analytical technique that is applicable in management and construction research. Overall there has been limited use of content analysis made by construction researchers. Drexler and Larson (2000) used content analysis to analyse an open ended question asking the respondents to describe the reason for the change in the nature of the owner-contractor working relationships. They used this analysis to make recommendations for sustaining and improving partnerships between owners and contractors. Lingard et al. (2000) examined the employee perceptions of the solid waste management system operating in a large Australian contracting organisation and used a content analysis

approach to analyse the qualitative interview data. A large volume of narrative data was recorded during semi-structured interviews. The data was tape recorded and transcribed before being analysed using content analysis. Teo and Loosemore (2001) used content analysis to analyse participants' opinions and propositions of waste management in focus group sessions. The focus-group data was taped, transcribed then analysed using content analysis. This technique is considered particularly useful for highly unstructured data, and involves categorising communication content into its component parts and quantifying it (Berg, 1989). The assumption is that inferences about a person's behaviour, values, motives and beliefs can be made from the content of their communication with others.

## **Research Methodology**

### **Questionnaire Survey**

A questionnaire containing four sections was developed to facilitate data collection. The first section involves the background information of the respondents. The second section includes the respondents' opinion on the briefing practices. The third section validates the thirteen variables of construction project briefing as identified from comprehensive literature review. These variables comprise 'Projects', 'Stakeholder Management', 'Teams and Team Dynamics', 'Client Representation', 'Change Management', 'Knowledge Management', 'Risk and Conflict Management', 'Post-Occupancy Evaluation and Post-Project Evaluation', 'Critical Success Factors and Key Performance Indicators', 'Types of Business and Organisational Theory', 'Decision Making', 'Communication', and 'Culture and Ethics'. Finally, an open-ended question is asked concerning what are the CSFs for the briefing process. The

thirteen variables form part of the basic framework for categorising the CSFs of construction project briefing. These thirteen variables are stated and explained in Yu et al. (2005). This paper concentrates on reporting the results of findings on the CSFs of construction project briefing.

The survey was conducted in Hong Kong, the UK and USA. Multi methods were used to distribute the questionnaire to client's project managers and architects who have experience on briefing. They were carefully selected from the HKIA (Hong Kong Institute of Architects) directory of architects practices, websites of the RIBA (Royal Institute of British Architects) and the AIA (American Institute of Architects). A web-based questionnaire was used to administer the questionnaire survey in the UK and USA. **In the United Kingdom, there were 18 valid responses. In the United States, there were 20 valid responses.** In Hong Kong, a postal questionnaire was adopted in order to increase the response rate of the questionnaire. A total of 150 questionnaires were sent. There were 51 valid responses out of 144 received questionnaires after deducting the six undelivered mail, representing a response rate of 35%. From the three regions, 56 out of 89 respondents did answer the open ended question on CSFs of construction project briefing. The content of these responses were analysed in a search to identify common factors among them and to provide the basis for this study. When written responses needed clarification, respondents were contacted for a telephone interview or by email. The data collected was analysed by a research technique called Content Analysis.

## **Steps for Conducting Content Analysis**

In this study, the basic steps of conducting content analysis followed the methodology introduced by Fellows and Liu (2003). A qualitative content analysis was adopted. In this method, emphasis is on determining the meaning of the data. Data are given coded allocations to categories and groups of respondents from whom the data was obtained, so that a matrix of categorised data against groups is constructed. Statements can be selected from each cell of the matrix to illustrate the contents of each of the cells. As in any allocation mechanism, the categories should be exclusive (i.e. data assigned to one category only) and exhaustive (i.e. categories cover the research topic comprehensively).

## **Focus Group Meeting**

Focus groups are carefully planned discussions stimulated within a predefined group environment to obtain perceptions about a defined area of interest in a permissive, non-judgemental environment (Sink, 1991; Krueger, 1994). They are designed to promote interaction and self-disclosure among participants who can share their perspectives provided by the researcher. One of the strengths of focus groups is their ability to collect data about similarities and differences in participants' opinions and preferences in a flexible environment (Morgan, 1997). In this study, focus group meeting allowed the researcher to respond to and explore participants' attitudes, beliefs and feelings about important factors for briefing. The limitation of focus groups lies in the way in which highly unstructured and qualitative data are analysed. To facilitate this, the focus group discussions were transcribed and then analysed using content analysis. This is a technique particularly useful for highly unstructured

data, and involves categorising communication content into its component parts (Berg, 1989).

Invitation letters were sent to 30 professionals, 15 professionals agreed to join the focus group meeting while 11 actually attended. These professionals included senior representatives from public and private clients, project managers and a design consultant. Table 1 shows the profile of the organisations participated in the focus group meeting.

**Insert Table 1 here**

## **Research Findings and Discussion**

### **Demographic information**

This study is based on the 56 respondents who answered the open-ended question on CSFs of Construction project briefing. Of the 56 respondents, more than half of them were from Hong Kong (59%); the others were from USA (28%) and UK (13%). Respondents held one of the roles by profession; 71% were architects and 29% were project managers. Regarding the respondents' experience of briefing in the past five years (measured by number of projects), 16% of the respondents have both coordinated (written) and contributed (has not written), of this 47% have coordinated and 37% has contributed only in the briefing process. In addition, 40% of the respondents have coordinated in briefing and 21% of the respondents have contributed to briefing for more than six projects in the past five years.

The questionnaire asked respondents to identify and think about a representative building project which they actively participated. Identified projects varied in scope and size. Type of projects included residential, commercial, industrial and office developments, and social, educational, health and recreational facilities. The clients of the projects included firms from sectors of public, private, and quasi-public. Twenty-two percent of the sample represented clients from the public sector; fifty-five percent of the firms were from the private sector and twenty-three percent were from quasi-public. As for the size of the client organisation, forty-seven percent of the sample represented firms with more than 200 employees, fourteen percent represented firms with 51 to 200 employees, thirty-four percent have 6 to 50 employees and the remainder has fewer than six employees.

### **Classification of CSFs for Construction Project Briefing**

Table 2 summarises responses to the open-ended question concerning CSFs of the briefing process. Thirty-seven CSFs for briefing were identified and coded, and the content analysis yielded five major categories. These include project-related factors, human-related factors, process-related factors, input-related factors and output-related factors, which was adapted from a careful study of literature on CSFs of project success (Sanvido et al. 1992; Belassi and Tukel, 1996; Chua et al. 1999; Chan, et al. 2004). The matrix of categorised data serves as a basic framework for studying the CSFs for briefing.

**Insert Table 2 here**

### ***Project-related factors***

‘Clear project goal and objectives’ and ‘Realistic budget and programme’ are included in this category. The early stage of the briefing process is critical in ensuring the goal and objectives are clearly defined (Blyth and Worthington, 2001). Although this may seem obvious, in reality people make different assumptions wherever there are ambiguities. Clearly articulating the goals and priorities will help the client get what he wants from the project and not only what a designer thinks he should have. With the limited resource, the time, cost and quality of the project should be realistic. Managers responsible for briefing will need to strike a balance between these factors.

### ***Human-related factors***

According to the responses of the questionnaire survey, the attributes of this factor can be mainly divided into four sub-categories: (1) the client; (2) the brief writer; (3) the designer; and (4) the end user. For the first group, it includes ‘client’s experience’, ‘clear intention and objectives’ and ‘clear management structure’. In terms of client’s ability to effectively interact with the construction industry, they will have varying levels of confidence and competence to play an active role. Inexperienced clients may find it difficult to describe their operations to another party and they are not always sure of their requirements (Barrett and Stanley, 1999). Problems occur when this type of client is not led carefully through the strategic and project briefing process. For the second group, it includes ‘experience of the brief writer’ and ‘knowledge of client’s business’. It is necessary for the brief writer to understand the needs of clients and users on the one hand and of designers and the building industry on the other (Hyams,

2001). The brief writer serves as the interpreter between the two groups and is an essential key player in the briefing process. For the third group, it includes 'skillful guidance and advice from architect'. Salisbury (1998) also stated that it is the responsibility of the architect to give initial advice and undertake feasibility exercises to help the client appreciate the nature of their site or building. The last group includes 'clear end user requirements'. The requirements of the end users are important because they are the occupants of the building. However, the end users of the building may not be made known in the briefing process. It is the client's responsibility to collate and arbitrate between the conflicting demands of user groups once they are identified (Blyth and Worthington, 2001).

### ***Process-related factors***

The success of briefing will depend on the management of the process. Characteristic factors in this category consists of 'development of a framework agreed by the key parties', control of process', 'adequate time for briefing', 'holding workshops with stakeholders' and 'good facilitation'. Many researchers suggested that the general framework for briefing was still inadequate (Newman et al. 1981; Kelly et al. 1992; Barrett and Stanley, 1999; CIT, 1996; Kamara and Anumba, 2001). Blyth and Worthington (2001) also stated that the first key area that is important to briefing is the definition of process which sets the framework for the briefing work. On the other hand, many projects suffer from poor definition due to inadequate time being given at an early stage (Kelly et al. 1992; Kamara and Anumba, 2001; Blyth and Worthington, 2001). The amount of time it takes to develop a brief is frequently underestimated because the client group is anxious to find an immediate solution. However, holding workshops with qualified facilitators and key stakeholders may save time and



improve communication in the briefing process as they are able to discuss the requirements of the project simultaneously.

### *Input-related factors*

Another major category involves the management inputs and feedback of experience from past projects to the briefing process. The management inputs include 'stakeholder management', 'conflict management', 'knowledge management', 'change management', 'team and team dynamics', 'decision making' and 'communication'.

There were five factors included in the responses classified as 'stakeholder management': (1) selection of briefing team; (2) clarity of roles of stakeholders; (3) sufficient consultation with stakeholders; (4) experience of stakeholder group; and (5) balance of the needs/requirements of different stakeholders. In order to understand the various interested parties in the project, all types of stakeholders should be identified and represented during the early stages of the project (Kelly et al. 2004). The stakeholders' commitment, interest and power should be assessed in order to select the briefing team. During the briefing process it is important that all stakeholders' needs are assessed so that a satisfactory and realistic solution can be obtained.

Under the sub-category of 'conflict management', a few respondents considered 'consensus building' as a CSF for briefing. In the briefing exercise, constructive conflict is to be encouraged and destructive conflict should be prevented. The key to prevent destructive conflict is the discovery and elimination of causes (Schermerhorn

et al., 2003). Active listening and participation in the discussion by every member in the briefing team may lead to group consensus.

Another sub-category 'knowledge management' consists of CSFs such as 'knowledge of client', 'knowledge of consultants', 'knowledge of statutory and lease control of the project' and 'excellent technical capability'. Knowledge management is defined as 'the strategies and processes of identifying, capturing and leveraging knowledge to enhance competitiveness' (McC Campbell et al., 1999 cites Manasco, 1996). Knowledge management in briefing relies on teamwork, collaboration, face-to-face contact and effective communication structures. Fundamental to briefing therefore is the mapping of individuals' contributions to organisational project knowledge in order to determine the membership of the project briefing team.

'Change management' is another sub-category which includes CSFs concerning 'time of freezing of brief documents' and 'flexibility of briefs to cater for changes'. There are basically two schools of thought relating to briefing. One approach considers the brief as an entity in itself, which should be frozen after a critical period; and briefing becomes a stage or stages in the design process (Hershberger, 1999; RIBA, 2000; Hyams, 2001; Yu et al. 2005). The other approach regards the brief as a live and dynamic document that develops iteratively from an initial global brief in a series of stages; and briefing is deemed as an ongoing activity that evolves during the design and construction process (Barrett and Stanley, 1999; Bylth and Worthington, 2001; Kamara et al., 2002; Othman, et al. 2004). On the other hand, variations in construction projects cannot be avoided. Briefs shall be flexible to define necessary

change that can be made quickly and with relatively little effort or cost (Blyth and Worthington, 2001).

‘Team commitment’, ‘honesty’ and ‘openness and trust’ are the CSFs in the sub-category of ‘team and team dynamics’. A workshop based approach is a successful method to build relationships and enable people to understand the project. Commitment of the team members is crucial to the briefing process, therefore the workshops are suggested to be held away from the workplace such that all the participants focus and work on the project.

‘Proper priority setting’ and ‘good record of decisions made’ are the CSFs in the sub-category of ‘decision making’. An effective decision-making process is the backbone of an effective briefing strategy (Blyth and Worthington, 2001). The client group makes the decisions. The role of the brief writer is to organise and lead the decision-making process. There are many techniques available for achieving decisions such as using scoring and ranking systems to set priorities for the issues and options of the project. Establishment of records which log decisions taken and those outstanding is also a matter which requires attention in decision making.

Another important sub-category of management inputs involves ‘communication’ of the briefing process. CSFs for briefing in this sub-category consist of ‘identification of client’s requirements’, ‘open and effective communication’ and ‘thorough understanding of client’s requirements’. These factors are discussed in the following section concerning ranking of the CSFs for briefing.

The last sub-category of input-related factors is 'Post-Occupation Evaluation' which involves 'feedback from completed project' to the briefing process. A fully structured post-occupation evaluation of the client's last completed building can highlight efficiency gains that might be possible in the current project. It is suggested that all information sought should be sought for a reason and be capable of being presented to individual members of the workshop team in a form conducive to being understood in the shortest possible time (Kelly et al. 2004).

### *Output-related factors*

The quality of the brief is one of the criteria to measure the success of briefing. No matter how well the briefing exercises are conducted, all the effort made will be in vain if the client's requirements and decisions made are not properly recorded in the briefs. Various researchers and practitioners have contributed to the production of briefs (Duerk, 1993; ISO, 1994; Kumlin, 1995; Salisbury, 1998; Blyth and Worthington, 2001; Hyams, 2001; Pena and Parshall, 2001; Kelly et al. 2005b). According to the survey responses, 'Clear and precise briefing documents' and 'Agreement of brief by all the relevant parties' are two CSFs for briefing included in this category.

### **Ranking of the CSFs for Construction Project Briefing**

The CSFs were ranked according to the overall frequency of the responses received, by regions and by roles of respondents. The data was first sorted by groups with Microsoft Excel. All the ranking is done by sorting the factors accordingly to the

frequency of responses received. The factor which was most frequently raised is ranked first, followed by the second most frequently raised factor and so forth. The results are given in Tables 3-5.

**Insert Tables 3-5 here**

In Table 2, the fifteen top CSFs for construction project briefing are listed and ranked. Twenty respondents out of fifty-six identified ‘open and effective communication’ as the most frequently mentioned CSFs for construction project briefing. Respondents wrote, “Thorough communication and understanding between parties,” “Transparent communication of the mission statement and resulting brief for all parties to evaluate,” and “The conveyance of the principal criteria and expectations which may not be effectively described in writing.” These responses are echoed by Worthington’s statement that clear and comprehensive communication is an important factor for successful briefing (Blyth and Worthington, 2001).

Nine respondents regarded ‘clear and precise briefing documents’ as the second most frequently raised factors for affecting success in briefing. One respondent described, “The brief shall be precise, concise, conspicuous and easily to understand.” Another wrote, “The need to have a client written strategic brief before sketch design commences and a technical brief before the tender drawings commence.” And another considered, “The brief must be clear and precise and adequately reflect clients intention.”

‘Clear intention and objectives of client’ and ‘clear project goal and objectives’ are ranked as the third CSFs for briefing. Seven respondents suggested these two factors respectively. Respondents wrote, “The client body knows exactly what he wants under the constraints of available resource,” and “Client intention must be clear and succinct.” Another wrote, “The purpose, objectives and targets to be accomplished are important matters to be ensured at the very outset.” These responses are consistent with previous research that identifies clear and agreed objectives as a major factor for achieving briefing success (CIB, 1997).

‘Thorough understanding of client’s requirements’, ‘experience of brief writer’, and ‘team commitment’ are ranked as fourth. One respondent described, “Clear understanding by the consultants of the standards required by the client.” Another two respondents wrote, “The insight of the brief writer to see the need, trend, problem and risk that will come in the future,” and “The brief writer must understand the construction process and the operation of the client’s business at the same time.” And another wrote, “Every member’s mindset is working towards achieving a common goal.”

Finally, eight factors are ranked as the fifth CSFs for briefing. They are ‘identification of clients requirements’, ‘agreement of brief by all relevant parties’, ‘sufficient consultation from stakeholders’, ‘holding workshops with stakeholders’, ‘control of the briefing process’, ‘realistic budget and programme’, ‘consensus building’ and ‘honesty of the team members’. Representative description from respondents include “be able to state out the requirements in the early stage”; “brief must be agreed by all

parties within the client organisation and endorsed by the highest management level”; “cross-examination/comments given by individual stakeholders in the briefing”; and “holding a balancing workshop for stakeholders to consolidate space and balance with project budget”.

In addition, the CSFs for briefing are also ranked according to regions and roles of respondents. In Table 3, the five top CSFs of the three regions are shown respectively. The results indicate that the ranking of CSFs are slightly different among Hong Kong, USA and the UK although ‘open and effective communication’ is ranked as the first important factors for briefing in all of the three regions. In Table 4, the five top CSFs given by client’s project managers and architects are shown. The results also indicate that the ranking of CSFs according to the role of respondents is different. Project managers considered ‘clear and precise briefing documents’ as the first important factor for briefing while architects regarded ‘open and effective communication’ as the most essential factor.

## **Validation of the Results**

The results of this study were validated by the findings of a focus group meeting. Basically, the perceptions of the focus group were in line with the results of the questionnaire survey. They agreed that communication is an important critical success factors for the briefing process. It is necessary to define the project in purpose such that a clear and precise briefing document is produced. The scope and scale of the project should be defined so as to identify the needs and requirements of the client. The end users’ input is essential to be incorporated in the brief which should be able to be catered for changes. In the briefing workshop, a facilitator is needed to lead and

guide the briefing team of the whole process. Additional factors mentioned by the focus group include the use and training of tools in the briefing process may contribute to success as well as audit trail and links are recommended to be incorporated in the brief.

## **Conclusions**

This paper presents a basic framework that includes and categorises the identified factors that affect the success of construction project briefing. Successful briefing for construction projects requires a wide range of stakeholders, resources, knowledge and techniques. Many factors contribute to the success of briefing, and it has been found possible to rank the relative importance of these factors. Frequency values of response data from survey respondents were used to rank the relative importance of a catalogue of thirty-seven critical success factors for briefing. The fifteen top critical success factors, in descending order of importance, were found to be open and effective communication; clear and precise briefing documents; clear intention and objectives of client; clear project goal and objectives; thorough understanding of client requirements; experience of brief writer; team commitment; identification of client requirements; agreement of brief by all relevant parties; sufficient consultation from stakeholders; holding workshops with stakeholders; control of the briefing process; realistic budget and programme; consensus building; and honesty. Overall, the results appear to support the limited number of critical success factors identified in the literature. The results of this study were also validated in a focus group meeting. Generally, the findings of the questionnaire survey were in line with that of the focus group meeting.



The identification of a set of general critical success factors is beneficial both to academic researchers and practitioners. Today more and more professionals consider briefing to be an important factor for project success. Thus, it is important for practitioners to have a better understanding of the critical success factors for briefing and the interactions between them. The set of critical success factors obtained in this study can serve as a checklist for practitioners when conducting briefing in their construction projects and also be considered as the foundation for further quantitative studies such as using factor analysis to determine the CSFs for briefing in general, as well as for specific types of projects such as hospitals or hotels. This analysis requires larger number of responses (at least 100) and more even distribution of the different groups of respondents.

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**Table 1. Profile of the organisations participated in the focus group meeting**

| <b>Representative</b> | <b>Organisation</b>   | <b>Business Nature</b>        | <b>Years of experience in Briefing</b> |
|-----------------------|---|-------------------------------|--|
| 1                     | <b>Architectural Services Department (ArchSD)</b><br>Being the works agent for Government facilities development, they are responsible for maintaining the overall standard of in-house and outsourced projects both in terms of design and construction.   | Government department         | 35                                     |
| 2                     | <b>Hong Kong Housing Authority (HA)</b><br>HA is a statutory body and is one the largest property developers in the world.  | Government department         | 25                                     |
| 3                     | <b>Hong Kong Housing Society (HS)</b><br>HS is a quasi-government developer and it provides a significant amount of public housing annually under different housing schemes.  | Government-related department | 20                                     |
| 4                     | <b>Hospital Authority</b><br>HA is a statutory body which manages all public hospitals in Hong Kong.  | Government-related department | 10                                     |
| 5                     | <b>MTR Corporation Ltd.</b><br>MTR Corporation is a government wholly owned statutory corporation. Besides railway operations, the Corporation is also actively involved in the development of key residential and commercial projects above existing stations and along new line extensions.       | Government-related department | 15                                     |
| 6                     | <b>City University of Hong Kong (CityU)</b><br>CityU is a major University in Hong Kong enrolled over 20,000 students on programmes of all levels from associate degree to postgraduate research.   | Tertiary Institution          | 25                                     |
| 7                     | <b>Sino Land</b><br>The Sino Group is one of the largest property developers in Hong Kong today. The Group comprises three public-listed companies, namely Sino Land Company Limited, Tsim Sha Tsui Properties Limited and Sino Hotels (Holdings) Limited and a number of privately held companies. | Private developer             | 25                                     |
| 8                     | <b>Swire Properties Ltd.</b><br>Swire Properties is a wholly-owned subsidiary of the <a href="#">Swire Group</a> and one of the largest property investment companies in Hong Kong with major commercial, residential and industrial developments in its portfolio.                                 | Private developer             | 20                                     |
| 9                     | <b>Hysan Development Co. Ltd.</b><br>Hysan Development Co. Ltd. is a property investment company that invests in office, retail and residential properties in Hong Kong.  | Private developer             | -                                      |
| 10                    | <b>Crow Maunsell Management Consultants Ltd.</b><br>Crow Maunsell is part of the Maunsell group which provides the full range of project management, construction management, project support, etc,   | Project management consultant | -                                      |
| 11                    | <b>AGC Design Ltd.</b><br>AGC is a medium-size private architectural firm   | Architectural firm            | -                                      |

**Table 2.** Summary of CSFs for Construction Project Briefing

| Categories              | Sub-categories             | Factors   |  |
|-------------------------|----------------------------|---|--|
| Project-related Factors | Project                    | 1. Clear goal and objectives<br>2. Realistic budget and programme   |  |
| Human-related Factors   | Client                     | 3. Experience of the client<br>4. Clear intention and objectives<br>5. Clear management structure   |  |
|                         | Brief Writer               | 6. Experience of the brief writer<br>7. Knowledge of client's business  |  |
|                         | Designer                   | 8. Skillful guidance and advice from architect  |  |
|                         | End user                   | 9. Clear end user requirements  |  |
| Process-related Factors | Process                    | 10. Development of a framework agreed by the key parties<br>11. Control of process<br>12. Adequate time for briefing<br>13. Holding workshops for stakeholders<br>14. Good facilitation   |  |
| Input-related Factors   | Stakeholder Management     | 15. Selection of briefing team<br>16. Clarity of roles of stakeholders<br>17. Sufficient consultation with stakeholders<br>18. Experience of stakeholder group<br>19. Balance of the needs/requirements of different stakeholders |  |
|                         | Conflict Management        | 20. Consensus building  |  |
|                         | Knowledge Management       | 21. Knowledge of client's business<br>22. Knowledge of consultants<br>23. Knowledge of statutory and lease control of the project<br>24. Excellent technical capability   |  |
|                         | Change Management          | 25. Time for freezing of brief documents<br>26. Flexibility of briefs to cater for changes  |  |
|                         | Team and Team Dynamics     | 27. Team commitment<br>28. Honesty<br>29. Openness and trust  |  |
|                         | Decision Making            | 30. Proper priority setting<br>31. Good record of decisions made  |  |
|                         | Communication              | 32. Identification of client's requirements<br>33. Open and effective communication<br>34. Thorough understanding of client's requirements  |  |
|                         | Post-Occupation Evaluation | 35. Feedback from completed projects  |  |
|                         | Output-related Factors     | Brief   | 36. Clear and precise briefing documents<br>37. Agreement of brief by all relevant parties |

**Table 3.** Ranking of Critical Success Factors of Construction Project Briefing

| Critical Success Factors                         | Frequency of response | % of respondents | Rank |
|--|-----------------------|------------------|------|
| 1. Open and effective communication              | 20                    | 35.7             | 1    |
| 2. Clear and precise briefing documents          | 9                     | 16.1             | 2    |
| 3. Clear intention and objectives of client      | 7                     | 12.5             | 3    |
| 4. Clear project goal and objectives             | 7                     | 12.5             | 3    |
| 5. Thorough understanding of client requirements | 4                     | 7.1              | 4    |
| 6. Experience of brief writer                    | 4                     | 7.1              | 4    |
| 7. Team commitment                               | 4                     | 7.1              | 4    |
| 8. Identification of client's requirements       | 3                     | 5.4              | 5    |
| 9. Agreement of brief by all relevant parties    | 3                     | 5.4              | 5    |
| 10. Sufficient consultation with stakeholders    | 3                     | 5.4              | 5    |
| 11. Holding workshops with stakeholders          | 3                     | 5.4              | 5    |
| 12. Control of the briefing process              | 3                     | 5.4              | 5    |
| 13. Realistic budget and programme               | 3                     | 5.4              | 5    |
| 14. Consensus building                           | 3                     | 5.4              | 5    |
| 15. Honesty                                      | 3                     | 5.4              | 5    |

**Table 4.** The Five Top Critical Success Factors by Regions

| Rank | Critical Success Factors                        |                                      |  |
|------|---|--------------------------------------|--|
|      | Hong Kong                                       | USA                                  | UK                                       |
| 1    | Open and effective communication                | Open and effective communication     | Open and effective communication         |
| 2    | Clear and precise briefing documents            | Holding workshops for stakeholders   | Clear and precise briefing documents     |
| 3    | Thorough understanding of client's requirements | Control of briefing process          | Clear intention and objectives of client |
| 4    | Clear intention and objectives of client        | Clear and precise briefing documents | Team commitment                          |
| 5    | Agreement of brief by all relevant parties      | Experience of brief writers          | Clear project goal and objectives        |

**Table 5.** The Five Top Critical Success Factors by Role of Respondents

| Rank | Critical Success Factors                 |  |
|------|--|--|
|      | Architect                                | Project Manager                            |
| 1    | Open and effective communication         | Clear and precise briefing documents       |
| 2    | Clear and precise briefing documents     | Open and effective communication           |
| 3    | Clear intention and objectives of client | Clear project goals and objectives         |
| 4    | Clear project goal and objectives        | Agreement of brief by all relevant parties |
| 5    | Experience of brief writer               | Sufficient consultation with stakeholders  |