Engaging users in briefing and design
a strategic framework

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Engaging Users in Briefing and Design: a Strategic Framework
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Part 1 Introduction

1 Introduction

During the last decade, there has been an increasing interest in the concepts of value and business strategy. Within this strategy, the facility should be considered a valuable asset to the company. Since the strategic facility needs are stated throughout the briefing and design phase of a construction project, interest has increased in the aspects of this phase. However, recent literature has emerged which discussed the different problems concerning the briefing process. Predominantly, these problems concern the communication of requirements between client, architect, consultants, and users.

Despite a sometimes intensive interaction between the client, designers and consultants; clients frequently have difficulties to fully capture the organisational requirements. In other words a discrepancy between the client's values -his conception of the organisational operational processes- and the values which originate from experience of use can easily occur. This problem can be divided in three sub-problems: first the unknown specific needs of user-groups and client stakeholders, second how to communicate these requirements and values to the designers, and third how to generate commitment to the overall process. (Nutt 1993; Shen and Chung 2006; Yu et al 2006)

To further define these needs, clients should consider user's being a source of knowledge not only on the processes of use, but also on specific requirements. Furthermore, involving users should increase the value of the briefing and design process, as well as the final design solution of the architect should better fit the user's needs.

This report focuses on the concept 'user engagement' (UE): 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. Based on literature and case study desk research, this report examines the process of user engagement from a professional client's perspective. Therefore, the central question of this report is:

Which process stages should be taken by the client organisation to engage user's throughout the briefing and design stages? The goal of this framework is to distinguish the different user groups, state when they engaged throughout the process, their roles and responsibilities within the project organisation.
This report provides an overview of the studied cases and has been structured in
the following way. Part 2 describes the case study of DR-Byen; part 3 describes the
AKN case study, part 4 describes the New Luxor Theatre case and lastly part 5 de-
scribes the Muziekgebouw aan't IJ case.
2 Methodology

2.1 Introduction

This report is part of a larger study on the subject of user engagement throughout the briefing and design stages of a building project. Goal of this study is to develop a process-tool for client organisations. In order to develop this tool, a literature study and a comparative case study research has been applied. This study is partly based on an earlier case study research on DR-Byen, the new building of the Danish Broadcasting Company. During the design process the end-users have substantially been consulted to their ideas on various topics. In order to increase the validity of this study, several other media and theatre cases have been selected: the AKN building in Hilversum, the New Luxor Theatre in Rotterdam, and the Muziekgebouw aan't IJ in Amsterdam. Two of these studies are based on earlier research work done by ADMS' students.

This section described the overall methodology of this research, and is structured as follows: section 2 provides a general overview of the approach, section 3 describes the used interview procedure, and section 4 describes how the data was analysed. Lastly section 5 describes four aspects which have contributed to the validity of this research.

2.2 Approach

Patton (2002) defines three options for organising and reporting qualitative data, a storytelling approach, case study approach and framework approach. In this research, a combination of the latter two has been applied. In order to produce a framework, a literature research has been completed.

The essence of a case study is to try to investigate a decision or set of decisions: why they were taken how they were implemented, and with what results (Schramm 1971, cited in Yin 2003) Four different case study approaches can be distinguished: (1) a single (holistic) approach, (2) a single (embedded) approach, (3) a multiple (holistic) approach, and (4) a multiple (embedded) approach. (Yin 2003) Since this study focuses on the role of the users throughout the briefing and design phases, an embedded approach is used in multiple case studies. It is considered that a multiple approach often results in more compelling results, and it therefore regarded to be more robust (Herriot and Firestone 1983, cited in Yin 2003).

1 The Architectural Design Management Systems (ADMS) is a bi-annual postgraduate designers programme, and is part of the 3TU. School for Technological Design, Stan Ackermans Institute (SAA) (www.tue.nl)
Yin (2003) reports six different sources of case study evidence; documents, archival records, interviews, direct observation, participant-observation and physical artefacts. In this case three sources have been used; interviews, documents, and previous case studies done by students prior to this study. These different sources were used to triangulate the found data. Figure 1 provides a schematic overview of this study.

![Figure 1: Schematic overview research](image)

### 2.3 Interview Procedures

As stated in the previous section, both (case study) documents, as well as interviews have been used to collect the data. In the DR-Byen case the questionnaire on the evaluation of the user-participation and design process was part of a larger semi-structured interview covering five topics. On the topic of the participation process 22 open questions were asked. The interview guide on the participation process can be found in appendix 1.

Several precautions have been taken in order to ensure an interview climate that would comfort the participant, enabling him/her to answer the questions without any prejudices. Firstly, the participants have been interviewed in a familiar and private environment, predominantly DR-Byen. Secondly, the intentions of this research project were clearly stated, and the interviews were introduced. Additionally, participants were asked if they preferred to answer the questions in Danish or English. Lastly, participants were asked if they agreed on the recording of the interview, of which they would receive a description of the interview for conformation.

In the case of The Muziekgebouw aan't IJ, interviews were used as well. Apart from the language question, the same precautions were taken to ensure a comfortable interview climate.
2.4 Analysis

Yin (2003) describes specific analytical techniques to analyse the data, and draw conclusions on the data: specific analytical techniques, pattern matching, explanation building, time series analysis, logic models and cross-case synthesis. Since this last approach can be best performed if previous studies have been conducted as independent research studies, this approach is applied here. Using a SWOT (strengths, weaknesses, opportunities, and threats) the four cases have been further analysed.

2.5 Validity

Four aspects of this research contribute to the validity of this study. Firstly, multiple cases were studied to ensure more compelling results. Secondly, a interviewed sample of participants is considered to be sufficient. Thirdly, the ADMS case study reports are the result of a three months period of research, and should considered being of sufficient significance. Lastly, to test the external validity of this study, an user engagement workshop has been organised. Several professionals from the Dutch construction industry revised the proposed process framework.
Part 2 DR-Byen

3 Introduction

DR-Byen is the new headquarters of DR, the Danish National Broadcasting Corporation. Located in Ørestad, the South-Eastern part of Copenhagen, this 130,000 m² media-house will facilitate DR, and supports its new business strategy towards a fully digitally broadcasting company. Since the end-users of DR were closely involved during the different design stages, the relevance of this case seems clear. This case study is largely based on an earlier study related project in Denmark, in which the user participation process was evaluated.

As stated in section 2, in this case study an interview approach has been used. Altogether nineteen people, from different levels of the organisation have been involved; within this larger sample three different groups can be distinguished. Nine involved managers have been interviewed, together with six involved staff members, including one union representative. These respondents were involved in the building briefing group on shared spaces and the policy group for interior design. Lastly, three non involved employees have been interviewed. This approach provided the opportunity to compare the answers of the different groups. Obviously, this sample size represents a relative small percentage of the total participants; however, the data obtained from eighteen hours of interview has been sufficient.

This part is structured as follows: Section 2 provides an overview of the project strategy, and section 3 describes the project in more detail. Section 4 describes the organisation of the DR-Byen project, and section 5 describes the process in more detail. Section 6 provides an overview of the case study results, and section 7 discusses these results in more detail. Lastly, section 8 concludes on this case study.
4. Project Strategy

4.1 Danish Broadcasting Company (DR)

In 1925, the Danish National Broadcasting Corporation (DR) was founded as a public service organisation and has been Denmark’s main provider of news, information, music and drama. Since DR is a public institution, quality, versatility, and diversity have to be embedded in the provided programs. The public services of DR are financed through DR’s share of licence fees and via income of other services. DR comprises four radio stations, two TV channels, and an extensive website which offers a number of online programs. Furthermore, DR has various orchestras and choirs. (Jensen 2001)

Next to these public institutions, DR has founded an independent and commercially based multimedia business, DR multimedia. This company procures merchandise related to DR: for example: books, videos; CD-ROM’s and games. DR multimedia works on a commercial basis, and its budget is separate from the licence-financed broadcasting activities. (DR 2005; Jensen 2001)

The organisational form of DR structured on three sections, media, and programme’s and finance, and is lead by a General Director. The three sections have a distinct and very flat layout. See appendix 2for a detailed overview of the organisation.

4.1.1 History and Trends

There are several important historical events and trends that have had extensive influences on the overall strategy of the company, and the spatial requirements in particular. Before the introduction of the television in the 1950’s DR had a monopoly on broadcast of radio. The introduction of the television caused a sudden increase in both expenses as well as staff, and continued during the 1960’s due to further development of television and the creation of additional radio channels. (Jensen 2001)

Over the years, the Danish government has had an important role in the continuity of the monopoly of DR. Until the 1960’s the Danish media law secured the monopoly; however, during the 1960’s the political control was under debate, but a new law in 1973 secured the monopoly. This law lasted until 1988, once the Danish ‘broadcasting’ market was opened for competition. (Jensen 2006) This caused a decrease in market share, which resulted in a market share in 2005 of 33% on television and 68% on radio. The most important competitor is TV2 with a market share of 40%. (Jensen 2001)

The end of DR’s monopoly meant that DR had to go head-to-head with other broadcasting companies. In order to secure its general (social) task to provide an all round quality output in programs, DR concluded that it should change its corporate strategy. And to secure the optimal condition for the multimedia production in the future, DR
focused on implementing new technological developments and new working practices. This new focus can be summarized as follows: (Jensen 2001)

- New digital technology: computer based editing of sound and video.
- New division of labour: technical editing is taken over by non-technicians.
- New products: on-line services, multimedia, on-demand programs etc.
- New organisation: integration from TV and radio to online.

Since (online) commercial radio and television has been embraced by (international) competitors, a new challenge emerged to DR. By focussing on this relative new technical integration between television, radio and online services, DR is leaving the national market and will prepare itself for an international orientated market. This new technology requires a different work approach; work processes should be changed. Therefore, completely new work processes and co-operative relationships will emerge. (Nissen 2000)

4.2 Space Strategy

Since DR always has been a reasonably large company, it required a relatively large amount of space to house its organisation. Due to several political and technological influences, this spatial need has fluctuated, and to anticipate on these changes, several strategic decisions have been made.

During the first period of its existence (1925-1933), DR strategic uncertainty in relation to finance, customers, politics and technology, was reasonably large. However, due to the great success of radio and the rapidly expanding organisation, DR's spatial requirements increased as well. In the start-up years, DR's space strategy was primarily incremental with several adjustments on space provision to accommodate the rapidly expanding organisation (Oensen 2006).

Due to a more stable political and financial environment, DR's space strategy shifted, during the period 1934-1945, to a value based (organisational strategy correspond with spatial need). Since DR was still focussing on radio, management studied and visited several other European radio broadcasting facilities to reduce the technological uncertainty. The result of this research was the erection of the Radio Huset (radio house): a building that should serve the cultural live of the whole Danish population. (Jensen 2006)

During the early days of television (1946-1958) the spatial strategy shifted back to an incremental strategy. Influenced by the future uncertainties of the new television broadcasting technology, management decided that the best approach was to find an existing building that, without two great changes, could be made into a temporary television house (Lawaetz 1951 cited in Jensen 2006). However, it was decided that an ex-
tension to the existing Radiohuset should be built, and that existing studio facilities should be transformed into television studios. (Jensen 2006)

In the 1960's DR realised that television would be the most important future media, furthermore they realised that the Radio Huset had become inadequate to facilitate television broadcasting. Therefore, DR's management decided in 1956 to construct a separate (100,000 m²) TV-house, to facilitate the future needs of DR. However, during rapid expansion of TV-broadcasting, DR was forced to make some incremental spatial decisions. The TV-Byen complex was extended with temporary pavilions, and extra space was rented in several places in the greater Copenhagen area. (Jensen 2006)

In 1970, DR appointed its first building coordinator, who changed the spatial strategy into a standardized space strategy. For the construction of three smaller radio district buildings, a modular building blocks system, which had already been used in the construction of TV-Byen, was applied. However, due to the political decision to open-up the broadcasting market, the uncertainty increased, and consequently the spatial strategy shifted back to a more incremental one. (Jensen 2006)

In the 1990's DR's market share consolidated, and therefore uncertainty factors (finance, political, strategic) were reduced. Due to several external reasons (see section 3.1) and recent technological trends, DR's management saw the opportunity to transform DR corporate culture to a digitally multimedia production corporation. In order to support and facilitate this new business strategy, it was decided to erect a new corporate building: DR-Byen. (Jensen 2006)

4.3 Five Finger Plan

During the first few years DR's TV market share declined to a stable 33% share in 1995, and to regain market share, a new General Director was hired in 1994. His tasks were to stabilize DR, evidently regain TV market share, and re-become an offensive player in the Danish media market. In order to reach these goals, several (organisational) changes have been applied, e.g. a staff reduction of 10%. These organisational changes have lead to a general uncertain internal atmosphere among DR's staff. (Jensen 2001)
To prepare the organisation for future development, the new (digitally) business strategy, DR's management has launched the so called five finger plan. It illustrates the actions that should prepare DR for future challenges. In other words: it describes the total business process re-engineering project. The five fingers are:

1. Programmes according to user needs and desires (products)
2. The multimedia production of the future (processes)
3. Integrated IT strategies (technology)
4. Organisation
5. The building project

The overall idea was that every finger should not only provide input to the next finger, but also give input and provide requirements to the final finger, the building project.

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Figure 3  Five Finger Plan (Jensen 2001)
5 Project Description

5.1 Local Developments

The in 2000 completed Øresund bridge and tunnel project between Sweden and Denmark, has had a profound impact on the development of both regions. This multinational region (Øresund-region) is seen as an important real-estate development area in Scandinavia and the whole Baltic area. Ørestad is part of this region and is located on the island Amager, near the Copenhagen international airport (Kastrup) and is connected to the city centre by the new developed metro line. DR-Byen is located in the northern part of Ørestad, near the city centre.

Figure 4  Overview of the Øresund project (in blue the DR-Byen project site) (Øresundbro Konsortiet 2006)

Ørestad has been developed according to the overall development plan of the Øresund region, which is carried out by the Ørestad Development Corporation (ØSS). Shareholders of this corporation are the Danish state and the municipality of Copenhagen. In order to create sufficient revenues to finance the metro project, land has been sold and developed in Ørestad. (Jensen 2001)

Since the trading of the land went relatively deliberate and the costs of the metro line escalated, something had to be done. To give a strong impulse to the development of Ørestad, ØSS was looking for a large (public) institution to develop its headquarters in Ørestad. The general director of DR (Christian S. Nissen) saw this as a joint opportunity for DR to establish its facility there. (Jensen 2006)
5.2 DR-Byen Project

The DR-Byen project was planned as a 105,000 m² gross area above the ground and 25,000 m² basements: a total new area of 130,000 m². The overall intention of the project is a complex that forms an active unit in the lively quarter with open relationships with neighbouring buildings in Ørestad and the surrounding landscape and which, through a striking architectural appearance, contributes to supporting DR's image as Denmark's most important provider of quality media output of the whole population. The other project intentions are summarised in Figure 5 (Jensen 2006). The area program is described in Table 1. The total budget was calculated at DKK 3.0 billion (approximately 400 mill Euro) at the price level of 1999.

![Diagram of Values of DR-Byen (based on Fox et al 2006)](image)

The new project is inspired by a Kasbah: a covered town in a town which has distinctive elements. The DR-Byen complex comprises of four distinctive segments, which are connected by a raised inner street. (See Figure 6, Figure 7, Figure 8, Figure 9, Figure 10, Figure 11, Figure 12, Figure 13 for impressions of the finalised project.)
Table 1  Net area DR-Byen (Jensen 2001; Competition brief 2000)

<table>
<thead>
<tr>
<th>Function</th>
<th>Net area m²</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A  Main Functions</strong></td>
<td></td>
</tr>
<tr>
<td>1 Music Editorial and concert hall</td>
<td>12,100</td>
</tr>
<tr>
<td>2 Other programme editorial</td>
<td>18,500</td>
</tr>
<tr>
<td>3 Common studio facilities</td>
<td>5,700</td>
</tr>
<tr>
<td>4 Master control and continuity</td>
<td>1,200</td>
</tr>
<tr>
<td>5 Management, administration and chief editorial</td>
<td>7,900</td>
</tr>
<tr>
<td><strong>B  Support Functions</strong></td>
<td></td>
</tr>
<tr>
<td>1 Production</td>
<td>10,500</td>
</tr>
<tr>
<td>2 Internal services</td>
<td>2,800</td>
</tr>
<tr>
<td>3 Technical services</td>
<td>1,800</td>
</tr>
<tr>
<td>4 Technological development</td>
<td>2,300</td>
</tr>
<tr>
<td>5 Garages</td>
<td>3,300</td>
</tr>
<tr>
<td>6 Building services</td>
<td>1,500</td>
</tr>
<tr>
<td><strong>C  Special Functions</strong></td>
<td></td>
</tr>
<tr>
<td>1 DR shop, displays etc.</td>
<td>700</td>
</tr>
<tr>
<td>2 Various restaurant, cafes, shops and kiosks</td>
<td>1,500</td>
</tr>
<tr>
<td><strong>Total net area, excluding basement</strong></td>
<td><strong>69,800</strong></td>
</tr>
</tbody>
</table>

Engaging Users in Briefing and Design: a Strategic Framework
6 Project Organisation

The very first organisational step in the building process of DR-Byen has been the creation of a small working unit: DR Ørestad Project. Since DR had developed building projects in the past (e.g. Radiohuset and TV Byen) there already was a real estate development group within the organisation of DR. From this group, the final working group was established, which consisted of two managers, a secretary and the overall responsible resource director. (Jensen 2001)

The first task of DR Ørestad Project was to assign a Project Manager (PM), who has been selected via an European tender procedure. The PM has been overall responsible for the total building project, including control over budget and time schedule. Finally one central PM was hired (COWI A/S); who has been assisted by a number of sub-consultants on environment, acoustics and design. In collaboration with DR Ørestad Project, briefing strategies, (design) competitions and tendering strategies were initialised. (Jensen 2001) See Figure 14

In order to outline these competition and strategic strategies, the following procedures and criteria were laid-out:

- Attract international architects
- Create a high degree of certainty to be within budget and time
- Architectural excited layout
- Exceptional design of the concert hall
- Not-depending on one single company
- Increase competition and attract companies of both medium and international sizes

---

Figure 14 Project Organisation (according to Jensen 2001)
The master plan competition has been written out in three stages. Firstly a general architectural master plan competition was carried out. The winning architect (Vilhelm Lauritzen AS) was asked to design a detailed plan of one of the segments, as well as to design the overall master plan. Secondly, since the engineering consultant would be responsible for both the design of the technical infrastructure, as well as the implementation of the environmental concepts; a separate engineering competition was carried out (which was won by Carl Bro A/S). Lastly it was decided that the winning architect and the winning consultant engineer should team up in one design consortium. (Jensen 2001)

Due to both different internal changes, as well as an increasing in complexity of the project, the project organisation has been changed. The most significant change has been the employment of engineers from the different consultant firms in the overall DR organisation. The organisation expanded to three subdivisions (see Figure 15), which were lead by the project director. Furthermore, the project director was assisted by a general department, a secretariat, and a communication department.

![New Project Organisation](image)

*Figure 15  New Project Organisation*
7 Process Description

7.1 Briefing Process and User involvement

Since DR has changed both its corporate business strategy, and its spatial strategy, user participation in the design process could have a positive influence on the design result. Next to this, it has the opportunity to ensure that the new facility was designed in accordance to the needs and intentions of the organisation. To facilitate this, ten different briefing activities have been set up, with different users involved. See Table 2 (Jensen 2006)

<table>
<thead>
<tr>
<th>Briefing activity</th>
<th>Users Involved</th>
<th>Project stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Briefing for decision Proposal</td>
<td>Top managers</td>
<td>Pre project feasibility study</td>
</tr>
<tr>
<td>2 Strategic briefing</td>
<td>Top managers and Union representatives</td>
<td>Project definition after board decision (part of Five Finger Plan)</td>
</tr>
<tr>
<td>3 Competition briefing for the master plan</td>
<td>Middle managers and staff (end users)</td>
<td>Preparation of competition with follow-up after competition</td>
</tr>
<tr>
<td>4 Construction briefing</td>
<td>Middle managers and staff (end users)</td>
<td>Preparation of competitions with follow-up afterwards and during design development</td>
</tr>
<tr>
<td>5 Technology briefing</td>
<td>Middle managers, technology specialist and staff</td>
<td>Design development and detailed design</td>
</tr>
<tr>
<td>6 Facilities management briefing</td>
<td>FM managers, specialists and staff</td>
<td>Design development, detailed design and construction</td>
</tr>
<tr>
<td>7 Interior room layout briefing</td>
<td>Middle managers and staff (end users)</td>
<td>Design development and detailed design</td>
</tr>
<tr>
<td>8 Interior furniture layout briefing</td>
<td>Middle managers and staff (end users)</td>
<td>Construction and technology implementation</td>
</tr>
<tr>
<td>9 Technology removal</td>
<td>Middle managers and staff (end users)</td>
<td>Construction and technology implementation</td>
</tr>
<tr>
<td>10 Furniture and archives removal</td>
<td>Middle managers and staff (end users)</td>
<td>Construction and technology implementation</td>
</tr>
</tbody>
</table>
In 1999 DR took the first two steps in the process, by agreeing on a document which outlined the future spatial requirements. This brief was based on information on the existing space and facilities, and the estimated future spatial needs; furthermore it was set up with the assistance of an external consultant. Secondly, after the decision was made that a new facility had to be build; DR's directors launched the earlier mentioned Five Finger Plan. As stated before, the overall idea was that the first four fingers: DR's future products, program production, technology infrastructure and organisation, would provide information on the briefing document for the facility. Furthermore, this strategic brief has been used to write the competition brief for the master plan. (Jensen 2006a)

Next step in the briefing process has been the construction briefing, which was organised in a number of working groups with end-users. Each group (totally 21 groups) was responsible for one functional area in a segment, and besides these groups there was one group responsible for the overall shared spaces. Each group consisted of up to 10 people, and had a chairman who was appointed by DR's directional board, see Figure 16. The members were chosen on their personal competences, and one of them should be a health and safety expert. Furthermore, the client organisation decided when a group should be established. (Jensen 2006a)

The different activities in these participation groups have been divided into three parts. First step has been the description of the net-area, and the relationships between different function. This meant that the group members had to evaluate their production, and predict the changes in relation to the use of space, the new technology and, the business strategy of DR. Second step was the technical briefing, which included the technical requirements of each room. The involved managers and (technology) staff were apprised and advised by experts on acoustics, electrical engineering,
and HVAC. In case of any disagreements, designed workshops have been organised to settle the conflict. The final step has been the evaluation of the winning designs and documents provided by the design teams. In this three-step-process, the client organisational secured that the general construction brief corresponded with the requirements of the employee of DR. (Jensen 2006a)

The technological, interior and facilities briefings (step 7&8) have been organised similarly to the construction briefs. However, the internal specials and expert consultants, involved in the technological and facilities briefings, had more influence than during the other stages. The facility workgroup had two subgroups which were responsible for Building Management System, and building security. Furthermore, the interior briefing process involved several smaller work-groups. The requirements if an open and flexible workplace can be seen as design requirements to these groups; which was decided in the general space strategy. (Jensen 2006a)

The outcomes of the discussions in the working groups were presented to the Building Coordination Committee: a management committee with representation from main parts of DR's organisation with the resource director as chairman. The final building programmes have been prepared by DR Ørestad Project and the PM, and have also been presented to and accepted by the Building Coordination Committee. (Jensen 2006a)

7.2 Outcomes

The briefing process of the DR-Byen project is an example of a process where the client organisation has had a mediator role between the users on the demand site and the design and consulting companies on the other side. Furthermore, the five finger plan has realised the opportunity to prepare employees and management for the new business strategy; in addition it synchronised the coordination between the strategic business planning, and the strategic briefing process. (Jensen 2006a)
8 Results

This section provides an overview of the interview results, obtained from the different groups of participants (management, involved- and non-involved staff). To provide a systematic overview the results are structured according to the three different topics (approach, process, and results).

8.1 Approach

There are no real differences between the answers to the questions concerning the approach. The importance of the concept to involve end-users is perceived to be important and, however the involved-users moderately doubt the success and the amount of influence employees had. The size of the groups (6-10 persons) and the heterogeneous concept is positive perceived by all three groups. (Zwemmer 2007)

The most important requirements to be involved are: a general determination to participate and sufficient time to ensure good quality results. Next to these general competences, management should have decision- and diplomatic-competences. (Zwemmer 2007)

8.2 Process

The answers to the questions on the process of involvement are more diverse. Management considers the process as good and positive, but remarks that there it could have been executed more efficiently, which is more strongly acknowledged by involved employees. Since they perceive it was unclear to which extent they had influence, they evaluate the process as semi-positive. However, the information exchange has been considered as good. (Zwemmer 2007)

8.3 Results

The results of the user involvement have been rewarded diversely. Management is generally positive on the use of the user input, especially in the common areas. In contrast, the involved users were less positive on the result: although only 25% of their remarks were negative, they perceive that the input has been used. Even though the process required much time and resources, all groups agree that the input is in balance with the outcome of the process. On the other hand, all groups perceive that there were sufficient opportunities to get involved; there was sufficient information, which resulted in a good preparation before moving in. (Zwemmer 2007)
There are four general results of the involvement process. Firstly, users have a greater feeling of ownership, secondly the building fits their needs better, and lastly it resulted in a higher level of satisfaction. Next to this, participants overall state that the involvement-process itself and the feeling of contributing to the result, have lead to a higher level of motivation. However, today there is no difference in motivational level between the people that were involved and the people that were not. (Zwemmer 2007)
9 Discussion

The DR-Byen project can be considered to be a complex project, with many actors and factors involved. A few elements seem relevant to discuss in this section, and in order to conclude and state some recommendations for the process tool a SWOT-analysis is executed based on the literature described in the first two parts of this document.

9.1 Strengths

- Strong involvement of the end users of the building.
- The building was part of a larger business strategy.
- DR provided enough resources for this process
- Good communication and information exchange between different stakeholders.
- Dynamic briefing process

9.2 Weaknesses

- Sometimes inefficient process, too much discussion, and too many resources are considered to be used.
- Management should be very clear about the role and responsibilities of the user.
- Interior architects could possibly have done the same thing, and find the interior solutions more efficient.

9.3 Opportunities

- The users could also be involved throughout the occupancy phase of the project.
- This process could lead to a better understanding of the building and ownership

9.4 Threats

- People can feel cheated if the information is not considered, or not used in the design.
- The process of user involvement should never take over the normal work processes.
- The involvement of users results in a large amount of data and information. It is important to structure this information, and prevent an information overflow.
10 Conclusion

As stated in the previous section, this case has presented some elements which could be used in the process framework of user-engagement. This section provides a short overview of these elements.

The involvement of people has lead to a better understanding of their requirements and preferences. This information has been taken into the brief, which resulted in a facility which compiles to the brief, and consequently to the users needs.

The answers, and especially the comments of participants, show that communication is the key-factor in optimizing the value of the process. First and foremost, involved users should know how much, and on which topics they can have influence on. Secondly all actors should know how the information will be used; how will the input of the user contribute to the end-product. Thirdly the communication between the different involved parties: design team, management, and end-users, should be considered; people should communicate in the same 'language' in order to understand each other. Last important outcome on communication is the preparation before moving in; people positive reward a sufficient amount of information.

Next to management several other factors have a decisive influence on the success of the involvement process. First of all the amount of resources and time should be carefully considered. Secondly small and heterogenic groups ensure discussion, but still make it possible to decide. Thirdly, involved users should be intrinsically motivated; prepared to commit themselves to the process. Furthermore, involved management should be both diplomatic as well as having the quality of deciding. To further optimize the process, it was suggested to increase the participation groups with a team-coach or professional to assist users in the task at hand.
11 Introduction

The AKN-Building in Hilversum houses three Dutch public broadcasting companies (AVRO, KRO, NCVR). Since the three companies were broadcasting on one channel, it was believed that facilitating them in one building would benefit all three organisations (www.hilversum.nl). The AKN project can be classified as a complex project within an urban area, and the investment costs were more than 22.7 million Euros'. (Scheltens et al 2002)

This case study report is largely based on an earlier research work done by ADMS students in 2002, (Scheltens et al 2002). If stated different, the text in this section is based on this study. This report primarily focuses on the briefing and design stage, and the project organisation.

This part is structured as follows. Section 2 provides an overview of the project, and section 3 provides describes the project process. Section 4 describes the project organisation, especially the role of the user. Section 5 describes the communication process between the different stakeholders in the process. Section 6 discusses the overall project, and section 7 discusses the project, using a SWOT analysis, and section 8 provides a general conclusion.
12 Project Description

12.1 Project Motive

In the beginning of the 90'ies, the commercial television gained market share in the Netherlands. This resulted in a decrease of advertisement income of the public funded broadcasting companies in the Netherlands. In order to respond to this market shift, the board of the overall broadcasting company (NOS) presented an overall change strategy. This plan consisted of a better and more intensive collaboration between the different broadcasting companies. One of the key points of this plan has been the collaboration of the AKN-broadcasting companies (AVRO, KRO, and NCRV).

These companies decided to set-up a separate supporting facilities company, which should be responsible for the non-program-facilities (e.g. legal advices, P&O, security, finance). Together with the fact that the three companies were located in several different locations in Hilversum, the collaboration between the companies in one facility seemed realistic and logical. Moreover, a new building should increase their efficiency in term of communication and collaboration. (Scheltens et al 2002)

Figure 19   Plan AKN building (Scheltens et al 2002)
12.2 Classification

The AKN-project can be described in the following numbers and facts figures.

Table 3  General description of AKN-building (Scheltens et al 2002)

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>AVRO KRO NCRV</td>
</tr>
<tr>
<td>Surface</td>
<td>14.325 m²</td>
</tr>
<tr>
<td>Volume</td>
<td>105,000 m³</td>
</tr>
<tr>
<td>Costs</td>
<td>€ 50 million</td>
</tr>
<tr>
<td>Occupation</td>
<td>1400 people</td>
</tr>
<tr>
<td>Leading time</td>
<td>July 1991 – March 2002 (12 months delay)</td>
</tr>
</tbody>
</table>

Table 4  Classification of the AKN-project (Scheltens et al 2002)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>AKN-Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Peripheral area</td>
</tr>
<tr>
<td>Building category</td>
<td>Utility building, Offices</td>
</tr>
<tr>
<td>Project type</td>
<td>New construction</td>
</tr>
<tr>
<td>Client type</td>
<td>Occasional</td>
</tr>
<tr>
<td>Project organisation</td>
<td>Traditional</td>
</tr>
<tr>
<td>Manager Present</td>
<td>Project Manager</td>
</tr>
</tbody>
</table>
13 Project Process

13.1 Initiative

In July 1991, the initiative to the new project was made. On this date an intentional agreement was signed between the three broadcasting companies, AVRO KRO NCRV. Since most broadcasting companies are located in Hilversum, it was decided that the AKN-building should be located in Hilversum at the Gravelandseweg, close to other media facilities. (Scheltens et al 2002)

13.2 Planning

The intended project planning is shown in Figure 20, and consists of the preliminary and detailed design stages, the technical brief for the basement section of the building and the rest of the building, the tendering procedures, and the actual building. However, throughout the project, the stakeholders deviated from this original planning; therefore the rest of this section is based on this actual project schedule, which is shown in Figure 21. (Scheltens et al 2002)

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*Figure 20 Initial Planning (Scheltens et al 2002)*

*Figure 21 Actual Project Schedule (Scheltens et al 2002)*
13.3 Briefing Stage

The initial brief was written by the client, and was used to start the design competition. Six architects were invited to the design competition, and in September architect Jan Hoogstad was chosen to design the new AKN building.

In April 1996, initiated by the project manager (FMH) the brief was finalised. Subsequently the brief has been the starting point for the further design of the project. Throughout the design stages of the project, more consultants (structural engineer, installation-consultants) became part of the project organisation. A remarkable aspect is that several key-elements have been altered throughout the construction of the project. Other requirements and conditions were based on this brief, which consequently was translated to a more functional and technical document. Furthermore, a management document was developed, that described how the project should be set-up and managed. (Scheltens et al 2002)

13.4 Design Stages

In October 1995, the preliminary design phase started; which was based on the initial brief. Throughout, the detailed design phases which started in July 1996, more and more consultant got involved in the process.
14 Project Organisation

14.1 Client Organisation

The internal client organisation has been structured by AKN, FMH (the project manager) and the boards of AVRO, KRO and NCRV. These boards were formally involved as the client of the project. However, these three boards were also alternately represented in the board of AKN. The boards of the three different broadcasting companies were delegated to a steering committee. Also see Figure 22. (Scheltens et al 2002)

A key element of the project organisation is the presence of a facilities manager in the early stages of the project. This ensured a general focus on the running costs of the building during operational phase.
14.1.1 Tasks, Responsibilities and Authority

- **The Management Advisory Commission (MAC):** consisted of people from all three organisations, and had to manage and control the process of realising the new building. Furthermore, they had to manage the strategic goals and monitor the achievement of these goals, as stated in the (strategic) brief, and were obliged to inform their own organisation. Since the steering group managed the project on a daily basis, members of the MAC could invite steering group members to clarify their decisions. (Scheltens et al 2002)

- **Financial Management Committee:** (FMC) was responsible for the control of the budget. The FMC consisted of members from the financial departments of all three organisations. (Scheltens et al 2002)

- **The Steering Group:** was responsible for the everyday management of the project, and had to ensure the conditions were met. The steering group consisted of the project coordinator, board members of the AKN-foundation, the program director of the KRO, the project manager (FMH) and a secretary. This group initiated plans, decided on conditions and briefing terms etc. The steering group was accountable to the MAC. (Scheltens et al 2002)

- **The Project Manager:** had to ensure an integral project control.

- **The design team:** had to ensure that the design corresponded with the content of the brief. The architect was chairman of the design team and coordinated all the designing aspects of the building, interior and detailed design. The project-leader of the architectural firm was responsible to report design changes to the appropriate actors in the organisation and user groups. (Scheltens et al 2002)

- **The User Representative:** groups should ensure a positive feedback loop of information towards the actual end-users of the building. Primarily, this information was communicated from the designers to the users and vice versa. (Scheltens et al 2002)

- **A Controller:** was hired to control every party in the project, control budget, and reports the budget to facility management committee. (Scheltens et al 2002)

- **The Press Communication Department:** was responsible for an effective communication between management, employees and other involved actors and stakeholders. (Scheltens et al 2002)

- **The Project Manager New Buildings:** before the contractor had been hired, during the new building meetings, both the projects managers of the new building as well as space strategy, together with the design team were present. (Scheltens et al 2002)

- **The Project Manager Space Strategy:** coordinated all non-building pur-
chases and the information flow from the new facility manager. This group was represented in both the project- and users' meeting. (Scheltens et al. 2002)

- **Project Manager Facilities Management**: coordinated the information concerning goals. Furthermore, facilities management participated in both the users meeting, design meetings and steering group meetings. (Scheltens et al. 2002)

- **Director**: the architect had the role as project director during the construction phase. Although this document did not describe the construction phase, it is still a remark.

- **Consultants**: in order to consult the project two consultancies were involved. These two parties are involved in the management meetings, construction meetings and consultancy meetings. (Scheltens et al. 2002)

### 14.1.2 Project Organisation

In order to control the financial elements of the project, the financial responsibility was delegated to the architect Hoogstad. Therefore, in the architect can be seen as a project-director, furthermore, there is no direct relationship between the client and the architect. Also see project organisation. (Scheltens et al. 2002)

---

**Figure 23**  Project organisation (Scheltens et al. 2002, p24)

### 14.2 Project Organisation in Practice

During the design phases of the project, Hoogstad Architects and project manager FMH worked closely together to come up with a design. The project manager was located between the client and Hoogstad Architects, and functioned as a dedicated client. During the construction the management was controlled by Hoogstad Architects
and the project manager had a more decisive role. (Scheltens et al 2002)

4.2.1 Time Control

Throughout the design phase the project manager controlled the progression of the project, was controlled by a regular check and meeting between the client and architect. However, during the construction phase, the construction meetings were managed by Hoogstad Architect; the project manager was not present during these meetings. This resulted in the fact that the project manager had difficulties getting a grip on the control of the time-factor. (Scheltens et al 2002)
15 Information and Communication

The coordination of the design and building process of the AKN-project took place by different forms of communication. Table 5 shows the forms of communication and the actors who were involved. (Scheltens et al 2002)

Table 5 Communication (Scheltens et al 2002)

<table>
<thead>
<tr>
<th>Betrokken partij</th>
<th>Functie</th>
<th>Bouwdirectieoverleg</th>
<th>Bouwvoorzitters</th>
<th>Adviseursoverleg</th>
<th>Ontwerpplanoverleg</th>
<th>Uitvoeringsoverleg</th>
<th>Voorlichting buurt</th>
</tr>
</thead>
<tbody>
<tr>
<td>AKN</td>
<td>Opdrachtgever</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hoogstad Architecten</td>
<td>Directievoerder &amp; architect</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>FMH</td>
<td>Projectmanager</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Stichting AKN</td>
<td>Facility manager</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Aronssohn Raadgevend Ingenieurs</td>
<td>Constructie-adviseur</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Ketel Raadgevend Ingenieurs</td>
<td>Installatie-adviseur</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Niet bekend</td>
<td>Hoofdopzichter*</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Dirk Verstoep**</td>
<td>Aannemer Onderbouw</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>KoopGevekta/CFE**</td>
<td>Aannemer Bovenbouw</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Haushahn Höringer</td>
<td>Nevenaannemer</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Homij Technische Installaties</td>
<td>Nevenaannemer</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Throughout every stage of the project notes of the different meetings have been taken. Not only the board-commission meetings but also the construction meetings and design meetings. Next to the brief, several other information sources can be defined: (Scheltens et al 2002)

- Video report of the overall development and building process.
- Construction news-bulletins: special publication signs in every building/villa of every broadcasting agency.
- A 'milestone-paw' which stated the progression of the project.
- Special editions of the magazines to update the organisation.
- Tours through the building, during several stages of the project.
- Fests when the building was finished.
16 Discussion (1)

Since the selection of a project organisation, can have a significant consequence on the development of the project, the project organisation should be carefully considered. Furthermore, the project manager is a predominant role in this organisation, and since the project manager had a different role during different stages of the process, Scheltens et al. (2002) focused their critique on this project on his role. Since a project manager is also considered to be important in the overall briefing and design process, this discussion is also described in this section of the report.

16.1 Role and Position of the Project Manager

Since management of the client usually has no any construction knowledge, or time to manage the new construction project, a process manager can be hired. In case of the AKN-project, FMH has been hired to fulfil this knowledge gap. (Scheltens et al. 2002)

Two roles for the project manager can be distinguished; firstly the role of resource consultant, and secondly the role of process-consultant. This role is associated with the actual position within the project organisation. The first role provides the project manager with the total supervision/command over the whole project. The second option is the role of the ‘right-hand’ of the client. (Scheltens et al. 2002)

16.1.1 The role of the project manager within the AKN-project

As stated earlier both a steering committee, as well as a project manager was hired. Officially, the steering committee was accountable for all the project decisions, and the project manager (FMH) consulted the steering committee. This should have resulted in a steering committee that controlled all aspects of the project; furthermore, the project manager had no official obligations. As shown in Figure 22 the steering committee consisted of three managers (new facility, space strategy facility, facilities management), furthermore the CEO of FMH became the overall project manager. However, during project, the ‘new facility manager’ became the overall project director of the AKN project. (Scheltens et al. 2002)
In practice the role of the project-leader and project manager (FMH) deviated from the formal roles. Formally FMH had the role of chasseur, however in practice FMH took the role of project-leader or consultant. This resulted in a fairly large influence, in combination with the lack of responsibility for this influence. In practice there was a situation as stated described in Figure 24, however formally as stated in Figure 25. (Scheltens et al 2002)

16.1.2 Solutions

Scheltens et al (2002) suggests a two way approach to this predicament. Firstly it is eminent, to ensure a client project organisation. In other words, there should be no uncertainty about the roles and responsibilities of the different actors in this organisation. And secondly, especially within the complex building projects, client and project leader should have a strong professional relationship. Therefore, there should be a mutual trust, as well as a detailed and clear description of the tasks and responsibilities, especially the role of the project manager.
17 Discussion (2)

The AKN-project can be considered to be a complex project, with many actors and factors involved. A few elements seem relevant to discuss in this section, and in order to conclude and state some recommendations for the process tool a SWOT-analysis is executed based on the literature described in the first two parts of this document.

17.1 Strengths

- The project manager has a responsible role as chasseur to the client, which should ensure an efficient process.
- Different information sources have been used to communicate the progress of the project to the different actors, and users-groups in the organisation. This should create commitment among the future users of the building.
- A steering committee was formed to ensure a focus on the occupancy of the building. Key-person in this steering committee was the facilities manager.

17.2 Weaknesses

- Both the Project Manager as well as the architect had a managing roll in the process. The PM a more general role, during the briefing and the architect during the construction of the project.
- In the later stages of the project, the PM could be seen as a consultant, instead of responsible for the management of the project.
- The planning and the actual schedule shown a linear process, not fitted for any changes.

17.3 Opportunities

- A clear and more decisive client body could have resulted in a better managed process. Furthermore, the role and the freedom of the project manager should have been defined. This could have resulted in a better and smoother process.

17.4 Threats

- A possible threat could be that the steering committee and the facility manager take over. This should have lead to a miss-communication as well as a shift in responsibilities.
18 Conclusion

As stated in the previous section, this case has presented some elements which could be used in the process framework of user-engagement. This section provides a short overview of these elements.

1. Pre-define every actor and his role in the process.
2. Use the information within the organisation; in this case a steering group has been erected.
3. Define the goals and critical success factors of the input from the user groups.
4. Communicate in different formats to every group or actor involved.

These factors should be considered as input for the actual tool, which will be designed according to three other cases.
19 Introduction

The Luxor Theatre in Rotterdam, a 17,000 square meter building, including a 1,500 seat theatre, is located in one of recently developed urban area, Kop van Zuid. One of its eye-catching features is the 40 meters high tower, accommodating not only the theatre services department, but also a loading bay. The project, which was initiated in late 1994, has approximately cost €18,4 million Euro's and was occupied in 2001. (Demmers et al 1999)

This case study report is largely based on an earlier research work done by ADMS students in 1999, (Demmers et al 1999). If stated different, the text in this section is based on this study. This report primarily focuses on the briefing and design stage, and the project organisation.

This part is structured as follows, section 2 describes the project in more detail, and section 3 describes the project process. Section 4 describes the project organisation, and section 5 discusses the project in more detailed. Section 6 provides a more detailed discussion using a SWOT analysis technique. Finally section 7 provides a conclusion.
20 Project Description

20.1 Luxor Theatre Project

The bright red Luxor theatre in Rotterdam is situated at the foot of the Erasmus Bridge in Rotterdam, as a key project of the 'Kop van Zuid' urban development area. The old Luxor theatre in the city centre of Rotterdam had become too small for modern new and large theatrical-plays and therefore a new theatre had to be build. This Omni-sided building houses a 1,500 seat theatre hall and covers 16,000 sqm. One of the key features is the 40 meter tall tower, which houses the theatre services. See Figure 26 [Reference source not found..] Furthermore, Table 6 states the general aspects of this project. The architect describes the project as: a multiple orientation, a single wrapping facade, a 360° building. (Bolles and Wilson, n.d.)

Figure 26 Luxor Theatre building (http://upload.wikimedia.org)

<table>
<thead>
<tr>
<th>Description</th>
<th>Location</th>
<th>Client</th>
<th>Design</th>
<th>Structural design</th>
<th>Building costs</th>
<th>Surface</th>
<th>Project period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>51°55'24&quot; (N), 4°29'27&quot; (O)</td>
<td>OBR/Luxor Theatre</td>
<td>Bolles and Wilson</td>
<td>Gemeentewerken Rotterdam iBS</td>
<td>EUR 38.4 Million</td>
<td>15,592 sqm.</td>
<td>September 1998 – February 2001</td>
</tr>
</tbody>
</table>
20.2 Local developments

The Luxor Theatre Project is part of the larger urban development project Kop van Zuid, which is one of the most important urban renewal projects of the city of Rotterdam. The 'Kop van Zuid, used to be part of the 19th century harbour complex, covering 128 hectares, located in the eastern side of the city centre. (Demmers et al 1999)

Since, almost all harbour activities had been relocated to the west part of the city, this part became a valuable location to be developed. Therefore, in 1984 an urban development plan was designed and proposed by the Dutch architect Koolhaas. By the year 2010, 5.300 new dwellings, 400.000 m² offices, 35.000m² retail, 30.000m² educational services, 30.000m² recreational facilities and 3.600 parking spaces will be been developed. (Embden n.d.; Demmers et al 1999)
21 Process Description

21.1 Initiative

In 1985 the managing director of the Luxor Theatre (Mr. Wiegman) initiated the process which should finally result in the build of the new Luxor Theatre. However, it took until July 1995 before the decision to commence the project was made. During this first stage, many efforts were made in order to create political and public commitment. At that time the local government decided to change the location to the 'Kop van Zuid' location. (Demmers et al 1999)

The entire process has approximately taken 16 years in total. Since the official start of the project was in 1995, only the pre-construction process from 1995-1998 is described in Figure 27 (Demmers et al 1999).

![Figure 27: Project timeline (Demmers et al 1999 p11)](image)

21.2 Briefing Stage

The project brief has been developed in two separate stages. The preliminary brief was developed by the theatre consultant Prinsen en Bus, in collaboration with the Luxor Theatre organisation. After the design contest, the preliminary brief was further developed into a detailed brief by Twynstra Gudder, the project manager at that time. The detailed brief was considered to be a final document, and considered to be the final input to the designing team members. The briefing stage was completed in 1996, when the city council (municipality) of Rotterdam approved the brief and budget. (Demmers et al 1999)

The Luxor Project brief was divided in three parts: a functional part, a technical and cost estimation. The functional brief section described the theatre technical design, acoustics and fire safety. Furthermore, the technical brief described materials,
installations etc. Since the brief is considered to be a reference document to evaluate the design, this evaluation process has been managed by Dumas, as a representative of the Theatre's organisation. (Demmers et al. 1999)

Van Liebergen (1999) describes the briefing process of the New Luxor Theatre project in more detail. During the initial phase the concept of a two hall theatre is mentioned, and a building at the Kruiskade in Rotterdam is bought by OBR. This building should have been demolished, and the location to be used to build the New Luxor Theatre.

However, throughout these initial stages of the project, it became clear that the intended location was not suited for a two-hall-theatre, and a new location had to be found. Although the new location (the kop van Zuid) was quickly selected, it could not provide sufficient area to realise a two-hall concert hall as well. Finally, the original concept was adjusted to a one hall-theatre, and the brief was written based on this concept. (Van Liebergen 1999)

21.2.1 Briefing Approaches

Van Liebergen (1999) describes three different briefing approaches: a permanent brief, a multi staged brief and a growing brief. The permanent brief is compiled before the design process starts. Since the brief should contain the complete information to design and construct the project, the project team requires all the knowledge. After the brief is written, it should be tested to its completeness; which could be done by comparing the brief with similar projects' briefs. However, in a complex project similar to the Luxor Theatre project, it is almost impossible to state all the requirements at the one point in time. (Van Liebergen 1999)

The development of a multi-staged-brief is to identify the different stages, and define the content of the brief throughout the different stages. If the different outputs of the brief stages are defined, the design can commence. The design output will be tested against the corresponding brief, the brief can be improved in more detail, and a second design stage can commence. Furthermore, the multi-staged process provides the users the opportunity to include new findings in the new staged brief; as long as these new requirements fit the original outlines. A condition to this process is that the briefing process must be planned in advance. (Van Liebergen 1999)

The growing brief concept is based on the growing brief concept, but is more persistent. After the project team is composed, the initial brief is further developed; furthermore, the design process is started; it can be described as an iterative interactive process between design and brief. Since new insights in the requirements and needs can be taken along, the interaction and involvement of the client can be high. Before the start of the design process, the user/client does not have to have a detailed knowledge/insight in their requirements.
One of pitfalls is that the brief could be developed from design, instead of the other way around. (Van Liebergen 1999)

_The type of brief used in the Luxor Theatre project is a combination of a permanent brief and a growing brief. A permanent brief is delivered before the official start of the design process. However, during development of this permanent brief, adjustments to this brief were made after the outcome of the design contest, which refers to a growing brief._ (Van Liebergen 1999)

21.2.2 Recommendations

Van Liebergen (1999) strongly recommends the next three aspects to be considered:

1. **Formulating starting points**: the starting points and starting conditions should be formulated and communicated.

2. **Two types of brief**: the permanent brief and the growing brief should be combined. A design completion before finishing the brief, could lead to more insight into the expectations of the final project. The recommended brief is multi-staged-brief, which allows the organisation to use advanced insights into the project of the brief, which decreases the risk of not achieving the desired usable building.

3. **Position of the Luxor Theatre in the project organisation**: involving the Luxor Theatre in the project organisation during the design process, can serve as an extra back-up for a usable building. However, the Luxor Theatre must at least be participating in the steering team and the project team.

21.3 Design Contest

According to the European tendering rules, the design competition of the Luxor Theatre Project should be open for European architect. In 1995, the City Council set-up a non-public contest for the design of a theatre at the Kop van Zuid-Location. Finally 18 (European) architects enrolled, from which 3 three were dismissed because they could not meet the European-Standards; seven other architects were asked to make a design study of the theatre: Hertzberger, Sipek, Alliance Bolles & Wilson & Bureau Bouwkunde, Christiaanse, Hoogstad and Koolhaas. Finally the design-plan of the alliance of Bolles & Wilson & Bureau Bouwkunde won the contest. (Demmers et al 1999)

21.4 Political Decision Process

On October 31, 1996, the City Council of Rotterdam approved the budget of 72,5 million guilders (approximately 33 million Euros). With this approval the project Luxor Theatre found its existence. (Demmers et al 1999)
21.5 Tendering Procedure

The overall tendering procedure was divided in a services engineering part and a theatre services engineering part. Two parties (Prinssen en Bus and Huisman en van Muijen) were pre-selected and asked to join the tendering procedure. However, since the final selection criterion was price, a different company (Tebodin) was selected. Prinssen en Bus were assigned to realise the engineering theatre service, building acoustics and building physics. (Demmers et al 1999)

On January 21 1998, the construction tender commenced with a tendering publication, which enclosed different conditions to join the tendering procedure. Furthermore, the project was divided in two parts, the theatre equipment, and the rest of the building. The selected contractors were: van Hoorn B.V. and Stakebrand B.V. who was responsible for the theatre equipment. (Demmers et al 1999) Within the discussion on tendering procedure, three points should be taken into account:

- **Choice of the form of contracting.** A traditional contracting procedure was considered to be the best option. Other contracting forms do not entirely coincide with a public tendering procedure and the contractors' contribution during the design.
- **The absence of sub-contractors for the mechanical and electrical services.** The construction was tendered as one project, apart from the theatre services. Meijer argument was that he would like to minimize the number of lawsuits, if the project would result in legal affairs.
- **High minimum requirements.** The tendering requirements were set up by Meijer and Bureau Bouwkunde. Since the project had to be finished/had a tight deadline, this required for complete contractors.
22 Project Organisation

22.1 The Client

In the case of the Luxor Theatre Project, the client embodies two organisations: the Luxor Theatre, and project development Rotterdam (OBR) which is part of the municipality. From the future user's-organisation Luxor Theatre, two representatives (the general director Mr. Wiegman, and head of technical department Mr. Dumas) represented this organisation. OBR is a department of the City of Rotterdam, and has final financial responsibility for this project. Managing director Mr Beijer, has been responsible for the entire building process, including costs and time. Since OBR is the formal client, all other participants are contracted by OBR. (Demmers et al 1999)

Given that the project is a political project, initiated by the municipality, and the former contractor is the OBR, a political representative has been assigned; the city chairman of Arts and Culture, Kombrink. (Demmers et al 1999) Also see Figure 28.

![Client organisation diagram](image)

*Figure 28 Client organisation (based on Demmers et al 1999)*

Within the client organisation, two people have a dominant role in the process, Mr Wiegman and Mr Meijer. Within the client organisation, Mr. Wiegman, choose to present the user (The Theatre Organisation) instead of being financial responsible. To manage the project, dedicated to Gemeentewerken Rotterdam, Mr. Meijer was contracted by OBR. Therefore, he operated as delegated client in the Luxor Theatre Project. Although he was delegated by the financial responsible client (OBR), he had two different objectives. (Demmers et al 1999)
1. To represent the client's interests
2. To leave the managerial activities within the design and the construction processes to the designers and contractors (in particular the architect and the main contractor)

The organisation of the project can be separated in both a decision making organisation and an executive organisation. Although the organisations had been formally stated, the (inter)personal aspects and informal organisation have had a large roll. Mr. Wiegman stated three principles, which should have positively influenced the project: (Demmers et al 1999)

- *Limit the number of participants*, which should improve the collaboration and communication within the team.
- *Bring in the right people*, one of the key-factors of the success of the projects' process. The right people were Mr. Dumas and Mr. Meijer, who both had had good experience during the *Rotterdamse Schouwburg* project. Mr. Dumas has a large amount of technical experience concerning theatres, and Mr. Meijer is a project manager, who has proven to be capable to manage a delicate and complex project.
- *Create the right conditions for the participants*: Next to the right people in the team, there should be enough funding and the personal enthusiasm. Since Mr. Wiegman is considered to be an energetic person, he played a large role to create the right conditions.

### 22.2 Decision making Organisation

The number of different involved parties resulted in a complex organisation, and in a complex decisional structure, which comprised of four levels. These four levels correspond with the four different bodies responsible for the project: Kombrink, Beijer, and Meijer. Also see Figure 29. (Demmers et al 1999)
Other points within the final decisional structure:

- **The city council** had to approve if the project budget were exceeded. Already at the start of the process, the city council had to approve the budget stated in the brief.

- **The steering committee** determined the overall objectives, concerning the planning, budget, quality, information and organisation. Furthermore, they had to approve the several stage-documents.

- **The management team** had to support, and control the budget. Other tasks involved control policies, and approve the phase documents, approve changes in the documents and sign contracts.

- **The project team** had to control the design and construction processes, furthermore they had to monitor the design process. Furthermore, they had an advisory task regarding design and construction concerns.
Within the structure of the client organisation four different roles can be identified, and the client's responsibilities and tasks have been divided over these four participants. Furthermore, the participants have been selected on their (personal) competences. (Demmers et al 1999)

1. The Luxor Theatre: represented by Wiegman and Dumas. They had experience with the realisation of a theatre project; furthermore, they acted as the user representatives. Their task was to bring their knowledge of user aspects of a theatre.

2. Project Management. Meijer was responsible for the overall project management. He was experienced, and in favour of both OBR and the Luxor Theatre organisation.

3. OBR was represented by Mr. Beijer, who was financially responsible for the project.

4. Mr. Kombrink chairman for Arts and Culture, a section of the municipality, was politically responsible.

Mr. Wiegman and Mr. Dumas both insisted on their partial client role: "we want to be user and not client to get the things we actually want." To ensure the intended quality, Mr. Wiegman made sure that the Luxor Theatre had a lot of informal power by: (Demmers et al 1999)

- Frequently contact between Mr. Dumas, Mr Wilson and himself
- Informal meetings with Bureau Bouwkunde and OBR
- Attending the design team meetings whenever he thought necessary.

During the Luxor Project, four different levels of decision making can be identified, and several reasons have led to this decision construction. (Demmers et al 1999)

- The hierarchy has enabled the departments of the municipal civil service concerned, to take position at an appropriate level of the decision making body.
- Secondly, the decision making body, on its turn, has kept the departments involved, informed about the course of the project.
- To create the necessary support of the municipal bureaucracy throughout the project. This support often turns out to be an important factor to the success of a project.

Mr. Meijer had a decisive role in the informal contact with the municipality. Not only did he have enough experience to manage such a project, but he also knew how to manage the bureaucracy. The 'joint venture' between Bolles & Wilson and Bureau Bouwkunde, has had some positive outcomes to the process. Bureau Bouwkunde has both knowledge and experience of the Dutch construction industry, and knows how to manage the design process. (Demmers et al 1999)
22.2.1 Design Team

Four team members define the design team of the Luxor Theatre project: (Demmers et al 1999)

- The architect was represented by collaboration between Bolles & Wilson and Bureau Bouwkunde. Throughout the design phase, the architect has been represented by Mr. Wilson, and by Mrs. De Bruin who has been responsible for (construction) detail design.
- The structural engineer is represented by IBS (Ingenieursbureau Beton- en Staalbouw) IBS, represented by Mr. Laurens is responsible for the structural design and costs- and quality control of the structural design.
- The Mechanical and Electrical engineer is represented by Mr. Corneth on behalf of Tobin, who is responsible for the mechanical and electrical services.
- Theatre Services, represented by Mr. Prinssen on behalf of Prinsen and Bus.

The scheme in Figure 30 provides shows the levels of work within the project. In this scheme six levels of work are distinguished: (I) technical, (II) first entry professional, (III) associate manager, (IV) architect or project manager, (V) project directory senior partner and (VI) government. (Demmers et al 1999)

<table>
<thead>
<tr>
<th>City Council</th>
<th>Steering committee</th>
<th>Management team</th>
<th>Project team</th>
<th>Architect</th>
<th>Engineer</th>
<th>Engineer</th>
<th>Engineer</th>
</tr>
</thead>
<tbody>
<tr>
<td>VI</td>
<td>City councillors</td>
<td>Mayor</td>
<td>Mayor</td>
<td>BB + BW</td>
<td>P+B</td>
<td>IBS</td>
<td></td>
</tr>
</tbody>
</table>

Figure 30 Working levels and design organisation: (Demmers et al 1999)
22.3 Design Management

The design was managed by two representatives of the design consortium, Mr. Wilson and Mrs. De Bruin. Wilson was responsible *lead the team during the preliminary and final design phase*, whether Mrs. De Bruin during the construction preparation phases. However, since the design management had to be carried out according to the SR’88². No formal authority could be granted to the design manager. (Demmers et al 1999)

The primary management objectives were to ensure that the different designs coincide with each other. Therefore, Mrs. De Bruin scheduled and controlled the exchange of information, and collected the design results. To ensure an integrated design, Mrs. De Bruijn provided templates and guidelines on which the drawings had to be prepared. (Demmers et al 1999)

![Figure 31: Management of the design process (Demmers et al 1999)](image)

23.1.1 Information and Communication

As the end-user of the building, the Luxor Theatre Organisation has had an important position in the project organisation; and was responsible to communicate the required user information to the design- and project team. The responsible actors in this organisation were Mr. Wiegman and Mr. Dumas. However, it was unclear to what extent both Mr. Wiegman and Mr. Dumas were formally authorised to attend the design meetings. Their frequent attendance, and furthermore informal contacts, has resulted in the involvement of Luxor Theatre during the development of the design, *the quality of the design and the financial feasibility of the project*. (Demmers et al 1999)

**Designing context**

The concept of information exchange became vital during the design stages of the project; the responsible actor has been Bureau Bouwkunde. Throughout the design

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2 Standard legal conditions for contracts between client and architect
stages, the team would meet every two weeks in a design meeting. During the construction stages, the team met every two weeks to exchange information. (Demmers et al. 1999)

Since the right information at the right place at the right time is crucial, Bureau Bouwkunde managed the information. To ensure the exchange of information, agreements on hardware and software were made. In spite of contractual terms, problems with exchanging formats and used design software have occurred in the design process. (Demmers et al. 1999)

Although Bureau Bouwkunde had to manage the information exchange, they did not have sufficient authority. Since there have been some mistakes and problems in the field of information exchange, these could not be totally resolved by Bureau Bouwkunde. Therefore, Demmers et al. (1999) suggests that maybe other people (e.g. Mr. Meijer) with more authority should have been responsible for the adequate information exchange.

22.4 Project Management

OBR was responsible for the management of the project. Since Mr. Meyer, already had experience in creating and managing a theatre building, he was requested to lead and manage this project, by both the Theatre’s organisation as well as OBR. His main responsibilities were: (Demmers et al. 1999)

- To actually realise the project (to make things happen)
- Manage and coordinate information-flows to the different actors involved
- Approve the design by the user (Theater-organisation)
- To meet with Mr. Kombrink
- Control and interfere when needed
- Assign contracts below Hfl. 200,000 (EUR 90,000)

Instated by the municipality (Gemeente werken Rotterdam), the project was managed according to a quality handbook. These quality procedures included the project plan, the phase documents, design changes, cost estimations and time control. By means of this Quality Handbook, Mr. Meijer set-up a project plan which stated all the relevant principles and agreements concerning project-characteristics. Before every phase, this document was updated, and everyone involved in the process, was implied to agree with this project plan. (Demmers et al. 1999)

At the end of every project stage, the design team had to hand in an integrated design document, containing drawing, calculations, reports and cost estimates. This document was compared by Meijer with the brief; and checked if the design complied with the earlier made decisions and agreements. Furthermore, every phase document
had to be approved by both the management teams as well as the steering committee. Finally Meijer produced a list of deliverables for every next step in the process. (Demmers et al 1999)

22.4.1 Quality Management

From the participant’s points of view, quality can be accessed from several different viewpoints. The Luxor Theatre Organisation has interpreted quality as the product and the user quality of the building. The new theatre should therefore be a worthy project to the city of Rotterdam. The project manager’s as well as the architect’s main interest is a good quality design and process. (Demmers et al 1999)

By separating the users and architects involvement, and the coordinating role of Mr. Meijer, the quality of the process has increased; however, there could have been severe problems. This hands-off policy had to be supported by the architect; consequently, the Luxor Theatre’s task was to communicate the user aspects and the architect’s task is to coordinate the design process. This hands-off approach seems to have worked in this project. Mr. Dumas and Mr. Wiegman have had an important role in determining the product and user quality. Furthermore, the architect has had an important role in coordinating the design process. This approach has resulted in a personal responsibility of stakeholders; furthermore, it increases the involvement of the architect, the end-user and the new theatre. (Demmers et al 1999)

The involvement of the Luxor Theatre organisation should be interpreted as the involvement of an expert in the field of theatre design. This resulted in stating larger goals, and the achievement of these goals became more and more realistic. Furthermore, since Mr. Wiegman was the original initiator of the project, there has always been a dialogue between Mr. Wiegman, Mr. Dumas and Prinsen and Bus (theatre services) during the briefing stage. One of the negative elements of involving the Luxor organisation is the time-consuming aspect of this process. (Demmers et al 1999)

Quality Handbook and Project Plan

Since the Gemeentewerken Rotterdam dictates several quality procedures; Mr. Meijer produced a quality handbook for the Luxor project as well. This handbook ensured a high quality process, and comprised many procedures and described a strict phasing of the project. For every stage of the process, Mr. Meijer had drawn up a specific, or updated, project plan and described goals for every participant of the particular stage. This gave him the opportunity to conclude which participant had obtained their goals. Concluding, the quality system should have had a positive effect on the project, and it should have helped the architect to coordinate the design- and construction process as well. (Demmers et al 1999)
There have been two other proofs of a strong non formal organisation of the project, two other examples of the so-called hands off mentality. Firstly, although the use of a quality handbook was not stated in any contract with the team members, Mr. Meijer convinced the members of the use of this handbook. This has provided the opportunity to state failures and ensures the architect to coordinate the design and construction process. And secondly, although Meijer was responsible to check whether the design and construction specifications confirmed with the original brief, and the client's requirements, Mr. Dumas would do this in practice. The reason for this was that Dumas was much more involved in the design process. Consequently Meijer monitored Dumas' work and was the final responsible person. These two elements of non formal organisation are two strong points in the organisation of the project. (Demmers et al 1999)

22.4.2 Costs

A central element in managing these kinds of complex projects, and any other project for that matter, is to keep on budget. Since the Luxor Theatre project is a public project, and is paid with tax-money, staying on budget is even more important. Since the success of the project depends on the political commitment, budget overruns could have a negative effect on this commitment. Since budget overruns are almost unavoidable, the number of occasions to ask for extra budget should be kept to a minimum. (Demmers et al 1999)

As stated earlier, since the user and financial responsible client were separated, OBR should be responsible for the payments. However, this is not the case, and (Demmers et al 1999) states several reasons for this financial construction.

- Tax advantages
- To possibly hand-over the ownership of the building
- Mr. Meijer's task has been to both represent the client's requirements as well as the payment of the designing architects; which probably is a good balance in responsibilities.

Although OBR is the formal client, the required funding for this project was provided by the City of Rotterdam. Consequently, should the project overrun the budget, Meijer should ask for extra budget. This should result in a constant political focus on the project. Meijer has tried to prevent this by only asking for extra budget during two points in the process: at the start of the project, and after the project had been tendered. This resulted in a common project, which was not commonly discussed. (Demmers et al 1999)
During the design stage savings had to be made. At the start of the preliminary design, Meijer wanted to have every designer committed himself to the budget of his part of the building. However, the structural engineer Laurens realised that his budget would probably be far too small. Mr Meijer asked every discipline to look for savings; several engineers were not enthusiastic about this concept. (Demmers et al. 1999)

Mr Meijer impelled the solution to freeze the architectural fees; despite of any savings in the budget. Initially the designers' fees were a fixed percentage of their partial budget. Eventually this resulted in a joint effort and a total saving of Hfl 2 million (approx. 0.9 million Euro's). In this case Meijer's role has been very important, his role as an intermediate between the client and the design team is illustrated in this case. (Demmers et al. 1999)

22.4.3 Time

From both the Luxor theatre's point of view, as well as the designers' point of view, any delay in the construction period is considered unacceptable; which requires a well planned process. The project manager should therefore develop schedules which should be based on realistic assumptions; which should prevent and significant delays in the process. (Demmers et al. 1999)

During the construction stage, Bureau Bouwkunde, has been responsible to supervise the process; therefore Meijer depended on the competences of Bureau Bouwkunde to control time. This hand-off policy required Meijer to monitor the overall process, and he is therefore only interested in changes which could result in time-overruns. (Demmers et al. 1999)
23 Discussion (1)

23.1 Introduction

The client's organisation of the Luxor-Project can be characterized as complex. Woudsma (1999) describes the client organisation in more detailed, and has a few recommendations to improve this organisation. Since the user had a predominant role throughout the process, a more detailed description seems relevant. There are three grounds to the complexity of the client's organisation.

1. Delegated Client; In order to manage the project, a project manager (Mr. Meyer) was hired. However, since there are many parties involved in the client-organisation, several other delegated managers were involved: the managing director of (OBR) who was financially responsible; furthermore, the Luxor Theatre, and its representatives (Mr. Wiegman and Dumas) were involved as well. (Woudsma 1999)

2. Formal Structure; in this project, the project brief was developed in an early stage of the project, which should have lead to a process in which the user (Mr. Wiegman and Dumas) were no further involved. However, throughout the construction process Mr. Dumas was still involved as user-representative. This informal decision making process has had a positive influence; however, should there have been a impediment and contracts had to be formally pursued, the outcome of the process could have much less positive. (Woudsma 1999)

3. User's involvement at all levels of the project organisation; the user representative, were involved throughout all the levels of the organisation as well as most of the project stages. This result in a fair amount of indirect deciding power. Since Wiegman represented the Luxor Theatre, this can be seen as positive; however, this dominance could also result/lead in a danger that the building does not accomplishes more general requirements. (Woudsma 1999)

23.2 Client as decision making body

Within the client organisation, several groups of stakeholders can be defined; furthermore, different decisions were made by different stakeholders. (Woudsma 1999)

Financial decisions; the initiator of the Luxor Project has been the Luxor Organisation itself. However, since they did not have sufficient funds to finance the project, they sought other funding opportunities. The city of Rotterdam was prepared to invest in this project. Consequentially, the Luxor project developed into a prestige
project to the city of Rotterdam. However, the influence of the financer should be kept to the strategic financial decisions. (Woudsma 1999)

**Coordination decisions:** in a project team, the coordination of the project should preferably be controlled by an independent project manager. However, in case of the Luxor Theatre project the project manager did not have had this preferred independency. Since the project manager was delegated by OBR, it was impossible to differentiate between coordination and financial responsibility. In general, to ensure that the various interest are represented, an independent process manager should be hired. He has to translate the needs of all the stakeholders, and reformulate them to building requirements. Therefore, the PM has to be a member of the highest decision making level of the project. Furthermore, the PM should chair the meetings during the operational activities of the project. (Woudsma 1999)

**User Decisions:** the requirements of the user are object related and concern the quality of the building, as opposed to the financial consequences of these requirements. Therefore, this decision discipline has to cover all decisions, which determine and influence the object quality of the building seen from the user's perspective. The project manager has to recognise who are the actual users of the new building, in order to assess a representative picture of the overall user needs. In case of the Luxor Theatre Project the following user groups have been defined. (Woudsma 1999)

- Luxor Theatre. *The Luxor Theatre can bring in the project its great knowledge of theatre issues.*
- Theatre artists. *Artists probably more about the quality of the building.*
- Theatre audience.
- Catering specialists. *A consultant in catering can make a reliable plan for the required catering facilities.*
- Commercial Specialists.
- Citizens of Rotterdam

These users groups should not all be present and involved during the design and briefing procedures of the project. This would result in a far too complex decision making procedure. Therefore, these groups should be represented by an accommodation consultant, and should be part of the highest decision making team. Furthermore, their requirements should be formulated in the brief, regardless of the used briefing process. Once the needs are written down in the brief, the accommodation consultant does not have to be involved in the project organisation. However, he has the assignment to ensure that these requirements are represented in the design, in other words: if the design still meets the users' needs. (Woudsma 1999)
23.2.1 Dimensioning in the decision making organisation

The three decision disciplines, described in the previous section, should be incorporated into the client structure. *Since the financial discipline depends the most on the well-being of the project, it is appropriate that this discipline's representative chairs the highest decision level. For the user discipline, the accommodation consultant should be involved. A project manager should represent the coordination discipline, and the financial discipline should be represented by the investor.* (Woudsma 1999)

Next to this primary decision making process, a secondary process level is required. Throughout this stage the policy of the management team should be translated to project goals. This project team level, should preferably chaired by the project manager, who periodically reports to the management team. This feedback results in the opportunity for the users and client to monitor the process and to consider of the projects develops in accordance with budget and specified user needs. (Woudsma 1999)

23.2.2 Revised Client Structure

The revised client structure should support both the decision making process as well as the coordination of information from client to project organisation. Figure 32 states the proposed new client structure. *The three decision disciplines are represented at the highest level, the management team. The management team is chaired by the representative of the financial discipline.* (Woudsma 1999)

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![Figure 32: Involvement of client decision in decision making](Woudsma 1999 p74)
From the client structure, only the project manager is represented in the project team. The design manager chairs the design team, where decisions are put into practice. By being member of the project team, he understands the background of the decisions made. There are two important input processes for the design process; concerning financial information and the user needs. The arrows in Figure 32 show the direction and place within the process. The additional information which is produced throughout the design process should be inputted directly in the design team. In order to manage the process, regular feedback meetings should be scheduled. (Woudsma 1999)
24 Discussion (2)

The Luxor Theatre case can be considered to be a complex project, with many stakeholders and factors involved. A few features seem relevant to discuss in this section, and in order to conclude and state some recommendations for the process tool a SWOT-analysis is executed.

24.1 Strengths

- A very involved and motivated Wiegman, who can be seen as a project champion.
- The hand-off methodology of the Mr. Meijer caused others to execute the assignment, and be responsible for their actions. Although Meijer was responsible, others (usually more adequate individuals) were asked to carry out this responsibility.
- The quality handbook resulted in a thorough process description, deliverables etc.
- The involvement of the Luxor organisation resulted in a better insight in the requirements, and the statement of larger goals.
- A rigid budget control that ensured the absence of extra political involvement and loss of political commitment; since there was no need for a larger budget.
- The client and user-representative were involved throughout every stage of the process Also during the construction stages.
- A considered briefing concept: here a combination of a permanent and growing brief.
- The user groups have been identified: Luxor theatre, theatre artists, audience, catering specialists, citizens of the City of Rotterdam.

24.2 Weaknesses

- The hands-off methodology only works if there is a common trust between the actors involved. Should there have been a problem; the formal responsible actor (Mr Meijer) probably would have had a serious problem. This probably should have resulted in lawsuits.
- The organisational needs did not correspond with the location performance. This resulted in a change of location.
- The requirements and needs were poorly stated and were not accompanied with any performance indicators.
- The client was directly involved in the design meetings, which sometimes lead to frustrations if some requirements could not be met.
- Too many actors were involved in the client structure. This has lead to a un-
clear status who was responsible for what. The roles of the actors in the client organisation were unclear.

- Only the Luxor Theatre organisation was actively involved throughout the process. The other identified user-groups were not.

24.3 Opportunities

- An accommodation consultant could have represented the other defined user groups within the project organisation. This could have lead to a building which not only fitted the needs of the Luxor Organisation better, but also the theatre artists, audience, catering specialists and the citizens of Rotterdam. Furthermore this could have lead to a different building with different parameters and features.
- A small client organisation could have lead to a better communication within this body, and better division of tasks and responsibilities.

24.4 Threats

- Especially Meijer had a predominant role during every stage of the process, although he had no real deciding power, he ensured that the decisions made earlier were executed.
- The strong informal organisation could have resulted in large lawsuits, should it have gone wrong. Since the process was based on mutual trust, this has not accord.
- Budget overruns could have lead to a loss of political commitment.
- The involvement of everyone in the design organisation could have lead to a complex process.
- One of the negative elements of involving the Luxor organisation is the time-consuming-aspect of this process.
25 Conclusion

As stated in the previous section, this case has presented some elements which could be used in the process framework of user-engagement:

1. The involvement of the users is positive; however, the representatives should not directly be involved in the design team.
2. Identify the user-groups
3. The strategic needs should be accompanied with performance indicators and should be reflected to the budget.
4. The structure of the brief should be strategic, a growing or evolving brief. This ensures that the input of different groups can be used throughout the process of briefing and design.
5. Start with a good strategic outline of the project. In this case the requirement of a two-auditorium theatre could not be matched with the selected location.
6. Ensure a small client organisation, and state their roles and responsibilities.
7. Involve not only the client organisation but also the other user groups.
8. Use an accommodation consultant to decrease the number of actors in the project organisation.

These factors should be considered as input for the actual tool, which will be designed according to three other cases.
26 Introduction

The Muziekgebouw aan’t IJ (Theatre besides the IJ-lake) in Amsterdam is a unique building, and considered to be an architectural landmark, designed by the Danish architects 3xN. The building houses two different organisations, the BIMhuis, a modern Jazz-centre, and the IJsbreker that programs contemporary symphonic music. Since the two organisations both were looking for a new location, the municipality of Amsterdam saw the opportunity to combine the two organisations together in one theatre. Throughout this document the Muziekgebouw aan’t IJ will be referred to as MAIJ.

This document is part of a larger research to the engagement of the users during the briefing and design stages of a complex project. Therefore it is structured as follows: section 2 describes the project in more detailed. Section 3 describes the project organisation, and section 4 the overall project’s process. Section 5 reviews the project, using a SWOT analysis tool, and finally section 6 concludes on this case.
Engaging Users in Briefing and Design: a Strategic Framework
27 Project Description

27.1 Introduction

The MAlJ is located on the north side of Amsterdam Central Station, on the banks of the IJ-Lake, and together with the Mövenpick Hotel and the Passenger Terminal Amsterdam, an eye-catching element (www.architectuur.org). In the eyes of the urban planning agency, the river banks of the IJ-lake should become a lively area with its own specific character and identity. Therefore, the urban area was divided in several sections. The largest part and the future location of the MAlJ should become a public accessible part, and become an eye-catcher to the city. (Spangenberg and Krijgsman 2005)

In 1997 a new tunnel (Piet Heintunnel) created a connection between the North of Amsterdam, the newly developed Eastern Harbour, and the city centre. The development of 8,000 dwellings provided a good opportunity to this area. Within the next 5-10 years, this area will be developed into a multi functional urban area with commercial spaces, dwellings and cultural functions. The west side of the island should become a focal point of cultural activities. (Lindner and van den Boorn 2004)

![Location MAlJ](www.maps.google.com)

27.2 Historical Overview

Historically the IJ-Lake, and the Amsterdam harbour, has been both a cultural as well as economic value driver to the city of Amsterdam (Lindner and van den Boorn 2004). Due to the construction of several artificial peninsulas, the harbour activities heavily increased over the period from 1874-1927. The peninsulas were used by shipping companies, shipping bulk goods to e.g. Suriname, and passenger ferries travelling to the

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3 Dienst Ruimtelijke Ordening (DRO)
USA. However, after World War 2, most the bulk transport was replaced by container transport and the passenger ferries were replaced by commercial airlines. Finally, in 1979, the very last company (KNSM) left. (www.oostelijkhavengebied.nl)

28.2.1 Musical History

In 1886, the first Concert Hall in Amsterdam that led to a lively musical culture was completed. However, in the 1970’s, several ensembles separated themselves from the Concert Hall organisation. In 1981, Jan Wolf (at that time a horn-player) decided to devote a building (de IJsbreker) to these innovative ensembles at the Weesperzijde in the city of Amsterdam. In the 80’ies and 90’ies, this small concert hall flourished, and soon became too small. Therefore, twenty years ago, managing director Jan Wolff, initiated the idea to build a large concert hall for the 21first century, combining a concert hall with practice room, offices etc. for ensembles and musical-organisations (www.muziekgebouw.nl). This process has resulted in the construction of the MAIJ. However, since it is not the purpose of this document to describe the last twenty years, this document focus on the present project which commenced in 1997.

27.3 Project Values

Five intentions have been formed to describe the values of the project, and the project site. (Spangenberg and Krijgsman 2005)

1. The building should have enough intimacy, which fits the musical experience.
2. On the other hand, the building should be open to ensure that both paying-customers and visitors are seduced to enter the building.
3. The different functions (auditoriums/halls, studio’s, rehearsal rooms, foyer, restaurant etc.) should interact with each other.
4. The building should have one central common public entrance hall, surrounded by all the functions inside the building. In the winter, this hall should protect the visor from the rain and the cold. However, in the summertime, this entrance hall should function as an urban squire, which opens up to docs and the IJ-lake.
5. From the foyers, one should have an appealing view over the Amsterdam Port, as well as the skyline of the city of Amsterdam.

27.4 Architectural Design

According to the architects of the MGBA, 3XN, the MAIJ is all about music. Furthermore, the building should attract a wide variety of visitors, and should be a landmark facing the IJ-lake. In addition, it is a public, democratic building, designed with a 24-7 open flow, independent of BIMhouse and Muziekgebouw activities (www.3xn.dk).
The architectural design is characterized by orthogonal lines and cross-sections, which results in a supposed simple design. However, since many different functions are integrated with each other, the design cannot be classified as simple. The building is primarily constructed out of concrete, steel; glass and wood. The key architectural feature of the building, are the massive plinth and its wooden cladding, the massive concrete concert hall, and the BIMhuis and its sink cladding and finally the so-called 19 meter overhanging ‘cap’. This cap should combine all the functions together in one building. (Lindner and van den Boorn 2004; Spangenberg and Krijgsman 2005)

Since the MAIJ is surrounded by functions producing high noise levels: the PTA (passenger terminal Amsterdam), a busy motorway entering the city, and passing trains, the location seems not suited for a concert hall. Together with the extreme acoustical requirements – the IJsbreker concert hall should have an internal sound level of 15 dBA- this resulted in a difficult design problem. (Spangenberg and Krijgsman 2005)

### 27.5 Functional Design

Next to the BIMhuis jazz centre, and the IJsbreker concert hall, the MAIJ houses a small office block and a two story multipurpose area (the so called ‘plinth’). Furthermore, the glazing facade creates a large open area which is created as a public entrance hall and Grand Cafe. From this hall, the different functions can be accessed. (Lindner and van den Boorn 2004) To secure their own identity, the different functions are faced differently. The central foyer and the cap of the MAIJ are faced towards the IJ-lake, and the BIMhuis is faced towards the city of Amsterdam. (Spangenberg and Krijgsman 2005)
27.5.1 IJsbreker Concert Hall

As stated in the previous section, the acoustical conditions of the IJsbreker concert hall were extremely important. To adequately confirm these requirements, the so-called 'box-in-box' principle has been applied, which is explained in Figure 36. The inner box has been constructed separately from the outer concrete structure. The independent inner box, and massive outer box, should prevent sound leaking in the concert hall. To further optimise the acoustical conditions the sealing of the hall can be altered in height, which alters the volume of the hall, effecting the reverberation time. The box-in-box concept is also used in several small rehearsal rooms. (Lindner and van den Boorn 2004)

![Box-in-Box concept](image)

Figure 36  Box-in-Box concept (Spangenberg and Krijgsman 2005 pp15)

27.5.2 BIMhuis

The BIMhuis houses 250 concerts per year, and programs a wide variety of Jazz and other improvised music. This Amsterdam Jazz club, once located in the city centre has always been a centre for jazz in Europe since it opened in 1973 (www.bimhuis.nl). The initial concept, the atmosphere of the original jazz club should be transferred to the new MAII and should therefore be a separate section within the entire building. Since the BIMhuis would house amplified-music, the acoustical demands were less strict than in the IJsbreker concert hall. The main concern was the external noise level, which is confined to rules. (Lindner and van den Boorn 2004)
### Table 7: Factsheet (www.3xn.dk; Spangenberg and Krijgsman 2005)

<table>
<thead>
<tr>
<th>Client</th>
<th>Amsterdam Municipality, Communal Harbour Company1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architect</td>
<td>3XNielsen A/S (Kim Herforth Nielsen)</td>
</tr>
</tbody>
</table>
| Address | Het Muziekgebouw aan‘t IJ  
Piet Hein Kade 1  
1019 BR Amsterdam (The Netherlands) |
| Completed | 1997-2005 |
| Area | 13,400 m² |
| Dimensions | Length: 105 m  
Width: 53 m.  
Height: 24.5 m. |
| Seats | Large concert hall: 750 seats / 1500  
Small hall: 150 seats  
BIMhuis: 300 seats |
| Awards | Dutch Building Award 2006 (Best Dutch building 2006)  
ULI Award Europe 2006  
Dedalo-Minosse Special Prize 2006  
LEAF Award 2006 |
| Co-Architect | ABT, Velp The Netherlands |
| Technical Design | |
| Structural Design/Engineering | 3XN in general; 3XN & Christian Bauma (BIMhuis) |
| Direction Management |  |
| Interior Architects | 3XN in general; 3XN & Christian Bauma (BIMhuis) |
| Artist | Assisting light artist: Steeven Scott, Denmark. |
| Engineer HVAC | Royal Haskoning, The Netherlands |
| Acoustics Engineer | Peutz BV, The Netherlands |
| Contractor | RAM, NBM Bouw, BAM Nelissen van Egleren, The Netherlands |
| Theatre Consultant | Hans Wolff & Partners B.V, The Netherlands |
28 Project Organisation

28.1 Introduction

As stated earlier, the MAIJ can be considered to be a large and complex project. Two general elements resulted in this complexity (Lindner and van den Boorn 2004).

1. The final users of the building are NOT the formal client of the project. Although the design is intended to satisfy the users’ needs and requirements, the municipality of Amsterdam is financially responsible for the success of the project. Furthermore, the required funds all derive from governmental budgets and grants or subsidies.

2. Secondly, the MAIJ houses an unusual combination of functions, which results in a variety of involved consultants. Furthermore, the (acoustical) requirements and specifications of the project are complex:
   - The requirements to the acoustics of the IJsbreker concert hall.
   - The accessibility of the building; separation of the public and specific functions
   - The location, the separation of the main land, which result in a different in height to enter the building, and the presence of disturbing other functions (e.g. train, PTA, etc.)
   - The required charisma of the building, resulting in a ‘landmark’, with international appearance.

28.2 Actors

As already stated in previous section, there are many different actors and stakeholder involved in this project. Some of the more uncommon actors are discussed in the next three sub-sections.

28.2.1 Theatre Consultant

The theatre advisor (Hans Wolff and Partners) has had two distinctive roles. He was responsible for an effective and functional theatre design, and since the theatre advisor is the only member of the design team with extensive experience in designing and building theatres, he was considered to be very important. Since he had specific knowledge on design requirements, he had a specific role in the design team. The theatre consultant informed the architect on the requirements of building services (HVAC). Furthermore, he designed the theatre installations, e.g. the flexible ceiling. (Lindner and van den Boorn 2004)
28.2.2 User

The building houses two different cultural organisations, the IJsbreker and the BIMhuis organisation. The IJsbreker houses in the large main hall, and brings current-classical music and experimental music. The BIMhuis houses in the equally named BIMhuis hall, and brings jazz music. Furthermore, the BIMhuis should have its own identity and own entrance. (Spangenberg and Krijgsman 2005). The BIMhuis was represented by two people, throughout the project-process: Huub van Riel and Els de Wit.

As mentioned earlier, the director of the IJsbreker, Jan Wolff, was an important stakeholder in the process. With both his experience as a Horn-player in several orchestra's as well as of being the director of the IJsbreker, he acquired a large amount of knowledge on theatre and concert hall requirements. Next to his general involved, Jan Wolff strongly recommended a flexible reverberation time, and proposed an insight out design approach. However, he and his organisation were not the actual client of the project, but merely the users. (Samwel 2004) Jan Wolff was predominantly involved throughout the process, trying to realize his building or dream. This sometimes resulted in tensions between the two organisations. It is considered that Jan Wolff dominate the represented of the BIMhuis (Huub van Riel); however, the BIMhuis usually agreed with this inferior role in the process.

In an interview Jan Wolff states: “In twenty years of experience, I learned how to deal with acoustics, lighting techniques, loading and unloading a concert hall etc. Since architects usually do not have the experience, the project organisation needs a driven project champion.” However, since he did not have sufficient experience of the construction process, Jan Wolff became an outsider, and he considered himself to be a ‘pain in the neck’ to others. (Samwel 2004). However, others see Jan Wolff as an important factor in the success of the project.

28.2.3 Client

The actual client is the Het Gemeentelijk Havenbedrijf (The Communal Harbour Company Amsterdam). The port belongs to the municipality or city of Amsterdam under whose instructions Port of Amsterdam manages, operates and develops the port. The main aim is stimulating economic activity and employment in the entire Amsterdam port region. (www.amsterdampsports.nl) The building is 100% financed by the municipality of Amsterdam, or Communal Harbour Company Amsterdam.
28.3 Working with an international architect

Realising a building in The Netherlands in association with a foreign architect includes a few conditions. If these conditions are taken into account, the client should foresee in a project with international allures. The four conditions are: (Spaen 2003)

1. A Dutch co-architect should be involved from the start of the project. Initially he has the role of consultant, and provides advice on rules and regulations, building costs, and construction methods. Secondly, as supporting co-architect during the detailed design phase. Furthermore, the co-architect is responsible for the technical design of the project. (Spaen 2003)

2. Next to the technical advice, budget control plays an important role in the process, and therefore should be executed by a Dutch cost-consultancy company. In this case, it was important to inform the architect about the cost consequences when he changes his design. (Spaen 2003)

3. The use of the Internet to exchange information and drawings. This should result in good communication process, and an effective and efficient communication process, not only between the architect and the co-architect, but also between the other consultants. Systems like file2share or autodesk. pointA.com (Spaen 2003)

4. A communication manager should play an important role in the process, and should therefore be considered. Since technicians are usually not commonly educated in different languages, easily miss-communicates can occur. (Spaen 2003)

However, in this project there have been no real problems with the architect being foreign. The Danish architects were flexible to changes in the design. Since the overall concept was strong, it could withstand the different budget savings. (Interview CPG)

However, during the initial collaborative stages, there were some minor communicational difficulties between the Dutch co-architect and the Danish mean-architect. These differences were usually resolved by the creation of a project-lingo; words were translated in a common understandable language. However, larger problems arose when different standards were used to design certain elements. (Interview CPG)

This completely disappeared when the Dutch co-architect and 3xN had to work more closely together, to keep the newly stated budget. This intensive collaboration ensured a detailed final design, and final technical brief; which was used throughout the construction phase. (Interview CPG)
28.4 Project Organisation

The project structure during the design process is shown in Figure 37.

![Project Organisation Diagram]

Figure 37 Project organisation during the design process (dotted line coordination) (Lindner and van den Boorn 2004 pp19)

28.4.1 Project Management

The direction management of a Dutch project is a special form of project management. Starting with the tendering process of the work, and the employment of the contractor, until the building is built, the process has to be formally controlled. The direction manager\(^4\) is responsible to control the contractor and the subcontractor and manage if these parties commit to their contracts. The direction manager is assisted by several controllers on the construction site. (Lindner and Boorn 2004)

In some cases the architect is responsible for the direction management; however, in case of the MAIJ the direction management was assigned to an external part, ABT. Since the main-architect is non-Dutch, Dutch rules insist that the architect should be assisted by a local co-architect. This advisory task has also been completed by ABT. The organisation of the construction phase is shown in Figure 38 (Lindner and van den Boorn 2004).

\(^4\) Directiewoorden
28.4.2 Control and Communication

The mentioned control aspects of the project are managed throughout the different stages using different tools. Especially the aspects quality, budget and time are controlled via contracts. The organisation and communication within the process concern the information exchange between the different parties involved. Therefore, a meeting schedule, containing seven different types, has been set-up. This meeting structure is shown in Table 8 (Lindner and van den Boom 2004).

Remarkable to the described roles, is the role of the user in during the construction meetings. Jan Wolff was part of these meetings, but had no say in the decision making process, other than check if the requirements stated in the brief, were properly executed. This probably has lead to the fact that JW sometimes felt to kept outside the project. Usually, the decisions of eventual changes in the brief were made before hand during design meetings. Furthermore, small irritations always occur during the briefing, design and construction process. (Interview CPG)
<table>
<thead>
<tr>
<th>Meetings</th>
<th>Actors Involved</th>
<th>Goal of Meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steering group meeting</td>
<td>Client (municipality Amsterdam), client, users, direction manager</td>
<td><strong>Focus on technical aspects of the project</strong></td>
</tr>
<tr>
<td>Construction meeting</td>
<td>Direction management, architect, consultants, contractors and client representatives, user (as silent participant)</td>
<td>Engaging Users in Briefing and Design: a Strategic Framework</td>
</tr>
<tr>
<td>Work-meeting</td>
<td>Idem minus the client representatives</td>
<td><strong>Discuss construction problems</strong></td>
</tr>
<tr>
<td>Consultants meeting</td>
<td>Direction manager, contractor, architect and consultants</td>
<td><strong>Discuss user requirements, and user issues</strong></td>
</tr>
<tr>
<td>Construction meeting</td>
<td>Contractor and sub-contractors</td>
<td><strong>Engage in engineering the different design items</strong></td>
</tr>
<tr>
<td>Users Consultations</td>
<td>Client representative, user, architect, and consultants</td>
<td><strong>Discuss construction problems</strong></td>
</tr>
<tr>
<td>Informal meetings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
29 Process Description

29.1 Initiative

As stated before Jan Wolff took the initiative to this new project; he launched the concept of bringing different (musical) institutions together in one building; together with a world-class concert hall. Furthermore, due to nuisances, the BIMhuis organisation had to relocate as well. Simultaneous to this concept development, the development agency of the City of Amsterdam⁵ (OGA) sought to develop the southern bank of the IJ-lake with cultural activities. This resulted in the opportunity to locate the two organisations in one building. (Interview CPG)

29.2 Briefing Process

The first brief was created in April 1997 by the consulting company Twynstra Gudde and Peutz Consulting Engineers⁶ and contained three documents: (Lindner and van den Boorn 2004)

- A general description of the building functions (15pp)
- The urban concepts and conditions (2 pp)
- The spatial requirements with appendices which:
  - Calculation rules (2pp)
  - Scheme of functional relations (1pp)
  - Spatial need scheme (4pp)

This basic (strategic) 30 page document was used to start a European architectural tender procedure, which has lead to the selection of the Danish architect 3XN. Throughout these earlier stages of the process, Anderson (a Danish architect) was involved as co-architect. The future co-architect (ABT) was only involved as structural consultant. However, the OGA stated that ABT should take over this role and become the co-architect. The brief was further developed by Frank Spaan [FS] and Frans van Herwijnen [FvH], both employees of ABT.

As stated before, Jan Wolff strongly recommended several building qualities, which should be taken into the brief e.g. the strong acoustical requirements. These qualities were usually discussed with other consultants, and usually were used in the brief. However, since the user can not be considered to a professional, it is important to communicate in a language which is understood by the user.

⁵ Ontwikkelingsbedrijf Gemeente Amsterdam (OGA)
⁶ Peutz advises on acoustics, noise control, building physics, and environmental technology. There are branches in the United Kingdom, The Netherlands, Germany, France and Belgium. More than 170 employees work for the company. (www.peutz.co.uk)
29.3 Design Process

29.3.1 Design competition

In 1997, a design competition was organised. Architects were asked to define a plan within a 10 days period. The architects were asked, not to design a building but to state their vision or concept of the project. The selection of the winning plan, lead to a further refinement of the sites values. The selection procedure was managed by Anderson Elffers Felix (AEF). (Spangenberg and Krijgsman 2005)

![Initial sketch by 3sN architects](image)

29.3.2 Design strategy

A good design is more than the sum of its parts; therefore, the different values of different actors should be managed and synchronised. An integrated design approach can lead to a valuable design to all actors involved, and in this case a collaborative design approach has been applied. Aside from the architect, several other disciples have added both their knowledge as well as value, e.g. engineering consultants, mechanical engineering consultants, installation consultants, acoustical consultants, building physics and theatre technicians has contributed to the design. (Lindner and van den Boorn 2004)

The practical design approach can be described as _solution by choice_. This has resulted in different interpretations of architectural, mechanical and engineering...
concepts. The different solutions to smaller (design) problems resulted in an insight to the overall design problem. The alternative solutions were discussed in the design team, together with the project management and client; also see Figure 40 (Lindner and van den Boorn 2004). However, this approach could lead to a large wearisome process.

![Design process (Lindner and van den Boorn 2004 p83)](image)

29.3.3 Preliminary design

The contest design evolved in a preliminary design; however, this plan did not congregate the budget, the following repercussion were taken: (Lindner and van den Boorn 2004)

- The rejection of preliminary design
- Employment of a delegated client
- Employment of a project coordinator, who reported to the delegated client on time, and costs
- The design of a new and more detailed brief, based on the information at hand, which should ensure the start of the next phase.
- Use the brief to manage the project costs
- Regulation of the input of users, supervisors and municipal bodies.
- Find extra budget to fund the public spaces, e.g. the entrance hall.

7 Gemeentelijke diensten
After agreement by the municipality of Amsterdam, a new preliminary design phase was started. To minimize the risks, contracts with architects and consultants were revised. Furthermore, the meeting structure was redefined, which consisted of two different meetings: a project team meeting and a design team meeting. The roles and different actors in these meetings are displayed in Table 9 and Table 10. (Lindner and van den Boorn 2004)

**Table 9  Project team meeting (Lindner and van den Boorn 2004)**

<table>
<thead>
<tr>
<th>Role</th>
<th>Executed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman</td>
<td>Delegated client or project coordinator</td>
</tr>
<tr>
<td>Participants</td>
<td>Delegated client, Project coordinator, Users</td>
</tr>
<tr>
<td></td>
<td>Architect, Mechanical consultant, Installation consultant, Acoustical consultant, Theatre consultant, Urban planner</td>
</tr>
<tr>
<td>Frequency</td>
<td>Every four weeks</td>
</tr>
<tr>
<td>Designs</td>
<td>Designs and Contracts, Users requirements, Design progression, Quality (changes in the brief), Finance, Planning, Political issues, legislation issues</td>
</tr>
</tbody>
</table>

**Table 10  Design team meeting (Lindner and van den Boorn 2004)**

<table>
<thead>
<tr>
<th>Role</th>
<th>Executed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairman</td>
<td>Architect or Dutch co-architect</td>
</tr>
<tr>
<td>Participants</td>
<td>Architect, structural consultant, Installation consultant, Acoustics consultant, Theatre consultant</td>
</tr>
<tr>
<td>Frequency</td>
<td>Every two weeks</td>
</tr>
<tr>
<td>Designs</td>
<td>Adjusting the different designs (architectural, construction, theatre, users' requirements, finance, planning and legislation)</td>
</tr>
</tbody>
</table>

Next to these formal meetings, informal and ad-hoc meetings have been scheduled:

- Meetings with the fire fighting department
- Meetings with the environmental department of the municipality, arranging the much needed legislation.
- A more coordinative meeting with the overall responsible manager of the Kop van Zuid (the urban area) of the municipality of Amsterdam. These meetings were initialised to coordinate the overall project in that area. Not only safety during construction was discussed, but also the requirements, and complaints of the users of the area were discussed.
- Informing the politics on project progress.
29.3.4 Final design

In 1999, the final design was completed. This design was then used to start the tendering procedure, which was finally won by the Dutch contractor BAM. In order to secure the success of this stage, a start-up document was made by the project coordinator. This document contained the remarks of the end-users, deviations from the brief, urban changes, and changes to the planning and budget. (Lindner and van den Boorn 2004)

However, in 2000 one found out that the budget did not cover the stated requirements, and that different requirements had to be preserved. This budget cut resulted in the complete redesign of the project. 3xN (the architect) and ABT were responsible to come up with a new design, that both fitted the budget, as well as the requirements, and the architectural concept. Since the architectural concept was strong, the redesign did not affect the overall concept. (Interview CPG)

A second important step in this stage was the acquirement of an environmental permit; therefore, a transportation plan was made. The effecting factors were: the environment, visitors, and goods. Within these factors solutions were sought to ensure a good transportation not only within the building but also in the surrounding area. (Lindner and van den Boorn 2004)

29.4 Result

After several years of use, the Muziekgebouw aan’t IJ is considered to be a big success. From a music and acoustic perspective the concert hall can be compared with other world class theatres. Not only the main concert hall, but also the BIMhuis is appreciated for its acoustical value. The involvement of JW should consider being a predominant success factor in this project. Without the commitment of Jan Wolff, this project would probably be non-existent. (Interview CPG)
30 Discussion

The MAIJ case can be considered to be a complex project, with many actors and factors involved. A few features seem relevant to discuss in this section, and in order to conclude and state some recommendations for the process tool a SWOT-analysis is executed.

30.1 Strengths

- The project is based on clear values, which are interpreted by the architects.
- A specialist theatre consultant is hired to add specific knowledge and design specific elements of the building.
- The design competition was based on the stated values. Architects were asked to formulate a vision, in state of a design.
- The design team applied an integrated design approach, and designed collaboratively.
- All design parties and consultants were involved throughout the design process.
- Different design concepts were presented, and selected based on values.
- The initial brief was written by a professional consultant.
- After some difficulties, the brief was used as a cost control element.
- The amount of influence by different actors was regulated, which should have resulted in a better manageable process.
- There was a strict meeting structure.
- The users were represented during project team meetings.
- During the construction phase the users were involved as well.

30.2 Weaknesses

- Specialised users were not involved throughout the first strategic stages of the process.
- The knowledge potential of the strategic users has not entirely been used.
- There was no budget control during the first stages of the project.
- The users report directly to the project coordinator, there is no users representative.
30.3 Opportunities

- There is specific information within both organisations, which could be used integrally.
- The possibility to fully use this knowledge, and involve the specialists during every stage of the process.
- The user could have influenced the process in a more informal manner.

30.4 Threats

- There are two different user groups with different values and requirements. The architect should cope with these contradicting requirements in his design.
- The client is not the user, so there is a large change of conflicts between these two stakeholders, should they have contradicting arguments.
- The client of the project is the municipality of Amsterdam. If the political climate is unstable, this could propose a threat to the continuation of the project.
- Working with a foreign architect could result in a communication problem from the user, client, consultants and the foreign architect. This threat has reduced by hiring a Dutch co-architect.
- The users report to the project coordinator. Since he already has many different tasks, the requirements of the users could be forgotten along the process.
- Furthermore, there could be an overload on (users requirements) information to the project manager.
- The location could be a possible threat, if the stated sound proofing is not adequate.
- Since there are many consultants involved, this results in a complex process, which requires to be managed.
31 Conclusion

As stated in the previous section, this case has presented some elements which could be used in the process framework of user-engagement. This section provides a short overview of these elements.

1. Define the experienced and user experts and use them to their full potential.
2. Involve them throughout the strategic, design and construction phase of the process.
3. Use clear values to commence the design problem, to let the architects be creative in their vision of the project.
4. Allow a adequate control on budget.
5. Apply a strategic design approach, e.g. collaborative design. Since this enables the possibility to incorporate all values of the different actors and consultants involved.
6. Set up a strict meeting structure, be aware of the amount of data to process and manage.
7. Be clear about the level of influence of the user or consultant in the process.
8. These factors should be considered as input for the actual tool, which will be designed according to three other cases. The result of this analysis will be published in another report, which is soon to come.
Conclusion

Several parallel elements between the cases are distinguished. Firstly, the projects and especially the project organisations can be described as complex; existing of many different stakeholders. Secondly, the cases show that there are different levels of knowledge within the project organisations, and that different numbers of users were involved. In the DR-Byen case managers and staff and especially the technical employees and the production employees could contribute to the process. Furthermore, many other employees were able to decide on their direct work-environment. In the cases of the New Luxor theatre and the Muziekgebouw aan't IJ only a limited number of users provided additional (design knowledge). In these projects this knowledge was applied during all the stages of the projects. Thirdly, similar to the project organisation of DR-Byen, a user representative was involved during formal meetings throughout the different stages of the processes of the New Luxor and Muziekgebouw aan't IJ case.
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