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Abstract

The goal of this paper is to discuss if knowledge from Project Start-Up theory can be of benefit in the initiation of architectural design projects, and if so, which and what form it should take. Previous research showed that Project Start-Up is a method that can improve the result of a project (Halman & Burger, 2001). In our own study we transformed the Project Start-Up terminology into terms that commend to architects. Then a survey among members of the Royal Institute of Dutch Architects (BNA) has been conducted to verify the need for improvements in project starting procedures. We asked them which issues are involved in present initiations of architectural projects, which issues are underrepresented, and which issues rank high in priority. This formed the basis for a series of simulations, with and without the Project-Start-Up procedure. The simulations were conducted with volunteer architects and clients who supplied project information drawn from ongoing real projects. The simulations were video-taped and the respondents were then debriefed.

The participants in the simulations using the Start-Up procedure were found to address more of the Project Start-Up issues than did the participants in the simulation without a Start-Up procedure. Using the Start-Up procedure, the architects were quite dominant in the conversations, initiating far more issues. As such, the Project Start-Up delivered the expected benefit in terms of addressing important issues at the outset of the project. Further, it helped architects to establish an authoritative role within the project team. However, this came at the expense of the team-building value of the freewheeling and product oriented conversation occurring without the Start-Up procedure. It can be concluded that the Start-Up procedure could be valuable for some projects in that it helps clients and architects to more completely cover the range of issues need to be discussed at the outset of the project. However, the Start-Up procedure needs to be further developed to include elements of the more informal and creative conversation that now characterizes the initial conversations between client and architect.

Keywords: Architectural design, design project, Project Start-Up, Client, Architect

1. Introduction

Architecture is a service industry. Ryd (2004) and Kamara et all (2000) have shown that the quality of service delivered to clients is becoming ever more important. Clients are demanding an increasingly high level of service, not just in regard to the quality of the design produced by their architect, but also in terms of the process they undertake with their architects. The impression of the quality of service delivered depends to a large extent on what clients thought they would or ought to receive (Sharma & Patterson, 1999). The present research project attempts to determine the value of applying aspects of the project management technique Project Start-Up (PSU) in architectural projects. We explored the possibility that a more highly structured start-up procedure that obliges the architect and client to address a pre-determined range of issues pertaining both to the design product and to the design process will lead to a better start to the project.

It might be argued that architects have a long tradition of how to initiate design projects. However, in spite of a range of manuals or guides outlining a particular approach to carrying out an architectural project (RIBA, 2000; Green, 2001; Chappell & Willis, 2005; Van Doorn, 2004) very little has been reported on architects' discussion of project organization issues at the inception of a project. Current guides focus mostly on issues concerning the design product – site, brief, and budget – rather than on issues concerning the process – expectations, responsibilities, expertise, task division, communication, and so on. Our own survey of the membership of the Royal Institute of Dutch Architects, discussed at greater length below, has indicated that Dutch architects are not satisfied with how their clients currently initiate projects. Further British research has shown that communication between clients and architects is a major cause of project failures (Brown, 2001). Recent research (Kamara, Anumba & Evbuomwan, 2000) points to the importance of achieving clarity in project processes and ensuring that the envisioned processes are carried through. Specifically, the use of the Project Start-Up technique improves the results of projects (Halman & Burger, 2001). It helps to improve team building and to make clear appointments about what is needed and how to realize the project (Fangel, 1984; Eggington, 1996). It seems therefore reasonable to speculate that an attempt to study empirically how architects and clients initiate projects, and to examine the possibility of applying insights drawn from Project Start-up to architectural projects, would be valuable. The outcome of this study suggests that the application of elements of Project Start-Up is indeed useful in improving architectural project and service quality.

2. Research Methods

The research design included a mix of quantitative and qualitative approaches:

1. An analysis of PSU literature, and a translation of PSU issues into terms more commonly used by architects.
2. A Survey of the members of the Royal Institute of Dutch Architects, to determine current practices, and establish the need for improvement.

3. Interviews with three architects in order to further explore on the survey results.
4. The composition of a revised list of issues for the Architectural Project Start-Up.
5. A simulation experiment in which the application of the Architectural Project Start-Up is contrasted with current practice.

2.1.1 Analysis of PSU literature

For the purposes of this research Project Start-Up is taken to be a specific project management technique for the initiation of projects. We have used the definitions and techniques outlined in PRINCE2 (Office of Government Commerce, 1996) and have also drawn upon discussions of the application of Project Start-Up techniques in engineering contexts (Fangel, 1991; Egginton, 1996). Specifically, Project Start-Up is an initial meeting of the project team intended to set the terms under which the project will be carried out. Egginton (1996) distinguishes two components in a Project Start-Up: the project organisation as well the project content. As there is a substantial body of literature addressing project briefing (Blyth & Worthington, 2001; Peña & Parshall, 2001; Ryd, 2004; Van Der Voordt & Van Wegen, 2005) (to name but a few), there is substantially less literature over the conduct and organizational content of an initial meeting of the project team in an architectural context. Among architectural handbooks and guides, Chappell & Willis (2005), Green (2001), Thompson (1998) and Tunstall (2000) all discuss a number of issues that should be discussed with the client at some time during the initiation phase. But none of them mention an initial meeting, nor when and how to discuss the issues indicated with the client. Further, none of these sources describes or refers to empirical research. In the scientific literature we were able to find a single paper examining communication between architect and client concerning project organization at the outset of the project. Gameson (1996) made a detailed study of the conversation between clients and architects at an initial meeting, finding that clients varied in their behaviour, and that architects would need to be able to adapt their communication strategy to different clients. His concern, however, was on the conversational dynamics and not on the content of the meeting. Several authors address the discussion of organizational issues in the project management context (Winch, 2002; Williams, 1996; Gray & Hughes, 2002). Of these Gray and Hughes provide the most extensive advice. They recommend a ‘project start-up’ meeting be held at the beginning of each phase of the project. However, each of these provides only very brief guidance concerning who should be present and what should be discussed. Again, no empirical evidence is referred to or cited.

Fangel (1991) examines the problem of when Project Start-Up should and should not be used. His general conclusion is that where a project is not routine in character then PSU is appropriate. This is true of most architectural projects in the sense that while the parties may all be experienced, the particular coalition of parties is often unique and that site specific characteristics can have a major effect on how even the simplest projects develop. In Prince2 (OGC, 1996) and in Fangel (1991), the PSU itself consists of a series of discussions in which a number of issues are discussed, and agreed upon by the different parties, or participants, in the project. Egginton (1996), on the other hand, advises the use of additional techniques such as role-play in order to make the discussions more concrete. We have chosen here to limit

ourselves to explicit discussion of the recommended issues. Based on a review of the literature discussed above and additional references (Lawson, 1998; Ryd, 2004; Brown, 2006; Tunstall, 2006; Smulders et al, 2007), we made a list of Project Start-Up issues and translated these into terms commend to architects (table 1).

2.1.2 Survey

The survey was based on the list of PSU issues developed in the previous step. The questionnaire consisted of four questions, each broken down into a series of sub-questions for each individual PSU issue. The questions were:

1. Are the Project Start-Up issues important during the design process?
2. In which project phase does the architect typically obtain (what) PSU issue information?
3. Does the architect explicitly discuss the PSU issues with their clients?
4. In which project phase does the architect want to make use of information on PSU issues?

Table 1: List of Project Start-Up Issues

	Categories	*Project Start-Up Issues + Main phases of inclusion*
Project content	*Goals*	*Feasibility and measurability of the project goals (1,2,4)*
	Nature and scope	*The scope and desired results (1,2,4)*
	Result/output	*Image of the result/output of the project (2,4)*
	Background	*Background and reason of the project(2,4)*
	Decision-making power	*Managing the project according to the most important criteria (3)*
	Assessment criteria	*Go/No Go (2)*
	Documents	*1. Fit between the design and the project brief (3,4)* *2. Schedule (3,4)* *3. Project information (3,4)*
	Design of the organisation	*1. Working methods (3)* *2. Cooperation with other parties (3)* *3. Structure of the project (3)* *4. Role of the project members (3)* *5. Information and communication systems (3)*
	Design leader	*Role of the leading designer(s) (3)*
	Parties involved	*1. Role and influence of the client (1,2,3,4)* *2. Role and influence of other parties (1,2,3,4)* *3. Users and their opinions (1,2,3,4)*

1= getting to know each other; 2 = briefing phase; 3 = contract phase; 4 = design phase

In total 332 Dutch architects participated in the survey, representing a response rate of 10,9% of all BNA members (3,045 architects). Not all respondents answered all questions. Question 1 was answered by 216 respondents (response rate 7%; reliability 93,4%); questions 2-4 were answered by 145 respondents (response rate 4,7%, reliability 92,1%).

Of the respondents 83% of the respondents had active projects of less than 5.000 m^2 GFA; 17% of the respondents (also) had larger active projects. Furthermore 24.5% of the sample is active in commercial buildings, 59.7% in dwellings and 15.7% active in both.

2.1.3 Interviews and composition of improved PSU issue list

Semi-structured interviews with three architects were used to explore further the PSU issues with architects i.e. the applicability of the issues, its effects, if architects are able to discuss the issues with their clients, and if sufficient information is available. On the basis of the list derived from literature, the survey and the interviews, a final list of PSU issues was composed (Table 2).

Table 2: Reference List of Project Start-Up Issues

Role and influence of the project owner	*Working methods*
Role and influence of other parties	*Go/No Go*
Users opinions of the project	*Cooperation with other parties*
Fit between the design and the project brief	*Structure of the project*
Background and motivation for the project	*Managing the project according to the most important criteria*
Goals	*Role lead designer(s)*
Scope and desired results	*Role of the project members*
Image of the result/output	*Project information*
Schedule	*Information and communication systems*

2.1.4 Simulation of the start of a design process

Using the improved list of PSU issues a series of simulations of project initiation meetings was held. Simulations were chosen as they provide a controlled setting in which to observe the behaviour being studied. They also permit behaviours to be observed when there are practical problems with observing them in the field. In the case of initial project meetings, confidentiality is a significant barrier to observation. From the observation of a controlled simulation one can abstract features of the system under investigation and build a model that will permit one to understand the behaviour of the system in the field (Duke, 1980). In this case, the intention was to observe simulated project initiation meetings, both with and without PSU, and to evaluate the usefulness of PSU. The observations consisted of determining the number of issues addressed by the participants in the simulations, the party raising the issue, and the length of time spent discussing each issue. Further we were able to make some observations of the way in which each issue was addressed. The participants were later debriefed in order to obtain their views on their experience with the simulations. The simulations were conducted with two volunteer architects and two clients who provided project information drawn from ongoing projects (Table 3). Three simulations were conducted: one without using any formal start-up procedure, and two using the PSU agenda.

Table 3: Simulation schedule showing combinations of architect, client and brief.

Simulations	*Architect*	*Client*	*Project*	*Company*	*Project start-Up procedure*
Simulation 1	*Architect 1*	*Client 1*	*Office building 1*	*Company 1*	*Without procedure*
Simulation 2	*Architect 1*	*Client 2*	*Office building 2*	*Company 2*	*With procedure*
Simulation 3	*Architect 2*	*Client 3*	*Office building 2*	*Company 2*	*With procedure*

3. Findings from the survey and the interviews

From the survey we determined that 70% of the respondents discussed project content in the initial meeting while 66% discussed project organisation. The most frequently discussed issues were the parties involved, the background of the project, documents, assessment criteria, goals, results/output and nature and scope of the project (Table 4). Nearly 92% of the sample responded that the importance of Project Start-Up issues depends on the kind of project and on the client. Slightly more respondents indicated that organization was important than did project content (64% versus 58%). The issues seen as most important to be discussed were the design leader, documents, result/output, parties involved and the design organization (Table 4). A bare majority of the sample indicated that discussing the working method is not important at all: “the working method is something you should not bother your client with as working methods are not the reason your client hired you.”

Table 4: Actual occurrence and perceived importance of Project Start-Up Issues

	% of respondents indicating that the issue is discussed in the initiation phase	*% of respondents indicating that the issue is very important in the initiation phase*
Goals	*69%*	*54%*
Nature and scope	*63%*	*58%*
Result/output	*68%*	*69%*
Background	*79%*	*54%*
Decision making power	*57%*	*57%*
Assessment criteria	*71%*	*56%*
Documents	*77%*	*70%*
Design organization	*59%*	*62%*
Design leader	*52%*	*75%*
Parties involved	*81%*	*62%*

The architects were also asked which phase of the process would be the best moment to discuss content and organizational issues of Project Start-Up. Table 5 shows for each design phase what kind of Project Start-Up information is found in current practice and which information is desired by the respondents. It turned out that architects prefer the introduction phase and briefing phase to being focused on the content, and the start of the contract phase being focused on organization issues. Most architects prefer more Project Start-Up information in the earliest phases and less Project Start-Up information later on. Less then 50% of the respondents agree that at present the Start-Up information is being discussed in the preferred phase. In addition to the survey we interviewed three architects to get a more detailed understanding of Project Start-Up in comparison to the current design process. We asked whether they believed that the Project Start-Up technique could be applied in a design process, and whether sufficient information is available to discuss each of the Project Start-Up Issues (Table 6).

Table 5: Project Start-Up information

Phase	*Project Start-Up information current*		*Project Start-Up information desired*		*% of respondents that agreed Start-Up information is current and desired*
Introduction	*Content*	*Organisation*	*Content*		*48 %*
Brief	*Content*	*Organisation*	*Content*		*20 %*
Contract	*Organisation*		*Organisation*		*35 %*
Start meeting	*Organisation*		*Organisation*		*26 %*
Sketch design	*Content*		*Content*		*24 %*
Preliminary design	*Organisation*		*Organisation*		*19 %*
Later in process	*Organisation*		*Content*	*Organisation*	*15 %*

The interviewees' comments are in agreement with the management ideas behind the Project Start-Up technique. According to the interviewed architects most themes should be discussed. But it is also clear that not all information required for a proper Project Start-Up as defined in management literature is available in architectural projects. In design projects the architect and the client are part of a temporary coalition of separate businesses, which makes some aspects of Project Start-Up more sensitive. According to one of the architects "You can not ask your client in the earliest stages of the project if he is capable of leading the project or if he has enough decision-making power… One starts a project with assuming that the client is capable … Even if your client appears to be incapable, it is quite difficult to discuss". Similar arguments came up with regard to the role of project members. "You do not discuss the role of members, determined by the client. What you can do is to add the aspects you, as an architect, find important. The nature of the design process plays a role as well: "Assessment criteria can be determined in a early stage, but during the design process criteria can become more important, less important, not important at all or not realistic."

Table 6: Project Start-Up Issues: sufficiency of information for discussion. '+' indicates sufficient information, '-' indicated insufficient information, and '+/-' indicates that there is not always sufficient information.

	Categories	*Project Start-Up Issues*	*Judgment*
Project content	*Goals*	*Feasibility and measurability of the project goals*	+/-
	Nature and scope	*The scope and aimed results*	+
	Result/output	*Image of the output of the project*	+/-
	Background	*Background and reason of the project*	+
Project organisation	*Decision-making power of design leader*	*Way of managing the project using important criteria*	-
	Assessment criteria	*Go/NoGo dependent if the design meets the criteria*	-
	Documents	*1. Brief and framework of the project* *2. Time Schedule* *3. Project information*	- + +
	Design organisator	*1. Working methods* *2. Cooperation with other parties* *3. Structure of the project* *4. Role of the project members* *5. Ways of information and communication*	- + + - +
	Design leader	*Role of the leading designer(s): Who is in control of the project, job description, responsibilities.*	-
	Parties involved	*1. Role and influence of the client* *2. Role and influence of other parties* *3. Users and their opinions*	+ + +/-

4. Findings from the simulations

The simulations suggested a generally positive result for the use of PSU. The number of content oriented issues (goals, nature and scope, background) was seen to diminish when using Project Start-Up. Only information that is useful for the start of a project is being shared in the initiation phase. Not all information that is useful for the design is also important at the start of a project. On the other hand, more issues are being discussed with regard to the (aimed) results/output and the project organization, decision-making power, design organisation and design leader. Discussion about assessment criteria and documents increased as well, but more slightly. In the simulation without Project Start-Up procedure more information is shared about the project content. In addition to counting the number of issues that were discussed we also counted the speech time of both the architect and the client (table 7).

Table 7: The effect of Project Start-Up in the design process on the number of issues raised by the architect and by the client and the speech time (minutes). (Intervention refers to the time one of the researchers spoke clarifying what was expected according to the PSU technique.)

PSU Issues	*Simulation 1 Start without PSU*		*Simulation 2 Start with PSU*		*Simulation 3 Start with PSU*	
Total number of PSU issues	*28*	*100%*	*24*	*100%*	*34*	*100%*
- Architect	*9*	*32%*	*20*	*83%*	*19*	*56%*
- Client	*19*	*68%*	*4*	*17%*	*15*	*44%*
- Project Content	*14*	*50%*	*9*	*37%*	*9*	*26%*
- Project Organization	*14*	*50%*	*15*	*63%*	*25*	*74%*
Speech time						
Total	*1:02:11*	*100%*	*0:23:34*	*100%*	*0:45:44*	*100%*
- Architect	*0:29:24*	*47%*	*0:17:40*	*75%*	*0:28:23*	*62%*
- Client	*0:22:53*	*37%*	*0:05:01*	*21%*	*0:15:48*	*35%*
- Intervention	*0:09:54*	*16%*	*0:00:53*	*4%*	*0:01:33*	*3%*

By structuring the conversation according to Silverman (2007) from start to finish of an issue (or from question tot answer), next to the changing communication we noticed a change in the way of interaction between the architect and the client. Without Project Start-Up usually the architect initiates an issue, whereas the client sometimes starts sub-issues. Quite often an issue was introduced with an open question, proposition or telling a short story, that lead to many ‘sideways’. If an issue started with a focused question the conversation continued with a strong focus and less ‘sideways’. The Architect and the client stimulated each other to explore the issue and possibilities and limitations. Without Project Start-Up, the client generally concluded issues. After his answers to a question or proposition the architect or the client continues to discuss and explore a new issue. Issues also returned several times during the conversation. Without Project Start-Up procedure the client contributes more issues then the architect in order “to characterise his design problem” (Brown, 2001). But the architect speaks more time then the client. Half of the issues focus on the project organization and also half of the issues are content-oriented information.

With Project Start-Up the architect contributes more issues to discuss and the architect speaks even more of the time. In case of using Project Start-Up procedures the clients contributed more project organization information. The architect and the client are more focused on answering questions and less on exploring. Most issues were discussed only once and at the end being summarized by the architect before he starts to discuss a new issue. The nature of the conversation changes from conversation into answering questions. Finally we analysed our observations on applicability of a particular issue, the possibility to discuss details and the availability of sufficient information (Table 8). For this purpose we used a revised list of issues.

Table 8: The effect of Project Start-Up in the design process, concerning architect and client

Reference List	*Applicability*	*Discussable*	*Information adequacy*	*Observed change*
Role and influence of the project owner	+/-	+	+	+/-
Role and influence of other parties	+	+	+	+/-
Users opinions of the project	-	+	+/-	-
Fit between the design and the project brief	-	-	-	-
Background and motivation for the project	+	+	+	-
Goals	+/-	+/-	+/-	+
Scope and desired results	+/-	+/-	+/-	-
Image of the result/output	+/-	+/-	+/-	-
Schedule	+	+	+	+/-
Working methods	+	+	+	+
Go/No Go	-	-	-	+/-
Cooperation with other parties	+/-	+/-	+/-	-
Structure of the project	+/-	+	+/-	+/-
Managing the project according to the most important criteria	-	-	-	+
Role lead designer(s)	+/-	+/-	+/-	+/-
Role of the project members	-	-	-	+/-
Project information	+	+	+	+
Information and communication systems	+/-	+/-	+/-	+/-

5. Discussion and concluding remarks

Our survey showed a remarkable positive attitude of architects towards this management tool. The responding architects recognised the information needed for Project Start-Up without any problem. Apparently Project Start-Up issues are not new for architects, but working with a list of Project Start-Up issues may help to looking more explicitly at information that is already included in the design process. The survey also showed that architect finds Project Start-Up information highly important, although some Project Start-Up information is difficult to discuss with the client, in particular when issues raise questions about the competencies and skills of the client. In comparison to the current design process, most architects want more Project Start-Up information in the initiation phase and less Project Start information later on.

Using the Start-Up procedure in a simulation, the architects were more dominant in the conversation, initiating far more issues. The results suggested that Project Start-Up delivered the expected benefit in terms of addressing important issues at the outset of the project.

Further, it may help architects to establish an authoritative role within the project team. The use of Project Start-Up moves the focus to project organization. On the one hand this is a positive effect, because the puree of a Project Start-Up is to organize the project effectively and efficiently. But the benefits came at the expense of the team-building value of the freewheeling and product oriented conversation occurring without the Start-Up procedure. According to Brown (2001) communication in design is a continuous exchange of discussing the 'problem' space and 'solution' space. Without Project Start-Up this exchange seems to be supported in a better way because of the freewheeling character of the conversation. The use of Project Start-Up seems to reduce the ability to explore and exchange thoughts. In order to be a useful tool for the architect, an important success factor in using Project Start-Up is the right moment of issues being introduced in the design process. The use of Project Start-Up in the first introduction meeting is not supporting the design process. To use Project Start-Up in a design process it needs to be developed furthermore by including elements of a more informal and creative conversation. Furthermore it is recommended to improve the knowledge of both architects and clients on Project Start-Up issues and to develop some guidelines on how better to address them. Given the reference list and these guidelines the authors expect that both architects and clients will better able to address the desired range of issues at the outset and make a good start on their project.

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