Fourth International Conference on Construction in the 21st Century (CITC-IV)
"Accelerating Innovation in Engineering, Management and Technology"
July 11-13, 2007, Gold Coast, Australia

Project Inception: A Workshop Approach for Preparing the Strategic Brief

Jim Smith
Mirvac School of Sustainable Development, Faculty of Business,
Bond University, Gold Coast, Queensland, Australia

Ray Wyatt
School of Anthropology, Geography and Environmental Systems
The University of Melbourne, Victoria 3010, Australia

Abstract
The project inception stage has become the focus of intense research activity in design, project management and facilities management for a number of years. The need to establish the project parameters and performance requirements is crucial to the success of any construction project – large or small. Many organizations and facilities and project managers have been developing approaches and approaches to assist in this process. Pre-design processes and activities that work through the client's business case, strategic and organisational issues, identifying and refining the needs and requirements before the design team is involved are becoming routine. These approaches aim to prepare a clear and workable statement of the project requirements in performance terms that the client and user groups have committed themselves to. This strategic (or performance) brief can then provide a sound basis for the documentation of the favoured strategy and provide a sound basis for the development of the design.

One approach to these early stages of the project is the use of a workshop based technique termed, *Strategic Needs Analysis. Strategic Needs Analysis* assists in these critical strategic stages in the development of a project. *Strategic Needs Analysis* workshops ask fundamental questions regarding the present way an organization carries out its activities. A range of solutions or options may be developed, some of which may involve a built or an organizational solution, or both. The analysis of six action research studies has resulted in the development of a series of decision making attributes that are relevant to the project inception stages. This paper identifies the best and worst performing attributes classified by the stakeholders in each study.

Keywords:
Briefing, performance indicators, strategic needs analysis.

1. Introduction

The early stages of project development have been the focus of intense research and professional activity for a number of years. The need to establish client needs and then convert these into realistic project parameters and performance requirements has been a strong imperative within many organizations. A number of approaches have been and are still being developed that aim to assist in creating alternative strategies during the development of policy in the early stages of project inception (Best and de Valence, 1999 and Woodhead, 2000). These techniques aspire to develop a process that converts the organisational strategy into property investment decisions or corporate real estate that support them. Indeed, Green (1992, 1996), Latham (1994) and Egan (1998) have highlighted the need for skilled specialist practitioners to bridge the gap between corporate strategy and the development of building projects to realize their strategy.

A strategic approach are the activities that attempt to integrate the company's or the organisation's managerial decisions and actions concerned with its long term and more effective functioning. This approach includes environmental scanning, strategy formulation, implementation, evaluation and control. This means that a strategic approach is dynamic, ongoing, and complex and is flexible to change when new patterns emerge.

A process is needed that can make a valuable contribution to the strategic stages in project inception when an organisation is attempting top match its future direction with its facilities. The process should confirm and extend the decision to build (new-build, extend, renovate, upgrade, remodel). It must reflect the environment of the organisation by being sensitive to the strategic direction identified in the strategic management process by capturing the mission, vision and values expressed by the organisation (Woodhead and Smith, 2002). These must guide the process of considering alternatives to satisfy the strategic direction already determined. The process must also be useful, flexible, well organised, and sensitive to client and *stakeholder* needs and objectives and designed to provide more effective, efficient, innovative and better solutions (Karma and Anumba, 2001). Some notable attempts have been made to import existing techniques such as the *SMART* methodology (Green, 1990), *Expert Choice* or the analytical hierarchy process (Saaty, 1990a, 1990b; Yang and Lee, 1997), Quality Function Deployment (Akao, 1990; Kamara, et al, 1999), AdePT (Austin, et al, 2000) and value management (Thiry, 1997).

Performance-based briefs aim to encourage innovative solutions to meet client needs and objectives and are framed as statements of required performance against project outcomes. Performance-based briefs may not contain, for building projects, definitive statements of functions and their requisite areas that are to be included in the building. Such definitiveness is more the domain of Functional Briefs.

2. Strategic Needs Analysis

A model termed, *Strategic Needs Analysis* (SNA) was developed and adopted. SNA was designed with the characteristics noted above in mind and with the aim of making a positive contribution to the inception of a project. It also starts with the premise that the solution delivered will be the most appropriate to satisfy the stakeholder's strategic needs and this is likely to be, but may not always be assumed to be a construction project. Strategic Needs Analysis is designed to make a valuable contribution to this important formative stage of a project. It reflects and is sensitive to the strategic direction identified in the strategic management process and so overlaps it. Indeed, strategic management (Thompson and Strickland, 2001 and David, 1997) and problem solving approaches (Ackoff, 1978) have greatly influenced the development of this approach and it is designed specifically for the concept or project inception stages of a project.

An essential aim of the process is to assist clients to re-orientate the definition of projects (project initiation) from the prescriptive and standard response, to one where they have a strategic view of their own organisation's true goals, objectives, needs and requirements. A *Strategic Needs Analysis* is an effective method of ensuring that the proposed project fits within the strategic framework for delivery of their services now, and in the future.

The process will:

- develop a service vision for the organisation based on a clear understanding of the nature of the use and demand for such services;
- involve as many of the existing and potential stakeholders in such a facility in the definition of alternative strategies;
- identify as many realistic alternative strategies for the achievement of the vision;
- analyse the alternative strategies with the stakeholders;
- decide on a preferred strategy.

The authors used the SNA approach as a means of assisting in closing the gap between strategic decision-making and design team activities. However, from the authors' research (Smith and Jackson, 2000, Smith et al, 2003 and Smith and Love, 2004) progress can only be achieved with the cooperation of the senior management that makes and implements the decision to build. SNA was designed with the characteristics noted above in mind and with the aim of making a positive contribution to the inception

of a project. It also starts with the premise that it attempts to provide a solution suitable to the stakeholder's strategic needs and this may be, but not always be assumed to be a construction project. SNA is designed to make a valuable contribution to this important formative stage of a project. It reflects and is sensitive to the strategic direction identified in the strategic management process and so overlaps it.

An essential aim of the process was that stakeholders should broaden and re-orientate their frame of reference in defining projects (project inception) from the prescriptive and standard response, to one where they have a strategic view of their own organisation's true goals, objectives, needs and requirements. The organisation should develop a strategic framework for the delivery of their services, now and in the future. Any projects arising out of this process should be able to withstand scrutiny and justification both internally and externally (Quinn, *et al*, 1988). The identified options must be consistent with the strategic direction enunciated by the organisation in its strategic management process and statements. To withstand this type of examination the preferred strategy must have been developed as a result of a rigorous analysis and evaluation process.

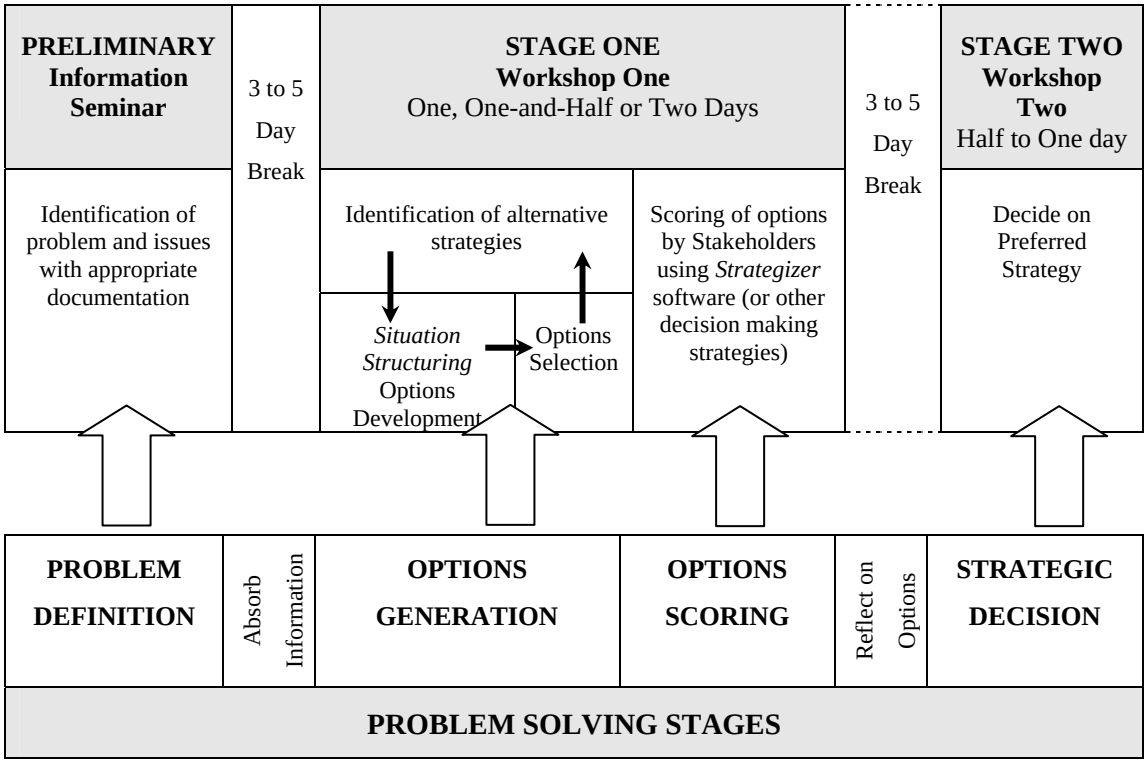
The SNA process follows standard planning workshop, problem-solving approaches (Lichfield, *et* al, 1975; Rosenhead, 1989; Checkland and Scholes, 1990 and Popper, 1994). That is, the stages involve and divide into the following major activities:

- collect information to understand the nature of the problem;
- discuss and analyse the problem;
- develop options to solve the problem;
- decide on a preferred option or direction, and
- make a recommendation to implement the decision on the basis of workshop activities.

In practice, the Strategic Needs Analysis (SNA) was a three-stage process as shown in Figure 1:

1. Information seminar (understand the problem);
2. Workshop One (develop appropriate options to solve problem), and
3. Workshop Two (decide and recommend).

Figure 1 The SNA Process



3. Background to Studies

This study was the culmination of a series of action research studies. It was based on the analysis of the feedback from the evaluation surveys, the test analysis and personal observations about the process gained from six previous studies. These earlier studies provided the means and the vehicle for the testing and development stage of SNA. Analysis and reflection of the results and experiences gained in these studies provided information and guidance for making changes to the organisation and conduct of the SNA workshops and use of the *Strategizer* software used in the decision-making stages.

No major changes were made to the basic structure of the SNA process during any of the studies and for this final test case study. The most significant change adopted was the decision to create and develop participant-based strategic themes or elements, and to then coalesce them into the final distinct options. In the study immediately prior to this one the authors as the facilitator worked with the participants to group their themes into the final options. The response from the participants was positive and this approach pointed to an important product of the SNA process; the development of agreed and realistic options. The development and creation of participant-supported options appeared to be a critical feature in any strategic client briefing process, as without agreed options the process would be doomed to failure. Therefore, options development must be a critical feature of any early stage briefing.

4. Final Project Context

The first discussions for this final study involved a local council began when the authors made contact with the manager of Corporate Assets at the council. At the first meeting between the author and the Corporate Assets Manager the subject of using a SNA process on the redevelopment of one of its libraries was discussed. A Council report had recommended the redevelopment of the library as a joint facility in a new community centre.

Specifically, the report envisaged the subject library to be a joint use facility based on the library as the core activity with community uses closely linked in the new complex. The Corporate Assets Manager felt that a SNA would be a useful process in identifying the nature of the complex with its potential uses involving a range of stakeholders who may be able to identify new opportunities for the new Centre at this critical stage in the planning and development stage of the project.

In this study the authors decided to test and gain assistance from an additional computer software program, *Situation Structuring*. From informal author test trials this program had the potential to assemble, or cluster, seemingly disparate characteristics and performance requirements (called elements in the software) into related groupings after interrogating participants on their views of these stakeholder-generated characteristics. The author of *Situation Structuring* is Dickey (1995) and the software is described in Wyatt (2000). In essence, the software program and activities aim to combine diverse elements of a problem (people, places, objects) into coherent groups. This enables these simpler and more manageable groups to be considered one at a time. That is, the total problem is broken down into its major and distinctive elements (or clusters) and by carrying out such an analysis the process provides a trade-off between simplicity and homogeneity (Dickey, 1995).

The *Situation Structuring* process involves four distinct stages:

1. Identification of major elements, or in our case strategic themes, characteristics or directions (people, physical objects, emotions and the like) in the problem or situation;
2. Identification of important ‘dimensions’ inherent in the situation, such as the general ranges of measurement from good-bad, new-old, healthy-sick, personal-impersonal;
3. Rating (by the individual or group) of each element on each dimension;
4. Statistical grouping of the elements (clustering) on the dimensions to find the most favourable balance between simplicity (few groups) and homogeneity (similarity of elements within groups).

The software has been designed for generic problem-solving environments and these authors believed that such a process could assist in the grouping of all the range of participant identified themes from the workshop brainstorming session. These groupings would then form the basis of an agreed range of options for scoring by *Strategizer* at the end of the first workshop. *Situation Structuring* software could

thereby provide the important link and technical structure to the critical process of options development and agreement. So, this study adopted the software to test in this situation.

In addition to the adoption of *Situation Structuring*, the SNA continued its use of the latest version of the *Strategizer* software to aid in the decision-making process after the options have been created during the later stages of the workshops. Naturally, after its development and testing the authors believes that SNA in conjunction with *Strategizer* can deliver a better way of defining client and stakeholder requirements. These can be captured in a performance brief that properly describes the client group needs and requirements in a form to give direction to the design team, but does not hinder their creativity or their ability to explore alternative ways to satisfy the strategic performance requirements documented more explicitly by SNA.

4. Variables tested

The SNA approach was assessed by a survey of stakeholders (see the next section for more detail). A framework using six categories of interest used to compare and analyse participant response. These attributes were termed, *Decision Making Attributes*, and this provided the framework, which was tested, using a questionnaire survey. The authors attempted to integrate the *theoretical* concepts from the literature with results from the *practice* of using SNA.

A final list of forty-one attributes was surveyed and is summarised in Table 1

Table 1 Model Assessment: Categories and Decision Making Attributes of Project Inception

Decision-Making Attributes Framework	
A. MANAGERIAL COMMITMENT (STRATEGIC)	**B. STAKEHOLDER PARTICIPATION**
A1.Searching/aspiring to highest possible quality decision	B1.Involvement by all potential internal representatives
A2. Support for process by senior management	B2. Involvement by all potential external representatives
A3.Ongoing commitment to workshop decisions	B3. Stakeholder commitment to process
A4. Support by capital works (assets) division	B4. Significant contributions
A5. Involvement by senior management	
C. GROUP DYNAMICS	**D. WORKSHOP ORGANISATION**
C1. Honesty (not role playing)	D1. Aim adequately defined
C2. Suspension of political agendas	D2. Process defined followed
C3. Shared vision	D3. Participation encouraged
C4. Levels of consensus	D4. Level of manipulation
C5. Success at generating ideas, new approaches	D5. A learning experience
C6. Working as a team	D6. Challenge assumptions
C7. Extent of participation	D7. Client/customer focused
	D8. Earnest organisation
	D9. Willingness to use all tools
	D10. Aim achieved
E. TOOLS	**F. PROCESS (PROBLEM-SOLVING)**
E1. Level of acceptance generally	F1. Quality of information provided
E2. Ease of understanding criteria	F2. Awareness of participants of problem context
E3. Ease of using software	F3. Problem defined
E4. Understanding output	F4. Problem discussed
E5. Contribution to personal understanding	F5. Options generated
E6. Contribution to decision	F6. Clear decision made
	F7. Decision agreed
	F8. Decision supported
	F9. Decision implemented

As noted in Table 1 the six broad categories of attributes are:

A. Management Commitment or Strategic
B. Stakeholder participation
C. Group dynamics
D. Workshop organisation
E. Tools

F. Process (problem-solving).

There is some overlap between some of the characteristics in these categories and this is to be expected when analysing such a multi-faceted process. However, the most important consideration was not to miss any important feature crucial in guiding the designer of a process to manage this stage. The aim of these studies was to consider the performance of the attributes contributing to each category noted above and to identify any significant relationships between them that will assist any researcher wishing to improve the SNA process or any other technique adopted at the project inception stage.

Survey Instrument

The final design for the survey form for this evaluation was influenced by the work of Barrett and Stanley (1999) in which characteristic factors are measured on two defined dimensions. These dimensions were:

- *Effort* – measured the effort currently made to address each factor, and
- *Met* - assessed the extent to which each factor is currently met.

In this work the equivalent two dimensions were *Theory* and *Practice*. Respondents were requested firstly to score whether the attribute was important in the process (theory). That is, respondents make an assessment of the importance of that attribute to the project inception process (regardless of the approach or technique used). Then, the next scale (practice) measured whether the same attribute was being achieved in the case studies (workshops). In our case, respondents assessed what level of achievement SNA had reached in their study.

A sample page from the survey form for the decision-making attributes is shown at the end of this paper. The purpose of this two-dimensional scoring was to identify any relationships between theory and practice of scoring of the same attribute. Ideally, a score in practice should match the equivalent score of an attribute in theory.

So, the first measure (theory) could be used to consider the characteristics (attributes) of the project inception process in general. The second measure (practice) assesses whether the actual project inception process (SNA, in this case) has achieved a similar score for the same attributes. Ideally, a highly rated score in theory should be matched with a highly rated score in practice to support that attribute. When an attribute is scored low on the scale, then the practice score should match it because a high practice score compared with a low theory score indicates a potential lack of focus in the process or techniques.

6. Results

Before we examine participants' responses to the workshop, two observations need to be made. Firstly, the authors' main contribution has been the development, formulation and implementation of the workshop method rather than any rigorously exact analysis of reactions to it. As such, some of the results of our user surveys may be slightly ambiguous and, indeed, they sometimes generate mixed signals. That is, not too much should be read into our fairly approximate evaluations. Secondly, the differences in scores for the different attributes are frequently very small and of no real statistical significance. Discussion of them is, therefore, strictly tentative and preliminary rather than definitive.

Nevertheless, our results are both interesting and suggestive of threads that could profitably be followed up in some future, workshop-evaluation research that is more sophisticated than our own. We will now look at some of our suggestive findings in more detail.

Table 2 shows the theoretical importance that respondents placed on each attribute (column 2), how much it was achieved in practice (column 3) and the difference between them (theoretical importance minus practical achievement – column 4). Hence those attributes whose practical achievement was greater than their theoretical importance will have a *negative* score in column 4, and those whose practice score did not come up to its theoretical importance will have a *positive* score in column 4.

Moreover, Table 2 has been sorted in terms of theoretical importance. This enables us to identify those attributes that have a high theoretical importance – they are near the top of the table, and they also have

good practical achievement scores - as shown by their negative result in column 4. Such attributes have been shaded.

ATTRIBUTE	Standard(2) - Theory	Standard(2) - Prac.	Col J - Col K
E6. Use of the tools must contribute to decision	1	0.552486188	0.447513812
B2. Involvement by all external representatives	0.943089431	0.596685083	0.346404348
C2. Participants should suspend political	0.780487805	0.889502762	-0.109014958
F9. Decision must be implemented	0.739837398	1	-0.260162602
D4. There must be low levels of manipulation	0.723577236	0.508287293	0.215289943
C3. Agreement on a shared vision is essential	0.691056911	0.508287293	0.182769618
D2. The process defined must be followed	0.658536585	0.209944751	0.448591834
E1. High level of acceptance of tools in process	0.62601626	0.596685083	0.029331177
F7. Important decision is agreed by participants	0.62601626	0.447513812	0.178502448
C1. Honesty (not role playing) is important	0.593495935	0.613259669	-0.019763734
E5. Activities/ process contribute to u/standing	0.56097561	0.320441989	0.240533621
C4. Reaching a high level of consensus	0.504065041	0.447513812	0.056551228
F6. Clear decision on final direction must be	0.504065041	0.447513812	0.056551228
D5. It should be a positive learning experience	0.504065041	0.232044199	0.272020842
D9. Participants must be willing to use all tools	0.471544715	0.403314917	0.068229798
D10. Basic aim must be achieved by process	0.43902439	0.298342541	0.140681849
E2. Easy understanding of criteria for	0.406504065	0.359116022	0.047388043
C6. Participants should work effectively as a	0.37398374	0.403314917	-0.029331177
A5. Involvement by senior management	0.349593496	0.403314917	-0.053721421
D7. There must be clear client/customer focus	0.349593496	0.403314917	-0.053721421
A.4 Support by capital works (asset) division	0.349593496	0.38121547	-0.031621974
D3. Broad participation should be encouraged	0.349593496	0.171270718	0.178322778
F5. Options generated must be realistic	0.349593496	0.149171271	0.200422225
F8. Decision must be supported by participants	0.317073171	0.552486188	-0.235413017
A3. Ongoing commitment to workshop decisions	0.317073171	0.486187845	-0.169114675
E4. Understanding of output is essential	0.284552846	0.232044199	0.052508647
F4. Problem must be discussed adequately	0.25203252	0.320441989	-0.068409469
D6. Participants must challenge some	0.25203252	0.298342541	-0.046310021
F2. Participants must be aware of problem	0.219512195	0.209944751	0.009567444
E3. Tools (software) must be easy to use	0.195121951	0.320441989	-0.125320038
B3. Stakeholder commitment to process	0.18699187	0.425414365	-0.238422495
C7. Extent of participation should be broad	0.18699187	0.425414365	-0.238422495
B4. The opportunity for significant contributions	0.18699187	0.320441989	-0.133450119
B1. Involvement by all internal representatives	0.18699187	0.276243094	-0.089251224
F1. Information provided must be appropriate	0.154471545	0.149171271	0.005300274
D8. Competent organisation of workshops	0.154471545	0	0.154471545
C5. The group should generate new ideas	0.130081301	0.082872928	0.047208373
A2. Support for the process by senior	0.06504065	0.745856354	-0.680815703
D1. Aim should be clearly defined	0.032520325	0.171270718	-0.138750393
A1. Searching for highest quality decision	0	0.596685083	-0.596685083
F3. Problem must be properly defined	0	0.193370166	-0.193370166

Table 2 – Theoretical importance versus practical achievement – sorted by theoretical importance

The shaded attributes are “Participants should suspend political affiliations”, “Decision must be implemented” and “Honesty (not role playing) must prevail”. This gives some endorsement that we achieved, to a high level in practice, those attributes that required participants to leave their pre-judgments and external involvements outside the workshop door. Such neutrality was of high theoretical importance to participants, and their achievement level was even greater than such importance.

Table 3 is similar to Table 2, except that it has been sorted according to attributes’ level of practical achievement. Hence the shaded attributes are those near the top – of high practical achievement, which nevertheless had even higher theoretical importance – as shown by their positive score in column 4. Put differently, these attributes were largely achieved at the workshop, but not achieved well enough in view of the extremely high levels of theoretical desirability that participants attributed to them. They represent areas of apparent strength, but areas that need further improvement none the less.

ATTRIBUTE	Standard(2) - Theory	Standard(2) - Prac.	Col O - Col P
F9. Decision must be implemented	0.739837398	1	-0.260162602
C2. Participants should suspend political	0.780487805	0.889502762	-0.109014958
A2. Support for the process by senior	0.06504065	0.745856354	-0.680815703
C1. Honesty (not role playing) is important	0.593495935	0.613259669	-0.019763734
A1. Searching for highest quality decision	0	0.596685083	-0.596685083
E1. High level of acceptance of tools in process	0.62601626	0.596685083	0.029331177
B2. Involvement by all external representatives	0.943089431	0.596685083	0.346404348
F8. Decision must be supported by participants	0.317073171	0.552486188	-0.235413017
E6. Use of the tools must contribute to decision	1	0.552486188	0.447513812
C3. Agreement on a shared vision is essential	0.691056911	0.508287293	0.182769618
D4. There must be low levels of manipulation	0.723577236	0.508287293	0.215289943
A3. Ongoing commitment to workshop decisions	0.317073171	0.486187845	-0.169114675
C4. Reaching a high level of consensus	0.504065041	0.447513812	0.056551228
F6. Clear decision on final direction must be	0.504065041	0.447513812	0.056551228
F7. Important decision is agreed by participants	0.62601626	0.447513812	0.178502448
B3. Stakeholder commitment to process	0.18699187	0.425414365	-0.238422495
C7. Extent of participation should be broad	0.18699187	0.425414365	-0.238422495
A5. Involvement by senior management	0.349593496	0.403314917	-0.053721421
D7. There must be clear client/customer focus	0.349593496	0.403314917	-0.053721421
C6. Participants should work effectively as a	0.37398374	0.403314917	-0.029331177
D9. Participants must be willing to use all tools	0.471544715	0.403314917	0.068229798
A.4 Support by capital works (asset) division	0.349593496	0.38121547	-0.031621974
E2. Easy understanding of criteria for	0.406504065	0.359116022	0.047388043
B4. The opportunity for significant contributions	0.18699187	0.320441989	-0.133450119
E3. Tools (software) must be easy to use	0.195121951	0.320441989	-0.125320038
F4. Problem must be discussed adequately	0.25203252	0.320441989	-0.068409469
E5. Activities/ process contribute to u/standing	0.56097561	0.320441989	0.240533621
D6. Participants must challenge some	0.25203252	0.298342541	-0.046310021
D10. Basic aim must be achieved by process	0.43902439	0.298342541	0.140681849
B1. Involvement by all internal representatives	0.18699187	0.276243094	-0.089251224
E4. Understanding of output is essential	0.284552846	0.232044199	0.052508647
D5. It should be a positive learning experience	0.504065041	0.232044199	0.272020842
F2. Participants must be aware of problem	0.219512195	0.209944751	0.009567444
D2. The process defined must be followed	0.658536585	0.209944751	0.448591834
F3. Problem must be properly defined	0	0.193370166	-0.193370166
D1. Aim should be clearly defined	0.032520325	0.171270718	-0.138750393
D3. Broad participation should be encouraged	0.349593496	0.171270718	0.178322778
F1. Information provided must be appropriate	0.154471545	0.149171271	0.005300274
F5. Options generated must be realistic	0.349593496	0.149171271	0.200422225
C5. The group should generate new ideas	0.130081301	0.082872928	0.047208373
D8. Competent organisation of workshops	0.154471545	0	0.154471545

Table 3 – Theoretical importance versus practical achievement – sorted by practical achievement

Such attributes collectively cover the belief that the tools used at a workshop must be suitable, and workshop democracy that is free from manipulation is essential. The authors have obviously striven for such things at their workshops, but they are so important to workshop participants that they need to be striven for even more.

Table 4 is similar to Table 2 and Table 3, but it has been sorted in terms of column 4. This enables us to shade those attributes whose practical achievement far outweighed their theoretical importance – areas of "overkill" near the bottom of the table, and those attributes whose practical achievement was far below their theoretical importance – areas of performance deficiency, at the top of the table.

ATTRIBUTE	Standard(2) - Theory	Standard(2) - Prac.	Col T - Col U
D2. The process defined must be followed	0.658536585	0.209944751	0.448591834
E6. Use of the tools must contribute to decision	1	0.552486188	0.447513812
B2. Involvement by all external representatives	0.943089431	0.596685083	0.346404348
D5. It should be a positive learning experience	0.504065041	0.232044199	0.272020842
E5. Activities/ process contribute to u/standing	0.56097561	0.320441989	0.240533621
D4. There must be low levels of manipulation	0.723577236	0.508287293	0.215289943
F5. Options generated must be realistic	0.349593496	0.149171271	0.200422225
C3. Agreement on a shared vision is essential	0.691056911	0.508287293	0.182769618
F7. Important decision is agreed by participants	0.62601626	0.447513812	0.178502448
D3. Broad participation should be encouraged	0.349593496	0.171270718	0.178322778
D8. Competent organisation of workshops	0.154471545	0	0.154471545
D10. Basic aim must be achieved by process	0.43902439	0.298342541	0.140681849
D9. Participants must be willing to use all tools	0.471544715	0.403314917	0.068229798
C4. Reaching a high level of consensus	0.504065041	0.447513812	0.056551228
F6. Clear decision on final direction must be	0.504065041	0.447513812	0.056551228
E4. Understanding of output is essential	0.284552846	0.232044199	0.052508647
E2. Easy understanding of criteria for	0.406504065	0.359116022	0.047388043
C5. The group should generate new ideas	0.130081301	0.082872928	0.047208373
E1. High level of acceptance of tools in process	0.62601626	0.596685083	0.029331177
F2. Participants must be aware of problem	0.219512195	0.209944751	0.009567444
F1. Information provided must be appropriate	0.154471545	0.149171271	0.005300274
C1. Honesty (not role playing) is important	0.593495935	0.613259669	-0.019763734
C6. Participants should work effectively as a	0.37398374	0.403314917	-0.029331177
A.4 Support by capital works (asset) division	0.349593496	0.38121547	-0.031621974
D6. Participants must challenge some	0.25203252	0.298342541	-0.046310021
A5. Involvement by senior management	0.349593496	0.403314917	-0.053721421
D7. There must be clear client/customer focus	0.349593496	0.403314917	-0.053721421
F4. Problem must be discussed adequately	0.25203252	0.320441989	-0.068409469
B1. Involvement by all internal representatives	0.18699187	0.276243094	-0.089251224
C2. Participants should suspend political	0.780487805	0.889502762	-0.109014958
E3. Tools (software) must be easy to use	0.195121951	0.320441989	-0.125320038
B4. The opportunity for significant contributions	0.18699187	0.320441989	-0.133450119
D1. Aim should be clearly defined	0.032520325	0.171270718	-0.138750393
A3. Ongoing commitment to workshop decisions	0.317073171	0.486187845	-0.169114675
F3. Problem must be properly defined	0	0.193370166	-0.193370166
F8. Decision must be supported by participants	0.317073171	0.552486188	-0.235413017
B3. Stakeholder commitment to process	0.18699187	0.425414365	-0.238422495
C7. Extent of participation should be broad	0.18699187	0.425414365	-0.238422495
F9. Decision must be implemented	0.739837398	1	-0.260162602
A1. Searching for highest quality decision	0	0.596685083	-0.596685083
A2. Support for the process by senior	0.06504065	0.745856354	-0.680815703

Table 4 – Theoretical importance versus practical achievement – sorted by (theory minus practice)

Now, the attributes of over achievement tend to relate to the quality and acceptability of the decisions reached at the workshop. This surely not a bad thing, given that the whole aim of any workshop is to reach high-quality decisions. By contrast, the areas of serious under achievement relate to clarity, democratization and affirmation of the workshop's learning experience. The authors have worked hard to boost such aspects of their workshops, and some of the measures they have so far taken are outlined below. Suffice to say that if such measures had not been implemented already, scores for these attributes would have been even lower still.

But before we outline these measures that the authors have taken, we need to present one more table. Accordingly, Table D shoes average column 4 scores for the A-, B- … groupings of attributes. It can be seen that the group of attributes that was most strongly over achieved, as shown by its high negative score for (theory minus practice) was group A. This group of attributes tends to cover the extent to which management is committed to the workshops – something that tends to be a result of factors that are outside of the mechanics of the workshop itself, so not too much should be read into this result.

ATTRIBUTE	Standard(2) - Theory	Standard(2) - Prac.	Col V - Col W	Ave Col Y - Col Z
A1. Searching for highest quality decision	0	0.596685083	-0.596685083	
A2. Support for the process by senior	0.06504065	0.745856354	-0.680815703	
A3. Ongoing commitment to workshop decisions	0.317073171	0.486187845	-0.169114675	
A4. Support by capital works (asset) division	0.349593496	0.38121547	-0.031621974	
A5. Involvement by senior management	0.349593496	0.403314917	-0.053721421	-0.369559359
B1. Involvement by all internal representatives	0.18699187	0.276243094	-0.089251224	
B2. Involvement by all external representatives	0.943089431	0.596685083	0.346404348	
B3. Stakeholder commitment to process	0.18699187	0.425414365	-0.238422495	
B4. The opportunity for significant contributions	0.18699187	0.320441989	-0.133450119	-0.028679872
C1. Honesty (not role playing) is important	0.593495935	0.613259669	-0.019763734	
C2. Participants should suspend political	0.780487805	0.889502762	-0.109014958	
C3. Agreement on a shared vision is essential	0.691056911	0.508287293	0.182769618	
C4. Reaching a high level of consensus	0.504065041	0.447513812	0.056551228	
C5. The group should generate new ideas	0.130081301	0.082872928	0.047208373	
C6. Participants should work effectively as a	0.37398374	0.403314917	-0.029331177	
C7. Extent of participation should be broad	0.18699187	0.425414365	-0.238422495	-0.015714735
D1. Aim should be clearly defined	0.032520325	0.171270718	-0.138750393	
D10. Basic aim must be achieved by process	0.43902439	0.298342541	0.140681849	
D2. The process defined must be followed	0.658536585	0.209944751	0.448591834	
D3. Broad participation should be encouraged	0.349593496	0.171270718	0.178322778	
D4. There must be low levels of manipulation	0.723577236	0.508287293	0.215289943	
D5. It should be a positive learning experience	0.504065041	0.232044199	0.272020842	
D6. Participants must challenge some	0.25203252	0.298342541	-0.046310021	
D7. There must be clear client/customer focus	0.349593496	0.403314917	-0.053721421	
D8. Competent organisation of workshops	0.154471545	0	0.154471545	
D9. Participants must be willing to use all tools	0.471544715	0.403314917	0.068229798	0.123882675
E1. High level of acceptance of tools in process	0.62601626	0.596685083	0.029331177	
E2. Easy understanding of criteria for	0.406504065	0.359116022	0.047388043	
E3. Tools (software) must be easy to use	0.195121951	0.320441989	-0.125320038	
E4. Understanding of output is essential	0.284552846	0.232044199	0.052508647	
E5. Activities/ process contribute to u/standing	0.56097561	0.320441989	0.240533621	
E6. Use of the tools must contribute to decision	1	0.552486188	0.447513812	0.115325877
F1. Information provided must be appropriate	0.154471545	0.149171271	0.005300274	
F2. Participants must be aware of problem	0.219512195	0.209944751	0.009567444	
F3. Problem must be properly defined	0	0.193370166	-0.193370166	
F4. Problem must be discussed adequately	0.25203252	0.320441989	-0.068409469	
F5. Options generated must be realistic	0.349593496	0.149171271	0.200422225	
F6. Clear decision on final direction must be	0.504065041	0.447513812	0.056551228	
F7. Important decision is agreed by participants	0.62601626	0.447513812	0.178502448	
F8. Decision must be supported by participants	0.317073171	0.552486188	-0.235413017	
F9. Decision must be implemented	0.739837398	1	-0.260162602	0.025400889

Table D – Theoretical importance versus practical achievement - column 4 scores have been averaged for each attribute group

Nor should too much be read into the fact that the most under achieving groups of attributes, those with the largest positive (theory minus practice) scores, are groups D and E. These two groups of attributes tend to cover workshop clarity, democratization, organization and understanding.

Yet there is evidence that these results possibly reflect the deficiencies of how we grouped attributes together in the first place. For example, although each of the D- and E-groups' average column 4 score is positive, many individual attributes within them actually have a negative score. As such, it is difficult to make a confident comment about any groups as a whole.

Counter measures

As far as measures that the authors took to increase the clarity, democratization and acceptability of their workshop methods are concerned, it must be remembered that such measures can probably never be perfected. With such an ambitious agenda of trying to reconcile all participants' conflicting attitudes and aspirations, as they collectively go about wrestling in the workshop with problems that are frequently socially delicate and politically sensitive, some participants will always be dissatisfied with how the workshop is being run.

Nevertheless, the authors have constantly sought to clarify their workshops by developing user-friendly, succinct software that is easily understood by most people and impeccably transparent. They have also sought to keep happy those participants who seek "take home messages" by always handing out lots of clearly written, background material.

Politically, the authors have always held extensive meetings with participants before the workshop itself in order to find out exactly what is being expected in terms of outcomes, and they have striven to ensure that all future stakeholders are actually present at the workshop if at all possible.

Yet an error that they have made is to sometimes not charge a fee for attending the workshop. This is an error because basically, if a fee is charged, many people will come, and they will even give positive, post-workshop evaluations rather than look foolish by saying that something which they have actually spent time and money attending is actually of little use. Alternatively, when a fee is not charged participants often resent giving up their time. Many will even fail to appear at some of the workshop sessions because they have escaped back to their workplace in order to do more "important" work. The negative effect, on post-workshop evaluations, is predictable.

Finally, the authors have found that a good way to lessen the effect of dominant behaviour at any workshop is to pull down the blinds and reduce the intensity of the lighting. For example, when scoring options collectively, the person in a position of power over the others will not be able to glare at and intimidate the latter. This dominant person might declare that some option scores 3 out of 10 on some criterion; but if a timid voice quietly suggests from the gloom that the score should be 8, and then another timid voice says that it should be 6 and so on, it soon becomes fairly easy for the workshop facilitator to declare that the feeling of the workshop is that the score ought to be around 7 – *not* 3.

In short, with experience the SNA approach can be made to work effectively for the benefit of all participating stakeholders and the quality of the eventual decisions reached by listening to all the stakeholders and the value of using *Strategizer* is that individual opinions are taken account of in the development of options. For any project inception approach to be effective its performance needs to support the important theoretical attributes valued by its participants.

This research offers no prescription for success. Research of this kind cannot deliver a simple operational manual to guide all future project inception applications. The process, activities, variables, environment and organisational context for such work are so volatile, varied and complex that any prescribed approach would be impractical and wrong. Every project inception setting is complex and different, and for this reason the action research approach can only identify certain common characteristics that future researchers should be aware of when working in this area. The research has suggested potential areas for common problems or difficulties where researchers should exercise care and attention. The guidance given for future work in this area for the poorest performing attributes identified provides useful guide for future researchers.

The weak points of SNA, in particular, have been identified and can be used to develop and improve SNA, or any project inception technique, in any future applications. SNA has proved to be a useful approach in the project inception setting. It was not perfect and SNA cannot be the only method of approach to these types of problems and activities. The research investigated a new approach in a relatively unexplored stage in the development of projects. It provided some insights into the problems at this stage that may assist future work in the same area. Work in the project inception stage should continue with other researchers and new approaches.

However, the most important factor in any future work is the human element. The role of the participants, facilitator(s), stakeholders, and most importantly, senior management must always be given strong, sensitive and focused attention in any future application. Lack of attention to these human factors is likely to result in a lack of success in the outcome and the process.

References

Ackoff, R L (1978) *The Art of Problem Solving*, Wiley, New York.

Akao, Y (1990) 'An Introduction to Quality function Deployment' in *Quality Function Deployment (QFD): Integrating Customer Requirements into Product Design*, Akao, Y (editor), Productivity Press, Portland, Oregon, USA, pp. 1-24.

Austin, S., Baldwin, A., Li, B., Waskett, P. (2000). Analytical Design Planning Technique (ADePT): A Dependency Structure Matrix Tool to Schedule the Building Design Process. *Construction Management and Economics*, **18**(2), pp.173-182.

Best, R and de Valence, G (Editors) (1999) *Building in Value: Pre-design Issues*, Arnold, London.

Checkland, P B and Scholes, J (1990) *Soft Systems Methodology in Action*, Wiley, Chichester, UK.
Construction Industry Development Agency (CIDA) (1993) *Construction Industry Project Initiation Guide for Project Sponsors, clients and Owners*, Commonwealth of Australia, Canberra.
David, F R (1997) *Strategic Management*, 6th edition, Prentice-Hall International, London.
Dickey, J W (1995) *Cyberquest:Conceptual Background and Experiences*, Ablex, Norwood, New Jersey, USA.
Egan, J (1998) *Rethinking Construction*, Construction Task Force Report, Department of the Environment, Transport and Regions, HMSO, London.
Green, S D (1990), The Essentials of Value Engineering, *The Chartered Builder*, Chartered Institute of Building, Ascot, UK., Sept/Oct. pp. 2-4.
Green, S D (1992) *A SMART Methodology for Value Management*, Occasional Paper No. 53, Chartered Institute of Building, Ascot, UK.
Green, S D (1996) 'A Metaphorical Analysis of Client Organisations and the Briefing Process' in *Construction Management and Economics*, **14** (1), pp. 155-164.
Kamara, J.M., and Anumba, C.J. (2001). A Critical Appraisal Of The Briefing Process In Construction. *Journal of Construction Research* **2**(1), pp.13-24.
Kamara, J M, Anumba, C J, and Evbuomwan, N F O (1999) 'Client Requirements Processing in Construction: A New Approach Using QFD', *Journal of Architectural Engineering*, **5** (1) March, pp. 8-15.
Latham, M (1994) *Constructing the Team; Joint Review of Procurement and Contractual Arrangements in the United Kingdom Construction Industry*, Final Report, HMSO, UK.
Lichfield, N, Kettle, P, Whitbread, M (1975) *Evaluation in* the *Planning Process*, Pergamon Press, Oxford.
Popper, K R (1994) *The Myth of the Framework*: *In Defence of Science and Rationality*, (Edited by M A Notturno), Routledge, London, P.101.
Quinn, J B, Mintzberg, M and James R M (1988) *The Strategy Process Concepts, Contexts and Cases*, Prentice Hall, USA.
Rosenhead, J (1989) *Rational Analysis for a Problematic World*, Wiley, Chichester, UK.
Saaty, T L (1990a) *Multi Criteria Decision Making: The Analytic Hierarchy Process*, Vol. 1, AHP Series, RWS Publications, Pittsburgh, USA.
Saaty, T L (1990b) *Decision Making for Leaders*, Vol. 2, AHP Series, RWS Publications, Pittsburgh, USA.
Smith, J and Jackson, N (2000) 'Strategic Needs Analysis: its Role in Brief Development', *Facilities*, **18** (13/14), MCB University Press, Bradford, UK, pp. 502-512. ISSN: 0263-2772.
Smith, J. and Love, P.E.D. (2004) Stakeholder Management During Project Inception: Strategic Needs Analysis. *ASCE Journal of Architectural Engineering*, **10** (1) pp. 22-33. ISSN: 1076-0431
Smith J; Wyatt, R and Jackson, N (2003), 'A Method for Strategic Client Briefing' *Facilities*; **21**: (10); pp 203-211; ISSN: 0263-2772.
Thiry, M (1997) *A Framework for Value Management Practice*, Project Management Institute, Washington, USA.
Thompson, A A and Strickland, A J (2001) *Strategic Management: Concept and Cases*, 8th edition, Irwin, Chicago, Illinois, USA.
Woodhead, R and Smith, J (2002) The Decision to Build and the Organization, *Structural Survey*, **20**, 5, pp. 189 -- p198, Emerald Press, Bradford, UK. ISSN: 0263-080X
Woodhead, R M (2000) 'Investigation of the Early Stages of Project Formulation', *Facilities*, **18**, (13/14), pp. 524-534.
Wyatt, R (1999) *Computer-Aided Policy Making: Lessons from Strategic Planning Software*, E & F N Spon, London.
Yang, J and Lee, H (1997) An Analytic Hierarchy Process Decision Model for Facility Location Selection, *Facilities*, 15, 9/10, pp. 241-254.

Assessment of Decision-Making Attributes
Post-Workshop Evaluation

B. STAKEHOLDER PARTICIPATION

INSTRUCTIONS

For each of the factors or attributes listed below, circle **O** one number on each of the two scales provided on the right hand side.

The key for each scale is provided from 1 to 5.

Think carefully before circling a number.

FACTORS/ATTRIBUTES	THEORY: IS THIS FACTOR IMPORTANT IN THE PROCESS?					PRACTICE: WAS THIS FACTOR ACHIEVED IN THE WORKSHOP?				
	1. = Strongly agree	2. = Agree	3. = Neither agree nor disagree	4. = Disagree	5. = Strongly disagree	1. = Strongly agree	2. = Agree	3. = Neither agree nor disagree	4. = Disagree	5. = Strongly disagree
B.1 Involvement by all potential internal representatives is essential.	1	2	3	4	5	1	2	3	4	5
B.2 Involvement by all potential external representatives is essential.	1	2	3	4	5	1	2	3	4	5
B.3 Stakeholder commitment to process is essential	1	2	3	4	5	1	2	3	4	5
B.4 The opportunity for significant contributions must be encouraged.	1	2	3	4	5	1	2	3	4	5