

RESEARCH METHODS FOR UNDERSTANDING PARTICIPATORY INNOVATION IN SME

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ABSTRACT

In this paper the implications of different research approaches and methods are illustrated by using two projects of the authors. Both projects take place in the same context: exploring participatory innovation within Small-to-Medium sized Enterprises (SMEs). The main aspects coming forward when comparing the research characteristics of both projects are the importance of time and momentum, the structural set up of the project, people or participants and the abilities of the people involved. The research goal and the background of the researcher are main determinants for the chosen research methods. We hope with this paper to make researchers aware of the implications of the research methods and approach on the results of the project.

INTRODUCTION

In the field of Participatory Innovation, at the moment, little is known within Small-to Medium sized Enterprises (SMEs). Defining a range of companies within the typology of micro, small-and-medium and large companies probably makes good sense within policy making. And the definition stems from the European Commission [1] with the purpose of streamlining funding opportunities such as the state aids and framework programmes within the EU. But does the definition help us understand barriers and opportunities for participatory innovation just by grouping companies by headcount, turnover and balance sheet totals? Well perhaps. This paper describes research conducted in two funding-dependant university systems and primarily fo-

cuses on the research methods and approach used to generate insights on participatory innovation in SMEs. The respective research projects of both authors will be described first, and will be explained in more detail later in the paper by using two case-studies to further elaborate on the differences between the two research approaches. But just to briefly describe the shared perspective, the common focus of the research projects is on SMEs that:

- are product developers
 - wish to innovate based on knowledge about users
 - have in-house design or engineering competencies for conceptual design
- Methodologically these two research projects are very different. What is in common is that both projects have a very practical purpose meaning that

one of the main aims is that the knowledge is applicable and relevant to stakeholders outside academia. Thus practice is studied in order to answer the following questions:

- How can SMEs be involved in participatory innovation?
- Is it possible to have an impact that will add value to the company and how?

For this paper the different research perspective are explored in order to understand differences, shortcomings and advantages between the individual approaches. This paper is also considered a learning experience for both authors in order to gain inspiration and share different understandings that will provide critical reflection on the current practice and the use of methodologies. To understand more of the cases and methodologies, short background information on both research projects is provided as well as an overview of the research project of each author is presented in the next paragraph. Following these short summaries, an extended overview of the two different research methodologies will be provided using the research projects to explain the differences as well as the implications of the selected methods and approaches.

PRESSURE COOKING AND SME APTITUDE - DESCRIPTION OF OUR TWO RESEARCH PROJECTS

Both Mark and Christine focus their

research on SMEs that are product developers, wish to innovate based on knowledge about users and have in-house design or engineering competencies for conceptual design. This target group of research is still overlooked in current research. The European 'Capabilities' innovation program FP7 to stimulate research for the benefit of SMEs [2] only focuses on product and technology innovation projects. Research projects for user driven innovation are even not considered for grants within the program. Only since the global Watch Report of Wakeford (2004) participatory design for SMEs has been recognized as an important field. But still, we do not really know that much about SMEs in relation to innovation - and in particular participatory innovation, for this reason both our research projects take place.

SME APTITUDE - DESIGN

ANTHROPOLOGICAL STUDIES WITH A LARGE MANUFACTURING SME

The focus of Mark's doctoral research is to understand the relations between design anthropology, user-centred design and participatory innovation. Methods include action research, ethnographic field studies, anthropological investigations and research through design approaches. The research has a dual focus on understanding the organisation and its value network while continuously and constructively attempting to challenge the status quo. Mark has worked closely with fellow researchers from disciplines such as Innovation Management, Design Research, Interaction Analysis as well as the Dacapo theatre who focus on change management through interactive theatre. Alongside he has developed new concepts with employees from different departments within the SME and held workshops and seminars with participants from across the value network. From a disciplinary perspective one may argue that design anthropologists working with fast-paced organisations may find it difficult to introduce other perceptions of time than the constant arising deadlines that rule daily business. If we assume that innovation is not just a headless search for the 'new', we may acknowledge that the organisation's history of turning fragile ideas into profitable products would be relevant to understand. By intertwining

the here-and-now with the organisation's past and its' desired future, we may add some valuable insights and qualities to the innovation process. This approach calls for a tangible and compelling format for handing over the co-constructed learning and insights. In Mark's research a functional demo-model has played an important role as a device for creating a space for discussing strategies, for stimulating entrepreneurship and considerations about identity and values. The stories told around this device have often been located both in the past, the present and the future.

The main purpose of the research has been to involve end-users and other stakeholders in innovative processes with a particular focus on R&D projects that happened across the value network and:

- to create an understanding and recognition of the potential of user involvement within the value network as a starting point for the development of new products and services.
- to develop methods for studying and involving end-users specific for the particular aptitude of the SME.
- to contribute to strategic development within the company and to inspire strategic collaboration across the value network with a focus on supporting decision making.
- to improve the company's competitive advantage and ability to benefit by their specific position within the value system through the development of innovative Infotainment concepts.

MAIN FINDINGS

The particular type of user-driven innovation (UDI) that has been tested in Mark's project is called Participatory Innovation and has its origin in the SPIRE centre at the University of Southern Denmark. (Buur and Binder, 2006) Participatory Innovation is not that different from other types of UDI as it basically involves the standard procedure of user studies, ideation, concept development and business development. What may differ is highlighting not only end-users of products as participants, but also including company stakeholders as equally important for understanding what is at stake in innovative processes (Buur and Matthews 2008).

From a design anthropological perspective this is indeed interesting in relation to the specific SME as three main factors influence the company's ability to innovate - at least from Marks' perspective. First of all the company has no structured and systematized approach to new product development and innovation is mostly incremental and takes place within ongoing projects. Secondly the management group consists of a number of experienced people some of which have been a part of the company almost since it was established. Thirdly the market and business context of the company has changed drastically since it was founded, however, the product line and business model have more or less remained the same. The company is quite challenged and acts in a very competitive market. One significant finding from this project is that for innovation activities to happen and succeed, it takes full commitment from top managers. The fact that the employees holds a variety of relevant competencies for new product development such as various engineering and prototyping skills play a minor role. The loose structures of the company which on the one hand are potentially beneficial for quick decision-making and smooth communication also functions as the main hindrance for innovation as such fragile processes are relatively easy to down prioritize as the return on investment is not necessarily within sight. The combination of a management team who has experience from the early entrepreneurial days of the company and the unstructured innovation approach calls for specific competencies of the design anthropologist. He or she will have to be able to communicate and share findings through formats that are easy accessible within the respective organisation and somehow resemble earlier innovation successes. In this company very tangible prototypes were created. Demo models are more long lasting and open for discussion than thick written reports that from experience only gain little attention in a fast-paced business environment. Moreover the design anthropologist may be the main driver for creating continuity and direction in the innovation processes in situations where managers are occupied with ongoing

projects. Embeddedness of the design anthropologist therefore becomes crucial.

PRESSURE COOKING –

DESIGN RESEARCH WITH 22 SMES

Christine mainly focuses on exploring the current status of participatory innovation within SMEs. She does not want to convince SMEs of the use of participatory innovation even though she feels that many companies will benefit greatly from involving their users. Christine is rather working on how SMEs can involve their end users if they interested to do so. At the moment expertise and knowledge on involving users is focused on large extensive studies. Are these methods and processes also qualified within an SME context? Do SMEs have the same goals for participatory innovation as in the current practice? These are some of the aspects Christine is looking at.

The doctoral research of Christine consists out of three phases: exploring the current status, experimenting what methods work in a SME context and validating the findings defined in the last phase. Both quantitative and qualitative research methods, though qualitative methods are the dominant methods used.

During the explorative phase, the main methods used are semi-structured interviews, brainstorming with designers of SMEs, and a quantitative questionnaire. In 2009 the experimental phase took place in which Christine was part of the organisation of a large project, which involved 22 SMEs working together in teams on 10 different cases. Each of these cases took place in a time span of 2,5 months from a formulated design brief to a concept. Because of the short time span of this project we regard this project as Pressure Cooking (designing projects under time pressure). This project was funded by the province of Utrecht of The Netherlands. Because of this, the ten SMEs with a design brief only had to contribute 250 Euro. The other cooperating SMEs on the case, for example a design agency and a user involvement expert, received a combined compensation for 4500 Euro per case. This forced all participants to minimise their current approach to one that fits an SME context. This project gave insight in how projects can take place within an SME context with time

and budget constraints, what are important issues and problems during such a project and what methods and process are suitable.

During the final validation phase, three design agencies develop a toolkit to be used for participatory innovation within SMEs. All three toolkits are developed based on the insights gathered during the early phases of Christine's research. All three toolkits are used in practice and evaluated with both the design agencies and the SMEs.

The practical purpose of the research has been to involve end-users within SMEs that develop products for an end-user market:

- to explore the current practice of user involvement within SMEs.
- to map current problems, experiences and changes within SMEs.
- to develop two toolkits for studying and involving end-users specific for SMEs based on a developed framework.
- to validate and test this toolkit for SMEs.

MAIN FINDINGS

SMEs require a different approach than large international companies, it is not as much altering the existing user innovation methods in a way that they can be applied within an SME context. Rather, what many perceive as weaknesses or limitations of working within SMEs, for example time and budget pressure, should be changed into exploiting the strengths and possibilities that SMEs offer. Also, it is not as much about time and budget as many believe, more important aspects determining the success of participatory innovation within SMEs are the SMEs aptitude and the experience and knowledge of the designer working with participatory innovations. SMEs have many opportunities for participatory innovation. They have less need for formal communication due to the flat organizational structure, they are close to their market, already have some sense of who their end user is and they can operate more flexibly to the market due to their short project times. Quite often the existing contact with their users can be 'upgraded' towards involving these users in the design process. Also based on the project conducted in 2009, many SMEs are interested in integrating user involve-

ment within their company structure. They would like to either develop the expertise to involve users in-house or completely outsource involving their users to an external agent (these agents can be either design agencies, research companies, or consultancies). This choice is often depending on the type of SME and previous experience with external agents.

DIFFERENCES AND SIMILARITIES

Both our projects are dealing with participatory innovation within an SME context. On first sight these two research projects might seem very similar. However, when looking in more detail to for example the approach or methodology, one can see that our projects do have significant differences. Table 1 gives an overview of these differences as well as the similarities in our two research projects. The intention of our paper is to reflect, inform and open discussion on our research practice within SMEs as well as on the implications of research methods and approaches on the acquired results.

RESEARCH PERSPECTIVE

Both research projects are very explorative, since participatory innovation within SMEs is a rather new domain. Due to the lack of existing knowledge on the current status, still a lot of information gathered during the research is very explorative. There is a clear distinction in project focus between Mark and Christine. Mark focuses as a design anthropologist on the organisation, the SME itself and how this organisation needs to be changed to let them involve users. Mark has to deal with convincing the SME of the use of user involvement and the advantages for the company. Unfortunately this takes a lot of time. Mark himself is the person responsible for creating the interventions within the company and observing their effects on the organisation. Christine is as a design researcher not trying to convince the SME to conduct participatory innovation, but to help those who are interested, and make them able to involve users within their design projects. Christine focuses on how SMEs can involve users, what the process looks like and which methods can be used to conduct user involvement. These different focuses cause the differences in research ap-

Design Research vs. Design Anthropology	Christine	Mark
Research Perspective	Design researcher	Design anthropologist
Methodology	Explorative, experimental, design research	Action research, Anthropology and Research through Design
Timescales	2,5 months for the experimental projects and 6 months for validation of insights in toolkits	4 years
Expected outcomes	Insight on processes and methods for participatory innovation as well as new products, new target groups for existing products, new company strategies, business development, and more knowledge on the end user.	Organisational changes, business development, prototype(s), knowledge on participatory innovation in a SME context.
Point of attention	Due to the short running time of the projects it is difficult to really observe changes in the organization and to acquire in depth information. The set up of such short projects resembles closely to the actual process within SME contexts, but the participants were forced fit together. (The researcher acted as a matchmaker between companies for this research project) This should be taken into account when looking at the results.	The support to design anthropologist and viability of the design anthropological project may only be as strong as the latest quarterly report and the interest shown from the current management team. Long-term strategic considerations may easily be down prioritized and postponed due to constantly emerging situations that need full attention from management. The ability for the design anthropologist to navigate and frame his/her findings in relevance to short term relevance for the business is necessary - yet often very difficult.

Table 1: Comparison of two research approaches.

proach and methods.

SIMILARITIES IN RESEARCH APPROACH

In analysing research, the choice has to be made to start either with theory or with a phenomenon. One can start with theory and then go about testing it by collecting data. Or one can start with a phenomenon and then try to generate a theory based on the data. In practice, this choice is less clear-cut. One can start with a theory, carry out some observations and then discuss or develop the theory. Or one can start with observation, turn to theory and then conduct more observation to evaluate or develop the theory. A researcher often has prior practical experiences or ‘pre-understanding’ (Gummesson 2000) or uses theories that ‘direct attention’, ‘organize experience’, ‘enable useful responses’ (Alvesson and Deetz 200, pp. 39-46) and guide how one looks to the world. In order to approach the paradox of theory first versus data first, we can speak of validation function or an explorative function of research. (Bourdieu, 2006) In both our cases, our research projects have an explorative nature because previous theories on participatory innovation in SMEs are non-existing.

METHODOLOGY

As mentioned in the previous para-

graph, Mark works from a design anthropology perspective, where Christine works from a design research perspective (Zimmerman, 2003). Each of us takes a look at SMEs from their own background (either anthropology or design). Where Mark is actively involved and working within the context of his research, Christine is not engaged within participatory innovation projects but merely observing what is going on. Mark makes use of his knowledge of anthropology and ethnography to observe and work within his context of research. Through his conscious and predetermined interventions within the company structure and process he develops theory on user driven innovation within SMEs. Mark uses action research as a method to plan his interventions and analyse his data (Avison et al.1999 and Gilmore et al. 1986). Christine mainly uses experimental research and grounded theory to analyse her data (Glaser and Straus, 1967).

Since Mark is embedded within the organisation where his research project takes place, Mark is not only present as a researcher; he is also a user researcher and an anthropologist. These different perspectives make it difficult to clearly state the results and objectively observe what takes place within the research project. Christine has set

up her research in such a way that prevents this from taking place as much as possible. She has asked other user research experts to conduct the user research within the cases. Each case was observed by a different researcher. The data generated by these researchers is collected and analysed by Christine. Being a designer herself, Christine uses a designer-driven approach for making choices with incomplete information. Designing involved a creative and intuitive process, dealing with uncertainty instability, uniqueness and conflicting situations (Cross, 2007). Christine’s approach to the research question is orientated towards solving and improving the situation; how can participatory innovation be improved in a SME context?

Christine tries to approach her research in a systematic way by building in phases, validating the previously generated results and triangulating the data. The qualitative research design of the pressure-cooking study aims to build a conceptual framework through recursive cycling across the generated qualitative data, emerging theory and extant literature. (Dul and Hak 2007; Eisenhardt and Graebner 2007; Matthysens and Vandenbempt 2003) The first framework is developed based on the explorative phase of Christine’s doctoral research and refined and ex-

tended during the Pressure Cooking study. The factors are implemented in the to be developed toolkits for the validation of the framework. All aspects present in the framework are factors that influence participatory innovation within a SME context. Existing literature on conceptual frameworks was used to aid the interpretations of the generated data for the framework (Dannels 2002).

On the other hand, Mark uses Research through Design as a method to generate information. This is a rather emerging approach where the act of designing and creating new solutions is a valuable process for generating knowledge. The considerations and reflections during the design activity contribute to the research. (Archer, 1995) The approach is based on designing structurally varied, experiential and product relevant prototypes and generating knowledge by the process of building and evaluating these prototypes. For Mark he is the person in the company being engaged in the process and he has thus the possibility to use the decision making process for the products and prototypes as input for his research. Both the building and evaluating generate knowledge.

To gather all the data from both research projects, both authors used similar methods. Both authors interviewed people involved in the research for evaluation of the projects. For example: the entrepreneur of the SME, designers and engineers, user researchers and others. Christine also let other researchers observe all separate cases and had group discussions on the results of the observations. Also, every researcher was given a notebook with assignments to streamline the observations so they could be compared. Furthermore, both authors observed the projects themselves and made field notes.

TIMESCALES

The two research projects have very different timescales. Mark deals with one company in a 4-year project. Mark has made the choice to carry out a 'single case study'. This choice can be justified the argument that it can function as a revelatory case, a study or a situation where the researcher has 'an opportunity to observe and interpret a phenomenon previously inaccessible

to scientific investigation' (Yin 1994, pp 38-40). Marks study can be thought of as a revelatory case, because it rarely happens that the long-term effects of participatory innovation can be studied within a company. Also, because few extensive studies currently exist in a SME context. One example is the research of Heiskanen and Repo (2007). The company in which Marks research project takes place is a SME of the larger classification of SMEs, also owned by a large international company. Christine is dealing with 10 different cases combining 22 SMEs with employees ranging from 4 employees up to 80, in the smaller classification of SMEs. All cases take 2,5 month time to start with a predetermined design brief up to a concept based on user insights. There is a clear difference in amount of companies, time taken for the project and type of company.

EXPECTED OUTCOMES

Primarily the outcomes from Marks research will be: organisational changes, business development and prototype(s). Christine has two different kinds of outcomes: outcomes or results for the SMEs involved in Christine's research and outcomes of the research project itself for academics. The outcomes for the involved SMEs will be: new products, new target groups for existing products, new company strategies, business development and more knowledge on the end user. Outcomes or results from Christine's research will be: a framework of factors that are important for user driven innovation within SMEs, explorative descriptions of current practice and ways to enable participatory innovation in SMEs using the strengths of SMEs.

POINTS OF ATTENTION

Our research projects have a very different approach and methodology but even though we both want to make the same thing possible: user driven innovation in a SME context. Christine's approach allows for fast projects with many results and a lot of different material generated in a wide variety of companies. Her approach is good for exploration. Marks approach is a long-term process, where changes in the organisation can be observed. He gets the opportunity to see whether user driven innovation 'lands' within the organisation, and is adopted by the

organisation. Mark has the possibility to observe barriers to implement participatory innovation. The generated information in Marks project is in depth knowledge. Because of this, and by being embedded in the organisation, Mark can acquire a thorough understanding of his case. Unfortunately these (seemingly rather positive) characteristics of the projects also have points of attention that the researcher has to be aware of when analysing the data.

In general we should be aware that the choice of research approach determines to a large extent the kind of knowledge that is gathered. Often this is more depending on the approach than a researcher might be aware of. We have learned that it is important to be conscious about your research approach when you analyse your material. The research approach determines the type of questions which can be answered, and which cannot. How you look at your data is depending on your questions and our approach. Do not try to make claims you cannot make based on your approach.

In general, much of the differences and points of attention come down to time and momentum. We will discuss time and momentum in more detail in the conclusion.

CONCLUSION

TIME & MOMENTUM

There are a number of differences between Christine's 'pressure cooking' approach and Mark's - 'SME aptitude' approach, but the most apparent one is probably the notion of *time*. As described elsewhere the methodological differences between design research and anthropology are quite different. The position of the researcher, the number of required research projects, the roles of the involved participants and deliverables and research outcomes differ. Moreover it is relevant to consider the audience for the knowledge that we produce. As described, innovation research is typically funded by programmes that expect us to be able to show the potential. And ideally the relevance and applicability of our findings to companies rather than just fellow academics. One of Christine's aims is to develop a palette of methods for user-driven innovation that

are likely to succeed in the harsh realities of SMEs. Whereas Mark's focus more has been to develop the emerging discipline of design anthropology by letting the researcher's role unfold through the action-research type project. Though this may sound like a typical academic adventure, Mark has had to meet certain concrete expectations from the company he has been working with and thus the research has similarly to Christine's projects been dependant on the daily arising constraints and opportunities within the specific company. The point we wish to make is that the type of research we do is equally important to a business audience as to academia. This means we need to distinguish between time spent as facilitators and change agents within the projects and time spent as researchers. In order to try to answer the questions of how can SMEs be involved in user-driven innovation and whether we are able to make an impact that will add value to the company the obvious way would be to compare the impact our engagements with the companies has made, but since we are not able to do so at this time, we may want to account for what we consider key points in the projects. One concept that has come up in our conversations for this paper is the notion of *momentum*.

Our understanding of momentum in the respective projects is probably best explained through a metaphor of a heavy cannon and a light rifle. Momentum as we see it is the force that is behind a moving object. A cannon ball, a projectile or an innovation team. A heavy cannon may require a lot of people for handling and if their skills are sufficient they are able to fire a cannon ball over a long distance and make quite an impact. If their skills are insufficient they might not be able to fire the cannon or even find the target. With a rifle the distance is shorter and the force of the projectile is lesser, but with precision the shooter will make an impact. The metaphor should ideally illustrate that momentum is related to the structural setup of what gives the force, the people handling the 'device' and their ability to hit the target. If we take those concepts and apply to our projects we may highlight some important aspects.

In Christine's projects she has managed

to ensure a high level of commitment from especially the company owner. All projects have had concrete design briefs and outspoken contracts to keep the focus. As mentioned the projects have happened in collaboration with a well-qualified designer. In comparison Mark's project has been very open-ended with the aim of finding new innovation opportunities for the company. His studies are partly paid by the company and the SPIRE centre. One would assume that this rather heavy expenditure would create certain expectations from the company to harvest from the research findings, which has not been the case as the company has often been too busy with daily activities to engage in shared learning activities. Mark has moreover mostly dealt with the Senior R&D manager, as the CEO has often been too busy. An important difference between Christine's and Mark's companies is that Mark's project company is owned by a large corporation meaning that the owner is not personified and have therefore not participated in person in the project setup. Whereas Christine talks about the 'entrepreneur with the spark', Mark's project has been managed by a 'financial crisis distracted CEO'. As described in the above table Christine's projects have primarily engaged end-users with the purpose of fulfilling the aims of the design brief. Secondary it has focused on involving the design people from within to co-develop ideas in close collaboration with the company owner. Mark's project has focused primarily on participation from within the organisation for a number of events such as co-design, vision seminars and reflection sessions.

Based on our experience from working with SMEs we may probably argue that a successful innovation project is very dependant on the facilitator's - whether that be a designer or a design anthropologist's ability to set the right team, to work both on a practical (hands-on design) and strategic level and be able to extract and show the respective company's weaknesses and strengths in order to gain something from the process. It may seem naive to expect such diverse competencies to be found within one professional. And in Christine's many projects this was not the case. Roles were divided and shared between a number

of skilled designers who engaged in design projects that Christine had already prepared and laid out the plan for by engaging with the respective CEO, who were often the owners of the companies as well. Mark's project was a bit more blurred. Outcomes were open-ended, participants were quite well defined, but the project somehow lost its momentum in the daily realities of harsh business context. Short projects with high momentum - rather than long projects with low momentum are preferable - at least from our experience. And keeping the momentum in a long-term innovation project in an SME is still a challenge that is unresolved from Mark's research. So the question is: What can we learn from each other? Are long-term engagements with SMEs utopia? And is 2,5 months really the optimal timescale for an innovation project? The answer is probably no and no, but we may want to learn from each other's disciplines in how we set up a project and how we keep the momentum, but also how design related work should always be framed within a bigger historical and aptitudinal perspective within the company as well as the importance of seeing the innovation project from a holistic and strategic value network perspective.

IMPLICATIONS OF RESEARCH METHODS AND APPROACH

Marks' main goal for his research was to thoroughly understand how participatory innovation could take place within a SME and its effect on the organisation. To explore this using Christine's methods, the long term effect on the organisation could not be considered during such a short research projects. Christine tries to generate more general knowledge on participatory innovation within SMEs, for this reason more SMEs need to be involved to ensure a variety. With our paper we hope to illustrate the importance of selecting an appropriate research approach and method for the research questions formulated.

LEARNING EXPERIENCES

Based on the writing of this paper both authors became aware of new possibilities for their own research.

Mark, a design anthropologist recognizes how the design part and the tangible results are equally important to understand what is at stake. Moreover Christine's division of roles (not initi-

ating and making decisions in the project herself and only observing) makes good sense to Mark, but whether that is possible will probably always depend on funding opportunities and methodological considerations. In Marks project progress was depending on his eagerness and initiative. And especially taking the initiative has been lacking from the company stakeholders in the project, which is extremely problematic in a fragile innovation process.

Marks research approach has made Christine aware of the limitations of her research approach. The information she gathered from her short projects does not allow her to see whether the cases have an effect on the organisation. Christine mainly sees the results from a short project. She hopes to see more of the long term impact of the projects by returning to the companies, if the companies still work together with the partners of their case, have started a cooperation with another company of the project or have no interest in Participatory Innovation at all. Also she hopes to have more insight on the actual results of the cases. Next to more attention to the organisational aspects of Participatory Innovation and adding a long-term vision on Christine's research, Marks background as an anthropologist has given her a new perspective on her data. Mark helped Christine to put her data in a larger context: that of society. First, she was only looking at the data of the different cases and comparing the cases. Now, she recognizes and sees that it is very interesting to try to unravel underlying drivers and putting the cases into context. This process has enriched her research project.

ABOUT THE AUTHORS

Christine De Lille, M.Sc. in Design for Interaction, and currently PhD student at Delft University of Technology and Utrecht University of Applied Sciences, has engaged 22 companies with her 'pressure cooking' approach to participatory innovation. Short-term (2,5 months), well planned and very focused design projects with a variety of SMEs. All projects have been executed in close collaboration with a number of skilled external designers.

Mark Asboe, M.Sc. in IT Product Design Denmark and with a background in an-

thropology and now PhD student at the SPIRE centre, University of Southern has worked closely with just one company for a four year period including one year of full-time ethnographic work within the organisation. The focus has been organisational anthropology and an action-research approach to a user-driven innovation project primarily facilitated and run by Mark.

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