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## **Visualisation as the Link Between User Data and Business Development**

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## **The 9th NORDCODE Seminar**

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## **Visualisation as the Link between User Data and Business Development**

Keywords: User participation, visual mapping, business development, value creation

### **Abstract**

This article points out that visual mapping and concept development can be a decisive element in the translation of large amounts of information into specific concepts for change initiatives. It describes a workshop, based on extensive user data, where design students work directly with companies to frame what value their users are seeking, and develop concepts for ways to change the companies business model to deliver the value in demand. The article inscribes itself in G.K. Van Patter's theories about sensemaking, in which visual mapping and concept development into specific areas and topics, are key factors in the fuzzy front end of transformation processes in which companies are facing complex strategic issues.

### **The AUTO Project**

The Technological Institute (TI) has undertaken the project Active User Topologies (AUTO). The project aims to help small and medium sized enterprises to increasingly involve knowledge of their most active users, in connection with innovation and transformation processes. This knowledge can give companies an understanding of what value their users actually want, and thus help the company to undertake changes in their business model that enables them to provide this product, service or experience.

Affiliated to the AUTO project is a permanent staff of anthropologists. At the start of the project they made a comprehensive study of data from about 3000 active users in the Technological Institute's database. This data has led them to produce a topology that describes four distinct active user types: The lead user, the passionate professional, the inventive user and the commentator. These user types have their own characteristics which make them relevant to include at various stages during the innovation process.

The project has five companies linked to it as partners, by which the topology will be tested. The companies are within several disciplines, ranging from manufacturing to service delivery. A common denominator is that all companies are forced to transform themselves in relation to external circumstances, such as changes in traffic-related infrastructure (ferry service) or the movement from physical to digital media (printing technology). Though these external factors have made the companies aware of the need to rethink their business models, they are confused about exactly what to do, and are trying to find the answers through the AUTO project.

However, the companies involved find it difficult to translate the vast amount of userdata they

continuously build up throughout the project, into specific operational initiatives inside their company. This article points out that even a short workshop of visual mapping and concept development, can have a profound impact on the translation of information into specific concepts for transformation.

## Case Descriptions

Before the workshop, the students from Aarhus School of Architecture (AAA) were divided into groups of 2-3, who were subsequently assigned to the individual companies. Background material was prepared in advance and given to the groups in order for them to prepare for the workshop. The material contained general information about each company and a design brief on the specific task ahead. The design brief was written by the companies on the basis of a questionnaire prepared by AAA and TI. The aim was to prepare the students for the project and an attempt to match the expectations between companies and students. Also the document helped to frame the companies values and to pinpoint the focus of the project. The following paragraphs contain a short description of each of the design briefs.



Advice Digital is a web agency that work with around 300 decision makers responsible for the procurement of web solutions each year. They are in need of a understanding of where their services begin and end, since they often experience that a change in a company's communication affects the entire organization.

Copenhagen Markets is a cluster of 140 wholesalers within fruit, vegetables and flowers. They work with food retailers and the foodservice industry, through which they have contact with almost 2,500 daily users. They want to find ways whereby they can influence their members' approach to transformation initiatives, thus signaling that innovation is a necessity.

Kailow Graphic is a printing company that primarily works with people from marketing, and thus has approx. 4700 users annually. They want to find ways to compete on other parameters than price, and adapt to customers' future needs for marketing in relation to the movement from print to web.

Scandlines is a company providing a ferry service across the Oresund. They have a specific focus on the user group of 10,000 Danes who visit their cabin in Sweden during the weekend. Scandlines wants to find answers to how they get the users to use the ferry facilities during the relative short crossing.

The National Gallery of Denmark is one of Denmark's largest providers of arts and culture, working with a user group consisting of 400,000 annual visitors. They want to know how to optimise the

way they receive their users in the entrance hall, and get a clear strategy for the natural integration of digital tools in the museum space.

## The AUTO Workshop

The idea of the workshop, was to exploit the students' general design skills to identify and develop new concepts by which companies could develop their existing field of business or developing new business models. This particular business development should be based on the input from various users, including lead users.

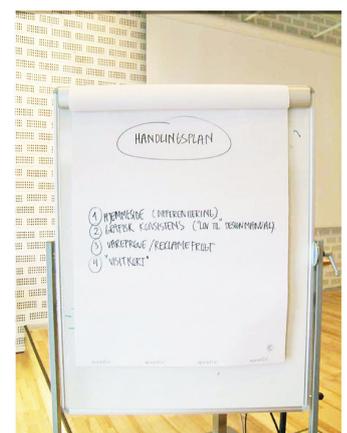
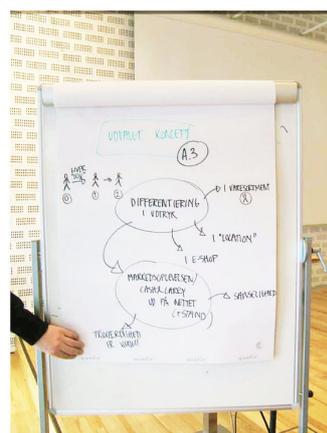
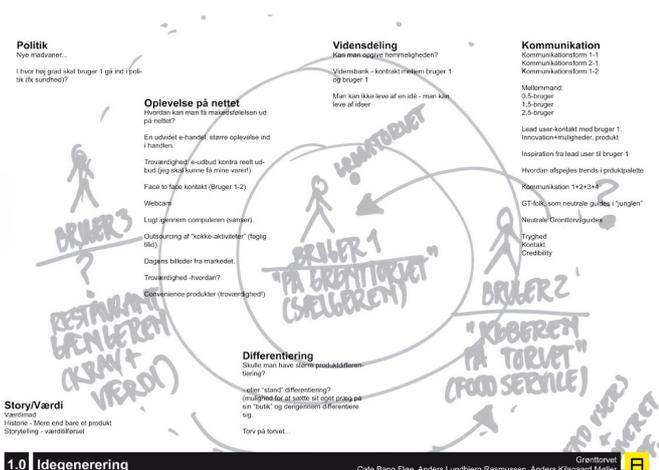
The format chosen for this workshop is basically a condensed version of the traditional design process as taught at the Institute for design at AAA. Usually the process consists of the following phases: research, ideation, conceptualising, product proposition and presentation. Since the workshop only lasted one day and a background research already had been conducted, emphasis was put particularly on the ideation and conceptualising phases.

The workshop was divided into 3 phases, 1) ideation 2) conceptualisation and 3) value proposition. The last phase was a further development of selected items from phase 2. The results from phase 3 was to be more like an unfolded concept than a final product proposals. The term value proposition (Osterwalder 2009) covers the purpose of this phase well, which was to identify opportunities for creating new value within the strategic development of the company.

The results of the workshop were to be presented in the format of a poster. The reason for this format, was the intention of making the process visual, like a traditional design processes. The visual tools were used to make complex information easy to understand and to share and synchronise new ideas with a common understanding between people with different perspective - designers and business people.

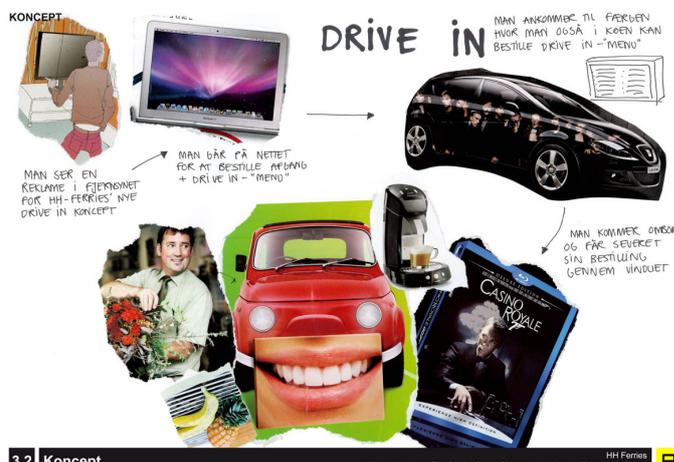
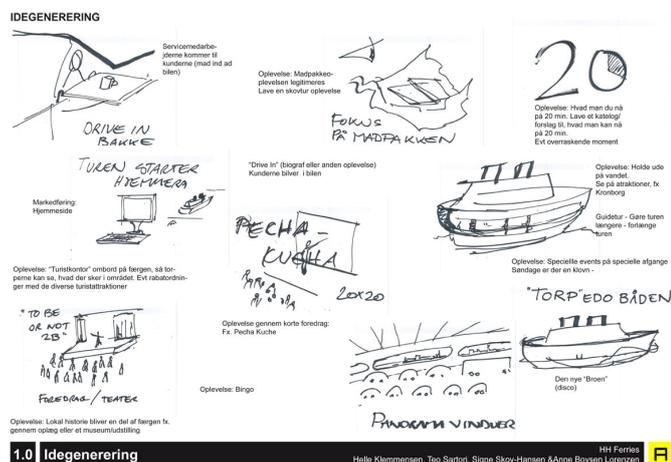
To make sure that the result from each of the three different phases was recognisable, a poster template for each of the phases was developed beforehand. The templates were deliberately made very open with the intend to give the students, and the company, the opportunity to come up with different output. The idea was that the templates should serve as milestones and structure for each phase, not as a limitation. The open format gave the freedom to work with many different expressions, ranging from hand-drawn scenarios to mood boards with clippings from life-style magazines. This layout ensured that production of one or more posters from each of the phases. In this way the posters could be read and used individually, or as a coherent whole, illustrating the process as a development project.

The final posters were quite different in content and appearance. The set of posters for Copenhagen Markets elaborated on the concept of users and their different needs and suggested,



in a diagrammatic way, concepts for further investigation into user needs. The company was given an eye-opener and a new perspective on their user groups. Something that could open up for entire new opportunities.

The Scandlines case had a set of posters containing the concept of converting the value proposition from “transport” to “experience”. Due to a less complicated dilemma the posters contained direct suggestions for new experiences to implement on the ferry ride, within a conceptual frame.



## Feedback

To learn from what had happened throughout the workshop, the companies were given a questionnaire, about their experience with the students. In general, the companies replied that the students worked systematically and delivered new insights through the visual mapping. On the issue of the translation of the data, the companies acknowledged that the students worked with a holistic view:

“The students rethink the company's core values, and they really concentrate on the differentiation of products, product range, service, etc.”

- Copenhagen Markets

“One could see that they were accustomed to working in a different way than us, and see things in a larger perspective, before the problem is defined, and the concrete work starts. We may start the innovation process from a more closed condition, as we are influenced by our knowledge of the company and project.”

- Kailow Graphic

On the question of how the companies could use the generated material from the workshop, some were satisfied with the open holistic approach, while others were seeking concrete solutions, and wanted to control the process:

“Some of the specific ideas can be applied in a different contexts , and functions as major new angles on ideas we already work with.”

- The National Gallery of Denmark

“We had hoped to get a new approach to the project, or a new perspective on the matter, and therefore we were very open to what the students had to offer. However, after a while we had to lead them in the direction we wanted them to go, otherwise they would have spent too much time on unnecessary things.”

- Kailow Graphic

## Conclusion

The American design theoretic and practitioner GK VanPatter (Jones & VanPatter 2009) uses the term visual sensemaking to describe the ability to frame complex problems in the fuzzy front end (Smith & Reinertsen 1991) of an innovation process. Based on the work in the fields of communication and information by Dervin (1992) & Wurman (1989), VanPatter states that visualisation techniques can have a significant impact in the process of understanding vast amounts of information, and making decisions on which factors it would be relevant to focus further on. He argues that the need and time used on sensemaking should increase proportionally with the complexity of the context in which the designer is working, thus making this an important focus point in a possible future, where designers increasingly will be involved in strategic processes.

In this process of innovating, not new products, but entire new models for the different companies, we put the open process and visual tools to the test in dealing with very complex problems. The experience and the results were quite different for the different companies.

Most of the companies in the form of Advice Digital, Copenhagen Markets, The National Gallery of Denmark & Scandlines accepted the open visual approach and accepted that they should not limit the process by looking for solutions. They embraced the openness in the process and looked for opportunities and had a very positive and rewarding experience. An experience that was inspiring and were the outcome of the day contained the foundation for new opportunities for the company. Kailow Graphic, the company that looked for a particular solution on a specific problem and thus tried to control the process in this specific direction, expressed frustration and lack of understanding for “spending too much time on unnecessary things” to discover new opportunities. The process stayed in a closed, problem solving mode and never rose to the level of open innovation thus blocking for potential new findings.

The workshop made the following clear:

- Visual tools is a rapid way to make sense of large amounts of data.
- If you look for concrete solutions too early in the process, you reduce the chance of getting new insights into the situation.
- Even with tight process control, which is the key to fast results, the process can be kept open.
- When everybody in the team is active and open in the process, they are the most creative.
- Creativity can flourish in chaos, but innovation implies organisation and structure.

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