Engaging Users in Briefing and Design: a Strategic Framework

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Abstract

Historically, briefing was considered to be a static event of capturing the client's requirements, prior to the design stage of a project. Especially concerning complex building projects, interest in this process has increased. Today, briefing is considered to be an iterative and social learning process, about the client organisation and its spatial needs. Nevertheless, although there is a strong interaction between the client, designers and consultants, clients frequently have difficulties to fully capture the organisational needs. In other words, a discrepancy between the client's values -his conception of the organisational operation- and the shared values of the users can occur. To further define these needs, users should be considered a significant source of knowledge on the specific requirements; therefore, engaging them should increase the value of the briefing and design process. Furthermore, user's values and knowledge should provide the architect a better insight in the design problem.

Based on a literature study and a comparative case study research on four media and theatre projects, a strategic framework to engage users is proposed. The intended result is to obtain a better insight in the different requirements and values of users, and stakeholders, which should contribute to a design that better fits the users' needs, and contributes to a more effective briefing and design process.

Keywords: Knowledge Management, Knowledge Sharing, Strategic Briefing, Client Representation, User Involvement

1. Introduction

Due to frequent organisation changes, the organisation's facility has become a strategic factor within the business strategy. Since the strategic facility needs are stated during the briefing (or programming) phase, interest in the strategic aspects of the process has increased. However, recent studies show that there are still different problems concerning the briefing process. Predominantly they concern the communication and information exchange between client, architect, consultants, facility managers, and the users of the facility. (Lindahl and Ryd 2007; Yu et al 2006)

Despite a sometimes high level of interaction between the client, designers and consultants, clients frequently have difficulties to fully capture their changing organisational needs. This problem can be divided into three sub-problems: (1) the unknown specific needs of user-groups, including fluctuating general requirements, (2) how to communicate these requirements and values to the designers, and (3) how to generate commitment to the overall process, as well as ownership of user's with the building. (e.g. Nutt 1993; Shen and Chung 2006;Yu et al 2006)

To further define these needs, users should be considered a significant source of knowledge on the specific requirements. Throughout this article, the concept of involving the users is referred to as *user engagement:* the active participation of users throughout the different stages of the briefing and design process. Although, client and user representation is considered to be a critical success factor of the briefing process (Yu et al 2006), little attention has been paid to the actual process of engagement from a client perspective.

Based on a literature, and a comparative case study desk research, this study examines the concept of user engagement in complex project, from a client's perspective, and describes a strategic process framework. This report has been structured in the following way: section 2 provides an overview of the applied methods, and section 3 describes the theoretical background of the concept of briefing and user involvement. Section 4 describes the strategic framework, and section 5 elaborates on the exchange of knowledge throughout this process. Section 7 concludes with a small number of suggestions.

2. Method

This study was initiated by and earlier case study on DR-Byen; the new media centre of the Danish broadcasting company DR. Throughout the briefing and design stages of this case, the users were engaged and through a series of open ended interviews, this process was studied. (Zwemmer 2007)

To develop the strategic framework, a two staged desk research has been started. Firstly, a literature study provided a detailed theoretical background on this topic. Secondly, three other comparable theatre and media projects -with different levels of user involvement- have been studied: the AKN-building in Hilversum, the New Luxor Theatre in Rotterdam and the Muziekgebouw aan't IJ in Amsterdam. Two of these studies were based on earlier research completed by ADMS[1] (Demmers et al 1999; Scheltens et al 2002). The multiple cases were analysed using a cross-case synthesis, on the briefing and design process, and the project organisation (especially on the role of the client and users). By means of a SWOT analysis the cases study data has been further analysed and compared (Yin 2003).

[1] The Architectural Design Management Systems (ADMS) is a bi-annual postgraduate designers programme (w3.bwk.tue.nl)

3. Briefing and User Engagement

3.1 Briefing Process

Briefing or planning is the process of capturing the purpose, intended use, requirements, objectives, and desired qualities of a construction project, resulting in an output document: the client's brief. Furthermore, the brief provides the design team with data to commence their design, without the preservation of their artistic expression. Since the brief is the explicit reproduction of the client's needs, and serves as a guide and check list for the output of the various phases in the process, it has strategic value towards the end result of the project. (Smith and Jackson 2000)

In general two theories about the function of the construction brief can be distinguished. The first theory considers the brief as a static developed document, which serves as a set of design conditions. The second approach considers briefing as a dynamic process, which is developed throughout several stages in the process. (Nutt 1993; Luck et al 2001; Yu et al 2006) Instead of an event, briefing should be seen as a complex, social interactive procedure. Furthermore, it is a method of iterative learning about the client's organisation needs and requirements. (Kelly et al 2001; Yu et al 2006) Consequentially, the strategic briefing approach covers the initiative, design, and occasionally construction stages of the process. (Spekkink 2006) This study adopts the second approach, which considers the brief as a document which is developed through an iterative process.

3.1.1 Stages

Within the framework for briefing, defined by Blyth and Worthington (2000), three stages can be distinguished. The first phase is the *strategic phase*, in which the perceived needs and values are acknowledged. This analysis should preferably be executed in collaboration with as many stakeholders as possible, and should result in a list of options and values of the perceived project (Woodhead 2000; Smith and Jackson 2000). Ultimately this phase should result in a *mission statement* and *strategic brief*. (Kelly et al 2001) The second phase is the *preliminary phase,* in which the mission statement is translated by the architect in a preliminary scheme design, and in which a more detailed list of requirements is written down in the project brief. Throughout the third or *detailed phase*, the project brief evolves in a more detailed brief, covering technical requirements, facility management requirements etc. This iterative process results in several designs and briefs, which finally result in a concluding final design.

3.1.2 Problems and Success factors

Recent studies provide further insight in both the problems as well as the critical success factors of the briefing and design process. Generally, these concerns are caused by the differences between designers and clients, and regularly result in an incomplete insight of the client's objectives. (Yu et al 2006; Nutt 1993) Furthermore, most problems affect the performance of the building and reduce the client satisfaction of the project. In addition common problems

concern the communication and information exchange between the client, designers and users. (Yu et al 2006)

An intensive study by Yu et al (2006) to the success factors for the brief and the value of the final construction project shows 13 valid success factors. The first six are stated according to their significance. (1) Client representation, (2) POE and PPE evaluation, (3) knowledge management, (4) projects, (5) change management, (6) communication. Since the other factors have a similar significance, they are stated in a general order; (7) team and team dynamics, (8) risk and conflict management, (9) critical success factors and key performance indicators, (10) type of business and organisation, (11) decision making, (12) communication, (13) culture and ethics.

3.2 User Engagement

A considered amount of literature has been published on the concept of participation throughout design and development, especially in urban and product design projects. (Redström 2006) Within the project organisation, two general groups can be recognised: users and providers (e.g. architect, consultants), who both have their own role and different ideas. Variances in ideas, needs, values, goals and expectations can be an argument for conflict. These conflicts might be intensified by the fact that the two groups do not entirely understand each others' (facility) language. Therefore, the common objective of the concept of participation is to decrease the distance between the potential users and designers. Furthermore, through the concept of participation, stakeholders should benefit from each other's knowledge. (Kernohan et al 1992; Luck et al 2001) However, this requires the user to be recognised as an expert (Granath 2001).

Wulz (1986 cited in Horita and Yashiro 2006) distinguishes seven different levels of participation. These levels cover passive participation (representation, questionnaire, and regionalism) and active participation (dialog, alternative, co-designs and self decision). Within the active participation, six different tools are considered: voting, post occupancy evaluation, workshop, focus group, planning cell, and self-build. Since this framework proposes an active participation, several tools are implemented. The goal of these active participation tools should be to get insight in the values and needs of the user. However, user engagement will almost certainly increase the complexity of the process, and should therefore carefully be managed. (Kernohan et al 1992).

4. Strategic framework

As mentioned in the introduction, this framework is intended to be used by relatively large and innovative client organisations of large construction projects. The framework is based the principle of strategic briefing the active participation of users, and the process subdivision described in section 3.1.1 (strategic, preliminary, and detailed phase). For the reason that the strategic briefing process interrelates with the different stages, the construction stage is presented as well.

A general visualisation of the concept and the number of engage users is represented by the shape shown in Figure 1. Since the number of engaged users will depend on the actual case, the model represents two different lines (dashed and solid) to represent this flexibility. The process of UE could be managed by the client themselves, or a representative project manager. Furthermore, when the number of engaged users increases a special user representative manager might be hired to manage the engagement process (also see section 4.2). This section describes the different groups of engaged users, and describes the different steps within the framework of user engagement.

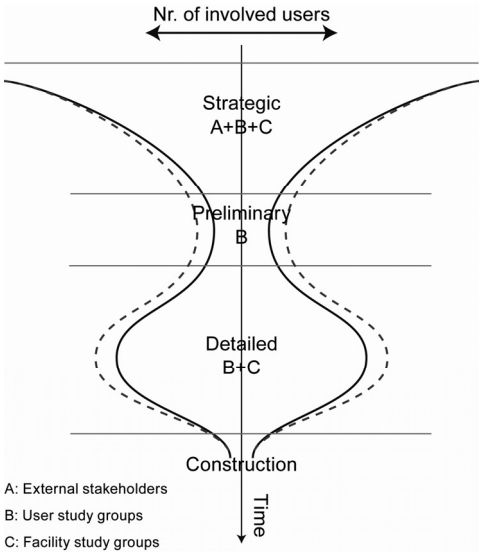

Figure 1 General concept

Within the general concept, three different groups of engaged users are distinguished. The first group consists of people who could influence the strategic phase of the project, but are not a member of the client organisation: *the external stakeholder* (e.g. neighbours, pressure groups). Several studies have reported the importance of engaging many different users during this stage (Smith et al 2001). The members of *the user study groups* are people who have a distinctive amount of specific knowledge of the building requirements. In the DR-Byen case, this group consisted of technical and production staff, and in the Muziekgebouw aan't IJ case, this was managing director. These users should be considered as consultants. The third group of users are the *facility study groups:* all employees and managers who are motivated to collaborate in the briefing and design process. The DR-Byen case showed a positive result on engaging this group of users throughout the process.

The presented concept of user engagement is based on four conditions. Firstly, the client needs to be aware that user engagement could deliver added value to the project, and should therefore be committed and account the necessary resources (time and money). Secondly, the process needs to be organised as a collaborative, learning organisation, in which the client representative is the actual decider. Thirdly, the designers should be committed to this collaborative process; however, the users should not be held responsible for any design activities. Finally, to retain users' commitment, it is important to provide them with feedback on how the input is used, and how it has affected the result.

Two explanatory remarks should be taken into account. Firstly, the actual application of this framework is project dependent; therefore, the plotted graph in Figure 1 should be interpreted as a suggestion to the number of people involved. This suggestion is acknowledged by the studied cases; for example: in contrast with the Muziekgebouw aan't IJ, and Luxor case, the DR-Byen case showed a large number of involved users in the preliminary phase. Secondly, since this concept is based on the iterative strategic concept of briefing, the detailed phase will be related to the construction phase. The studied cases have shown that involvement of a user

representative in this phase is also imperative. Within the three staged concept, 17 stages have been defined, which are displayed in Figure 2, and will be discussed in the next section.

4.1 Strategic Phase

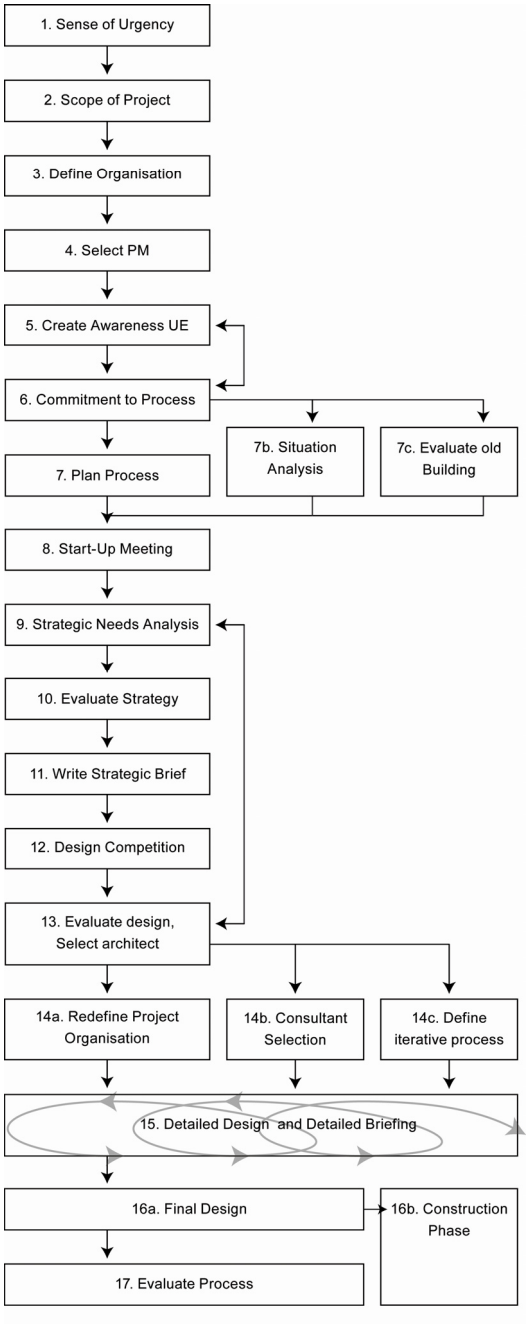

Figure 2 Overview process steps

1. Sense of Urgency, 2. Project Scope. In order to ensure their unique corporate advantages, companies increase their focus on innovation and strategy. (Jiménez-Jiménez and Sanz-Valle 2005) Changes in the external business environment could influence business, organisational, and spatial strategy, which could lead to the decision to commence a project. This first stage should commence the strategic phase; with a first analysis of the project scope and the client's perceived strategic requirements.

3. Define client organisation, 4. Select project manager (PM). In order to ensure an efficient decision making process, a small client project organisation should be formed. Depending on the amount of professional experience the client should consider hiring a project manager. Especially the DR-Byen case showed a successful small organisation in this stage.

5. Create Awareness UE, 6. Commitment UE. A successful implementation of the UE concept requires stakeholders' commitment. Therefore, the client should be aware of the importance of the strategic phase. Different studies have reported that investing in these stages, can result in potential saving of 10-20% in later stages (CABE 2003). In addition, successes from this UE concept (e.g. the DR-Byen case) should contribute to the awareness of this concept.

7a. Planning, 7b Analysis, 7c Evaluation. As mentioned before this framework proposes a general outline of the process of UE, and provides a possibility to plan the process according to single project conditions. With the intention to facilitate a transparent process, the planning should be communicated with the stakeholders.

In the general description of the framework, several general users groups have been identified. In order to obtain a better insight in these groups, both an external as well as an internal stakeholder should be executed. To further facilitate a transparent process, users and other stakeholders (e.g. architect, project manager, and consultants) should be made aware of each other's roles and responsibilities.

Next to the input from the users, two potential sources of knowledge can influence the strategic phase. Firstly, to get an insight in the strengths and weaknesses of the old building, a stakeholder orientated evaluation tool (e.g. POE) could be used. The outcomes of this study should be used as input to the project briefs. Kelly et al (2001) considers these evaluation tools to be important sources of knowledge to the briefing framework. To complete this analysis, both the user study groups and facility study groups should be engaged. Additional, several ongoing studies have revealed building characteristics which, both positive as well as negative can influence the perceived productivity by 15%. (Leaman and Bordass 2005) To support the strategic decisions, this information should be taken into account.

8. Start-up-meeting. This strategic meeting is intended to introduce every actor and user groups within the project. Since the different stakeholders (both professional as well as non-professionals) should collaborate, a start-up meeting should help to ensure commitment and cooperation. The overall objective of the start-up meeting is to initiate and prepare the statement of needs. (Gray and Hughes 2001) This meeting is also the first step in the strategic needs analysis, as proposed by Smith et al (2005), and should be used to further define the concept of UE.

9. Strategic Needs Analysis (SNA). After the start–up meeting the actual briefing process can commence; the initial step of the briefing process is the statement of (business) needs and values, which should be used in the strategic brief. (Blyth and Worthington 2000) During this stage, all three defined users groups should be involved, which results in the wide representation of users shown in Figure 1. In order to manage the different needs and values of these stakeholders, several (statistical) tools have been developed. An example is the *Strategic Needs Analysis* tool described by Smith et al (2005). In a three staged workshop session, project values of the involved stakeholders are extracted, analysed and decided upon. To ensure an efficient process, the data is analysed via a statistical computer program.

The strategic needs analysis phase is considered to provide a good insight in the values of different (both internal as well as external) stakeholders. Since the framework considers engaging many different stakeholders a (statistical) data processing program should help to manage the obtained data. Ultimately, the client organisation should decide on an efficient strategy.

10. Strategic Evaluation, 11. Writing the Strategic Needs. Together with the data from the POE-evaluation, the strategic needs analysis provides the input for the strategic brief. Jointly with the PM, the client organisation should write this strategic document, on which the client board has to decide. Preferably the strategic brief should be written in a business language, and should

also state the (architectural) values. To ensure an open process, this output document should not only be communicated with the board of the client, but also with the engaged users during the SNA. Furthermore, the strategic brief is considered to be the document to start the architectural design competition. Therefore, it should contain architecture selection criteria; furthermore, it should state the location, budget and time constraints.

Throughout the strategic stage, the number of engaged users will reduced, and the final strategic decision will probably made by the project organisation. This is represented by the tapered effect in Figure 1.

4.2 Preliminary Phase

12. Design competition, 13. Evaluate competition design, select architect. The strategic brief is the input document which should start the architect selection process, evaluate the proposed design and select the architect. As stated in the conditions of this concept the architect should be open to the collaborative engagement process. The enrolled architects should translate the business writings of the strategic brief, into their interpretation of a building which corresponds with these values and needs. Finally the architect will be selected by the client. To ensure an open communication process between de engaged users and the client organisation and project manager, they should be informed about the selected architect.

14a Redefine project organisation, 14b select consultants. Since the design of the project will become more detailed, professional consultants and project managers are most certainly required. Therefore, the project organisation should probably be revised and reorganized. This, reorganisation process should also include a new start-up meeting in which the new (professional) state their project intentions.

Throughout this stage, *the user study groups* will be engaged. Through an intensive and iterative interaction between the designers, consultants, and the user study groups, these groups should contribute their knowledge to the process. However, this requires the users to be acknowledged as consultants. The New Luxor case, as well as the Muziekgebouw aan't IJ case, have shown positive results on involving these users. Depending on the number of engaged user study groups, and in order to ensure an effective process, a user representative manager should be considered. The studied cases confirm that this manager should be part of the project organisation. Furthermore, the involved consultants should be able to provide additional and professional knowledge to the project team (including the users). A corresponding (collaborative) design strategy could support this concept.

14c Define iterative design and briefing process. In order to create an effective and efficient process, the iterative steps should be planned, and the project manager should define the information which is needed throughout the different stages. Several studies (e.g. Blyth and Worthington 2000) show different steps within this iterative process, however, the project itself should be designed according to the interests of the client as well as the project manager.

4.3 Detailed Phase

15. Iterative design and briefing process. Spekkink (2006) describes this general concept, as: the brief of phase x is used to create a corresponding design, this design is then tested against the brief, and the project organisation decides if the brief should be altered. With this more detailed project brief the process is restarted, and will increase in detail and complexity. Throughout this stage, the *facility study groups* and *user study groups* are engaged. Via an interactive process (e.g. workshops) the users should be provided the opportunity to discuss the building aspects which affect their direct (working) environment. The collaboration with designers and consultants should result in a better insight to their detailed requirements, which should then be stated in the brief.

To ensure a well managed process, the PM and the user representative manager should not only manage this process, but should also be part of the formal organisation and be present at design and project meetings. Their presence should ensure that the users are represented during these design meetings. The DR-Byen case revealed positive results on the concept.

16a. Final design, 16b Construction phase. Throughout the detailed stages, the brief will evolve in a detailed document, which should be used to both appeal the needed legislation, as well as to commence a tendering procedure. Since the design is repeatedly compared with the brief, the final design should be compared to the brief as well. Since this framework has applied the strategic briefing theory, the detailed design phases are related to the construction phase. According to the cases, (especially the New Luxor case and The Muziekgebouw aan't IJ case) it is important to ensure a user representative manager in the project organisation, during the construction stages. To ensure a small project organisation, the end-users will not be involved in these stages, which results in the concave reduction of users; see Figure 1.

17. Evaluate process. Since this tool is only based on four cases, it is important to test the effectiveness and efficiency of the tool. Therefore it is important to evaluate the process, and to suggest changes to the process tool.

5. Knowledge Sharing

As stated in section 3.1.2, the problems in the briefing process focus on communication and information exchange between client, architect, end-user and project manager. Throughout the described process various knowledge and information is exchanged, see Figure 3.

5.1 Strategic phase

During the strategic phase four information sources can be distinguished. Firstly, the evaluation data of the old facility, secondly the positive outcomes from other evaluation studies, thirdly the outcomes of the SNA, and lastly the client usually values, expressed by the project manager.

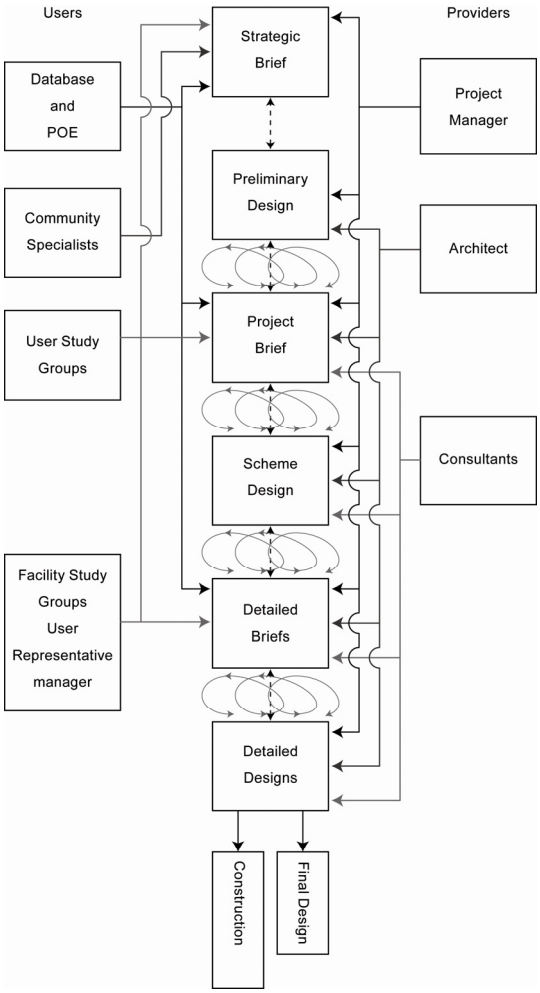

Figure 3 Information framework

This phase should have three implementations. Firstly, it should result in the formulation of the strategic brief, a written business outline of the project's values. Secondly, it should be used to inform both the client's organisation, as well as the participators of the strategic needs workshops. Hence, this should result o an open communication and commitment to the project. Thirdly, the strategic brief should be used to select one of the preliminary (competition) designs. The engagement of a large number of actors will probably increase the complexity of this stage, and should therefore be properly managed. In order to manage the vast amount of information, an electronic central information storage system could be used, to get insight in this complexity.

5.2 Preliminary Phase

The preliminary phase commences with the completion of the project brief, which should be based on the preliminary (competition) design, but should still be flexible to incorporate changes. Next to the sources used in the strategic phase, two other sources are distinguished: the user study groups and consultants. Through this stage, several new insights should result in a more detailed design. Firstly, the preliminary design and the evaluation of the design can provide an insight in the ideas of the architect. Secondly, the user study groups, who should be able to provide specific knowledge on technology, production process etc. Thirdly, the more specific information originated from the evaluation of the old facility, and lastly, the professional input of the selected consultants. Equal to the strategic phase, the information in the preliminary phase should be properly managed. Furthermore, a feedback to the engaged users might help to guarantee an open communication process.

5.3 Detailed Phase

The detailed phase commences with the evaluation of the scheme design, and the set-up of the different detailed briefs. Next to the information used in the strategic phase, the facility study groups play an important role during this phase. Throughout this phase, new insights from the actual user of the building should result in more detailed briefs and designs; the flexibility in the project brief and scheme design should now be solidified. The intensive user engagement will probably result in an increasing amount of documents and data. Using a modern data

management system (e.g. project website) should contribute to a manageable project. The outcomes of the SNA, and lastly the client values, expressed by the project manager.

This phase should have three distinctive implementations. Firstly, it should result in the formulation of the strategic brief, a written outline of the project's values. Secondly, it should be used to inform both the client's organisation, as well as the participators of the strategic needs workshops. Hence, this should lead to an open communication and commitment to the project. Thirdly, the strategic brief should be used to select a preliminary (competition) design. The engagement of a large number of actors will increase the complexity of this stage, and should therefore be properly managed. In order to manage the vast amount of information an electronic central information storage system could be used.

6. Conclusion

This study has shown that there is a general commitment to engage the users throughout the briefing and design processes of a construction project. However, little attention has been paid to the process of engaging users from a client perspective. Therefore, this study presented a strategic framework for large innovative clients, on how to engage the users throughout the briefing and design stages of a construction project. The proposed framework should decrease the distance between the users, client, designers and consultants. Furthermore, it should contribute to a better insight in the design values and knowledge of the different user groups, which might lead to a better design solution, and therefore a better useable building.

However, since there is no empirical data to support this theory, this framework should be investigated in practice. Furthermore, since the studied cases cover theatre and media buildings, further research should be required to proof its value in other types of accommodations, e.g. offices. Therefore, the next step in this research will be to validate this tool with experts on in the Dutch construction industry. Their suggestions will be used to further improve this tool.

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