

# Searching for user involvement in SME design practice

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**Abstract:** In this paper we investigate the current implementation of user involvement in the front end of the design process at small design agencies in the Netherlands. We focus specifically on these agencies since they struggle with the largest of problems for involving the user in the design process: smallest time, budget, knowledge and manpower. On the other hand, their size also brings advantages in areas where big companies have problems, e.g., coherence in focus, vision, and skills. As a result, for the SME domain, maybe different methods are needed than for the large companies. In the study we looked at the user research methodologies used, the problems encountered, the attitude towards and knowledge about users, and the types of information about users that these designers need or want to gain. The landscape of information regarding user involvement taking place in small design agencies will be used as a knowledge basis for further research on the use of guerilla user involvement methods.

**Key words:** *User involvement, design practice, methods, guerilla*

## 1. Introduction

Understanding user needs has become a major issue in new product development (NPD). Many large international companies have recognized this new direction or attitude for innovation and have taken the lead in developing and applying it in their processes. Examples are Microsoft's use of ethnography [1], and Philips' "Sense and Simplicity" campaign. Next to these examples, many case studies in literature and handbooks about user-centered design suggest that the use of emerging methods to generate user information is common practice. However, these authors address practices in academia or in leading companies and not necessarily the practice of the majority of product development companies. The mentioned companies are in a privileged position, having the possibilities to spend time, manpower and budget on extensive user studies and explore co-creation design projects. Involving the user in large international companies resembles the user research conducted in academia: reliability, unambiguous results, proofing etc. Sleeswijk Visser [2] gives an overview of the main differences between user research in an academic and design practice environment based on existing literature.

Several authors address the urge of designers to make direct contact with users themselves, since this does not often take place in practice yet according to Kujala (2003), Zahay (2004), Wakeford (2004), Porter (1999) and

Fulton Suri (2000) [3-7]. Small and medium enterprises (SME's) are recognizing this need for user studies, but lack the means of their larger brothers. For example, designers, particularly freelance designers, find it difficult to dedicate time to conduct additional user research, and perceive that they might 'lose out' when spending extra time and money on user research. Designers are under pressure to respond rapidly to design briefs and generate concepts [8]. Although the designers recognize that deeper insight in the users helps them create more appropriate designs, they have difficulty in selling the activity to clients.

Even though everyone conducting user studies claims to never have enough time to conduct a study properly, in the case of SME's this is taken to an extreme level. Here, design projects span between a few days up to a few months; in comparison, the larger international companies can conduct projects that take several years. The differences are not just the available time, but also the goals for involving the user. In international companies the user is often involved for validation purposes before a product comes on the market. SME's do not have the means for these large-scale studies and rather involve the user for small scale (usability) testing. But SME's have many opportunities. Because of the short run time of projects, SME's can easily observe new opportunities in the market and react upon them. In the Netherlands the Ministry of Economic Affairs mainly focuses on the SME's for innovation. They recognize SME's as the main source of innovation.

Until Wakeford [5], SME's have been the forgotten child within academic research regarding participatory design. The need for user involvement within SME's has been recognized, but in which aspects does this differ from user involvement already taking place within larger companies? To be able to focus on 'guerilla' type user involvement methods for SME's, we investigated the current status of user involvement in SME's. Some of the aspects that this study deals with are: Are specific methods used in small design projects? Is there a need for new methods? Or should existing methods be altered to fit their specific needs? What are these needs?

In comparison to the large international companies SME's have specific characteristics that distance them from large international companies. In most cases an entrepreneur founded the company based on a 'bright' idea. This entrepreneur is the pivot of the company; he is involved in most activities. This is possible since most SME's have a flat organizational structure. The entrepreneur wants to be notified of everything going on, and communication is very direct. SME's often work with regular clients, know them well and invest greatly in the relations with their clients. Because of their close relation with their clients, SME's have a good picture of the users they are designing for; they feel involved.

Within an SME, the design department often consists of only a few people. Because of this, the designer is also often the person involving the user in the design process. Unlike in large international companies there are no departments or specific employees dedicated to user research. So there is no need for large reports, meetings for knowledge transfer etc. Communication is therefore not as much an issue as in large international companies. Most employees in SME's feel personally responsible for the future of the SME they are working for, employees invest in the SME they work for. Much of the knowledge based on experience is therefore present with the employees since they tend to work longer for an SME compared to a large international company where

changing jobs (and responsibilities) is more common, and maintaining vision and knowledge is recognized as a problem and addressed as a separate activity.

### 1.1 Small design agencies in the Netherlands

The current study focused on small design agencies in the Netherlands. Their main activity is designing. Also, the category SME's still refers to a wide variety of companies: from *einzelgangers* up to companies employing up to a few hundred people. Small design agencies have mainly SME's as their clients. By working on design projects for SME's and involving the user, the SME's will be informed of the opportunities when involving users. Table 1 shows an overview of the main differences between large international companies and SME's, as well as some differences between SME's and small design agencies. When it comes to communication problems, small design agencies have to overcome similar problems as large international companies in communicating their results to their clients. This can be compared to researchers communicating their results to designers or the communication between departments within large international companies.

Table 1: Overview of differences between large companies, SME's and small design agencies.

	<b>Large international companies</b>	<b>SME's</b>	<b>Small design agencies</b>
<i>Budget</i>	Large budget	Small budget	Small budget
<i>Dedicated staff</i>	Team or team members, or outside consultancies, dedicated to user research	No dedicated staff	No dedicated staff
<i>Involvement with user</i>	Large distance to user	Close contact with user	Contact with user through client
<i>Communication problems</i>	Communication between researcher and designer Communication between departments	No communication problems	Communication problems to clients
<i>Knowledge on user research methods</i>	In specialized departments	Often not aware of need	Aware of need, but often lacking in skills

### 1.2 User involvement in the early stages of the design process

For this research we focus on the early stages of the design process leading to concept definition, sometimes called the fuzzy front end (FFE). Usability testing will not be the prime point of attention, as it has become established practice, or at least is well understood in the field. During the earliest stages of a design project there are four user centered design activities that need to start. These are 1) to understand and specify the context of use, 2) specify the user group and product requirements. 3) produce design ideas and concepts and 4) evaluate designs against these requirements. All activities can take place in iteration. In all of the stages of a design project methods and tools are required to elicit information from and about users that are not yet available. This

includes both methods to inform and inspire designers about needs, desires, capabilities and limitations of people in an early stage of the design process (e.g., focus groups, photo ethnography, persona's), and methods for validating/evaluating the concept design in later stages of the design and development process (e.g. paper prototyping, use cases, usability testing).

The methods that are implemented for user involvement in small design agencies are referred to as *guerilla* user methods. The term *guerilla* originated in *guerilla* usability testing and has been adopted by designers referring to user involvement in earlier stages of the design process. On many online sources [9], like blogs, *guerilla* is used to indicate short-sharp-shock solutions in SME design practice.

## 2. Method

The research consisted of two phases, an explorative phase where different themes were unraveled, and a deepening phase where attention was laid on some of the unraveled themes. During the explorative phase, ten in-depth interviews were held with a variety of design agencies in the Netherlands. In these interviews, the attitude towards user involvement, the methods currently used and the general practice were discussed. Together with a designer from each design agency, the first author composed a poster, in an open-ended interview. The poster served to structure the interview, and to produce a visual overview. Figure 1 shows examples of these posters.

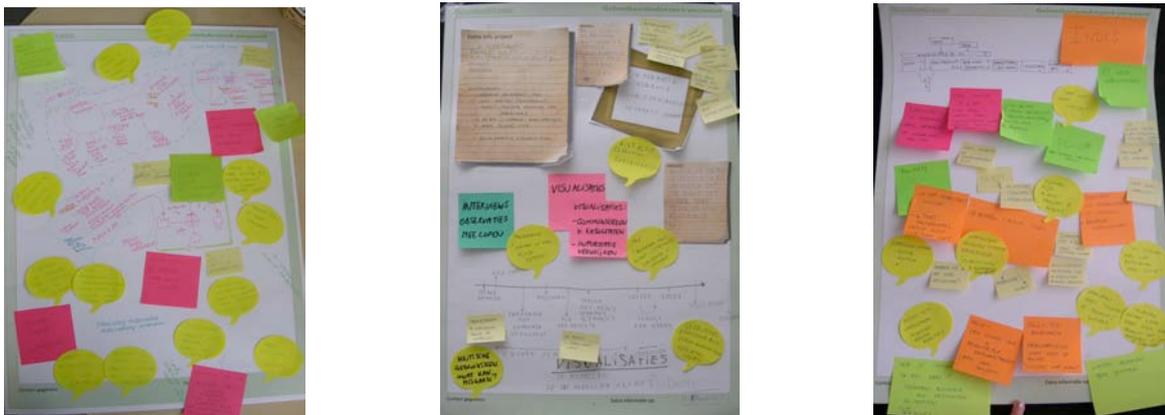


Figure 1. The posters produced in the interview helped to create overview and let interviewees locate and point out problems.

Based on the insights from the interviews, a questionnaire (see Figure 2) was designed. This was sent to all 150 design agencies which are members of the Dutch Association for Designers (BNO). The questionnaires were to provide insight in the overall population of design agencies in the Netherlands and to be able to quantify the results generated during the interviews. Unfortunately, only 18 questionnaires were returned, too few for quantitative analysis. Nonetheless, the questionnaires do provide a variety of example projects and more qualitative insight into the target group for this research. Insights were generated on the overall design process, what an ideal user involved design process would look like according to the designers, which methods were currently used, and for which purposes do designers generally include users in the design process.



Figure 2. Even though the received questionnaires look different, they report similar methods and problems.

All interviews conducted were transcribed, and general themes were unraveled. Some of the themes that came forward during the interviews needed more attention. During two discussions with designers from small design agencies we took a closer look at two of the themes: the first discussion (Figure 3) focused on problems designers encounter when involving the user in the design process. In the second discussion (Figure 4) designers worked together to describe their idea of an ideal user involvement. Group discussions were held to review the ideas. In both discussions the designers were asked in which way they wanted to be supported in dealing with the problems.



Figure 3. First discussion held with designers focusing on occurring problems.



Figure 4. Second discussion focusing on possible design processes when involving users.

Using the interview transcripts, the questionnaire and both discussions, the themes were further explored. In this paper, we present those aspects that have come forward during most of the contact moments

### **3. Results**

Based on the goals of this study, the results are grouped under two sections: one dealing with implemented methods in practice, another section dealing with the problems designers in small design agencies mainly encounter. The results of the second section are grouped in a table with an indication of the problem, the quotes of designers concerning the type of problem and the interpretation of the quotes.

#### **3.1 Methods implemented in practice**

Designers try to structure the process of involving users, but quite often they lack the knowledge and experience to find an adequate process and method. The more experience a designer has with involving users, the more structured the process takes place. Even in a structured design process involving users usually takes place in an ad-hoc manner. Designers try to experience the to-be-designed product as a user themselves, they contact users within their own network, or visit a shop to observe. Contacts with users are planned within short notice and are often informal. As a preparation for the actual contact with users, the Internet is an important source of information (reports from trend watchers, forums, representative organizations, etc.)

A wide scale of user involvement methods came forward during the study. Traditional user involvement methods like interviewing, observation and usability testing were the most common methods. Rather new methods like cultural probes, storyboards and generative techniques are only used on a rare occasion.

#### **3.2 Occurring problems in the design process when involving users**

When examining the problems that occur during a design process in which a user is involved two categories come forward: problems that are depending on the design project, and difficulties with user involvement because of the designers' attitude towards user involvement. Table 2 displays the different problems per category including quotes from designers per problem.

Table 2: Overview of problems occurring during a design process with user involvement.

Theme	Problem	Some quotes	Summary
Project bound problems	Time and budget of the project	<p>"Involving users is time consuming, and requires a lot of organizing."</p> <p>"For real time consuming user research, I use my interns, they can it to and cost less."</p> <p>"Because of the budget we often work with experts instead of real users"</p> <p>"Depending on the budget we have more or less time for user involvement in the front end of the design process." "Especially visiting users in-context is time-consuming."</p>	<p>Time, quality and people are three factors that greatly influence the design process. When good quality is needed, more time and people is necessary.</p> <p>It is never possible to achieve good quality in little time with few people.</p> <p>Involving users is a matter of finding a balance between these three factors.</p>
	Recruiting users	<p>"I mainly use my own network to find users."</p> <p>"We contact users through the user database of our clients."</p> <p>"Often you need to give users a reward to convince them to help you, but once they are helping you, they like it a lot."</p> <p>"Recruiting users takes time, especially for group activities."</p> <p>"There are always no-shows, you have to calculate this in."</p> <p>"Using a recruiting agency is expensive, and you have no idea what kind of people you get."</p>	<p>The personal network and client database are the main sources for users.</p> <p>Recruiting users is an unpredictable factor in the design process.</p>
	Selling user involvement to a client	<p>"The hardest part with involving users is getting it sold to your client."</p> <p>"Most of our clients just want an idea worked out, they do not know why it is important to involve users."</p>	<p>It is often difficult to explain the added value of user involvement to clients.</p>
	Sources of knowledge	<p>"I mainly use my experience from my education and my intuition."</p> <p>"First thing I do when I do not know something is Google."</p>	<p>First source of knowledge is the Internet.</p> <p>Previous work experience plays an important role.</p> <p>A designer is mostly guided by his intuition.</p>
Designer attitude towards user involvement		<p>"Users only come with standard or impossible ideas."</p> <p>"Brainstorming with designers is more productive than brainstorming than users."</p> <p>"Users can not make a choice between concepts."</p> <p>"Users can really surprise me."</p>	<p>Different attitudes towards users:</p> <ul style="list-style-type: none"> <li>- not interested to involve them</li> <li>- Interested in trying but not knowing how</li> <li>- involving users in the design process is almost standard</li> </ul>

## **4. Discussion**

There are five main problems that come forward in the results when involving user in the design process. Some of these problems can be solved by more research; others can be worked on but will always be present to a certain degree (eg. time and budget).

### **4.1 Time and budget**

Because of time and budget restrictions, designers have to make choices. The more experience designers get involving users, the easier and fast this can take place. Time and budget will always be factors that have to be taken into account. By providing information on how to involve users, the process can somewhat be faster. Therefore, methods should afford this information to be interesting and usable for designers.

### **4.2 Recruiting users**

Recruiting users is time consuming. Users will always be an uncertain factor in the design process. For most quantitative methods a large participant number is indeed required, but new especially qualitative methods do not require large numbers of users [2]. Designers often are unaware of this difference; only a few users can already contribute largely to the design process.

### **4.3 Selling user involvement to clients:**

Designers themselves indicate a number of good reasons for designers to involve users:

- decreases product to market risk
- can be marketing towards users of the (future) product
- designed products better fit the user needs
- information helps to ground design decisions
- getting insight into the users (gaining empathy) especially when the user is distant from the designers' context.
- inspiration during the ideation phase (by gaining insight, inspiration often already takes place)
- validation of results, check presumptions with the users.

A client always comes with a design brief to a design agency. There are five possible situations, which can take place:

- there is no need to involve the user in the design process (eg. very technical redesign)
- the client has no experience with user involvement, but the design agency wishes to involve users. The client does not see an interest in this. The design agency can decide to involve the user pro bono because the perceived importance of user involvement or do a small version of the to-be-executed research to convince the client to invest in a larger study.
- both the client and the design agency would like to involve the user, but they do not know how.
- the client wishes to involve the user, but the design agency has no interest. In this case it will be likely that the client approaches a different design agency.
- both the client and the design agency are willing and able to involve the users, unfortunately this situation does not occur very often.

#### **4.4 Source of knowledge:**

The main source of knowledge comes from the designers' education and their colleagues. When these two knowledge sources are inadequate, the first source that will be consulted is the Internet. Even though they make use of digital sources, for inspiration purposes designer claim that physical material like the IDEO method cards [10] still work best.

During the study several knowledge needs of designers in small design agencies were identified:

- Which method is the best qualified for my project?
- Where can I find my users? How do I deal with users?
- How do I get quickly to the core of my research?
- How do I balance professionalism and playfulness in a project?

#### **4.5 Designer attitude:**

Either designers are skeptical on the advantages of involving users, or they are very interested in learning more. One of the major issues when trying to involve users is explaining the *phenomenon* to clients. It is still difficult to convince clients of the need to involve users.

During this study other aspects came forward that are important for designers when involving users. Involving users in the design process is not a matter of selecting an appropriate method; it is a process of involving users; of become aware. In most cases, involving your users in the design process cannot be deduced to one specific method. Sometimes a combination of methods is required. Also, it is necessary for a designer to become acquainted with the user, and the context. A designer should prepare himself before getting in contact with the user. Quite often a designer forgets the time necessary to prepare contact with users as well as taking time to analyze all the information coming from contact with users.

### **5. Conclusion**

A wide range of methods for user involvement already exists. Therefore it is not necessarily needed to develop new methods. Making sure that the existing methods can be user more efficiently and quickly might be already sufficient. It is often not the case to accurately implement a method as prescribed, the basic thought is often more important. To support designers in the selection of a method, as well as adapting the method to their design project, several classifications have been designed. [10, 11] But many of these classifications give superficial information, are more interesting as inspiration source or make use of unhandy selection criteria for designers.

The basic knowledge of traditional methods to involve users is known with designers. But developing tools to support them during user involvement is still difficult. There is also a need for support during the design process. SME's and small design agencies especially do have a lot of opportunities ahead to exploit user involvement in the design process. They have a flexible project structure; they have short projects, and short communication lines. Since the designers themselves are the ones that include the user, a high level of empathy can be achieved and hereby leading to products that better fit the users needs.

Based on the inventory of the current problems when involving users existing methods and processes have to be altered to fit these project dimensions. In a following project ten cases will run during 10 weeks. Each case will

involve an SME with a design brief, a design agency to do the project and a co-design expert to assist the designers in the design project. By these cases different ways to involve the user will be evaluated in a real-life setting.

## 6. Acknowledgements

We would like to thank the following students for their help conducting this study: Franke Oegema, Jan Paul van der Vliet, Toine Kooter, Arne Kranenburg and Nico van Aken.

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