

12 RECOMMEN- DATIONS for designing change within complex systems

By definition, designers place the user at the centre of the processes they are about to begin; the user of clothes, of payment systems or other services, the user of cars and traffic. But not only then; centering the user is also beneficial when designing change like we have been doing in the etrans project at Kolding School of Design.

We have been with people who were very eager to create change, partly because they realised that they were standing on top of a burning platform. We have worked with people who were passionate about creating a greener and healthier world and perceived the electric car as part of the solution. And we have talked with the reactionary who is more than satisfied with the cars and systems that we already know.

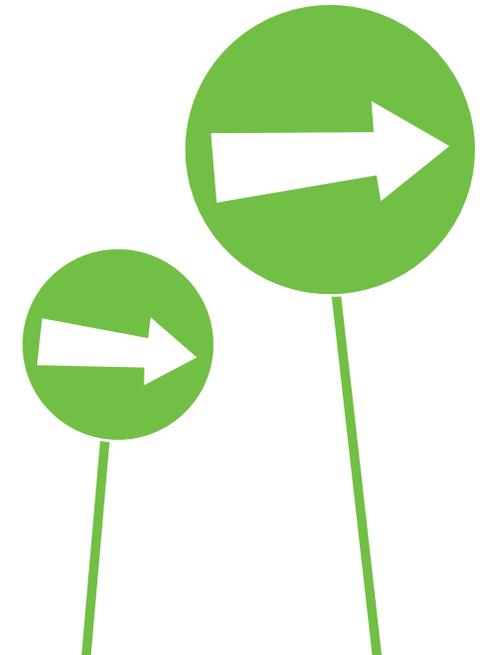
Where do you start when the change you are about to create is not what people want? That was the challenge we were facing, and we took our point of departure in what we do best, which is design. The task at hand was creating a platform for that change which makes sense to the people who will be using it, and we started out by placing the user at the centre. From there, we applied a number of design methods such as co-creation, prototyping, user journeys, etc. and gathered knowledge that we now want to share with others.

Therefore, we have collected some of our experiences in these 12 recommendations.

Our biggest task in etrans was to navigate the chaos which must embrace and push an enormous change on many different levels. We had to try and get an overall understanding of how economy, technology, behaviour, environmental considerations, infrastructure, culture, politics, etc. interact not only for the users of transport systems but also for all of those acting and doing business within that field or aspiring to start doing so. It became clear to us that if we were to succeed with our mission, there must be more awareness of the field across professions and conventional ways of working together, and the way all of us think and act within a highly complex system must change.

We have learned a great deal from the rather confusing process that we initiated; also about what not to do.

Early on it became clear to us that our key collaborating partners were those who wanted to contribute to the process of making the Danes replace their conventional petrol and diesel cars with sustainable electric cars. These fireballs want innovation and can either be motivated by commercial reasons or by curiosity, environmental considerations or entirely different factors. These players are to be found in the network surrounding the electric cars. Consequently, we started mapping the many different products, services, and systems that are affected by the new technology. This process led us to the change agents which could help us get started. At the same time, we began getting acquainted with fireballs and entrepreneurs of the field in order to learn about their friends – and their enemies. We tried to put together an image of who could and would contribute to our process, and in particular we tried to discover who we could learn from as our knowledge of electric cars was limited or even non-existent when we first started.



These cards describe the various methods that were used in this process. Some things we were able to do quite easily because we had designers and experts available. However, all of what we describe can be done by others. Some things might require money, an anthropological study or a quantitative investigation to name a few of the expensive ones. Yet, when it comes to large processes of change, these kinds of costs can be money well spent.

Our recommendations are imbued with the fact that we have taken the user centered design process as our starting point. According to the 1978 Nobel Prize Winner, Engineer and Designer Herbert Simon, anyone can design. Indeed, he defines the designer as a person who can change an existing situation and turn it into a preferred one; that is something you would rather want. Hence, it is of importance that you begin your process by investigating what it will take to make the user welcome change. Next, he says, you must produce prototypes of the new in order to make your mistakes fast. This will save you frustrations and money.

Change requires strength and courage. We hope that all or some of this material will help you sustain your wish for change privately and publically even if it's not all fun. One final remark: Remember the words of Jamaican designer Les Brown: 'Shoot for the moon. Even if you miss you will land among the stars'.



etrans
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FACTS

etrans is an innovation project set up in 2009 to make the Danes love electric cars. For a period of three years, the project set out to focus on user-driven innovation centering user experiences with the new technology. The collected knowledge about user-behaviour was intended for identifying new business areas relating to the system surrounding electric cars, not for designing new electric cars. We were to collect inspiration from situations where users showed excitement with the new technology and the sustainable aspects as well as from situations where users displayed reservation or indeed dismissed the changes related to the area.

Learn more about etrans' work on etrans.dk and from the six published reports.

Learn about projects and methods on etrans.dk/projekter

DEFINITIONS METHODS REPORTS HOMEPAGE REFERENCES

DEMAND ANALYSIS

Once user data has been collected, it must be sorted and reshaped for action. Data can be grouped to fit the flow of the user studies. This might be done chronologically, according to places and people, depending on emotional character, etc. Subsequently, you must look for patterns within those groups that you have defined as being significant.

BRAINSTORM

Brainstorm is a technique for generating ideas where a group of people, within a set time, elaborate on each other's (crazy) ideas. With brainstorm comes a set of rules that are adapted to each situation: All ideas are written down individually on a piece of paper. The more ideas the better. You are not permitted to assess the viability of your own or any of the other's ideas. Build on the ideas of others. Say "yes" and not "no, but". Stick to the time and stay focused on the assignment.

USERS

Users become affected by the change in their daily lives. User-driven innovation (Danish Business Authority): ebst.dk/brugerdreveninnovation.dk/metodesamling_til_bdi and ebst.dk/brugerdreveninnovation.dk/metoder about the Lead User approach + The ethnographical approach + Participatory Design and Participatory Innovation.

USER INVOLVEMENT

User involvement takes its starting point in how something will make sense in the everyday life of the user. It is essential not only to focus on the end user but on users throughout the specific value chain which is affected by or influences the change.

USER JOURNEY

The user journey describes the journey through a specific situation. The user journey is sorted chronologically and can describe the experience of a number of different connections: A service, the relationship with a company, a hospitalisation, or the use of a thermos.

CO-CREATION

Co-creation is a working method where people with

completely different qualifications work together, often in workshops. Co-creation involves users in a development on equal terms with designers, researchers, economists, legislators, and persons who are knowledgeable about technology. Co-creation is also when users of products, services and systems meet to discuss the impact that a given change has on them.

CULTURAL PROBES

A cultural probe is a small task set constructed to illustrate user emotions, values and experiences. Cultural probes are constructed with tasks specifically directed at the target group.

DESIGN-DRIVEN INNOVATION (DANISH DESIGN CENTER)

ddc.dk/din

DESIGN GAMES

Design games is a tool for generating dialogue aiming to create a structured conversation between users and stakeholders.

INNOVATION

Methods for Innovation: startvaekst.dk/metoder-til-innovation-casebank/0/33 and startvaekst.dk/file/102779/metodehaandbog.pdf

QUALITATIVE USER STUDY

By collecting qualitative data you gain access to emotional factors, to motivation, prejudices and preferences. You achieve access to the acknowledged and unacknowledged needs by measuring effects, experiences and satisfaction. A qualitative user study can form the basis for an adjustment and improvement of existing products, services and systems and for the development of new ones.

LEAD USER INVOLVEMENT

Lead users are used when you need to have your work validated by users with specific competences. Lead users do not have to be experts in the traditional sense but might have special qualifications or be particularly aware of how a solution might influence their situation.

METHOD

Methods are used for process management and as a support leg when entering difficult contexts. You always have to adjust the methods to the context and consider what the outcome should be. Visualise the process and set up rules for what is allowed.

METHOD CARDS FROM KOLDING SCHOOL OF DESIGN

DSKD Method Cards is a collection of methods to inspire professional designers and innovation processes. Silje Kamille Friis and Anne Katrine Gøtzsche Gelting from Kolding School of Design have collected 62 design methods in a deck of cards to be used in various phases of the process. Each card contains a description of the specific method as well as a case example. A detailed user guide is included.

The method cards cost DKK 500, transportation costs included. Contact the school reception to place your order: dk@designskolenkolding.dk / +45 76301100.

MINDMAPS

The mindmap might be a sketched outline of how constellations of words, ideas, relations, collaborating partners, tasks, etc. interrelate. Mindmaps can be used for analysing correlations, for development and ideation, and to visualise knowledge or contexts.

MINDLAB/ INNOVATION WITHIN THE PUBLIC SECTOR

innovationsguiden.dk

OBSERVATION

Method for achieving in-depth knowledge of user behaviour because users are observed on their own terms and within their own environment. The method can supply key insight into how a specific situation is perceived from the point of view of the user and may uncover a discrepancy between what the user says and how he acts.

PERSONAS

A persona is a realistic collocation of a series of data that one can relate to. The persona is a fictive character representing a specific user group. The persona is given a

plausible identity, an emotional life, emotional values and preferences which may originate from a larger and more chaotic user study. Learn more on personas.dk

PROTOTYPING

There is no right way of prototyping. Yet, begin with "low fidelity" using a 3D model made from cheap materials that doesn't require too much work effort. The more openly your idea presents itself, the more likely you are to get feedback and an open dialogue with others. Prototypes allow the possibility to think while building, and afterwards, you have a dialogue tool which can set the frame for validating a hypothesis and be used to get feedback from users and stakeholders.

RAPID PROTOTYPING

Rapid prototyping are cardboard models, objects constructed quickly, cartoon concepts, small films, or similar which instantly and inexpensively outline an idea. The purpose of rapid prototyping is to concretise an idea without finishing it allowing for it to develop, change, and form in collaboration with the relevant stakeholders.

SCENARIOS

A scenario is a narration about a complex situation or a series of events. The scenario may describe a future vision or it may be a stylised version of a reality that one has encountered in user studies. Scenarios can be physical – built as landscapes or experience zones – or digital in the form of film, video, slideshows, etc. Scenarios should include details and emotional factors that activate the perception of a possible future.

SERVICE DESIGN TOOLS

servicedesigntools.org

SKETCHING

Pictures tell more than a thousand words. By drawing or in other ways constructing a visual image, any spectator can bring his or her own interpretation and thus help develop what is required. When something is visualised, it forces you to see that which is new more clearly.

STAKEHOLDER

Stakeholders are involved in the change on a regular basis and must contribute to it. They are defined as people, institutions and companies who might benefit or experience drawbacks when a change is introduced.

STAKEHOLDER MAPPING

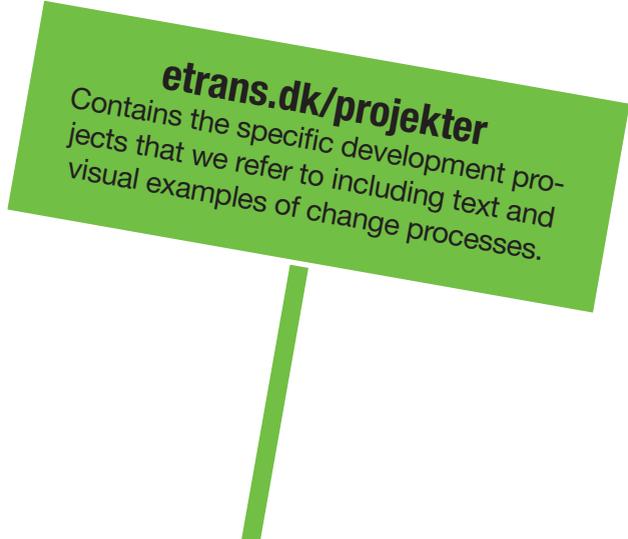
Projects where products, services and systems interrelate require mapping of the various authorities involved. In such cases it may be key to identify the number of different (decision) phases, employees, authorities, etc. that a service must pass through before being completely implemented.

WORKSHOPS

CIID Tools / Workshops:
ciid.dk/tools_workshops

ETRANS REPORTS

The project site contains all of the etrans reports that are referred to on the 12 cards.



etrans.dk/projekter
Contains the specific development projects that we refer to including text and visual examples of change processes.

INTER-DISCIPLINARY THINKING

You don't create big changes and solve complex problems by yourself

A lot of us work with colleagues whose background, experience and field of work match our own. Still, changes within complex systems branch out across competencies and conventional ways of organising. Consider how the change that you are facing affects the broad surroundings also with regards to formal and informal power structures. Include people, preferably fireballs, in your project team who challenge your own competencies. This takes the project beyond what you can accomplish by yourself.

EXPERIENCE

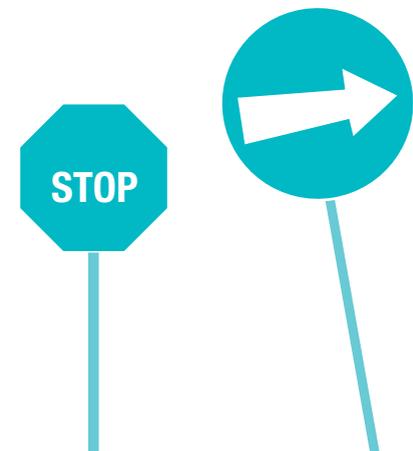
It is hard to coordinate product, service and system experiences to have the same experience on all levels. Today, the service that many organisations provide is so vast that the only ones actually getting a full-system experience are the end-users. In relation to change, working in interdisciplinary teams and having different perspectives on the user experience will have a positive impact on your outcome.

We set up a two-day workshop and gathered 24 business developers, project managers, service employees, and engineers from different departments within DONG Energy. Each of them experts within their field with an understanding of how to mature and measure projects within that field, but with little tradition of identifying and collaborating with employees from other corners of the organisation. Therefore, we asked them to take their starting point in the user's encounter with DONG Energy and focus on how to create a better solution for the end-user. The employees were asked to map how and how often the user encounters the company in daily life. To prepare for this, we had collected quotes and experiences from users together with DONG Energy. Afterwards, the employees were asked to place these in relation to the users' encounter with the organisation. This made us able to identify where there was "room for improvement". Having the user experience as the common frame of reference and as the shared objective, the different employees were now able to start a collaboration that enabled each of them to see what it would require of their own

department to correct and improve the service experience which DONG Energy supplies.

At another workshop with managers and employees from different departments of the utility company TRE-FOR, we presented a series of possible future scenarios. The future scenarios represented loose ideas which, in part, were to increase customer loyalty, and in part, should get customers more involved in their own energy consumption. We set up cross-organisational groups and asked the employees to discuss which scenarios were most relevant to TRE-FOR and what it would take technically and business wise to make these scenarios real. We ranked the three areas *user experience*, *technology* and *market* alongside each other to allow everyone to contribute knowledge and input. Then, we asked the participants to eliminate those parts of the scenarios that weren't desirable or viable. The TRE-FOR employees were then able to identify their own role in a given change, and what barriers were in the way of implementing that change. However, they also had to focus on their own expectations for how the customers would react to the change.

During the joint presentation the employees got a clearer image of the company's way of thinking and gained a new understanding of the fact that if you work across disciplines and fields early on in the process, you are able to develop ideas in much more valuable ways and with much better guarantees for a fast implementation.



INTERDISCIPLINARY THINKING

You don't create big changes and solve complex problems by yourself

EXPERIENCES

Set up a cross-disciplinary team which is able to view problems from different perspectives. If you agree on everything from the beginning, it's probably not the right people you have invited. Look at your joint competencies and resources and assess whether you need to bring in external ones. Start out with a kick-off workshop. This will help you identify who, what and how the individual can contribute to the process.

LEARN MORE

Check out *Change by Design* by Tim Brown, CEO and President of IDEO and Graphic Designer/Web Designer.

RECOMMENDATION

Outline a value chain within the organisation: How many departments are affected by a change? And make sure you assess the situation within all layers of the organisation. Bring together representatives for a possible future solution and develop new solutions together with them. This prevents silo thinking.

METHOD

Create a platform with a common language. Imagine the change being a journey or a landscape. Build it in Lego and display it on your desk where others can comment on it and contribute. Dialogue and debate break down the silo way of thinking and make the ideas far easier to implement at all levels of the organisation.

Learn more on ebst.dk/brugerdreveninnovation.dk/metodesamling_til_bdi

TIP

Collect data which does not exclusively represent your idea for change but also includes other aspects. Set time aside for joint contemplation. Learn more in the eTrans Reports 0 and 1, respectively, about the anthropological methods and eTrans analysis based on these. Consider using research results to trip up the collaboration. Try asking "What if this scientific view was a user experience?" Learn more in the report "From Intangible to Tangible From Tangible to Wonderful", about the International DesignCamp 2011.

THINK SYSTEMS BEFORE MAKING PRODUCTS

Look at contexts
and value chains

How do you make sure that you are on the right track? Changes require different kinds of considerations. Often, you only acquire an understanding of the users, user context, selection of technological possibilities, new materials, etc. once the development process is well under way. A lot of times, changes require for something to take on a new significance in the daily work or routines of a group of people. Having an idea of the final solution can feel liberating and you may want to start the design and the implementation right away. However, keep in mind the larger context before you start thinking about solutions.

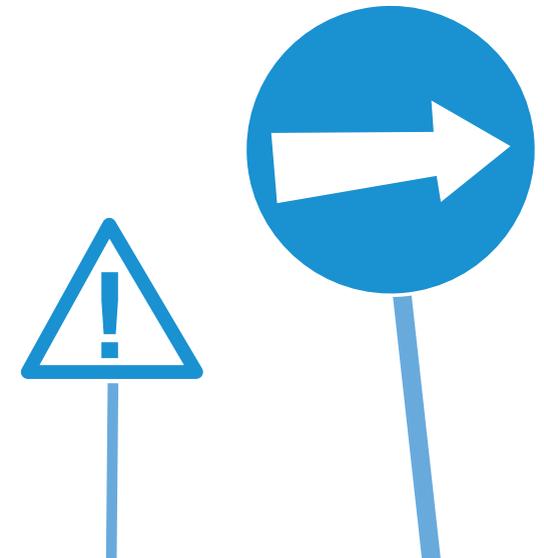
EXPERIENCE

In today's world, products are rarely self-sufficient but must be considered together with services, supplies and, of course, the role they play in our everyday lives. Thus, creating change is only rarely about implementing a new product. The product can serve as an image of the change and a proposal to change a certain kind of behaviour. Therefore, ensuring the quality of the services that are linked to the product is important for the use of the product to be successful.

In collaboration with Peugeot-Aunsbjerg in Kolding, etrans took up a challenge which, at first, was about introducing the electric cars on the market and exploring the services linked to buying a new car. This gave us a chance to look into ways for companies to create new tasks for their employees. In the course of the process, we could see that if we raised the bar and looked at "mobility concepts", more possibilities would emerge. We could shift our focus from the car itself to the behavioural and economical changes of the modern consumer's perception of what it means to have a car. This enabled us to "repack the company's knowledge of their customers" and find ways of redefining current services to make them attractive within other contexts. This is how Zapbil came about; a car sharing concept that makes the company fleet of cars available to people who are not able to or don't want to own a car. By reversing the problem, leaving the electric car, and looking at things in a larger perspective and focusing on systems before new products, Peugeot Aunsbjerg

was able to develop an entirely new business platform that appeals to a new customer segment which they had had trouble reaching.

The charging station that we worked on developing was put up in an urban area. During the test period, we realised that when placing charging stations for electric cars in urban areas, you fail to offer the service that drivers get at a petrol station of e.g. using the bathroom, buying snacks and service products for their car, etc. With the Places'n'Posts concept we were inspired by this challenge and created a system in which a number of business owners and public authorities can contribute to an extended service experience for the users of the charging stations. Hence, the charging station is linked to an app which tells you where these services are located along with a map indicating how many minutes it will take to walk there. At the same time, the charging station and the app work as advertising pillars for business owners, libraries, etc. and help them brand themselves as eco-friendly. Thus, the service surrounding the charging station forms the basis for a revision of the physical product which had not been possible had it been finished. By exploiting the relationship between product, service, and system, a far greater business potential emerges.



THINK SYSTEMS BEFORE MAKING PRODUCTS

Look at contexts and
value chains

EXPERIENCE

Creating sustainable change often requires a change in the entire product, service, and system. Therefore, you have to look at the larger context.

This means that you can gain from introducing new services by including concrete and tangible products. However, it also means that you have to be aware of the potential of a larger system level before spending too much energy on designing services or products.

LEARN MORE

Learn more about Zapbil on zapbil.dk
Learn more in Business Model Generation here:
businessmodelgeneration.com/book

RECOMMENDATION

Be inspired by user experiences. These are never isolated from time and space.

TIPS

When you want to create change, the answer is not always improving or updating. You have to consider the system at large. By taking this perspective, a number of business opportunities may emerge.

TIPS

Assess the systematic changes required for achieving the optimal product solution. Take as much time to consider the system and the services that will support the success of a given product as you do to consider the product itself.

FIND COMMON GROUND THROUGH COLLECTIVE CREATIVITY

When you collaborate you do things parallel to each other. However, when you work together, you are able to set up a frame for establishing new, cross-disciplinary possibilities. But how do you work together in complex systems where there is no set target and you cannot make a deal about what to aim for? And how do you at least find a common ground to work from?

EXPERIENCE

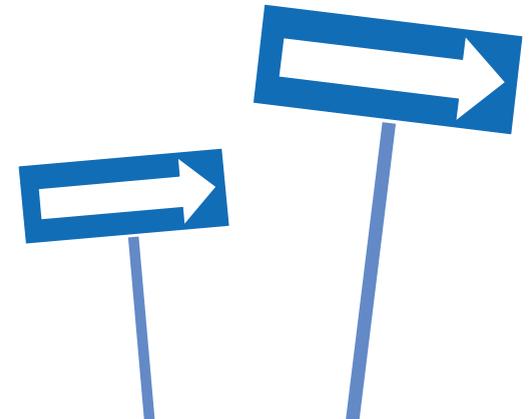
When you centre users to create development, you are able to set up a work form where different viewpoints and professional competencies can interact on equal terms within complex contexts, because you take your starting point in how something will create meaning in the user's everyday life. At the same time, a joint solution is far more valuable than the individual competencies put together. If you are to succeed, you have to have qualified communication and a game board that everyone understands. It may be useful to decide in advance on what level to make the change and how large a part of the value chain to include.

Within the etrans project we had to start out by creating a foundation for our work because the electric car field was completely unspoiled. Therefore, we were able to complete a large-scale user study where anthropologists collected knowledge about the basic attitudes and values of the Danes concerning mobility, cars and sustainability. Afterwards, in collaboration with a number of our partners, we have processed, put in perspective and activated the material that the anthropologists were able to collect. This means that from their individual human standpoint and with their different professional competencies, the partners have helped interpret the anthropological data. They have gained insight into the thoughts of many Danes concerning cars, sustainability, transport habits, etc. and will subsequently be able to litmus test their own business compared to that. This was the first bonus of taking the point of departure in the user's understanding of the field.

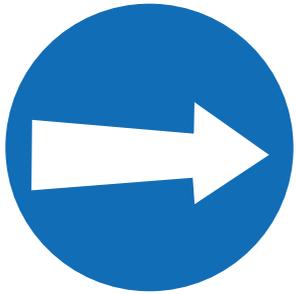
The handover and interpretation of the anthropological material was carried out in a tightly controlled process for a number of small interdisciplinary groups. The material was introduced through minor exercises where the groups were asked to discuss the significance of various statements from the study and then validate them. Later, they were asked to place them on posters according to importance. Then, we developed ideas for future solutions which could meet the users' statements, whether they were sceptical or enthusiastic about the future change. Thus, the users' voices constituted a frame for the dialogue which everyone could relate to.

We very much applied the various professional competencies, knowledge and personal experiences of the workshop participants in the innovation work. This was a huge success and resulted in 85 ideas, which were later published in a report for general use. The innovation process and ideas are described in the report A Design Manual for the Electric Car Market to be downloaded on etrans.dk/projekter.

An anthropological study such as this one is becoming a rarity because it is very costly. In our experience, there are plenty of other and less qualified ways to collect usable information. The point is that you take your starting point in the user's perception of a given situation and presents this as the basis for a discussion.



FIND COMMON GROUND THROUGH COLLECTIVE CREATIVITY



EXPERIENCE

The user's everyday life can be recorded through quotes, logs, video, and images among other things explaining the big difference between what you say and what you do. Subsequently, we have identified the primary contrasts within the material and produced a series of "knowledge cards" relating to subject fields of relevance to the field. These are used as a foundation for a development dialogue with a number of partners. Learn more on etrans.dk/projekter

RECOMMENDATIONS

Create e.g. a scenario or a small film of people saying or doing something. Use quotes from special users and ask people to interpret them. This allows you to discuss prejudices and be inspired.

EXPERIENCE

Creating a frame for how to implement the user study is just as important as organising the execution. Make up your mind as to how you want to "translate" your user study into something that you can work with. For instance, ask one of the groups to look for the major contrasts within the material and compare it to the service that is currently offered.

RECOMMENDATION

A fixed agenda, specific tasks stating what is relevant to work with and focus on and direct instructions throughout the process create a safe framework for the mental challenge of collaborating. Begin with tasks that allow people to get to know each other and enable them to vent their prejudices concerning the upcoming task. For instance, fill out cards describing the worst and the best of being present here today and present them to each other.

TIPS

Humour and a positive atmosphere can be liberating. Cheap tricks such as serving coffee, cake and candy help. As a rule, equate all viewpoints. Create a mutual understanding of the objective in order to get everybody to pull in the same direction. Consider using an independent external facilitator to avoid that any preconceived notions or ideas from project managers or participants control the process and the output.

LEARN MORE

Learn more about using the methods brain dump and mindmap as criteria for success in the DSKD Method Cards, which can be purchased for DKK 500 by contacting Kolding School of Design.

CREATE A SENSE OF OWNERSHIP AND ENTHUSIASM

How do you create enthusiasm and support about that which is new rather than resistance? It is vital that you make an effort to excite your co-players and give them a sense of what they contribute to the process. Give priority to this throughout the process in relation to project management, communication, process, inclusion, partial results, development, and implementation. Don't allow bad experiences to become failures but focus on what you have learned and how to move on.

EXPERIENCE

Any kind of development is time consuming, can be frustrating and distracting, and requires willingness to take risks by everyone involved. Therefore, remember to celebrate your victories and to communicate partial results to those who are not directly involved in the process. Enthusiasm is most easily achieved when the change is meaningful to the people involved and they can carry this meaning on to others; and what is meaningful to one person is not necessarily meaningful to another.

Our experiences with creating change within complex systems shows us that employees become involved based on interest and because they want to because they can see a point in trying out something new, but often, there is not enough time to become involved. There has not been made room for the new initiatives within the employees' daily routines, and the initiatives are just added to the original tasks.

A prerequisite for success is that the management allocates time, accepts, and leads the way and on a daily basis inspires and supports those employees who are selected to test, implement and report on the initiatives. Often, this involves way more people than you think.

We have worked with how to implement electric cars in the fleet of cars of Fredericia Municipality without encountering massive resistance. In order to get the process going, it is necessary to remind people not to forget the new. Therefore, we have worked with a three-part excitement campaign in the town of Fredericia.

1) We have involved the local government workers who will be driving the electric cars. Of course, their experiences with the cars will be used to correct any obvious insufficiencies but they will also be used to create awareness and support via the municipality's intranet concerning the use of electric cars. This is also to involve the other large target group of the campaign, that is

2) those employees who will only peripherally be affected by the electric cars. They will become the target of an information campaign which will communicate the significance and effect of the project. Their effort – and the extent to which the process depends on them – was part of the agenda when they were invited to attend a conference presenting talks by a series of experts, politicians, and experienced local government workers.

3) The third target group comprises the citizens of Fredericia Municipality who must receive overall information concerning the electric cars, their impact on the environment, and what their tax money is spent on. This is a hard group to reach because it comprises a broad range of people. However, we have organised street happenings and 'Open Night' events where project employees have presented the project and the experiences that it builds on. We have done anything from having small electric cars for the children to play with, to games, to serving green candy floss, and to letting the citizens test drive the electric cars. The objective is twofold: We want the support of the citizens and employees in order to give them a sense of ownership of the change.



CREATE A SENSE OF OWNERSHIP AND ENTHUSIASM

EXPERIENCE

Recruit project ambassadors throughout the system surrounding the change. Identify motivation factors throughout the system. Who is affected and how are they kept informed? Use different media and use your knowledge of people's everyday lives. Meet them there.

KEEP IN MIND

Fight prejudices. Find and pass on the good stories.

LEARN MORE

Check out the book created by Illustrator Allan Schmidt on behalf of Fredericia Municipality in connection to the excitement campaign : The Electric Car – Handbook for Electric Car Ambassadors:

The report Seven Steps. Get Started on Electric Cars – including Experiences from Fredericia Municipality.

Both are available on etrans.dk/projekter

TIPS

- for the management of the excitement initiative: Check out the excitement efforts from three different perspectives. Gather information from the people who are working with and who are being affected by the change on a daily and systematic basis. The information can be used to make instant programme alterations but it can also be used to communicate the status of the project. Communicate results to stakeholders on a qualified level and preferably in an inclusive way. And inform the network in ways that leave something to talk about and act upon.

Listen and tell. How do you collect good and bad results and turn them into good stories or something you have to respond to? Which known resources can help internally?

Include stakeholders and users early on in the process so they feel heard, and keep them informed.

SEE THROUGH THE EYES OF THE USER

– and wipe your
own glasses

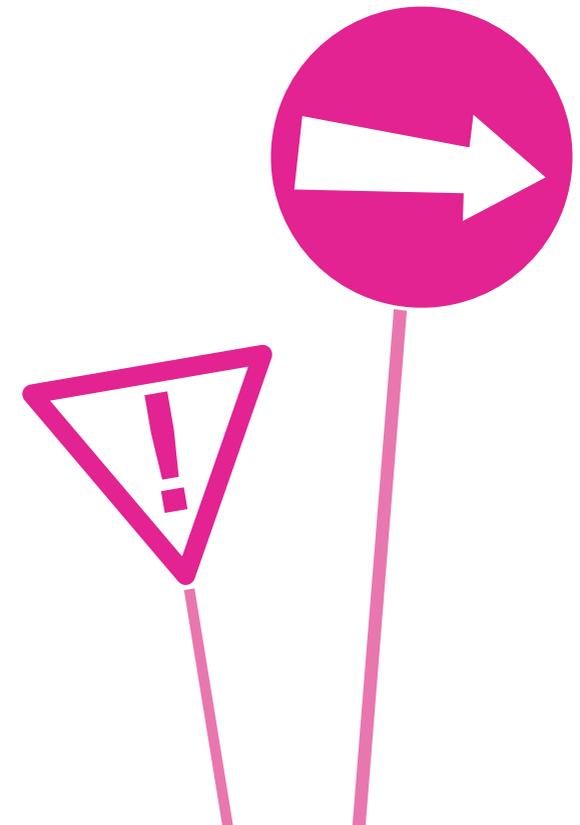
If you want to create change it is important to know the experiences of the users. However, knowing how to involve users, apply what you learn, and disseminate what you know about them can be hard. How do you set a frame for what is practicable? And how do you establish a creative frame for exchange of experiences and co-creation within a specific field?

EXPERIENCE

Many organisations experience a positive connection with their customers or users. Yet, often times the connection builds on familiar patterns and routines that don't pick up on signals and changes which can be essential in change processes. By using new ways to collect knowledge about users, you get a more nuanced image of what to tap into. Then, you can begin to use knowledge about the reality, the everyday life, and the values of users to create practical and simple solutions to complex problems. It is important not only to focus on the end-user but also on users of the complete value chain that is affected by or influences the change. And you have to make sure that the understanding of the user does not exclusively rest on old, established presumptions.

When you want to develop your business, it can be important to determine whether your focus is on the user – or the customer. And realising that the user and the customer are not always the same is essential. A cross-disciplinary team from the utility company TRE-FOR realised this when being involved in a development process with etrans. In case of energy supply, as in many other cases, the one paying for a commodity or a service (in case of energy perhaps the head of the family) is not necessarily the one who is using it (for instance the children). Maybe they don't even share the same interests in the purchased commodity or service. Therefore, the parameters that you need to address when working with e.g. energy saving campaigns differ greatly. One of the participants put it like this: "Perhaps we know our customers, but we don't know our users".

Articulating emotional aspects of a change can be hard but they are important and often just as much as practical, specific and functional elements in relation to the way a change is being accepted by the users. This is difficult to measure and rarely something the users are aware of themselves. Therefore, it can be useful to collect knowledge about or activate users with very specific (or no) qualifications for performing within a given situation. You can require insight from super users of interest to your problem and study and interview them. For instance, you can investigate how the elderly experience new technology or how sales persons, who spend many hours behind the wheel, would describe their car.



SEE THROUGH THE EYES OF THE USER

– and wipe your own glasses

TIPS

Be critical of what you think you know about the users. “Revisit” them but differently than you usually do. Visit them in their home, make video diaries or ask them to create a log; interview them or create small games that can help them map a certain part of their life. Most importantly, do something you don’t normally do. Become inspired to make field studies by exploring etrans’ anthropological work and applied methods described in Report 0.

Download it on etrans.dk/projekter

TIPS

There are many ways of involving users and applying the required insights. Be conscious about when and how you include which users. For instance, super users can be used to reap experiences and get inspiration. Sceptics can be used to test your idea. Future users can be brought together to work out ideas relating to a change. Observe what they discuss, focus on, etc. and take note of it in a future development.

RECOMMENDATION

When you have invested time in understanding the users, you must invest time in processing what you experience. At first, it may seem troublesome and lengthy but further along in the process, when business aspects, technical competencies, rules, regulations, etc. become part of the process, having invested this time will give you a head start.

TIPS

Create with not for: Include users as co-creators in the development process. In that way you are automatically able to include the user perspective and the first stage of a user test in the development phase.

METHOD

The user journey: Starting out by mapping the user’s experiences throughout the “journey” enables you to stay focused on the user and to incorporate or activate opportunities in larger contexts.

Learn about the user journey on ebst.dk/file/102719/haandbog_innovationsmetoder.pdf

LEARN MORE

Learn more about the kick-off workshop on etrans.dk/projekter/juni-workshop

BUILD AND TEST IDEAS

Prototype yourself smarter

How do we acquire an understanding of the consequences of a change in relation to the people it affects? Very few people think about systems or strategies in everyday life. Therefore, skip between system level and concrete solutions that can be prototyped and tested by stakeholders and users to get the feedback that will tell you whether you are approaching a solution that will create the changes and results you are aiming for.

EXPERIENCE

To a project team, prototypes help make abstract ideas tangible. Internally and in the collaboration with external partners, the prototype can serve as a clarifying dialogue tool of sorts, which enables you to discuss consequences at a qualified level. Together, you can identify barriers and possibilities and make decisions to move on. You can prototype to make yourself smarter in terms of function, experience, context, shape, etc.

In relation to a research project, we wanted to provide users with the possibility of changing their energy consumption so that, for instance, they turn on the washing machine when the green wind energy is available. From the beginning, fast and uncompleted models of “reading mechanisms” were prototyped very differently and in different forms. Subsequently, the prototypes were tested on users to discover the best way to make them aware of whether energy came from coal or wind. In the process, the most unfit models were put away and others were adjusted. Each step made us see more clearly whether the idea and the form was understandable, applicable, and meaningful for the user. Gradually, the prototypes became more refined, more time-consuming, and more expensive. We tested an interactive model shaped like an iPod clock face. We placed it in the homes of users to see if they were actually willing to alter their consumption once they were able to see how green the power was. As we grew wiser, the prototype was adjusted and it was also used in negotiations with Saseco, who were to develop the technology, and with the supplier of the data quantity needed to reflect the real power production. So, prototypes have been essential from day one in terms of

creating interaction with users and stakeholders. They have been used to discuss, refine, and specify requirements to achieve the goal of changing user behaviour. The final prototype was produced as an app. You can find the app on ewatch.etrans.dk

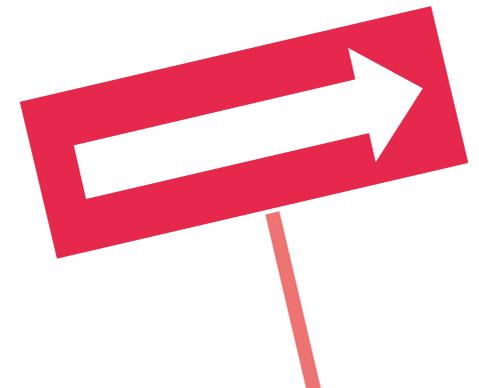
ewatch is now being tested in a large scale and over more time in order to become ready for roll-out.

Learn more on

www.designskolenkolding.dk/index.php?id=4052

In the same way, we have worked with the interactive communication platform 'Ligeudadlandevejen' ('Straightforward'), which describes the connection between choice of transport, energy, and climate to young people. To get started, we developed a game which makes young people aware of the consequences of their choice of transport. We tested and adjusted this part with the target group while involving a number of experts who contributed their research-based knowledge concerning the issue. The teachers and the curriculum were also included to make sure that the project appealed to and could be used by a wide range of users, both young people and their teachers.

Learn more on ligeudadlandevejen.nu



BUILD AND TEST IDEAS

Prototype yourself smarter

RECOMMEN- DATION

Prototypes enable you to think while building and subsequently, you will have a dialogue tool which can serve as a frame for validating your hypothesis and as a way to get feedback from users and stakeholders.

RECOMMEN- DATION

The best thing about prototyping is that prototypes guarantee you to make your mistakes fast and cheap. And you can learn from them without being discouraged.

TIPS

There is no right way to prototype.

However, start in “low fidelity” with a 3D model made from cheap materials that does not require too much work effort. If the idea is not too fixed, you are more likely to get feedback and an open dialogue.

Try to google prototyping and get ideas for media you can use. And keep in mind that you don’t have to be a world champion; all you have to do is communicate your idea to others with a view to making it professional.

Prototype experiences using scenarios and acting.

Build a cardboard shop and create user experiences or record a film with stick men. Prototype digital interfaces on paper or use Power Point.

Prototype behavioural changes as journeys or landscapes that you can enter.

LEARN MORE

The chapter *For designers prototyping is a way of thinking* by Cordy Swope, Managing Director Europe for international design company Fahrenheit 212 in the report “From Intangible to Tangible From Tangible to Wonderful” from DesignCamp 2011.

NETWORKING

— who to work with?

When completing a large change, very few organisations hold all of the necessary competencies themselves. How do you identify the partners and networks that should be involved? How do you kick-start the development of new solutions that require unfamiliar collaborations and value chains? Often, a solution will require the activation or establishment of a larger system. Therefore, identifying and including collaborating partners and experts to co-create the required solutions will be a good idea. Active and committed stakeholders are important drivers of innovation.

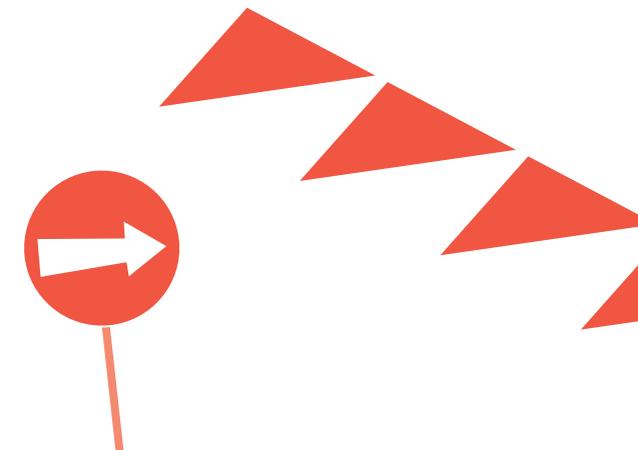
EXPERIENCE

You can waste a lot of time pursuing an obvious but unwilling collaborating partner. Therefore, it is important to keep an open mind when defining the change and share it with completely different competencies. This will enable you to identify a larger network around a change. It will improve the basic idea of the change but will also provide you with the opportunity to meet a variety of people and determine to what degree they will become a resource in the change process.

When we first started the etrans project, it was like the chicken or the egg causality dilemma. Should we focus on creating a charging infrastructure before the cars got here to make people feel assured that they would be able to charge their cars? Or should we wait for people to buy the cars and then set up the charging stations when we would know how many we would need? This great, systematic development called for great collaborating partners. However, the problem is that often, they don't have much time in their busy work schedules for development work that is not already defined. Therefore, we decided to divide the big challenge into smaller ones and found collaborating partners that perhaps weren't always the obvious ones but who were able to put in the time and effort needed for a challenge of this complexity. In other words, "we decided to play with the ones that wanted to play with us". This gave us a huge advantage in terms of being able to collect knowledge and experience which we could later upscale in other contexts. By viewing the problem from different

angles, far more players can become involved and you are able to create smaller solutions that are specific and excellent and can contribute to the overall solution.

In collaboration with the Triangle Region Innovation Forum, TRIN, we decided to find ways of creating new, green mobility opportunities; a large topic which is hard to get a grip on. However, breaking it into smaller areas of interest, it aroused the interest of a number of companies, organisations, and public parties who don't have much in common in the traditional sense and don't necessarily know each other. We invited these stakeholders to an innovation workshop to explore opportunities and pitfalls. At the workshop we divided them into groups and asked them to focus on the field that they knew particularly well. They were asked to present the topic based on their specific qualifications and political, organisational, economical, and technological expectations. The outcome was a structured discussion focusing on the primary pitfalls and the primary parameters for success. These were developed into common ideas and perspectives which served as valuable input to everyone involved that would not have seen the light of day if these different companies had not been brought together. The company feedback to the workshop has been that by setting up a forum for knowledge sharing and exchange of experience, the companies have been given a chance to see where and how they can require insight and contribute across sectors and company differences.



NETWORKING – who to work with?

EXPERIENCE

Innovation challenges familiar political, organisational, economical, and technological structures. And it can be achieved by bringing together parties that have never worked together to collaborate on creating a common solution. Creating new solutions together also ensures strong support of the changes that will be required.

TIPS

Play with the ones that want to play with you. Keep an open mind and set up a team that will be active supporters of a process. Using your energy, you will probably be able to create solutions that will match established systems.

EXPERIENCE

Give and take!
Begin by activating your current network; those within your network who are already familiar with the topic. Make your request as specific as possible and describe what you expect of any collaboration. In case of a long process, this will require identifying those parts of the project that will interest the stakeholders and also what they can contribute.

TIPS

Ask the network to help you define the problem at a kick-off workshop. Present your idea for change and ask the participants to give input and then mention possible collaborating partners or resource persons in relation to the work. By activating and including networks and stakeholders you bring them into play, together and across differences.
Learn about kick-off workshop on:
ebst.dk/file/102719/haandbog_innovationsmetoder.pdf

TIPS

Create a common goal for the cluster/the network – Align expectations: “What is my contribution (resources)?” “What do I expect in terms of participation?” “What value do I expect to gain from the network?”

COMMUNICATE VISUALLY

— and get your message across

How do we achieve a common understanding of complex contexts? In our experience, working visually creates a larger understanding among those involved and makes it easier to explore, discuss, and communicate. This is true when communicating internally within the group working on the change and when making external presentations to stakeholders and networks who serve as ambassadors for the idea. Visualisations can make complex problems or solutions easy to understand and communicate and serve as an important basis for inspiration and dialogue.

EXPERIENCE

Pictures speak more than a thousand words. By drawing or in other ways building a visual image of a change, anyone can contribute with their interpretation and help develop what is required. When something is visualised, it forces you to see that which is new more clearly.

Working within the field of electric cars can be quite demanding. You quickly encounter the classic prejudices or practical challenges that face the electric car. The advantage of electric cars is mainly to be found in large, complex contexts, e.g. environment and health, which can be hard to understand and get started on for most people. With this project we have tried to meet this challenge by visualising the comprehensive system that the electric car taps into. We have used diagrams, cartoons, etc. to create a common understanding of contexts and where to begin.

Images can embed far more information and references than words. Communicating non-measurable, emotional, and cultural dimensions through images is easier. Therefore, images can enable far more profound dialogues or make it easier to understand and talk about complex systems. Many times we have put together a Power Point with images to supplement a presentation of a course of development. For instance, we have presented a car sharing service by using the homepage of a company website as our starting point. Adding new elements to each slide on to the same

background, we have been able to give the audience the sense that they were being introduced to a service.

Grasping the complex system between wind energy and electric cars is almost impossible and it is definitely something that not a lot of people find interesting. Therefore, we have tried to visualise the complexity through a naivistic smartphone game developed together with DONG Energy. The visual universe and gameplay provides you with knowledge of how a small electric car can run sustainably on wind energy. You produce the energy yourself by blowing into the smartphone microphone allowing the blades to turn. Afterwards, you have to consider the limited range of the car when competing with others on "finding the shortest way to school". The app can be downloaded from Apple's app store and is an attempt to convey a complex problem and visually and playfully arouse curiosity and stir debate/interest among the players. Of course, this is quite expensive when you don't have designers and DONG Energy experts to guide you, but a smaller effort will also do the trick. Paper and permanent markers for instance.



COMMUNICATE VISUALLY

– and get your message across

TIP

Remember to pass on the good stories in order to counter prejudices. Preferably, let the stories have an emotional or cultural/historic/identity appeal.

EXPERIENCE

Naturally, development projects must be documented. Incorporating a visual form of documentation in advance can be a good idea. How do we want to document – and who will do it? Often, a visual documentation of the process will be far more descriptive of the process than minutes or a summary because images allow you to see the working methods and sense the atmosphere. Also, the visual material can make the communication far better and more successful.

Build a scenario using a Power Point and explain a course of development while changing slides. Get inspiration from films, databases, books, and magazines to describe what is going on.

TIP

In advance, consider how to visualise insights, conclusions, and partial results throughout the project. Will the meeting be summed up with wordy minutes? Could you perhaps hire an illustrator instead, or is it better if you use e.g. the participants of the meeting to visualise for you as a new form of meeting culture?

LEARN MORE

On etrans.dk/projekter/flexibil you can see a mobility system prototype which offers different types of memberships to a car sharing. The example is a simple attempt to outline a complex context.

THE FUTURE IS OURS TO MAKE

Push the process in the right direction

How do we make the users think differently and make them relate to new experiences and possibilities that don't already exist? Often, users and stakeholders can have a hard time visualising something new if it lies far into the future. Thus, using tangible examples or metaphors to describe a future scenario will benefit the project. Find a form that can inspire them, make them react, or which they can qualify. A lot of times it is easier to relate to a solution which replaces a current one by assessing how the new one feels, perhaps even creating a need for the change.

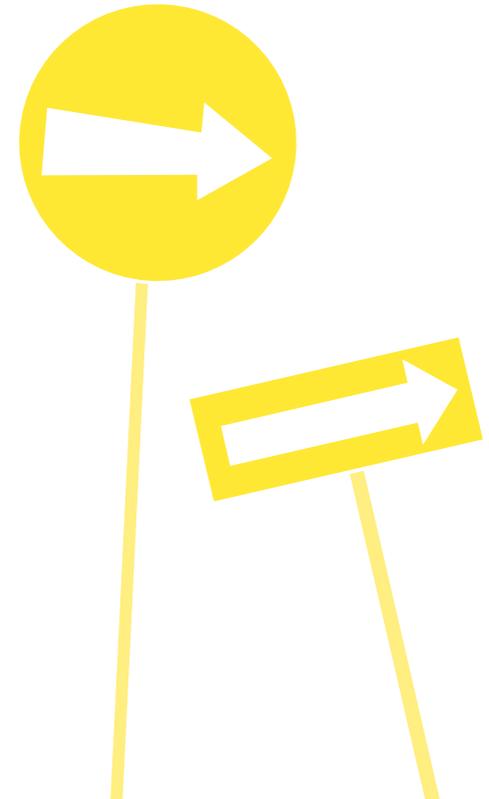
EXPERIENCE

Suggest something new by finding examples from other businesses and try playing the game of "what if..?" or do role playing. Become inspired by other fields, the latest technology, what they're doing in China, etc.

The etrans project has worked with charging and has created a charging service with one of the partners, ChoosEV, now Clever. When we needed to develop the service further, we asked the test users of an electric car to help us. The question we wanted answered was "What is the experience you are looking for when you are charging your electric car?" However, since this is quite an abstract question, we used familiar references and metaphors making it much easier for the users to provide input.

What we did was put up photo copies of famous brands and ask the users to discuss pros and cons about the services they already know. We asked them to assess whether it was more important for a charging service to be about good conscience (like the Red Cross campaign 'Donate a goat'), or whether they would rather feel safe in the hands of a competent service employee (like Peter from L'easy). Likewise, it was easy for the users to decide whether they wanted a digital solution, like we know it from tablets and smartphones, or whether they preferred handles and buttons, like tools or a dashboard.

A more expensive and more worked out example is the hypothetical transport offer 'Wunder'. With 'Wunder' etrans wanted to challenge one user group's conventional perception of renting a car. They were presented with a comprehensive mobility package, an elaborated car sharing service of sorts, where transport is combined with various services, entertainment offers, and relevant discounts. Two small, animated films presented the users with this future version and prepared them for discussing how to rethink mobility and how to combine and present future transport services. Films can be useful, and with modern equipment and a little bit of talent within the company, you can make one yourselves. You are not making art but ideas for how to think out of the box. It doesn't have to be expensive but it requires a good idea.



THE FUTURE IS OURS TO MAKE

Push the process in the right direction

TIP

Make the future tangible by visualising it focusing on the impact that a given change will have on all of those that are affected by it. Create a system for the future to make it more accessible. Feel free to use images or symbols that people can attach meaning to themselves.

Design is a series of solution modules that can be combined or prioritised by different users and then discussed.

Also bring the emotional layers into play. Don't be afraid of emotions!

METHOD

Backtracking. How distant is the future? Present a future scenario far from the reality that exists now. Discuss "what must be true for this future to succeed?" This will give you an idea of where to begin in order to get the process going.

TIP

Use visual metaphors which allow people to relate to an abstract future or change.

Push users and stakeholders out of the box. You may need input from experts, researchers, designers, or other visionary or creative minds.



EXPECT FRICTION

Change often
encounters
resistance

When you create something new and work across professional and cultural boundaries, you are bound to encounter resistance and friction. Accept this as a natural part of the process because indeed, creating change within complex systems is difficult. Make the process less complicated by preparing thoroughly and by setting up some ground rules. Focus on including those who will be affected by the change in order to ensure support and meet resistance half way.

EXPERIENCE

Don't ignore resistance. Most likely it is a symptom of an important problem or a resentment that the change will encounter. If you are prepared for a friction, you will be able to use it constructively.

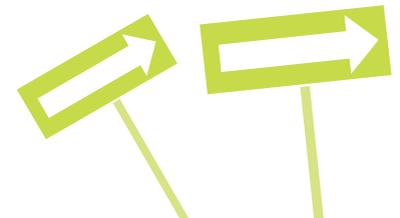
Creating change within complex systems is a hard job; it requires a lot of time and effort. In our experience, the best way of getting everybody to work together is if they are prepared for that. Many of the collaborating partners of the etrans project joined anticipating that the project would benefit their business. In order to create an open forum for debates and sharing ideas, we had everybody sign a document. This document stated that the "Project is an open source project with equal access to shared knowledge, methods and findings relating to the innovation process". It also stated that "No one has property rights to any intellectual value that might be produced relating to this process". This meant, that any idea that you came across in the course of the project was yours to use. It also meant that the development of ideas was like an open playground with fixed rules where ideas could develop freely and without being bound by a specific context. And most importantly, we eliminated any potential disagreement relating to ownership and business establishment in advance.

Most people are not used to engaging in a change process. Quickly, you can become insecure and have a hard time finding each other and contributing constructively to achieve a common goal if the people you are working with are 'brought up' differently from you.

The classic conflict between business people and their understanding of customers and engineers and their understanding of systems is always present. However, in our experience, the best and most far-reaching ideas often don't emerge until you are about to give up on each other.

It is possible to organise workshops and ways of collaborating that can embrace these differences. With advantage you can activate disagreement by asking workshop participants to start out by outlining best and worst aspects of a specific problem. Then, you have to guide them on what to do with this disagreement. For instance, at a workshop with a group of electric car sceptics, we gave the participants three voting papers in separate colours. Then we asked them to vote for a number of concepts based on whether they were viable from a financial, functional, and emotional perspective. Each of the participants substantiated their decision at plenum. Then we did a brainstorm on the concept that received the most votes. The frame was to work with ideas that balanced economy, functionality and emotional aspects. By putting the differences into words and concepts and then asking the participants to change between the various perspectives and approach them from three different angles, the discussion regarding the differences became constructive and could be handled as idea development.

Differences can be about whether an idea is cost-effective. If this is the case, ask the participants to work with questions like "Who would like the idea from a functional perspective?" and "Which products, services and systems can we link to the idea to make it appealing?" Finally, you can gather a series of ideas in one concept and discuss "If the idea is now defined as this concept directed at a specific target group, how do we make it cost-effective?"



EXPECT FRICTION

Change often encounters resistance

KEEP IN MIND

When doing workshops and ideation you must agree on when to let ideas flourish and when to be critical/concluding.

RECOMMENDATION

Don't let yourself get down: Complex problems, change, and co-creation are all born with friction and large potential.

TIPS

Set up rules for the development process in advance. Managing the friction and turning it into something positive is far easier if you can refer to a set of rules that you are already familiar with.

Workshops that are not thought through and well-planned can create a sense of insecurity and make differences unconstructive. Spend time on thinking the programme through to make it comply with the mental/emotional journey which the participants will be experiencing. Make exercises that open up for the differences, and make exercises that shut them down again.

Set up workshop rules to avoid deadlock when you meet resistance: Ask the workshop participants to have an open attitude that allows them to say "yes, and..." instead of "no, but..." Make a deal with the participants not to "check out" during the process, for instance, by reading messages on their cell. Create a space for mutual respect where only one person is allowed to speak at a time and everybody is heard.

Involve an external and impartial facilitator or expert to manage or push the process and to take the air out of any frustrations, etc.

THE CHANGE MUST MAKE SENSE TO EVERYONE

– also in
the process

How do you help stakeholders stay focused during a process that may seem confusing and have an undefined objective? Investigating how a change is interpreted by stakeholders throughout the value chain is important in order to be able to create solutions that make sense to those who will eventually adopt the solutions. In the making, it is important to transform partial results, insights and conclusions into a form which can be presented and accepted widely – and by everyone involved.

EXPERIENCE

The best change can often end up being the compromise which favours the most people or which can be perceived as the “least poor” at the moment.

When you develop within complex systems, it can be hard in advance to determine in which direction the process is heading. You very much depend on who is on your team and what their expectations and restrictions are. Therefore, it is important to make sure that the stakeholders continue to see themselves in the process.

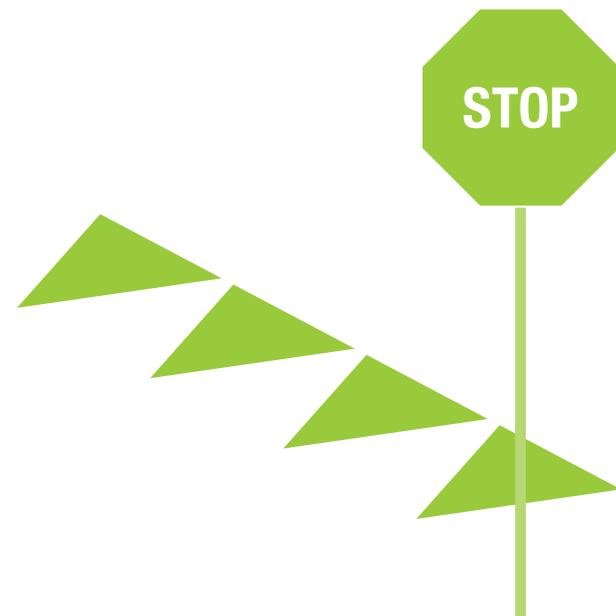
In collaboration with the Triangle Region Innovation Forum TRIN, The municipalities of the Triangle Region, and the utility company TRE-FOR, we worked to set up a central charging infrastructure within the area’s largest cities. Each city had its regulations concerning city fixtures, burying, preservation authorities, etc. that had to be taken into account during the development of the charging station. The city planners were not sure where to place the charging facilities to match the traffic flow of the cities. The technicians wanted the charging stations to be easy to disassemble and to be prepared for future technology upgrades once an intelligent payment system was ready. The designer was thinking great thoughts and very much perceived the project as a lighthouse for a new age rather than the long-term solution. In order to favour everyone involved, the stakeholders were presented with the physical charging station and the invisible parts of the system behind it on a regular basis to discuss and integrate the expectations of each stakeholder in the final solution. The charging

stations are now being implemented, and the stakeholders have reported that they feel heard, and each of them can, from their individual perspective, see the point of establishing the charging infrastructure.

COOK BOOK FOR MUNICIPALITIES

In the beginning of the project, when we were test-driving electric cars with employees of Fredericia Municipality, we learned that implementing electric cars within municipalities is a big task filled with difficulties and pitfalls. Not just for those who will be driving the cars but also for the purchasing department, those who will be servicing the cars and a series of employees in other departments. Therefore, in 2009, we gathered the (few) municipalities who had any experience with electric cars and conducted a workshop asking them to share their experiences of resistance during the process. All of these negative experiences we turned into a cook book of sorts to explain the scope of such a technological endeavour and how much it affects various employees and job functions.

Learn more in Report no. 4 // Seven Steps. Get started on electric cars – including experiences from Fredericia Municipality (available in Danish). Find it here: etrans.dk/projekter



THE CHANGE MUST MAKE SENSE TO EVERYONE

– also in the process

KEEP IN MIND

Busy people are driven by meaning, significance and inclination. Rational arguments often help you win debates but they don't run everyday life. Practical considerations, values and emotions do. If you don't know the end-result, it is important to know and identify with the steps that make up the process. Everybody isn't sensitive to the same types of arguments and don't see things the same way. Get to know people, talk to them, do interviews, for instance – with specific, pre-planned questions – and get a sense of what is important in certain parts of the value chain. Make elements of the change concrete and present these in a form which generates a need for that which is new and enables feedback.

EXPERIENCE

When you are in the middle of a long, complex process with multiple stakeholders, focus on the fact that partial results count as well; otherwise interest and the process will wither and the collaboration will die.

TIPS

If a change is to make sense to everyone, learning from the obstacles can be important. At a workshop we asked local government workers to identify their number one personal challenge in relation to implementing electric cars. Afterwards, we asked them to write down their thoughts on a puzzle piece and help each other arrange the pieces. This helped us outline our action plan and provided us with a realistic image of the complexity.

Ask people who are involved in a future change to identify the potentially largest challenge. Help each other sort or group the challenges in a pattern which you can use as a context and starting point for the next step.

Make a negative brainstorming listing everything that is wrong with a current product, service or system and use it to form the basis for ideation.

Discover more methods in the chapter “Comprehend” of the DSKD Method Cards or read the chapter on analysis here:
ebst.dk/file/102719/haandbog_innovationsmetoder

FAIL FORWARD

Getting started will make you wiser

Confronting a complex problem and creating change may seem overwhelming. How do you approach the process of change when you don't know where to begin or where to end? There is only one answer: Get started! Objectives change as you go along, and to make the process more accessible, you might regard it as a series of suggestions that are not "the answer" or final but serve to make you wiser and form the basis for a negotiation between those who are affected by the change.

EXPERIENCE

Get started and learn as you go along. Stop thinking for a moment and act instead. Do what designers do: Build, explore, discover and adjust. Making tests or describing an idea and investigating its significance to a number of stakeholders can be a good way to start. This makes it easy to adjust that which is new to other circumstances increasing its degree of relevance. There are lots of successful ways for organisations to get started.

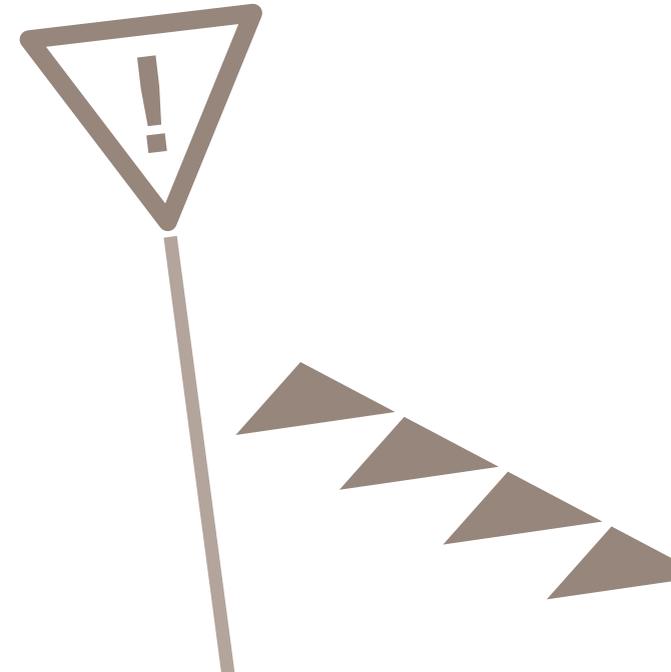
Electric cars are born without sound. This benefits the car drivers themselves, their fellow road users and the people living alongside the roads. In fact, according to the Danish Environmental Protection Agency, each year, up to 500 people die due to noise. However, the lack of sound also represents a challenge to pedestrians and other soft road users because we are taught that noise means danger.

It feels overwhelming and complex to design an entirely new sound setting for the townscape. Ordinary road users have not been able to imagine and describe what an electric car should sound like because they are only familiar with the reality of now. Thus, we constructed an interactive installation, an electric car simulator, that allows you to produce new sounds using your voice, your body, etc. It was introduced without any predefined goal or thorough insight into the field/business area. We launched into it to activate the world around us and to inspire a debate about electric cars in general and about the issue of sound. Working together with

the newly established ECtunes, which creates warning systems for electric vehicles, the project evolved. In interplay between what technology can master and what a sound designer suggested, we worked to develop sounds that activate the alertness of soft road users without being loud and stressful. Afterwards, we asked citizens, including blind and visually impaired persons, to review the sounds. The field is so new that there are no technical specifications to live up to, so the sounds were developed parallel to user test studies of how to create an entirely new traffic experience.

Listen to the sounds on etrans.dk/soundnsafellandIII
Read about the work in the report *With or Without Sound* on etrans.dk/index.php?id=5

Getting started on the subject provided us with new knowledge and we were able to excite the interest of users and key stakeholders. We went from working with the project in an abstract, playful and undefined way to having concrete specifications and suggestions for developing the field further.



FAIL FORWARD

Getting started will make you wiser

RECOMMENDATIONS

What does it take? By focusing on the change as a set of ideas for new experiences, you are able to focus on making it work within a complex system of stakeholders, regulations and, often times, competing interests. If you prototype the idea and present it to the people it is intended for, you may get a lot of answers right away.

“How will people want to use this new idea?”

“Does it even work?”

Learn more in the recommendation relating to prototyping.

RECOMMENDATIONS

Fail fast! It can be demoralising to learn that people don't like your idea. However, it is far easier to accept if you find out early and cheap. Therefore, test your idea and hypothesis early before making any large investments. This is far better than facing frustration and having your reputation or business plan suffer from a failed venture.

TIPS

Don't wait for others. If you really want to make a change, don't wait for others to set the terms. You have to get started, practise, and discover who wants to join the process of change as it matures.

TIPS

Rapid prototyping. By presenting a raw and unfinished version of your idea to others, it can work as a dialogue tool. For instance, create a short narration that describes what happens with an imaginary user. Try googling “rapid prototyping” and check out examples or get new ideas from the DSKD Method Cards.

KEEP IN MIND

Active installations /simulators can be made from cardboard; it requires a good idea but it doesn't have to cost a fortune.

Objectives change. Explore, become wiser, and adjust.