A VALUE APPROACH TO PROJECT BRIEFING

Ann T. W. Yu[1], Qiping Shen[1], John Kelly[2] and Kirsty Hunter[2]

[1]*Department of Building and Real Estate, The Hong Kong Polytechnic University Hung Hom, Kowloon, Hong Kong SAR, China*

[2]*School of the Built and Natural Environment, Glasgow Caledonian University, City Campus, Glasgow, Scotland, UK*

Project Briefing is carried out after Strategic Briefing in the feasibility stage of the development project and is the second stage of the briefing process. The primary objective of Project Briefing is to develop a project brief which forms the basis of design for construction projects. The lack of formal assessment of client's needs and requirements in the briefing process has been identified as an issue of concerns during an international research project into current briefing practice. A methodology which utilises a Value Management (VM) approach to systematically identify and clarify client's requirements in the briefing process is developed successfully in this study. The focus of this paper is on how this method can be used for Project Briefing. This methodology comprises eight main activities, Time/Cost/Quality Analysis, User Flow Analysis, Functional Space Analysis, Adjacency Matrix, Outline Room Data Sheets and Functional Performance Specification, Creativity Session, Outline Budget Guidelines and Procurement Route Analysis. Whilst the benefits of using the recommended methodology have been confirmed through a focus group meeting, further research work is needed to verify the benefits of this methodology in practice and to make further improvements. The authors sincerely hope that the recommended methodology will be tested in a number of real life projects in the near future.

Keywords: Project Briefing, Client's Requirements, Value Management, Methodology

INTRODUCTION

The briefing process begins when a client wishes to introduce change within the organisation and investigate the feasibility of a project which is often prefixed by terms such as invest, refurbish, relocate, expand, replace, extend, consolidate. It is the process by which a client informs others of his or her needs, aspirations, and desires for possible change in an organisation (CIB, 1997). Identifying the true needs of clients in the briefing process is critical to the successful delivery of construction projects. Problems in buildings such as redesign, abortive work, delay, cost overruns and client dissatisfaction can often be traced back to poor communication during the briefing process.

It is commonly acknowledged briefing has two distinct stages: Strategic Briefing and Project Briefing (Kelly et al., 1992; CIB, 1997; Salisbury, 1998; Kamara and Anumba, 2001; Kelly, 2004; Yu et al., 2006). The Strategic Briefing stage is where the client's needs, objectives and requirements are identified and clarified concerning a construction project, or projects, and the 'decision to build' can be made accordingly. At this stage, the decision making unit requires a broad understanding of the client organisation and only the most general advice on matters which relate to the building industry. It is a significant stage in the development process of a construction project, where the strategic brief - the foundation of the project is developed. The Project Briefing stage focuses on delivering the 'technical project';

that is, the construction industry's response to client requirements expressed in the strategic brief. The project brief translates the strategic brief into construction terms, specifying performance requirements for each of the elements of the project. It also includes spatial relationships. The project brief provides the basis on which design can proceed.

Previous research revealed that there is lack of formal assessment of client's needs and requirements in briefing practices in the UK and Hong Kong. (Kwok et al., 2002). The current briefing practice tends to be solution-focused (Kamara et al., 2002). The solution, in the form of sketches and drawings, is used to define the problem. A solution-based approach tends to shift the focus from the requirements of the client, to that of the designer(s). Although various initiatives have been taken to develop briefing guides in order to address the problems of briefing in the UK and Australia, little work has been done to consider the detailed methodology of Project Briefing. This paper presents a structured and detailed methodology which utilises a Value Management (VM) approach in Project Briefing. This methodology is developed in response to the need for an appropriate mechanism for systematic identification and assessment of the true needs of clients and their stakeholders. The procedures, potential benefits and limitations of the methodology are also discussed in the paper.

THE VM METHODOLOGY

The VM methodology has a series of formal and specific steps commonly known as the "Job Plan". It contains systematic procedures for accomplishing all the necessary tasks associated with a VM study. The Job Plan is comprised of three major phases: (i) pre-workshop phase, (ii) workshop phase, and (iii) post-workshop phase. During the pre-workshop phase, the client needs to appoint an accredited facilitator to arrange and lead the workshop. Preparatory tasks include preparation of workshop proposal to fix the data, venue and objectives of the workshop, selection of workshop participants, issuance of background information, identification of the issues and concerns, organisation of site/project visit and nomination of presenters for the workshop. The workshop phase involves tasks to clarify information, define objectives, identify functions, issues and constraints, and to recommend proposals in order to facilitate the design process. The tasks of post-workshop phase are completion of the VM report, following up outstanding items on action plan, confirmation of actions concluded, seeking necessary approvals and implementation of proposals.

TIMING OF PROJECT BRIEFING

Figure 1 shows an indicative timing of Project Briefing and its relationship to Strategic Briefing and the design process. The project brief follows the strategic brief and the decision to build, and is significantly influenced by the strategic brief. Project Briefing should be carried out prior to the completion of the project feasibility study in order to derive the greatest benefits from limited resource. The project brief, which forms the basis of design, is recommended to be completed before scheme design

commences. The recommended timings are indicative and the exact timing of Strategic and Project Briefing for different projects may vary slightly according to the scope and complexity of the projects.

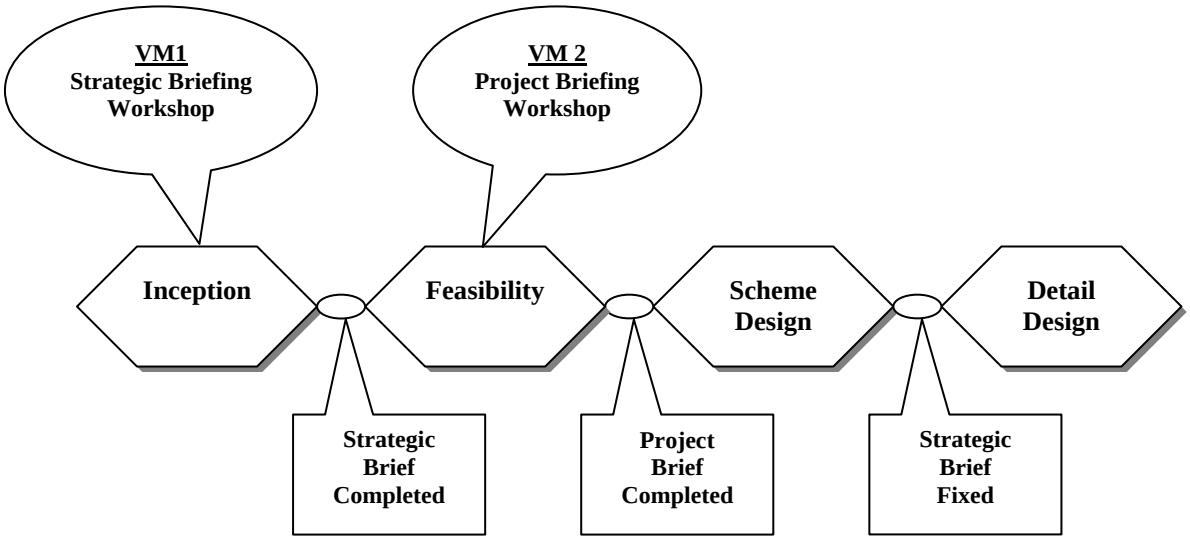

Figure 1: Indicative Timing of Project Briefing

THE SUGGESTED METHODOLOGY FOR THE PROJECT BRIEFING WORKSHOP

The methodology recommended in this paper proposes the use of VM as a facilitated, workshop based activity in the briefing process. The workshop should be led by an accredited facilitator who selects the workshop team members with the client. The potential briefing team in Project Briefing includes the client's representatives, users, designers, engineers, quantity surveyors, contractors (if they are available), and any other relevant stakeholders such as representatives from government authorities. Table 2 indicates an indicative agenda of a two-day Project Briefing Workshop.

Table 1: Indicative Agenda for the Project Briefing Workshop

Time	**Activity/Task/Technique**
Day 1	
9:00	Welcome and participants self-introductions
9:10	Introduction to the two days' agenda
9:20	Overview of value management
9:30	Objectives of the workshop and role of facilitators and participants
9:40	Project objectives and project scope
9.50	Presentations and expectations by key stakeholders
10:20	Discussion, question and answer
10:45	Morning Break
11:00	*Time/Cost/Quality Analysis*
11:30	Identify users
12:00	*User Flow Analysis*
1:00	Lunch Break
2:00	Identify spaces from user flow analysis
2:30	*Functional Space Analysis*

3:30	Afternoon Break
3:45	*Adjacency Matrix*
5:00	Agree format of *Room Data Sheets* and *Functional Performance Specification*
5:30	Information review
6:00	End of Day 1
Day 2	
9:00	Information review
9:30	Highlight main functions for creatively exploring
10:00	Commence *Creativity Session* - Creatively investigate and generate new ideas
11:00	Morning Break
11:15	Initial sort of ideas
11:30	Select and group ideas for development – Rating of ideas
12:30	Outline development possibly in groups
1:00	Lunch Break
2:00	Outline development in groups continued
3:00	Presentations
3:30	Afternoon Break
3:45	Prepare *Outline Budget Guidelines*
4:15	*Procurement Route Analysis*
5:15	Complete action plan
5:45	Conclusions and thanks
6:00	End of workshop

The main objectives of the workshop phase are to identify the client's needs in terms of issues and functions and to enhance the understanding of the requirements by stimulating intensive discussions. As indicated in Table 1, this phase comprises essentially eight main activities which utilise VM tools to identify, clarify and represent client's requirements. These are described in details as follows:

Activity 1: Time/Cost/Quality Analysis

A triangle is drawn on a flip chart in front of the team (see Figure 2). The team is invited to agree on the position of a dot within the triangle that describes the relative importance of the parameters of time, cost and quality in relation to the project. A dot hard against the time corner indicates that time was all-important to the extent that the client would accept an increasing cost and the lowering of quality. A dot hard against the cost corner indicates that the project has to come in on budget even if time is exceeded and quality lowered. Finally, a dot in the quality corner indicates that a stated level of quality has to be achieved even if cost and time are exceeded.

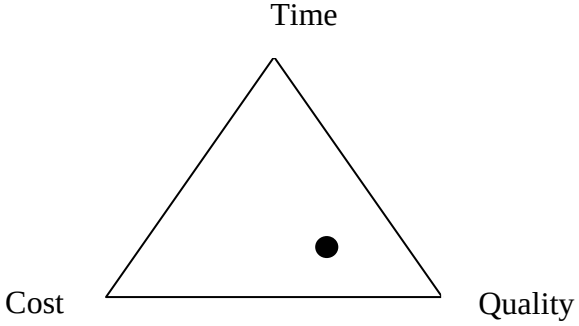

Figure 2: Example of Time/Cost/Quality Triangle (Kelly et al., 2004)

Activity 2: User Flow Analysis
The user flow analysis is the first step in the process of deriving a specification of functional space, the foundation of the project brief. The first activity is to identify all of the users/user groups of the building. Each identified user/user group is studied in turn and a flow chart of their use of space is prepared. The diagram does not have to be complex and is often no more than a bubble diagram roughly drawn on a piece of flip chart paper. User flow diagrams (see Figure 3) are a good way of determining which users/user groups tend to use functional space in a similar way, setting up later opportunities for efficiency through timetabling.

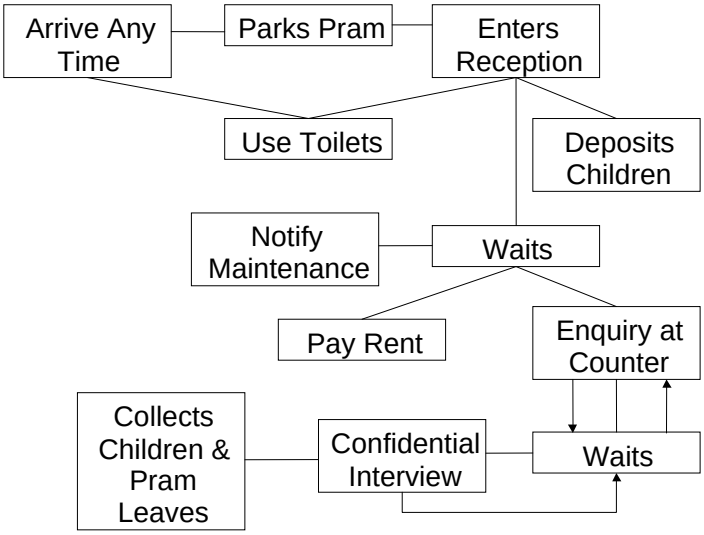

Figure 3: Example of a user flow diagram for general public in a community office (Kelly et al., 2004)

Activity 3: Functional Space Analysis
Functional space analysis specifications are taken from the user flow diagrams and represent, in outline terms, the space which users required to carry out specific functions. The outline specifications include, for example, the area required for each functional space, an indicative description of the quality of finishing, the environmental controls necessary for the space and the IT support required by the space. This type of data forms the raw material for room data sheets.

Activity 4: Adjacency Matrix
The adjacency matrix is a useful way of determining which spaces are required to be adjacent and which spaces should be remote from one another. A matrix diagram (Figure 4) is drawn and the briefing team is asked to indicate the proximity of the various spaces one with another. Proximity is indicated on a scale of +5 to -5 where +5 is a high requirement for adjacency whereas -5 indicates that the spaces should be remote from one another. Zero indicates indifference. It should be noted that -5 does not mean that the spaces are necessarily geometrically remote but rather that the spaces could be inaccessible and insulated in terms of sight and sound. For example, two bedrooms in two semi-detached houses might only be separated by a 300mm wall but to get from one to other means leaving one house and entering another, the bedrooms are scored -5.

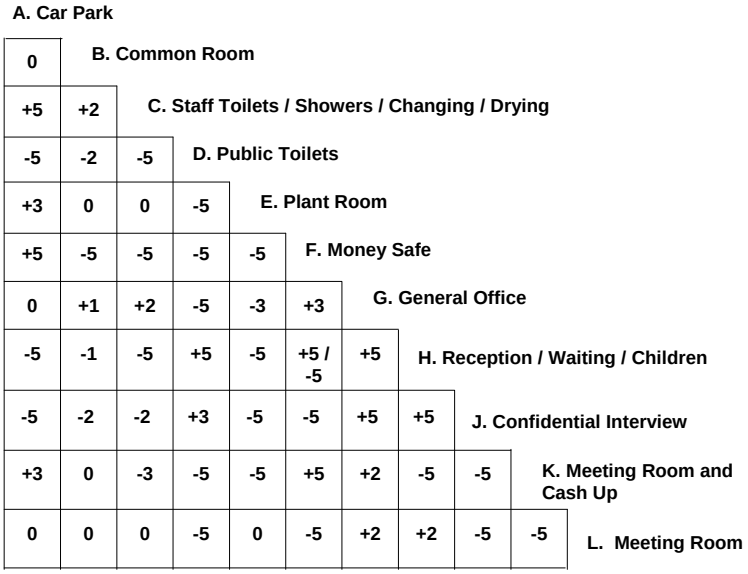

Figure 4: Example of an Adjacency Matrix for a social community office (Kelly et al., 2004)

Activity 5: Outline Room Data Sheets and Functional Performance Specification

At this stage, the project team describes only the rooms in terms of size, quality, environment and environmental controls, IT support required, position relative to other spaces and, where possible, timetabled use. Functional Performance Specification (FPS) is defined as a document by which an enquirer expresses his needs in term of user-related functions and constraints (BS EN 12973: 2000). For each of these, evaluation criteria are defined together with their levels, with a certain degree of flexibility being assigned to the (i) user-related functions, (ii) constraints, (iii) evaluation criteria, (iv) level of an evaluation criterion, (v) flexibility of a level. Due to time constraints of the workshop, the format of the room data sheets and functional performance specification should be agreed during the workshop and the details should be completed after the workshop and included in the project brief (see Tables 2 and 3 for examples).

Table 2: Example of a typical FPS for 'regulating air quality' (Shen et al., 2004)

Criteria	Level	Flexibility
Well-located air inlets	Avoid close proximity of outdoor intake to sources such as garages, loading docks, building exhausts, outside construction projects	F1
Efficient circulation	Minimum ventilation (i.e. the introduction of fresh air to replace stale air): (1) about 0.5 to 3 air changes/hour depending upon density of occupants; (2) values per occupant range from 5 to 25 litres/sec/person (Baker & Steemers, 2000)	F2
	Air movement to cool heat sources: (1) average air velocity during winter not to exceed 30 feet/minute[1] (fpm); (2) average air velocity during summer not to exceed 50 fpm	F2
Minimal airborne contaminants	High efficiency filter to be used for HVAC* system to remove bacteria, pollen, insects, soot, dust, and dirt (ASHRAE** dust spot rating of 85% to 95%) (EPA, 2001)	F1
	Areas from which fumes need to be extracted must be maintained at	F0

	a lower overall pressure than surrounding areas, and be isolated from the return air system so that contaminants are not transported to other parts of the building.	
Allow for individual control	Local control system to modulate airflow	F0
	Control switches to be conveniently located and properly instructed	F0

*HVAC – Heating, ventilating and air conditioning
**ASHRAE – The American Society of Heating, Refrigerating and Air-Conditioning Engineers
Refer to Table 3 for the meanings of F0 to F3

Table 3: The scale of flexibility in the FPS (Source: Shen et al., 2004)

Level	Description
F0:	The criterion is an absolute must, not negotiable, all effort must be made to meet this level, whatever the cost
F1:	The criterion is a must if at all possible, no discussion unless there is a very good reason
F2:	The criterion is negotiable, hope this level is reached, ready to discuss
F3:	The criterion is very flexible, this level is proposed but is open to any suggestion

Activity 6: Creativity Session

The creativity session undertaken at this stage is to give the project brief final directions with regard to the incorporation of all of the above techniques. All those ideas that are deemed not feasible from the outset are deleted prior to a vote by giving each member of the team five sticky dots to place on those ideas which they would be willing to champion. Further analysis can be conducted by deciding which ideas are technically feasible (TF), economically viable (EV), functionally suitable (FS) and client acceptable (CA). Items that do not survive the sort process are scored out (see Table 4 for an example).

Table 4: Typical list of creatively explored ideas (Source: Kelly et al., 2004)

Description of items	Vote	TF	EV	FS	CA
1. Create housing help desk only at centre	13	y	y	y	y
2. Build community centre	9	y	y	y	y
3. Build large hall with offices attached	6	y	y	y	y
4. Maintenance materials from builder's merchants as now	13	y	y	y	y
5. 10 lock up garages for staff cars in secure walled yard	4	y	y	y	y
6. ~~Start a local radio and use for information on e.g. maintenance~~					
7. Install an internet server and encourage contact by e-mail	3	n	n	y	y
8. Build a facility for social & youth project near local school	4	y	n	y	n
9. ~~Issue all tenants with "pay as you go" mobile phones~~					
10. ~~Build temporary building for youth project~~					
11. Build steel shelter for youth project	1				
12. Break up projects into three distinct facilities	10	y	y	y	y
13. ~~Build a large concrete dome and let tenants fit out~~					

Activity 7: Preparation of Outline Budget Guideline

The outline budget cost is established at this stage. The cost per metre square and the construction floor area are worked out and agreed in this activity.

Activity 8: Procurement Route Analysis
The facilitator asks the team to suggest the potential procurement routes and discuss in terms of their advantages and disadvantages. A decision matrix may be used to determine the best option. Criteria for choosing an appropriate procurement are analysed using the following procedures as an example:

1. Five main criteria are identified and weighted.
2. Each procurement route is then scored according to how well it meets the criteria identified on a scale of 1 to 10 (where 10 is the best score).
3. 'Raw' scores are then be multiplied by the weightings identified to get a weighted score.
4. Finally, all the weighted scores are summed to indicate the preferred route.

Table 5: Example of a decision matrix for choosing an appropriate procurement route

Criteria	**Weight**	**Single Stage**	**D & B**	**Two Stage**	**Partnering**
Deliver project early	25	4 100	6 150	6 150	9 225
Deliver design quality	25	7 175	4 100	9 225	9 225
Cost certainty	20	7.5 150	8 160	7.5 150	9 180
Proven procurement route	15	9 135	8 120	7 105	3 45
Good team relationships	15	8 120	6 90	6 90	5 75
Total	**100**	**680**	**620**	**720**	**750**

As shown from Table 5, the highest score is with Partnering while the Two Stage Traditional route the second. It must be noted, however, that the above analysis is quite subjective and a sensitivity analysis should be carried out to establish exactly how close the various routes lies. However, the analysis does serve as a good initial indicator as to where to focus subsequent analysis and effort.

DISCUSSIONS ON THE SUGGESTED METHODOLOGY

The suggested methodology is tailored to the needs of clients responsible for the development, procurement and management of building projects to systematically identify of client's and stakeholders' requirements in the briefing process. The benefits of using the methodology are as follows:

1. It provides a structured methodology to investigate client's requirements through expressing the needs of clients and stakeholders in functional terms, without reference to the technical solutions.
2. It systematically identifies client requirements, clarifies their needs versus wants, and prioritises their options.
3. It promotes team work to identify opportunities available for development and to highlight any potential problems at the beginning of the project.

4. It stimulates participation and effective communication among clients and other stakeholders to improve the effectiveness of the briefing process and to identify the best solution.

This methodology is simple and easy to use by the practitioners. It may reduce the time required to obtain the optimum solution and to prepare a clear, unambiguous and explicit building project brief. However, the successful implementation of the approach depends largely on support from clients, as additional time and resources are required. In addition, the composition of the study teams and the skill of facilitators are also critical in this process.

The possible constraints for the implementation of this suggested methodology might be the additional resources required for the briefing process, such as a professional facilitator to be employed in the process. It is also difficult to assemble the key project participants for such a concentrated period and retain their undivided attention. Since much of the session must be devoted to educating participants who are rarely familiar with the VM processes, it is rather difficult to bring these processes to bear on the problem in hand. The evaluation and development of ideas are particularly difficult to complete effectively in such a short time, because many ideas proposed in the creativity session often require intensive design and engineering analysis.

One way to solve these problems is to disperse the VM process continuously from project inception to completion including: feasibility study, project definition, concept design, design development, contract documentation, procurement and construction, hand-over and operation, and feedback and evaluation. The real challenge is that it would be impossible to implement the recommended methodology without the support of the latest computer technology, because each VM team member should be provided with updated project information in order to make any comment and evaluation.

Whilst the benefits of using the recommended methodology have been confirmed through a focus group meeting, further research work is needed to verify the benefits of this methodology in practice and to make further improvements. The authors sincerely hope that the recommended methodology will be tested in a number of real life projects in the near future.

CONCLUSIONS

The suggested methodology facilitates the systematic identification and representation of client's requirements in terms of functions in Project Briefing. It has the potential to improve the process by making the identification, clarification and representation of client's requirements more effective and efficient. This is of significant value to both client organisations, especially in places where land costs are very high and it is crucially important for projects to be 'on the right track' from the very beginning to avoid redesign and rework, which ensures earliest possible completion. This methodology can also help resolve conflicts among major stakeholders by bringing them into the process, and by facilitating the assessment of project briefs and project performance. The recommended methodology also

improves our comprehension of the nature of client's requirements and the characteristics of a systematic approach that assists client organisations to generate a precise building project brief which reflects the true needs of the client. As agreed by the participants of the focus group meeting, the methodology represents a benchmark of good practice and all those who will participate in the briefing process can make reference to it.

ACKNOWLEDGEMENT

The work described in this paper was supported by the Research Grants Council of the Hong Kong Special Administrative Region, China (PolyU 5007/02E).

REFERENCES

Construction Industry Board (1997) *Briefing the Team.* London: Thomas Telford Publishing.

Kamara, J M and Anumba, C J (2001) A Critical Appraisal of the Briefing Process in Construction. *Journal of Construction Research*, 2(1), 13-24.

Kamara, J M, Anumba, C J and Evbuomwan N F O (2002) *Capturing client requirements in construction projects*. London: Thomas Telford.

Kelly, J, Male, S and Graham, D (2004) *Value Management of Construction Projects.* Oxford: Blackwell Publishing.

Kelly, J R (2004) Project briefing: practice. *In:* M Murray and D Langford. (eds.) *Architect's Handbook of Construction Project Management.* London: RIBA Enterprises.

Kelly, J R, MacPherson, S and Male, S P (1992) *The Briefing Process: A review and critique.* RICS.

Kwok, K, Kwok, B, Kwong, K, Lai, L, Lau, P and Leung, C H (2002) *Current Practices and Problems of Client Briefing for Construction Process in Hong Kong.* Unpublished report submitted to Department of Building and Real Estate, The Hong Kong Polytechnic University, Hong Kong.

Salisbury, F (1998) *Briefing Your Architect.* 2ed. Oxford: Architectural Press.

Shen, Q P, Li H, Chung, J and Hui, P Y (2004) A framework for identification and representation of client requirements in the briefing process. *Construction and Management Economics,* 22(2), 213-221.

Yu, A.T.W., Shen, G.Q.P., Kelly, J. and Hunter, K. (2006) *A How-To Guide to Value Briefing,* The Hong Kong Polytechnic University.