Assessment and implementation of welfare technology in Denmark - a techno-anthropological study

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Abstrakt

I takt med, at der bliver flere ældre og færre der kan varetage arbejdet i fremtiden står Danmark med en udfordring om at finde midler, der kan assistere i at varetage nogle af de opgaver som den ældre befolkning har brug for til dagligt. En af de måder man prøver at løse denne udfordring på er ved hjælp af velfærdsteknologi. Tre parametre er lagt af Københavns Kommune når man taler om at implementere velfærdsteknologi: Man vil øge livskvaliteten for de ældre, man vil forbedre arbejdsmiljø for personalet og man vil gerne optimere de ressourcer, der er til rådighed.

Igennem politikske foretag har man lavet en 2025 plan, der skal sikre investeringer i velfærdsteknologier. Københavns Kommune, Sund vækst, Teknologisk institut og forskellige rehabiliterings centre rundt i landet har indgået et samarbejde omkring at teste, udvikle, investere og implementere velfærdsteknologier i Danmark. Igennem en Velfærds Teknologisk Vurdering model (VTV) der er udviklet i 2008 af Teknologisk Institut forsøger man at vurdere velfærdsteknologierne. Modellen har fire overordnede temaer inden for *økonomi, organisation, borger og teknologi.*

Rapporten er en Tekno-Antropologisk analyse af, hvordan medarbejdere/konsulenter vurderer og implementerer velfærdsteknologier i Sund vækst. Dataindsamlingen har været igennem observationer, interviews, deltagelse i et VTV kursus og litteratur research inden for feltet. Situational maps (Clarke, 2003) er blevet brugt til at få et overblik over situationen. Actor Network Theory (Latour, 1986), *(*Cressman, 2004), (Lauritsen and Olesen, 2012), er blevet brugt til at se på de forskellige aktører der har en påvirkning på teknologien og hvordan teknologien påvirker den anden vej rundt. I min forskning har jeg også udført et mindre VTV studie der har ført til at jeg har lavet nogle anbefalinger til brug af teknologien og ved eventuel fremtidig køb til de rette vedkommende.

Denne forskning har konkluderet at VTVen er et redskab der kan være med til at systematisere velfærdteknologiske vurderinger, der er dog nogle mangler i den såsom at vurderingen ikke er så repræsentativ for den danske befolkning. Andre parametre som hvor mange deltagere der er med i tests og hvor tilfældigt de er udvalgt skal systematiseres så man får nogle klarere retningslinjer. Yderligere kan VTVen bruges som et stærkt redskab til at til at tale for eller imod teknologien. Igennem mit arbejde med VTV modelen er jeg kommet frem til nogle anbefalinger omkring velfærdsteknologien i forhold til brug, design og fremtid køb (Alter G). Denne rapport kan være med til at give et overblik over hvordan man implementere velfærdsteknologier i Danmark.

Abstract

With the increasing number of elders and a lower working force who can manage the work in Denmark, new challenges have emerged. The Danish society needs to find new solutions to some of the challenges the elderly meet in their daily life. One way of coming up with new solutions is through the wide range of welfare technologies. The Copenhagen municipality have set forward three parameters and goals in regards to the implementation of welfare technology: 1) raise the life quality for the elderly; 2) improve the working environment for the staff; and 3) optimize the resources that are available.

Politically there has been put forward a 2025 plan, which should invest in welfare technologies. The Copenhagen Municipality, Sund Vækst, The Danish Technological institute and different rehabilitation centers in the country have concluded that there should be a cooperation in the testing, developing, investment and implementation of welfare technologies in Denmark. In terms of this, the Danish Technological Institute has developed a Welfare Technology Assessment model (VTV), which will guide the assessment of welfare technologies through focus on four main themes (*economics, organization, user and technology).*

This report is a techno-anthropological analysis of how the staff and consultants asses and implement welfare technologies in Sund Vækst. Data is collected through observations, interviews, attendance at a VTV course and desk research on the subject. So-called situational maps are used to get an overview over the situation (Clarke, 2003). Actor Network Theory is used to look at the different actors who have an influence on the technology and on how the technology influences the actors the other way around (Latour, 1986), *(*Cressman, 2004), (Lauritsen and Olesen, 2012). In my research I have conducted a small VTV study that has led me to make some recommendations on what to consider when using the technology and to potential future buyers of the technology.

On the basis of my research I conclude that the VTV is a tool that can be used to systemize welfare technological assessments, but that it also contains some deficiencies and challenges presented more detailed in my report. I also argue for the necessity to apply a more systematic approach in terms of being able to present some guidelines for the process. Throughout my work with the VTV model I have made some recommendations related to the welfare technology use, design and future purchase (Alter G). This report can contribute to give an overview as to how to implement welfare technologies in Denmark.

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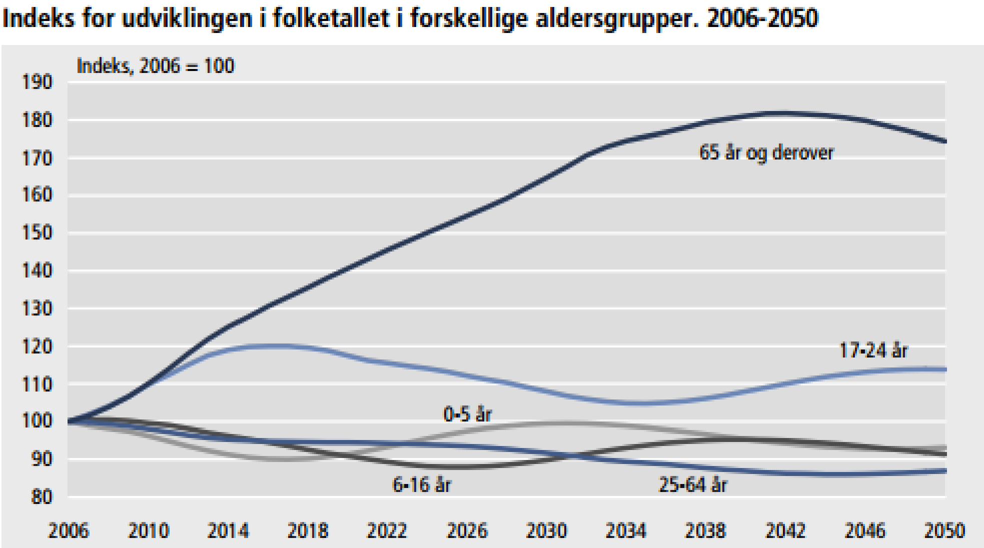
1.0 Introduction:

The focus of this project is both the scope of welfare technology and the challenges and opportunities faced by Copenhagen municipality in the context of a constantly evolving Denmark. The public sector faces challenges in terms of a growing number of elderly people, and thus significant health and welfare expenses. On the other side, they have a limited economic scope and limited workforce (Sundheds og ældreministeriet, 2011).



Graph from Danmarks Statistik shows the development of different age groups in Denmark (Danmarks statistik, 2006).

The elder people in Denmark will grow continuously from 2006 to 2045 according to Danmarks Statistik. It means that people aged 65 and above will grow with eighty-one percent. In the same period the working force of Denmark will drop with fourteen percent (Danmarks statistik, 2006).

The way these challenges are taken into consideration is through different actions between the government, governmental organizations, citizens and the private sector. Some of the challenges related to more elder and a lower workforce in Denmark are supposed to be manageable through welfare technology.

KL (Kommunernes Landsforening) is a private and member organization for all 98 municipalities in Denmark. KLs purpose is to defend the common interests of Danish municipalities and to contribute to that the municipalities politically and administrative carry out their duties (KL, 2015).

According to a report made by KL on May 7th 2014 the municipalities have joined common efforts,

"The joint municipal contribution is about supporting the local authorities to streamline workflows and reap the possible qualitative and economic gains related to each action. The program aims to support the local authorities' implementation of technologies changes in workflows etc., which KL's Center for Social Technology will provide help to in terms of knowledge and the use and implementation of the technologies. The joint municipal program shall be fully phased in 2017, overall release net gains of at least 0.5 billion Danish kr" (KL, 2015b).

1.1 Defining Welfare Technology

Welfare technology is an umbrella term for technological solutions and intelligent systems, that can help disabled people, people with special needs or improve employee's workflow (Sund Vækst, 2015c) (Dansk Standard, 2015).

There are a lot of different welfare technologies on the market and some of the most common examples are the robot vacuum cleaners, robot toilets, telecare robots hospital beds (Dansk Standard, 2015).

Since the municipalities has joined forces, a lot of different welfare technology assessments have been implemented in Denmark. According to the Danish Education and Science Ministry, Denmark is one of the leading countries in terms of use and range of new health and welfare technological solutions (Uddannelses og Forskningsministeriet, 2013).

This has made welfare technologies a trend in Denmark and a lot of different municipalities are testing and evaluating technologies.

Welfare technology is defined by the Copenhagen municipality as a technology which recreates or extends the life conditions for users who need support in their daily life. According to the blueprint of Copenhagen municipality, the technology is based on the daily needs and demands faced by users (Københavns Kommune handleplan 2014).

There are three main goals, which the welfare technology has to accommodate for it to be taken into consideration and implemented in the society. These three goals are set by the Copenhagen municipality (Københavns Kommune handleplan 2014).

The first goal is that the technology gives a *better life quality* for the users. Life quality is defined in this case as a way for the user to be able to take care of him/herself without depending on help from others. Furthermore, life quality is stated that the citizen feels safe, feels healthy, avoids diseases, has a good social network and good social relations.

The second goal is to give a *better working environment* for the employees. Technology could help prevent the physical wearing down of the employees where a lot of heavy lifting is required, or it might help ease the communication with the users and thereby also improve the daily work environment.

The third goal is *optimizing the resources*. The blueprint states that welfare technology solutions has the potential to optimize the economic resources better than today with the current ways the work loads are handled.

None of these goals can stand alone in the implementation of the welfare technology, it is stated that the *resource* goal is the main, but the other two is to be fulfilled best possible also (Københavns Kommune handle plan, 2014)

The goal is set with *"Nye veje til sundhed"* and investments are made by the Danish government. Welfare technology, organizations, companies, employees and scientists are invited to join the goal of making welfare technology a visible part of society and fulfil the new demands by year 2025 (Sund Vækst, 2015b).

1.2 "Sund Vækst" as part of the Copenhagen Municipality

In my research, I have encountered "Sund Vækst" which is a Copenhagen-based organization and a sub-department under the municipality. "Sund Vækst" collects the results of scientific research as well as developmental activities concerned with welfare technology. Under the same roof sits therefore both the Department of Healthy Growth, which is part of the Health and Care Administration in Copenhagen and Copenhagen Rehab, which is part of the University of Copenhagen. They collaborate with many different actors in different projects. "Sund Vækst", for example, cooperates with the council of elders, disability council, private companies, knowledge institutions, professional organizations and universities (Sund Vækst, 2015).

“Sund Vækst” tries to develop new ideas and better solutions for different demands present in a modern society such as Denmark, by the use of welfare technologies. They work with an innovation model which is divided in several phases. The first phase involves discovering potential technologies and possible challenges, which are presented to the organization and then evaluated in terms of the existing needs and demands. The second phase involves further development of the original idea, after which the idea and technology is tested and implemented. (Sund Vækst, 2015).

1.3 Problem formulation

My educational background as a certified physiotherapist has awaken my interest in welfare technology. How does quality and new demands from society and technology come into being? How does an idea come to life, what makes the technology interesting, and what is the process of implementing the final product to the users? During the research process I have come to following problem formulation:

How do the municipality (of Cph) use the VTV (Welfare technology assessment model) when they want to implement new welfare technology?

- ***What role does the center Sund Vækst play and which specific challenges do they think the technology should solve?***
- ***Who performs the test and who uses the results?***

In order to answer my problem formulation I will apply different methods that fall under the category of qualitative research, namely interviews with relevant actors, observations, attending a VTV-course, pictures and literature research. I will also apply the Actor Network Theory (ANT), which argues that different actors are interacting with the technology as well as that the technology is an actor that interacts. It was important for me to figure out how the actors interact and form the technology into becoming a final product. Since ANT focuses on actors and the relation between them, it was found relevant to use in this case. Situational maps are used as an analytical tool to get a bigger perspective on the actors and to open up the data from the beginning. The VTV model will be explained and discussed. Findings and recommendations will be given based on the interviews and scorecard of the VTV. Since Techno-Anthropology is a new study program, I will elaborate on what it is and what it can be used for.

1.4 The Danish Technological Institute (DTI) & Welfare Technology Assessment (VTV)

The "Welfare Technology Assessment" model is developed by the Danish Technological Institute, and is supposed to evaluate the welfare technology. According a report by DTI (Teknologisk Institut VTV, 2015), the model is supposed to give:

- 360 degrees evaluation of a specific welfare technology
- Documentation of the effects
- Benchmarking of profit realization
- Support the evaluation process

It is stated that this model can help give an evaluation and systematic knowledge of aspects which are of importance in terms of the user, organization, technology and economics. It evaluates on the overall goal that the welfare technology should give better life quality, better working environment and better use of the resources, which is demanded by the Copenhagen Municipality.

The model is developed as a tool to assist in the evaluation process and as a way to provide authorities with a validated overall assessment of the potential a given welfare technology might have (Teknologisk Institut VTV, 2015: 4). In other terms, VTV assessments can give,

"authorities and operating organizations in the health and welfare sector knowledge of how specific welfare technologies can be included and contribute to the solution of various welfare services and whether these can be resource liberating. Including also how specific technologies can be used, what potential they have, how they can be implemented and what needs they cover. VTV can identify the advantages and disadvantages of the technology and can provide important analysis, evaluations, conclusions and possible recommendations when deciding whether to purchase and implement welfare technology" (Teknologisk Institut VTV, 2015: 4).

The Danish Technological Institute is an independent, non-profit institution. DTI develop, apply and disseminate research- and technology based knowledge to Danish companies. The institute participates in close collaboration with research and educational institutions both in Denmark and abroad. The primary focus is to ensure that new knowledge and technology can quickly be translated into value for the customers in the form of new or improved products, materials, processes, methods and forms of organization (Teknologisk Institut, 2015).

1.5 The missing link between companies and users

In one corner, you have the companies who develop the technology, in the other you have "Sund Vækst" which is concerned with implementing the technology and in the third corner you find the targeted users. In the process of design and implementation it is important to figure out what and how to implement in the best possible way. One thing is the practical work on how much space does the machine take, what differences this technology is going to impact on the working place, the other is to see what outcomes could the company end with if they use this specific welfare technology solution.

There is a gap between the companies who develop the technologies and the users who use the technology. (Teknologisk Institut VTV, 2015). The DTI claims that this missing link could be manageable if they build a bridge between this gap. Many technologies are hindered by this gap which ultimately results in technologies that are not successful enough for to be implemented or used by the end users. It is believed by the DTI that VTV can, through specific analysis and evaluations, fill out the role as the missing link, and take most actors into consideration when designing and implementing (Teknologisk Institut VTV, 2015).

1.6 What is the VTV model and what is its focus?

VTV model from DTI (Teknologisk Institut VTV, 2015).

A VTV consists of eight independent assessment parameters that are structured according to four broad categories. There are two assessment criteria under each category. The main categories are organization, technology, economics and user.

User category (Practicality and Value)

The main purpose in this category is to figure out what needs the user has. What kind of problems do the user have to a specific task in the daily life. If the user could choose what the technology could do, what would it look like. It is also here that the environment of the user is taken into consideration. Is it possible to implement the technology, is it possible for the user to operate the machine and to what extend (Teknologisk Institut VTV, 2015).

Organization category (Staff & Management)

This category focuses on factors such as the employees, working environment, culture and management strategy when implementing the technology to the workplace. It is here where motivation, resources and working environment is taken into consideration. What is the attitude towards this technology? What kind of barriers are there? How ready are the work place for this, and what kind of organizational strategies could be applied in order to facilitate the technology? These and similar questions are sought answered under this category (Teknologisk Institut VTV, 2015).

Technology (Functionality & User friendliness)

This category focuses strictly on the technology itself. What is the design of the machine and how can it be designed better? What is the technology going to compensate for? In what degree can the technology instruct the user to use it for himself. Durability. Earlier experience and activities with the technology. How user-friendly is the machine? (Teknologisk Institut VTV, 2015).

Economics (Investment and Operation)

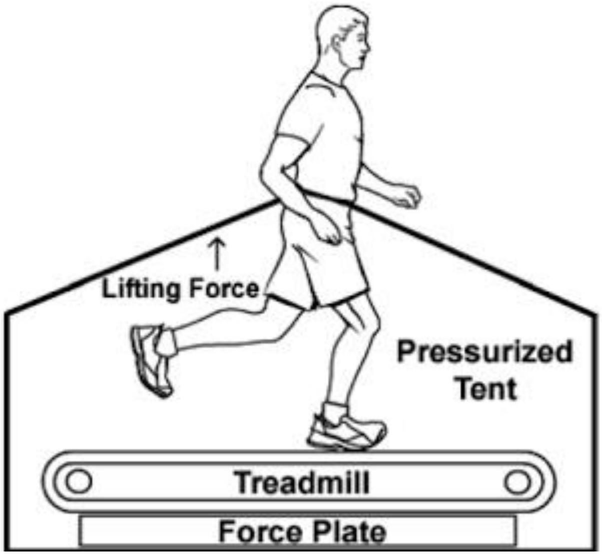
The overall focus for this category is cost benefit. What is the resource consumption of the technology? How much does it cost to buy, implement and maintain? Does the personnel need education now and in the future to operate the technology? Does it lower the resources for the organization, and how much time is needed to be put into this for the technology to be implemented in real life? (Teknologisk Institut VTV, 2015).

1.7 VTV in practice according to DTI guidelines

In the complete evaluation of a given technology, different academic methods are applied, i.e. qualitative, quantitative and comparative methods. If some parameters are not relevant for the specific technology, they can be excluded. Each validation of the four main themes will be evaluated in a 360 degree model (VTV model), here there will be accounted for pros and cons of the technology and ethical dilemmas. In the end, there is a VTV score chart for each category . This chart can be scored between one and four.(Teknologisk Institut VTV, 2015).

1.8 Alter G welfare technology

In this report I will be discussing a welfare technology called Alter G. Alter G is a treadmill that is inspired by NASA’s patented Differential Air Pressure unweighting technology (Alter G, 2015). The body weight is affected by the biomechanics of the body, energy consumption and gravity. When the speed of walking is increased the Ground Reaction Force (GRF) becomes higher. Higher GRF means that the energy turnover must be higher for the body to stop the body from falling to the ground when walking or running, if the GRF is not high enough for the body biomechanics it could result in overload stress injuries. The Alter G treadmill is constructed to support the lower body when walking on it. This support comes from a tent that surrounds the lower body. This tent is inflated with positive air pressure, which then supports the user in an uplifting force.



The left figure shows how the Alter G lifts the user (Proalign, 2015), the right picture is the technology from the rehabilitation center. (own fields notes)

The user must wear neoprene shorts, which are specially designed and have a zipper that fits in the tent of the Alter G and thus keeps the user attached to the machine when it is in use. The uplifting force in the tent can be set to carry 80 percent of the bodyweight, that means that the user can walk, or run with only 20 percent of his own bodyweight *(Proalign, 2015)* (Alter G, 2015).

A clinical study performed by Grabowski and Alena (2010) on Alter G shows interesting results, Ten healthy participants were tested, five male and five female. The objective was to determine how changes in velocity and weight support effect metabolic power and ground reaction forces (GRFs) during walking using a lower-body positive pressure (LBPP) device. The participants used the Alter G machine in total of 19 times.

"The use of an LBPP treadmill-training device, such as the Anti-Gravity Treadmill, can reduce the forces acting on the musculoskeletal system while maintaining metabolic demand and kinematic timing patterns during walking. Thus, LBPP treadmill training could be especially useful for orthopedic rehabilitation because by walking at faster velocities with BW support, peak

vertical GRF can be attenuated while aerobic and neuromuscular stimuli that are similar to normal weight walking are maintained" (Grabowski (2010).

Evidence shows that the alter G has positive effects on the GRF and aerobics. This means that the user can exercise and get some of the same benefits as if they trained without the Alter G. The challenge here is that the user is not capable of training in the same way without the Alter G because of the pain. When body pressure is reduced, it could reduce pain. If pain is reduced earlier, it will mean that the rehabilitation process could start earlier, which in turn means that some patients could recover earlier. Furthermore, the article argues that since the Alter G supports the body weight, this device can reduce biomechanical risks by decreasing the forces acting on the body, allowing patients to walk sooner after injury or surgery. On the webpage of Alter G it is stated that the treadmill can help with a lot of different diagnoses (See annex G p: 22).

1.9 What is Techno-Anthropology?

Techno-Anthropology is a new education at Aalborg University. Many of the Techno-Anthropology voices are pointing in different and often contradictory directions. A recommendation from the Globalization council (Globaliseringsrådet) stated that research based qualification in user driven innovation are needed because these qualifications can contribute to make a bridge between technological companies and society (Børsen and Botin, 2013: 45). This bridging is supposed to be done by generating knowledge about user desires, unrecognized needs, usability etc.

The education of Techno-Anthropology tries to accommodate these demands by educating the students in different skills that can be used to build a bridge between users of new technology and expert cultures (Børsen and Botin, 2013: 45).

"Techno-Anthropology is a combination of two nouns: Technology and Anthropology. Both nouns take an outset in the Greek concept of Logos (logic and/or learning), and point toward respectively techné (ability, capacity, competence) and Anthropos (humans)" (Børsen and Botin, 2013: 7)

Techno-Anthropology deals with the learning of different logics relating to the ability, capacity, competency which often are mediated by techniques machines etc.

The view of Techno-Anthropology is that technologies are understood as something humans collaborate, interact and communicate in relation to. Technologies are often made, reshaped and have a vital function in shaping our understanding of what it means to be a human,

"Technologies mediate reality, and are sometimes seen in contrast to nature, and sometimes as natural. They shape what it means to be human" (Børsen and Botin, 2013: 8).

The profession is not limited to specific technologies, but some are more prominent such as environmental, infrastructure, bio and health technologies. It is also believed that technology is in fast development and that it over speeds human needs to such an extent that human culture continuously is lagging behind the technological development (Børsen and Botin, 2013: 14). In the beginning of technological development, the technology that was developed had the purpose to replace natural occurring artifacts. The technology helped in transportation, living in cities, agriculture etc. With the rise of the fast technological development, it has given a number of ethical challenges. Technologies have now the power to destruct the civilization, environment human nature etc. This gives rise to new ethical concerns (Børsen and Botin, 2013: 15). When this is said the technology should not only be criticized and be made as a problem. It is important that we look into the context where the technology is going to be used and analyze the pros and cons relating to this.

"We should instead look at the potentials in technology to support and enhance creativity, vocation, mediation and initiative. Technology should be seen as an inter- relation dynamic bridge between things and humans" (Børsen and Botin, 2013: 18).

Inter disciplinarily in Techno-Anthropology

In the book what is Techno-Anthropology chapter one it is stated that:

"TAN study programs should be seen as such inter-disciplinary initiatives that combine elements from the humanities and social science with elements from the natural and technical sciences. The inte- disciplinarity of Techno-Anthropology is directed towards the management of complex contemporal challenges associated with development, implementation and maintenance of new technologies" (Børsen and Botin, 2013: 37).

It is the Techno-anthropologist that should build the bridge between the gap of technology and humans. In this way the technology could become more effective towards development and use when the final product is to be implemented.

The way this bridging is supposed to be accommodated is through data collection or ethnographic material. The course on 3 semester in Techno- Anthropology gave us the opportunity to learn the ethnographic way of doing research. In this course, we discussed how to undertake techno-anthropological research, how to formulate research questions, conducting fieldwork analyzing heterogeneous empirical material to writing up, communicating and implementing results. On this background, I have tried to combine theories we have learned in the study program and put them together with the ethnographic tools we have learned.

2.0 Theory and analytical frame

2.1 What is Actor network Theory (ANT) and how can it be used?

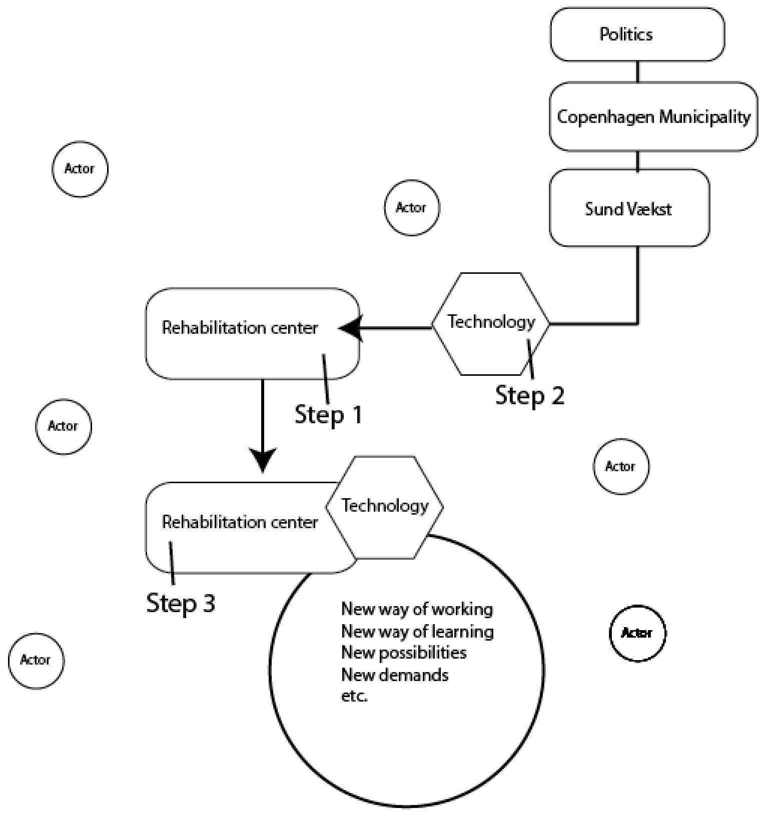
ANT emerged during the mid-1980s primarily by the work of Bruno Latour, Michael Callon, and John Law. The theory focuses on the sociotechnical processes and the way science and technology interacts with each other. The theory advocates that,

"science is a process of heterogeneous engineering in which the social, the technical, conceptual and textual are puzzled together and transformed and translated" (Ritzer, 2004: 1).

The main view of ANT is that all entities in terms of technology and society are in relation to each other and affect one another in a significant way. A karstic statement of ANT is that society, science and technology represents a cleaned version of a more complicated reality (Lauritsen and Olesen, 2012: 63). Latour states that things we take for granted as we look at the reality, for example people society, artifacts, facts nature etc. is a result of processes that contain hybrids of social, technical and natural elements (Lauritsen and Olesen, 2012: 63)

The ANT term is the agency of concepts, humans, things, ideas and non-human actors. Almost everything related to a specific case can be seen as an actor. The network of actors is a web, which can be mapped and show how each entity is built during a specific activity and how the entities are composed. Looking at a network analytically, the researcher might be particularly interested in how the networks overcome resistance and strengthen internally, how the entity gain coherence and consistence so that it stabilizes and become more relevant or more powerful in a network.

The researcher is trying to identify entities or actors who play an independent role in keeping or expanding a network (Lauritsen and Olesen, 2012: 63). How does a web come into being, how does it move, what was important, what is less important, why and what new has come. When new actors appear, i.e. a new technology implementation to an organization, the whole network is inevitably affected *(Ritzer, 2004: 3).* Latour was inspired from when he was studying a laboratory. Latour was observing how scientist produced knowledge and what instruments were needed to make knowledge (Lauritsen and Olesen, 2012: chapter three). He explains that facts become facts through different inscription devices. Inscriptions can be made through ink, paper, graphs, numbers, signs etc. (Lauritsen and Olesen, 2012: 68-69). The inscription devices are almost everything that can produce something and be shown to others.



Example of an actor network (Own drawing based on literature)

In order to draw a perspective to my own research, I have come up with an example that shows how an actor network web could look like. A rehabilitation center has its own way of working with patients. In there we find entities that influence each other on a daily basis (Step 1). A new technology is introduced for the physical therapist to be used in the rehabilitation of the patients (Step 2). The technology affects the rehabilitation center. The entities have to adopt to this new technology. The technology has made it possible to rehabilitate the patient in a different way (Step 3). The staff needs education on the new treatment, it could be that new patients can be rehabilitated, maybe they reduce time with the patients, maybe they can train with more patients at once, maybe it gives stress etc. The other way around these factors impacts the technology. So if you put one thing in the actor network it impacts the other actors. The actor network never stops changing, and every direction that is taken leads to new actors and webs.

2.2 The black box

Why do we need to look at these actors and what can they do? One argument is that they give a better perspective on how the different entities work with each other and how they stabilize or destabilize each other. ANT tries to open the black box. The black box is the unknown of a specific technology.

*"ANT attempts to "open the black box" of science and technology by tracing the complex relationships that exist between governments, technologies, knowledge, texts, money and people. It are these connections that result in science and technology, and by examining them it becomes easier to describe why and how we have the science and technology that we do"(*Cressman 2004: 3)

Opening the black means to get a better understanding and perspective on why the things are as they are. The ANT is not limited to individuals, objects or social determinants but as an interaction between each other. ANT focus on examining the individuals who are affected by the technology and uses findings to draw connections to the bigger picture (for example the political impact). When the researcher has an understanding of the relevant actors to a specific case, it means that he can zoom in to look at the human and non-human actors, and zoom out to shed light on the social reality. The same example could be taken as above. When the technology enters the rehabilitation center it impacts the individuals. These individuals react differently to the technology. Some can think it is a good technology other can thinks it is less good. On the other side the actor who tries to push the technology into being sees the technology in a different light and the agenda could be different. Since each actor affects the other it is just a matter of inscriptions and immutable mobiles on who will win the final battle and get their agenda out in reality.

2.3 ANT and Inscriptions

One way of producing knowledge in ANT is through inscriptions and immutable mobiles. According to Bruno Latiour, the inscripted knowledge can be used to persuade others, and as such it becomes a powerful tool (Latour, 1986). The inscriptions are relevant in this case because the VTV model is producing knowledge through inscriptions and this knowledge is based on the data collections made in the technology assessment. In the end when the VTV is completed through data collection (inscriptions) it becomes an immutable mobile that can be shown to others visually.

"Like these scholars, I was struck in a study of biology laboratory, by the way in which many aspects of laboratory practice could be ordered by looking not at scientists brains (I was forbidden access!), at the cognitive structures (nothing special), nor at the paradigms (the same for thirty years), but at the transformation of rats and chemicals into paper" (Latour, 1986: 3-4).

Latour made research in a laboratory and was interested in how the scientist produced knowledge which in the end becomes a fact and thus a powerful tool. This "fact" that was produced became powerful unless somebody else made inscriptions that were more powerful relating to the subject. Inscriptions are powerful since they represent a final product of a lot of process that has been done before the final paper. This paper that is produced as a final product is then used in different contexts relating to the subject studied. When scientists discussed issues related to specific topics, or if there was unclearness in the presented work, they could point to the papers and make their arguments more valid.

According to Latour, inscriptions are also important because they can create new allies:

"Who will win in an agonistic encounter between two authors, and between them and all the others they need to build up a statement? Answer: the one able to muster on the spot the largest number of well aligned and faithful allies." (Latour, 1986: 5)

Latour argues that the abovementioned statement is common to war, politics and law as well as to science and technology. He further argues that writing and imaging (inscriptions) cannot by themselves explain scientific societies, but can help the researcher stand in a more favorable position if the person knows how to master the inscriptions (Latour, 1986: 4-5).

Depending on the person who has the inscriptions it could mean that the person is either in a favorable position or an unfavorable one, depending on his ability to master the inscriptions and to mobilize them to relevant actors.

"We must admit that when talking of images and print it is easy to shift from the most powerful explanations to one that is trivial and reveals only marginal aspects of the phenomena for which we want to account. Diagrams, lists, formulae, archives, engineering drawings, files, equations, dictionaries, collections and so on, depending on the way they are put into focus, may explain almost everything or almost nothing" (Latour, 1986: 4).

In his paper *"Visualization and Cognition: Drawing Things Together",* Latour discusses Cetina Knorr's statement that an image, a diagram, cannot convince anyone because the diagram can have many interpretations and because it does not force the dissenter to look at it. Furthermore, she argues that inscriptions are not that powerful seeing how actors could have different views of the same subject. Latour agrees that a diagram or a picture cannot convince anyone when it stands alone, but he goes on to stating another point relating to this: because the dissenter can always escape and try out other interpretations, it is important for scientist to put in much energy and time to surround him with more visual effects. It is therefore important to have as many inscriptions as possible when one wants to turn the other in the same direction.

2.4 Immutable mobiles

What does it mean to have immutable mobiles? An optical consistency is made with immutable mobiles.

"In a linear perspective, no matter from what distance and angle an object is seen, it is always possible to transfer it—to translate it—and to obtain the same object at a different size as seen from another position. In the course of this translation, its internal properties have not been modified." (Latour, 1986: 7)

In a way, one could say that when immutable mobiles are taken into action, one who has immutable mobiles is closer to the truth, because something concrete is taken up and shown to the other side. Depending on the immutable mobiles' power and in which context they are placed, it will mean that the other side will turn a side or remain in the same place. Latour is describing it as a *"two way connection",* where a translation is made without corruption (Latour, 1986: 8).

Latour argues that it is important to make the immutable mobiles easily readable and presentable (Latour, 1986: 15). These immutable mobiles are not worth much if they cannot be understood or interpreted by the reader, whom it may concern. Latour elaborates on this issue through the example of human fossils, which used to go through drawings and are now made by superimposing a number of mechanical diagrams on the drawings. Further, he explains that because photographs of the skies produce neat little spots but are too costly and confusing for the astronomer to look at, they are instead done by a laser and a computer (Latour, 1986: 16). This example shows how important it is to make the immutable mobiles easy readable for the person whom they concern.

"With descriptive geometry, the observer´s position becomes irrelevant. "It can be viewed and photographed from any angle or projected onto any plane – that is, distorted—and the results remain true. Booker and still better Baynes and Push…show how a few engineers could master enormous machines that did not yet exist. These feats cannot be imagined without industrial drawings. Booker, quoting an engineer, describes the change of scale that allows the few to dominate the many" (Latour, 1986: 25)

When one has inscriptions and immutable mobiles in their hand, it means that they have the power to gain allies which can support them in the direction they are heading. In Sund Vækst there are a few people that evaluate the technology and through their evaluation they can impact many.

3.0 Method

3.1 Interviews, observations, desk research

In the data collection, I have used semi-structured interviews as a source to gather data on the subject. I have interviewed the manager of Sund Vækst, the head manager of the rehabilitation center where the welfare technology (alter G) is tested, the personnel who is using Alter G (physical therapist) and one user who has been training in the machine for three months.

The purpose of the interview is to get rich and comprehensive information about how other people understand their situation of a specific subject (Thagaard, 2004: 86). The interview gives information on how the interviewed understands the experience and events in his own life. The qualitative interview gives the researcher insight in the experiences, thoughts and feelings there may be about a specific topic. The data collected is a retelling of events, and as such it is a subjective understanding of the interviewee's experience. The main focus of the interview was to get data collections on what the purpose of the welfare technology was, how it came into being, how the technology is evaluated and how the technology is used by the personnel and the user. What are the pros and cons for the technology and how did the management handle it on the rehabilitation center.

As a researcher it is important to make a relaxing atmosphere and to make the interviewed comfortable enough to open up as much as possible. Every time I was making an interview, it was therefore important to tell the interviewed my background, my purpose of the interview and that everything in this report will be confidential and no names will be written in the report.

It is important to be aware of the asymmetry. The researcher i.e. the interviewer controls the interview, has to obtain relevant information on the topic at hand and will ultimately interpret the points and issues raised during the interview. On the other hand the researcher is dependent on a scenario in which the interviewee is willing to open up, as they are in control of what they want to share with the researcher. An interview is therefore a two-way communication where both the interviewee and the researcher influence the interview and its ultimate form and result (Thagaard, 2004: 87)

In my interviews I have focused on structuring the conversations on the themes relevant to my research, but at the same time using open semi- structured questions, which has enabled the interviewees to elaborate on specific themes that I wanted answers on. I was open for new topics from the interviewee and if something was not clear, I would ask the interviewee to elaborate (tove thorgaard: 88). Under the interviews I tried to look at the person sitting in front of me and listened while I was giving feedback verbally. . This gave the interview a characteristic of a conversation rather than an interview (Thagaard, 2004: 94-95)

"Another side of the interviewer's role is linked to the way he or she listens to his informants. A listening attitude implies that attention is fully paid to the informant and that the researcher shows interest and commitment in responding to the informant's narrative. The main point is to understand the meaning of what is being said. Interviewers reactions to the content can contribute to either deepening the informant's answers or introduce new themes in such a way that they are integrated into the informants narrative" (Thagaard, 2004: 95)

At the beginning of the interview, I asked for permission to record our interview, which all interviewees allowed. Using recording devices during an interview allows me to concentrate on the conversation, to be present and to pay attention to the non-verbal body language as well as being able to replay the interview afterwards.

My background as a physical therapist gave me an advantage in relation to creating a more relaxed interview with the physical therapist, the management of the rehabilitation center and the user of the technology. Research shows when the researcher knows the environment he is studying it is more likely to get a better interview since the social relations between the interviewed and the researcher is reduced and that gives the relation more proximity and confidence (Thagaard, 2004: 102-103)

The main focus of the interview was to get data collections on what the purpose of the welfare technology was, how it came into being. How the technology is used by the personel and the user. What was the pros and cons for the technology and how did the management handle it on the rehabilitation center.

3.2 Observation

I was attending a VTV course in Copenhagen Health Academy that will be explained later in this report. Attending the VTV course had two primary goals; a) to gain an understanding of the type of individuals attending the VTV course and b) to gain experience with the VTV model on the same level as employees of Copenhagen municipality.

In terms of this, I paid special attention to who the attendants were, what did they work with and their motivation for attending the course. It was crucial to find out how the employees were educated in using the VTV model since it is central in evaluating the welfare technology at Copenhagen Municipality. In other words, I conducted a participant observation:

"Participant observation implies that the researcher plays an active role in relation to informants and to some extent participate on an equal footing with them. This method is suitable for the study of a new environment, which the researcher does not have sufficient prior knowledge to plan accurately" (Thagaard, 2004: 70).

Since I could not know who the attendants were, beforehand, participant observation gave me the possibility to explore the attendants more into depth and to talk to them. After finishing the course I could also experience on my own whether I was suited to perform the VTV evaluation in the future or not. This impression could not have been done by just reading about the VTV model. The second goal was to be educated in using the VTV model in the same way as employees of Copenhagen were.

At the course, I presented myself as a master student and explained that I was writing an assignment relating to welfare technology and the VTV model. One of the advantages was that I did my observation in a course. All the attendants were already assigned to the course without the knowledge that I was attending beforehand. The second thing was that the attendants were occupied on listening to the course and the tasks given, while I was writing relevant information about who they were and asking questions on what they were going to use the VTV model for. Since the participants were already occupied with actively engaging in the lecture it made the observation less disturbed by my presence, while I was attending the course I was also making an observation on the attendants.

“How conscious the informants are of the researcher's presence, has also something to do with how busy they are of the tasks they are working on. In situations where the observed actions require special attention from those involved, there is reason to believe that scientists’ presence is less intrusive on the observation.” (Thagaard, 2004: 81).

During my observation I was actively taking notes on the issues discussed both in plenum and during group work. The notes was written so I could have them fresh in mind to later on, and also to note down what the first impressions were of the VTV model from other perspectives than my own, what did the attendants want to know, what questions were asked and what was the focus. This is of significance seeing how,

“Since the process from observation to written production involves selection and processing of the experience, the initial impression will gradually appear in a different form. To remember the insight experiences during the fieldwork, it is important that the researcher is careful to note his reactions along the way. Situations that have made a special impression can often form the basis for interesting interpretations” (Thagaard, 2004: 83).

3.3 Situational maps

In my research, I have used situational maps from the beginning to open up data and get an overview of the situation. According to Clarke (2003:559), situational maps,

“*lay out the major human, non human, discursive and other elements in the research situation of concern and provoke analysis of relations among them. These maps are intendent to capture and discuss the messy complicities of the situation in their dense relations and permutations”.*

The maps produced by the researcher are not meant to form a final analytical product, although it may do so. As a researcher, you enter a new problem formulation a new situation with different agendas goals, different human and non-human actors etc. It can be difficult to get an overview of the directions the actors are heading. Negotiations can be fluid. The constant ongoing of new demands, new requirements, different barriers and positions makes it difficult to get an overview unless the researcher has a map which can help him guide through the different actors’ influencing the situation (Clarke, 2003: 560) Situational maps can help the researcher get this overview and work with the connections more in depth. In a situation with a lot of stakeholders it is important to look for the silent stakeholders. It could be that the researcher is missing something but when put on a map it is an active actor that has connections to somewhere and influences the situation.

In the beginning of the construction of the map it is important to ask (Clarke, 2003: 561):

- Who and what is in the situation?
- Who and what matters in the situation?
- What elements make a difference in this situation?

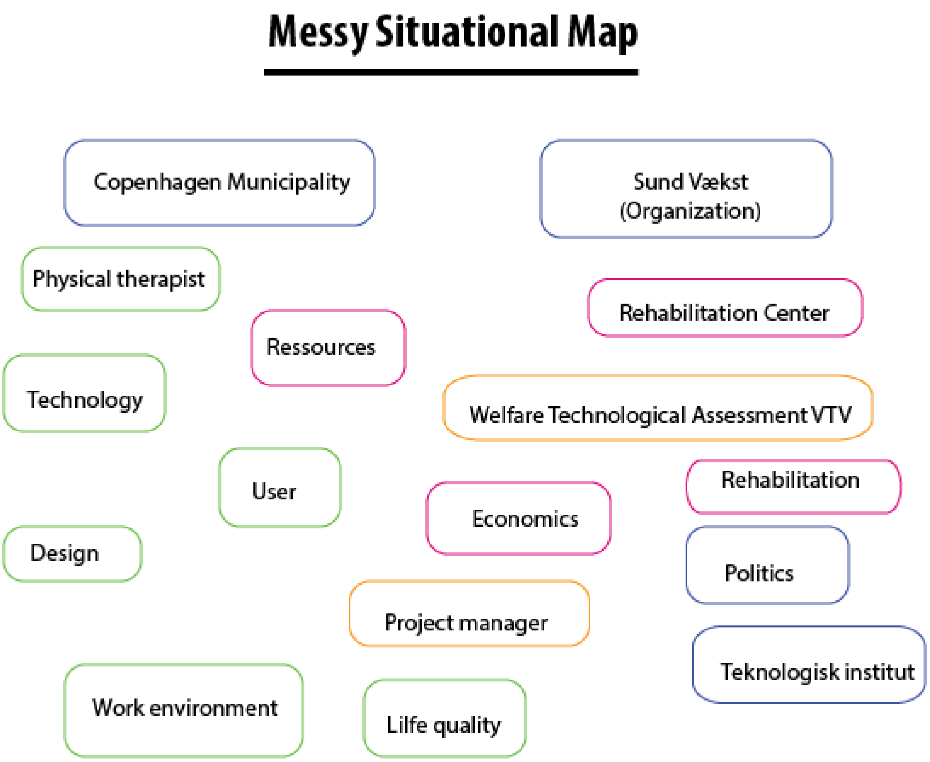
These questions are answered through ethnographic observations, field notes, interviews, literature, pictures etc. It is the researcher's responsibility to take each actor and figure out what really matters. After the first map the researcher gets an overview of the situation, which may allow him to also categorize the human and non-human actors. It is an ongoing process and each map that is made could come up with more or less actors that are important to the case (Clarke, 2003: 563).

One way of knowing when the situational map is saturated is when the researcher sees most connections and can talk about them freely. It has been a while since new actors have come up on the map and no major changes have occurred. There will always be new actors but they not seem to make a difference to the situation. (Clarke, 2003: 571).

4.0 Analysis

4.1 What is the Situation when implementing welfare technology (Alter G)

On a messy situational map, I have put up actors who influence the welfare technology Alter G. This map is based on literature research, observations and interviews. This gave me an overview of the situation I was studying.



(Messy situational map of actors in the implementation of Alter G. Based on own research and drawing)

After the actors have been included on the map I have tried to analyze and organize them in different colors which then allowed me to link them. *The blue color* represents the organization. It is the actors who want to be more productive when it comes to rehabilitation and welfare technology. This can be related to the following statement found in the blueprint of Sund Vækst,

"With this plan - "Innovating for health and care" - we set the direction of our future investments welfare technology. We invite employees, companies, organizations and researchers in community with us realizing groundbreaking new or already invented welfare technology up to the 2025". (Sund Vækst B, 2015: 5).

For this to be put into action, Copenhagen Municipality has been given the task to find out what the focus is supposed to be and how to overcome the task. The solution,

"Copenhagen Municipality wants to lead the way in relation to welfare technology in the social area, where the large share is still relatively undeveloped compared to welfare technology bets. It is quite obvious that we bid in. The role of the largest social service provides a special obligation to do so" (Københavns Kommune handleplan 2014: 4).

One of the purposes of Sund Vækst is to improve welfare and health in the Cph municipality and to constantly find new ways of doing so. One of the ways that Sund Vækst tries to improve the welfare and health is through collaboration with the Danish technological institute. Since DTI work with technology and have developed the welfare technology assessment model, Sund Vækst have found it relevant to examine if the welfare technology they work with is a good investment or not through the VTV model.

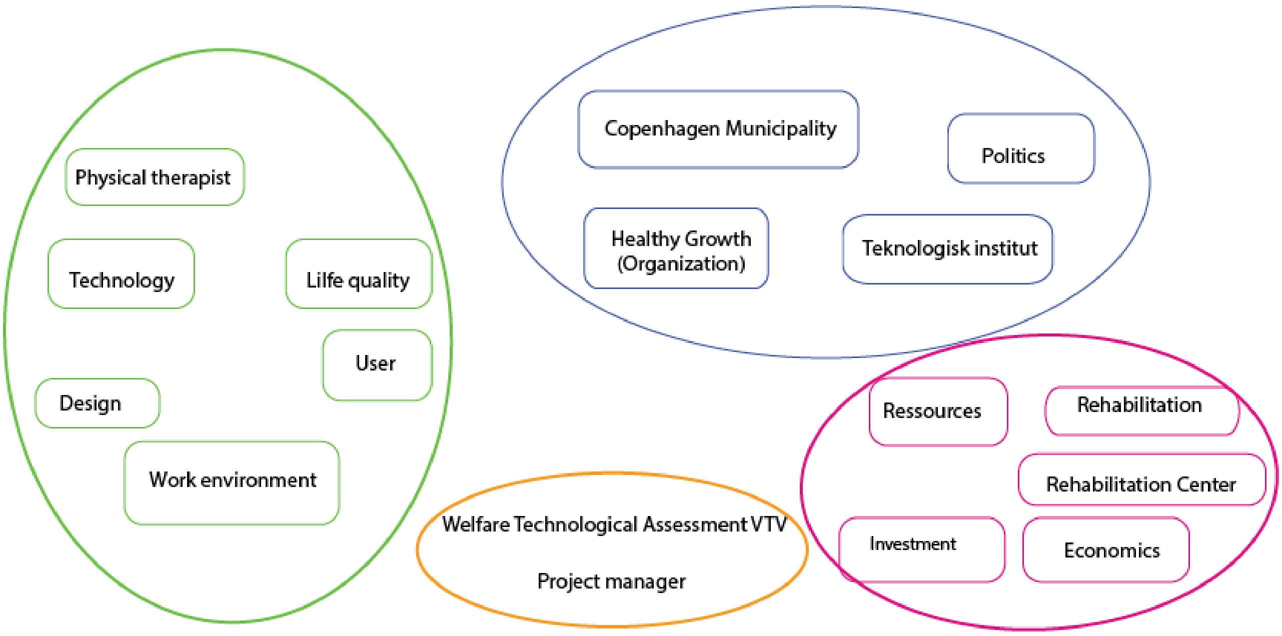
"When we in Sund Vækst will test and evaluate the new welfare technology solutions that may be relevant for the citizens and the situations we use the DTI model – Welfare Technology Assessment / VTV" (Sund Vækst, 2015: VTV)

That was the connections in the messy situational map which had the color blue (organization). Overall one could state that these connections are in favor of implementing the technology and are pro welfare technology. We could categorize them as organizations with specific agendas of implementing welfare technology.

The orange connections in the messy situational map above are the project manager and the model of welfare technology assessment VTV. These two connections are close together because, the project manager uses the VTV as a tool to figure out how actors affect the implementation of the technology.

The purple connections could be categorized as investment. The actors of investment could be in favor of the technology or against the technology, depending on the welfare technology.

The green connections are related to the users of the welfare technology. These connections put value on the human interacting with the technology in the daily life. It focuses on how the technology is handled, what the technology does and if the technology is possible or impossible for implementation.



(Organized situational map of actors in the implementation of Alter G. Based on own research and drawing)

This organized map illustrated above shows that we have three main actors stabilizing and destabilizing the technology. In the middle (orange color), we have the VTV and the project manager who tries to connect all the actors together. It is therefore important for this project to focus on the VTV and how it is used in the assessment and implementation process of the welfare technology.

4.2 Immutable mobiles and inscriptions connected to the VTV model

In the beginning of a welfare technology idea we have the company who has developed or is developing the technology. Their purpose is to promote and sell the product, and ultimately come up with . Since it is well known that Sund Vækst want new ideas to be implemented in the society, the companies contact project managers in Sund Vækst.

Me: *"Why did you decide to try out the Alter G and who was part in this decision making?*

Head project manager of Sund Vækst:

"Yes that is a good question. Ehm you could say, the reason we choose to try it was because we were presented for the opportunity. There are more ways to try things (technology) and to get things out (technology). Sometimes we start with the challenges, where we seek what the demands are from the citizens, and other times we get presented for a technology and then we think here we could have something interesting" (Interview with head project manager at Sund Vækst, see annex p 2).

After the company presents their idea and technology, it is in the hands of Sund Vækst. Managers engineers and staff related to the technology is invited to figure out if this idea is going further in the process or if it is going to be canceled. If the idea is accepted, it goes in to a testing phase.

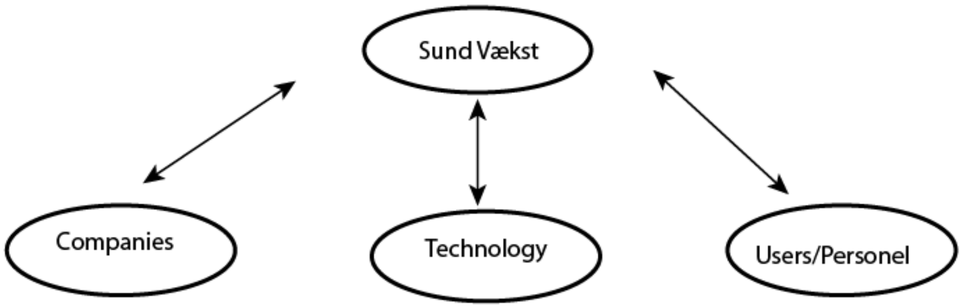
A technology encountered in this project is the Alter G machine. This machine is developed by NASA. A Danish businessman has bought the rights to sell the machine in Denmark. The belief is that the welfare technology (Alter G) can help patients recover faster in rehabilitation (Grabowski (2010).

"Under all circumstances we knew that there was a need and political awareness around the area, around brain damage area. We were contacted about the possibility; we got a demonstration, where we had employees and leaders from the neuroglial area. We wanted to know if there was a potential or not. Ehmm they got the opportunity, they were very positive around it you could say. It could help on some of the patients... So they got the opportunity to test the technology for a month"(Interview with head project manager at Sund Vækst, see annex p 18).

After this period the machine is now tested in Denmark in the rehabilitation center of Copenhagen for a half year.

4.3 The testing process

In the rehabilitation center there is a prime physical therapist who has the responsibility for the technology. It is the physical therapist who decides with the patient if this machine is something for the patient or not.

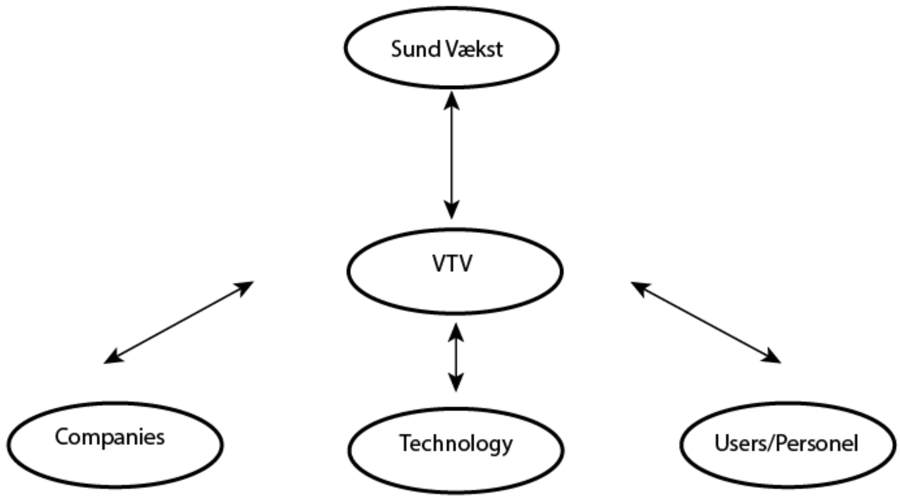


(Model of how the collaboration of implementing technologies were before the VTV, own drawing)

There are different actors who interact with the welfare technology. The company who developed the technology interacts with Sund Vækst, the technology (Alter G) is tested by Sund Vækst, and finally we have the users (patients) and the personnel who operate the machine daily as a part of their rehabilitation or work.

There are three main actors and every actor reports back to Sund Vækst, but the actors do not communicate with each other directly without Sund Vækst being involved. According to the head project manager, Sund Vækst uses the Welfare Technology Assesment (VTV) in the testing phase to gather data from the different actors when trying to figure out if this technology is going to be relevant or not.

"When we test technologies it is important to be aware of that we use a VTV method, we go in and make a technological assessment of the welfare technology. We go in and look at does the technology function; you can get a description of it" (Interview with head project manager at Sund Vækst, see annex p 18).

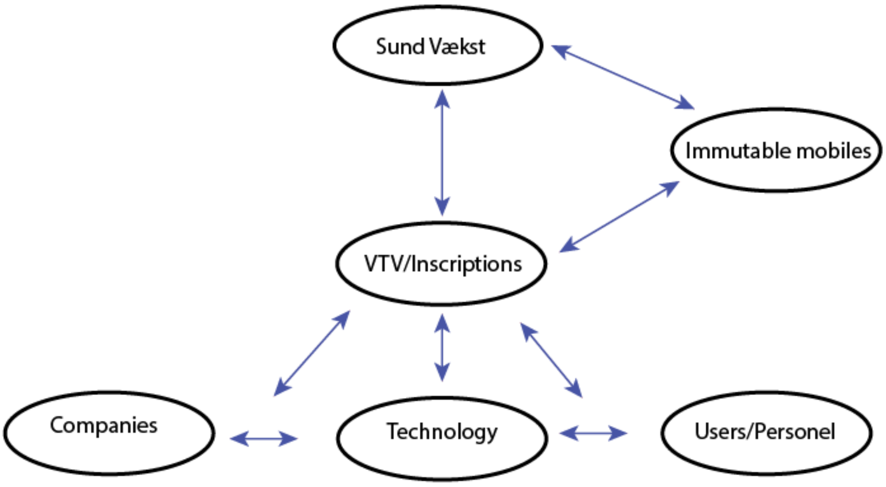


(Model of how the collaboration of implementing technologies were after the VTV, own drawing)

The VTV as mentioned earlier in this report focus on users, economics, resources and technology. VTV is used by the project managers to collect information from different actors related to the welfare technology. What this does is that it makes inscriptions through pictures, observations, interviews, score cards and graphs from different actors. Or as Bruno Latour calls it, immutable mobiles (Latour, 1986: 3-4).

(Model of how the VTV and data collections produces immutable mobiles as a final product , own drawing)

Sund Vækst collects information from actors, this information is transformed to graphs, papers, illustrations, pictures etc or as Latour says inscriptions which is made manageable to be used as immutable mobiles. Immutable mobiles can be taken by Sund Vækst and presented to other relevant actors. When having immutable mobiles you have power (Latour, 1986).In this case the immutable mobiles will be in the hand of Sund Vækst and the situation can look like this now (see below).



(Connections made by the VTV model in the middle, own drawing)

After having collected data through VTV it can be used to gain a better understanding of the situation. Since VTV have collected different opinions of the actors, they have solid evidence for pros and cons related to this specific technology. This means that the VTV makes it possible for the companies, technology, users/ personnel and Sund Vækst to interact with each other and try to figure out what the best solution could be for implementation (see arrows).

4.4 What can the VTV benefit Sund Vækst?

The quick answer is that the VTV can give Sund Vækst an overview of the common problems. The more detailed answer is that the VTV gives information about what the users expect from the technology, including an evaluation of the current design and possible improvements. How is the current design, what works and what does not work. Could some things be redesigned so it fits the users better. Is the machine difficult to understand and what can be done to make it easier to understand. Can something be added or taken away to get a better user experience.

On the other side it is the personnel who determines which patients are capable of using the machine. It is also the personnel who can maybe give some inputs to how the machine could be used by more users or what makes the machine difficult to use by some users. This could result in the technology being applied more extensively in the daily work, and thus perhaps achieve the goal of improving the life quality for the users and the working environment for the personnel. What is the purpose of having a machine that is only used by few or not used that much, it will not help on the goal of achieving better life quality for many users and not improve working environment if the personnel can not get half of the users to use the machine. The VTV makes it possible for the users and personnel to communicate with the company who is designing the technology (see illustration above)

Related to the working environment it makes it possible to make changes in the working plan. Since both staff and management are directly involved in the implementation through the VTV both actors (management/staff) get to present their perspective and concerns relating to the issue at hand. The personnel who is training with the patients could be forced to take two patients at one time, or maybe they don't have the time to instruct the user, they don't believe that it will benefit, the machine is to far away from the patients etc. These problems is enlightened in the VTV.

On the other side management at the center has questions on how this machine is going to be operated in the daily use. What is the machine going to compensate for. Do patients get a better rehabilitation, what kind of diagnoses is supposed to be rehabilitated with the machine etc. The VTV makes it possible to get an overview of the barriers and maybe take some of them away or manage them in a better way.

Related to the economics it can be difficult to know what the outcome is going to be and what the profit is with this technology. The VTV enlightens the consumption of the technology. What is the technology going to cost and how to make it into a profitable implementation (Teknologisk Institut VTV, 2015). It becomes possible for the main stakeholders to calculate the cost benefit. The inscriptions made in the VTV could give better collaboration between Sund Vækst, Copenhagen municipality, users and the rehabilitation center. The model gives some clarity on if this machine is worth investing in.

4.5 VTV course in Copenhagen

After a few mail corresponds with the head project manger at Sund Vækst I was allowed to participate on a one day course in Copenhagen Health Academy. The Academy is responsible for administration, education and further education to the employees of Health and care management in Copenhagen. The employees can apply to courses that are related to their daily work (Københavns Sundhedsakademi, 2015).

The course was from 9:00 to 15:00 and it was fully booked with 16 participants. These participants were from all over Denmark. There were different reasons on why they participated at the course and what they worked with daily. The attendants were physical therapists, ergo therapists, people who worked with IT, project managers from Væksthuset København, Digitaliseringsstyrelsen, engineers, and one team coordinator from a rehabilitation center.

The attending were employees who had different positions in the society. Some of the positions were related to rehabilitation, they could use this to score the technology better when new technology is tested out at their workplace. One from the IT who worked with digitalization wanted to learn more on how the digital welfare technology could be optimized, and what the focus was when talking implementation of welfare technology. Two engineers were attending because they wanted to figure out how to develop technology that took all four main themes of the VTV into consideration. Three employees from Væksthuset København that were attending, worked with private companies and government agencies, their job was to make a link between the private companies and the government. After talking with the project manager of Væksthuset København I realized that their role was to make economic growth in Denmark. The managers reason for attending the meeting was because she has close collaboration with private companies and this course should help her to understand how the government scored the VTV and what they focused on when talking welfare technologies. This knowledge should then be mediated to the private companies.

We were divided in 3 tables with 5 chairs at each table. We were given out a folder which contained all the information we needed to get through the day. After lunch we switched places so most of the people got to know each other. In the beginning of the course, we got an introduction from a project manger that worked for Sund Vækst. The manager explained how the idea comes into being at Sund Vækst and what the steps are for developing a business case and implementing the product.

After this presentation, an employee from The Danish Technology stood for the presentation of the VTV and the course rest of the day. The background of the employee was Cand.mag. In international business communication.

The course was meant to teach the participants what the VTV is and, make them enough educated so they could use it in their daily work. Every participant got a VTV course certificate afterwards.

4.6 Main points presented at the VTV course

One thing that was interesting was that the VTV is used differently in the different municipalities throughout Denmark. In Odense municipality, the VTV is used from the beginning to evaluate, implement and to figure out if the technology should be invested in. In Ikast Brande there are VTV agents, their role is to secure that the VTV is used as an evaluation tool. In Nyborg the VTV is used as a final decision making tool. In Copenhagen the VTV is used in educational purposes of the employee who work with welfare technology. In Copenhagen, they want to educate people so it can be used systematically and to ensure that future VTVs are done in the same way, as is evident in the words of the DTI projectmanager,

"“The purpose of this course is to teach the attendants who uses the VTV to use it the same way every time” (Project manager from DTI, See annex own field notes: p 25).

According to the Project manager, the VTV can be used in qualitative research where it can only be two to six people. This way of working with the VTV is through observations of the user interacting with the technology, pictures or open interviews. It can also be through quantitative research where 10 or more people are involved. Here observations and questionnaires are used to gather data.

In relation to this, a question was raised by one of the participants to the project manager of DTI

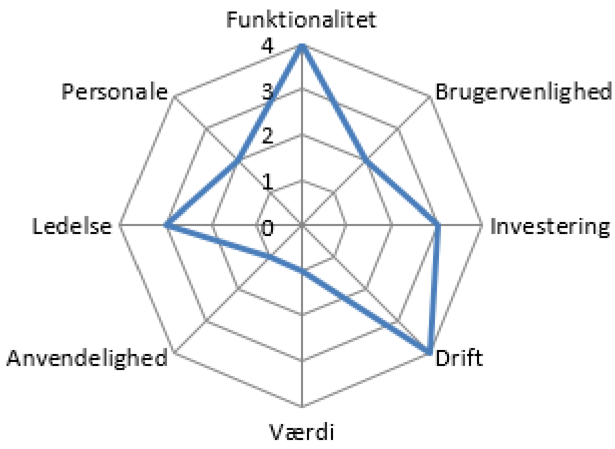
“Do you take samples so that the whole audience is representative when performing a VTV evaluation like major studies " (see annex own field notes: p 25).

The reply from the DTI project manager was interesting,

“*Technological institute are doing huge data collections that would be more valid in order to demonstrate the result to the Health agency of Denmark. Those who are on this VTV course are supposed to do smaller samples so they can take a decision on the specific technology relevant to their work and agenda” (Project manager from DTI, See annex own field notes: p 25).*

The intention of the smaller assessment done by the participants who are educated, is a *quick decision,* according to the project manager, which is meant to show whether it is relevant and to make it easier to decide. It is not representative for the entire Danish population. So there is a difference in the data collection in the bigger assessments done by DTI and by others who do small assessments *(Project manager from DTI, See annex own field notes: p 25).*

4.7 Different views on the same technology (The VTV cobweb)



(Example of a cobweb made on the VTV course, own drawing)

Earlier in the report it is mentioned that the technology is scored by point where four is the maximum and zero the minimum. In the end of a VTV assesment the researcher ends up with a score on a cobweb as the one illustrated above. During the VTV course we were given a case which we should try to score. Each of the three tables had the same case but the participants only talked with the participants sitting by the same table. After we were finished, we talked about the cobweb in plenum. The surprising outcome of this was that each table had made different cobwebs. Some of the webs were even contradicting. To me, the most striking and interesting about this exercise and its results is that we had *different opinions* on how well the technology worked, what *the alternative* was to other technologies that could do the same, and what will happen if no technology were used at all.

Continuously working with the VTV at the course some of the participants, myself included, were missing the option of other technologies. The VTV concludes on one specific technology and not taking similar technologies into consideration in the four main topics of the circle.

I was curious when the cobweb was final and done so I asked the project manager:

"When do we know when the cobweb is good enough for the technology to be implanted or not"?

The reason why this question was relevant is because some scores in the web were high with four points and some were one or two. In most cases the cobweb will indicate positive at some parameters and some parameters less satisfying. The reply from the DTI project manager who held the course was following,

"It is your framework which you point out as project managers" (Project manager from DTI, See annex own field notes: p 26).

This answer puts a lot of responsibility to the project manager working with the VTV and technology. The responsibility is high because it means that the researcher has to know what the purpose of the technology is, what the cost benefit is, who the users are, which problems exist and might occur in the future, what alternative technologies there is etc. In most cases there will be more than one person working with implementing the technology, but it seems that the decision is formed by the VTV and could have a big impact on the technology outcome.

4.8 Why is VTV relevant?

In Copenhagen, DTI and Sund Vækst educates the employees of Copenhagen Municipality to use the VTV systematically. In their own words,

"we are making these tests to make it in a systematic way, and we need not only to look at the technology but also all the things around the technology, that is why the VTV consists of the four areas… That is one of the ways for us to secure that no matter who evaluates the technology that we come around on all four areas.. so we can get data that we can compare across.. and in the end present it outside and go to our directors or politicians and say, now we have as much data from these tests and make these recommendations"(Project manager Sund Vækst, 2015, 11:37-12:55: audio CD).

This is a *"new"* step in evaluating the welfare technology. Around 2008 when the VTV was taking the first steps on becoming a full model, the government did not have any specific model of evaluating welfare technologies. More technologies have come out in the society and the government could see the potential of welfare technology, but they did not know what to focus on and how to implement. A systematical way of thinking was needed

"VTV talking the same language, developed in 2008 by two colleagues in DTI. There was a need for a welfare technology assessment" (Project manager from DTI, See annex own field notes: p 25).

The purpose of educating is so that the employees evaluate and talk the same language when evaluating welfare technologies *(Project manager from DTI, See annex own field notes: p 25).*

The way the government worked around welfare technologies before the VTV was that they bought technologies on what seemed to be right, no data was gathered before buying the technologies. This is also evident in the following quote from my interview with the projectmanager at Sund Vækst, who explained,

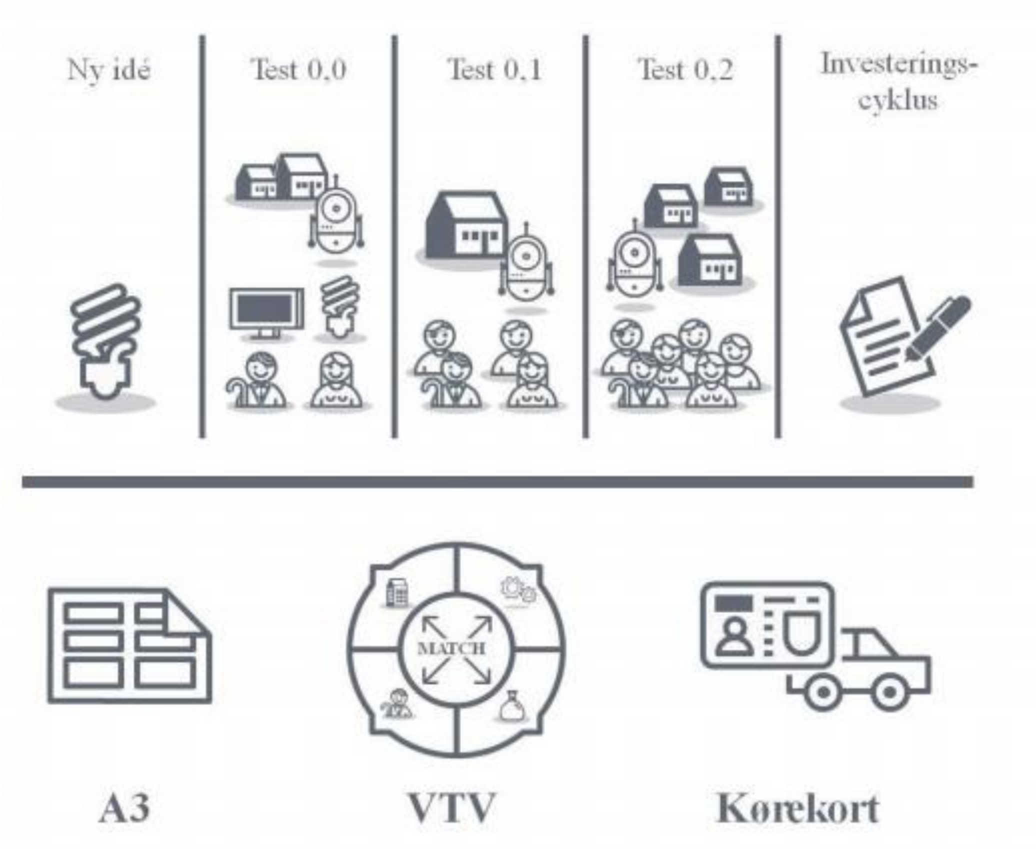
"When I came here (Sund Vækst) I believe that they purchased technology on what they believed was the right thing to buy, they did not have any data to put as background, but it is more on what do we hear out in the society and what do we believe is the most reason to buy.. so it is actually first time they systemize knowledge on the technologies that should be purchased" "(Project manager Sund Vækst, 2015, 13:21-13:50: audio CD).

The VTV has been used for the past 6 months in Sund Vækst, the first employees were educated in spring 2015*"* (Project manager Sund Vækst, 2015, 32:00-32:23: audio CD). Currently October 2015, seven VTVs are made and published on Living Labs homepage. It is the way that municipality of Copenhagen, Sund Vækst and Living lab evaluate, recommend and eventually implement the welfare technology in Copenhagen for present and future buyers (Living Lab Strandvejen, 2015).

4.9 How does the VTV come into play from idea to technology implantation in practice according to the project manager of Sund Vækst?

When an idea is found, recommended or presented to Sund vækst by external companies it goes to a Sund Vækst database called Ideportalen (Project manager Sund Vækst, 2015, 06:59-07:20: audio CD). Ideas to welfare technologies can enter initial phase through external companies or by internal employees out in the society who has come across challenges in their daily work. If the technology is found interesting by the project managers, the initial phase is to contact the company who has presented the technology and start the tests at Living Lab Strandvejen (Project manager Sund Vækst, 2015, 04:50-06:05: audio CD). If a technology is not yet developed to a specific challenge it will go to an offer out to companies who has the potential to develop it. If the companies manage to produce the technology it will proceed to testing in Living Lab. (Project manager Sund Vækst, 2015, 10:22-10:55: audio CD). If it is the other way around where technology should be developed from the beginning to a specific challenge then Sund Vækst will become a link between the company who is developing, and the organization that finds the technology interesting (Project manager Sund Vækst, 2015, 11:00-11:10: audio CD).

Living Lab is a rehabilitation center with the potential to test welfare technologies (Project manager Sund Vækst, 2015). Living Lab is a part of a rehabilitation center and activity center inner city/ Østerbro, the goal is to find new and useful solutions, that can be spread and lift the welfare on health and care area in the municipality of Copenhagen (Living Lab Strandvejen, 2015).



Model of how Sund Vækst collaborate with living lab (Living Lab Strandvejen, 2015b)

After having the idea, and the idea has a green light for further process Sund Vækst start testing. The first steps is a 0.0 test where two employees and two citizens of the rehabilitation center tries to figure out if this technology could be suitable for a test period. If the technology is found relevant, it goes further to a testing phase. Both test phase 0.0 and 0.1 takes place at the living lab. The test 0.1 is normally with two employees and two citizens which could be potential to use the technology in the future. The period is approximately two weeks to one month of testing. Depending on the technology it is also possible to try it out in other places for example in the user's own home, but since there is a lot of citizens at the rehabilitation center connected to Living Lab most technologies are tested there. The VTV is used from 0.1 test phase where the first evaluations are made on the technology (Project manager Sund Vækst, 2015, 04:12-04:18: audio CD).

After the first VTV model is done by the project manager, employees who has been attending the testing period, the citizens and the project manager have a meeting where the pros and cons concerning the technology are evaluated. It is also here that the welfare technology is discussed whether it suits other citizens and where it could have a potential in the society.

The next step from here is to make a test in a larger scale a 0.2 test. The technology here is tested in different places with different potential citizens that could be relevant for using the technology. These tests takes places out in the society where citizens live, home care centers or in rehabilitation centers depending on the potential of the technology.

The VTV model is made for each testing. Depending on what earlier VTVs concluded in the 0.1 test, the focus of the VTV test 0.2 could be different, the four main themes could be weighted differently in 0.2 test.

"If I do a 0.2 test then I have a VTV test from 0.1 so if they have covered something specific then I could focus on something different, I will put weight on something different or read their conclusion and see what they think we should continue with in the 0.2 test" (Project manager Sund Vækst, 2015, 17:37-17:59: audio CD)

The project manager tries to get the best possible picture of the full potential. The main task now for the project manager is to write an evaluation which could be used for further process on whether this technology should be a business case and a proposal for implementing or not. In this final report the project manager takes the VTV coweb and analyzes the pros and cons. If some elements of the VTV are positive, the projectmanager makes notes of it. Same goes if some elements strike out as less positive. In the end the project manager makes citations on what was not that positive and writes what the reasons were in a small conclusion.

The final VTV report is then presented on a meeting with the relevant project managers at Sund Vækst. After this meeting a proposal is made to the head project manager to implement or not. If the technology is positive after the 0.2 test a business case is made.

"The business case is made after the 0.2 test, there is a colleague sitting here (Sund vækst), his assignment is to collect and make a business case" (Project manager Sund Vækst, 2015*, 19:54-20:03:* audio CD*).*

The business case is in most cases a cost benefit evaluation of what the welfare technology can give. In praxis it means that Sund Vækst analyzes what the cost is now with current praxis and what the cost with this new welfare technology (Project manager Sund Vækst, 2015, 20:00-22:15: audio CD). It is not always that welfare technology is evaluated in a cost benefit, according to the project manager,

"In reality, the technologies we come up with does not always have a positive economic profit" (Project manager Sund Vækst, 2015, 25:32-25:40: audio CD). In other words,

In some cases the focus of the technology is to give a better life quality, better working environment or a third case, a business case is still made. This business case is then send to relevant politicians who can read the final report and take a stance on whether this technology should be granted money to be implemented or not. In both cases if there is a positive effect of the welfare technology it will be sent to relevant directors or politicians, who then decide and it is them that in the end concludes whether this technology should be implemented or not (Project manager Sund Vækst, 2015, 23:30-24:33: audio CD).

In praxis it means that no matter if the technology is profitable, it can improve working environment or give better life quality to the users, it can be sent to relevant politicians who have relevant agendas for a recommendation of the welfare technology (Project manager Sund Vækst, 2015, 27:14-28:00: audio CD).

When I asked the project manager from Sund Vækst about when the VTV cobweb is satisfying, she told me that *"it was a good question"*; she does not believe there are clear guidelines for when the VTV is satisfying for implementation. She believes that it should depend on the challenges that are related to a specific problem and related to the situation of the welfare technology. If some of the four parameters are not that satisfying, but the technology is still a better solution, it will be a valid score for recommendation of the welfare technology (Project manager Sund Vækst, 2015, 45:45-48:05: audio CD).

I then asked deeper into what if the staff in a rehabilitation center found the technology relevant, but the users who should train with the technology found it less positive, what will be in favor.

She replied that they have never been in that situation but she would take it up with the management at Sund Vækst on whether they could do something to improve the situation or if they should decline the technology (Project manager Sund Vækst, 2015, 47:30- 48:33: audio CD).

4.9.1 A practical VTV in the case of Alter G

In the phase where the technology is tested, VTV is used by the project manager of Sund Vækst. In this case the head manager of Sund Vækst has given me the responsibility to work out a VTV score and to figure out what works and what does not work relating to Alter G. In the beginning of the research I asked the head project manager at Sund Vækst how they would measure this specific technology (Alter G) and the respond was following.

"Because we do not have the resources to do it with an external party, for example, but we also hope that your thesis can help on it. That is also why I thought you were interesting to do this cooperation with. Now they have learned to use the machines and have had it for a while. So I also hope [said jokingly] you will be able to contribute to some knowledge about what works and what does not so." (Head project manager Sund Vækst transcription in annex, 2015)

Through my interviews with the different actors I have managed to let the actors score the VTV model on the specific technology. This following section will go through the scores of the respective actors and their arguments for scoring in such a way.

The first interview is with the physical therapist. First of all I started the interview with questions on who he was and what he worked with, what kind of patients and for how long. (The interview is on the CD: physical therapist interview). I have taken out the most relevant out, the interview is approximately 45 minutes.

The physical therapist has been working at the rehabilitation center since 2012 (Physical Therapist interview, 2015 01:10-01:40: audio CD). He works with patients that are under 65 years and who do not have neurological diagnosis as a primary diagnose. Some of his patients have it as a second diagnosis but, most of them are at the rehabilitation center because their lifestyle has given them some kind of a problem with their body (Physical Therapist interview, 2015 01:10-01:40: audio CD). The physical therapist has never heard about the VTV score, and after explaining the themes and why Sund Vækst found it relevant we started the interview on the VTV and he scored the model.

	Ja – fuldstændigt (2)	Delvist(1)	Slet ikke(0)
Er teknologien årsag til et forbedret arbejdsmiljø?		X	
Er der motivation for at bruge teknologien?	X		

(Picture of how the physical therapist put the cross relating to the question, drawing from field research)

Question one: Is the technology responsible for a better working environment?

"Yes I would say partially because well, I will not say it does not do anything, it does provide the opportunity for you to put a relatively heavy citizen in it, I mean not by weight, but one that you normally will have individual training with, you can now have the person training on a team, here I can train more people at once, and by that I save some time" (Physical Therapist interview transcription in annex).

The physical therapist believes that it gives him more time, because he can put the patient in Alter G and train with other patients at the same time. I asked if he could see himself have the patient in the Alter G and still being able to engage in some other work, for example write his journal at the office (Physical Therapist interview, 2015, 13:20: audio CD). He does not believe he will do it because he does not feel it is safe to let them train alone, *"what if they panic in the machine"* he also believes that he needs to be close so he can conduct regular checkups (Physical Therapist interview. 2015, 13:20-13:54: audio CD).

Question two: Are you motivated to use the technology?

On this question, the physical therapist had a split answer.

"Yes, I think so and I experience it also among my colleagues, Yes. Except for those who work with neurological diagnoses, they do not have the big thing to it, but the general public and therapists are motivated to use it well" (Physical Therapist interview transcription in annex: p 12-13)

When I asked why it was that the neurological therapists did not like using the machine, he explained how they liked correction patients gait through training, the blown up bag on Alter G made it impossible for the physical therapist to put his hands on and correct patient's gait.

One important thing to make notice of here is that the coweb in the end is dependent on the persons you ask, as here we can see some are in favor of using the machine while others do not like using it at all. In this case it scored the best score of two points.

	Ja – fuldstændigt (2)	Delvist (1)	Slet ikke (0)
Er der ledelsesmæssig opbakning til brug af teknologien?	X		
Understøtter teknologien gode arbejdsgange?	X		

(Picture of where the physical therapist put the cross relating to the question, drawing from field research)

Question three: Is there managerial backup to use this technology?

"Yes there is, the head leader have said that we will keep it and have called in me and another of my colleague to back this technology and to use it some more, nevertheless in my group (people under 65 years) she has backed a lot around it, and we are going to put some people through the technology so yes I will say definitely there is a big backup" (Physical Therapist interview transcription in annex: p 13)

When I interviewed the manager of the rehabilitation center she was positive of Alter G: she believes it can be used to a lot of different technologies, ".

*"Many of our citizens also need cardio training, graduated weight training etc etc. They have the same needs. The art is to give them this in spite of them having these disabilities, and here can Alter G together with the other elements be one of those tools one could use". (*Head manager of the rehabilitation center interview, transcription in annex: p 4)

Question four: Does the technology support good workflow?

"Well I think it does something in my workflow allowing me to take some citizens as I normally would have spent more time on. Those can I bring in some contexts as I normally could not have taken them. So yes I thought that after all it does. It makes my workday generally easier ... So if I have a heavy citizen I must offer him three hours and I must do it, it must only be me and him, I can maybe now say that when I have Altar G then I can say. Twice in the week when he can get in Alter G so I can train with some others at the same time. If he get two times in the machine, then I might only see him once more. That's the way it gives me time. I think it supports good workflow so I will score yes completly" (Physical Therapist interview transcription in annex: p 13).

	Ja – fuldstændigt (2)	Delvist (1)	Slet ikke (0)
Frigiver teknologien medarbejder -ressourcer?	X		
Erstatter teknologien brugen af andre hjælpemidler eller tilbud?	X		

(Picture of where the physical therapist put the cross relating to the question, drawing from field research)

Question five was: Does the technology release staff resources?

The answer was that the physical therapist believes it does, as he explained he can get more time when he does not have to set of time for individual training (Physical Therapist interview transcription in annex: p 13).

Question six: Does the technology replace other offers or devices?

"Yes, hmm how can I put it, now I use Alter G instead of the light gate (another device that can do a similar task). So when I need to relieve a heavy patient I could use this one instead of the other.. so I would say yes definitely (Physical Therapist interview transcription in annex: p 14).

	Ja- fuldstændigt (2)	Delvist (1)	Slet ikke (0)
Kan teknologien benyttes uden ressourcetung kompetence-udvikling?	X		
Kan teknologien benyttes uden ombygning eller indkøb af andre produkter?			X

(Picture of where the physical therapist put the cross relating to the question, drawing from field research)

Question seven: Can the technology be used without heavy resource competence development?

”We had the salesman out to explain us what the technology is capable of, but he believes it can do a lot because he wants to sell it, otherwise we have a physical therapist who is a professional supervisor she has some time to figure out what kind of studies are made and what it could work on, otherwise we have intern education, where I had some colleagus down here to explain to them how it works, so we don’t need to go to external courses, so I don’t believe heavy competence is needed.

I will therefore answer yes definitely it can be used without heavy competence development” (Physical Therapist interview transcription in annex: p 14).

Question eight: can the technology be used without rebuilding, or purchasing other products?

“No it cannot, we had workers installing special electric boxes, that was expensive, that means when you have decided the place it should be installed it cannot be moved around” (Physical Therapist interview transcription in annex: p 15).

	Ja – fuldstændigt (2)	Delvist (1)	Slet ikke (0)
Er teknologien let og intuitiv at anvende?		X	
Er teknologiens manualer og vejledninger anvendelige?	X		

(Picture of where the physical therapist put the cross relating to the question, drawing from field research)

Question nine: Is the technology easy and intuitive to use?

"Partially, because you need to be sure that the user has understood he has to press pause and not stop, if he presses stop the air will blow out. Not much is needed to pull the attached string and the air will blow out. And also one more thing is when I want to write down how much the users has walked I press pause but then I ca not see the display on how much he has walked in the machine" (Physical Therapist interview transcription in annex: p 15)

Question ten: Are the manuals of the technology useful?

"Yes I believe so definitely" (Physical Therapist interview transcription in annex: p 15)

	Ja – fuldstændigt (2)	Delvist (1)	Slet ikke (0)
Kan teknologien det, som det forventes, at den skal kunne?	X		
Fungerer teknologien hver gang den anvendes?	X		

(Picture of where the physical therapist put the cross relating to the question, drawing from field research)

Question eleven: Can the technology do the things it is expected to do?

"Yes definitely" (Physical Therapist interview transcription in annex: p 15)

Question twelve: does the technology work every time it is used?

"Yes definitely" (Physical Therapist interview transcription in annex: p 15)

Users answers on using the Alter G

The user interviewee has been training in the Alter G treadmill for three and a half month, approximately 2 times a week for the period.

"We started loading 40 % of my bodyweight and in the end I came up to 80% of my own bodyweight, in the beginning I went ten minutes, then half an hour but most of the times I went in the machine for 40 minutes" (User interview transcription in annex: p 9).

The user was very pleased training in the machine, and highly motivated to continue the rehabilitation with Alter G.

"It was a really strange feeling, but I think it was a positive experience. It was a wonderful experience almost being weightless, it was honorably, I got pain every time I put pressure with full weight, now all of a sudden I could go without any problems. I have never seen it before" (User interview transcription in annex: p 9).

Most of the times when the user trained the physical therapist was having team training at the same time.

I asked the user if he had heard about Welfare technology assessment, and showed him the model.

User: "No I have not" (User interview transcription in annex: p 10).

Me: "So you have not been asked about this before?"

User: "No I have not" (User interview transcription in annex: p 10).

I showed the user the VTV model and explained why it contained these four themes and how it will be used. After getting the user to know for 10 minutes of interview I started asking questions related to the VTV. I have not put the entire interview in the report but it is in the annex (User interview transcription in annex: p 9),Below I have only extracted relevant topics for answering the problem formulation.

	Ja – fuldstændigt (2)	Delvist (1)	Slet ikke (0)
Opfylder teknologien borgernes behov?	X		
Ønsker borgerne at anvende teknologien?	X		

(Picture of where the user put the cross relating to the question, drawing from field research)

Question one: Does the technology fulfill your needs, you can answer yes completely, partially or not a t all?

"I will say yes completly" (User interview transcription in annex: p 11).

Earlier in the interview, the user explained me how impressed he was with the technology. It helped both his balance and strength. He could not run for the past 30 years but now he could jog in the machine *(User* interview transcription in annex: p 10).

Question two: Do you want to use the technology?

"I will also here give it a completely yes" (User interview transcription in annex: p 11).

Again the user explained to me that he could do things that was not possibly for him outside the machine. He felt motivated by the goal he has set to himself to get full weight pressure in the end of the rehabilitation *(User* interview transcription in annex: p 10).

	Ja – fuldstændigt (2)	Delvist(1)	Slet ikke (0)
Er borgerne mere selvhjulpen med brugen af teknologien?		X	
Er teknologien årsag til større livskvalitet?	X		

(Picture of where the user put the cross relating to the question, drawing from field research)

Question three: Are you more dependent with the use of the technology?

"I would say partially, when you were going in the machine, you could just press pause, but the thing to enter the machine and attach yourself to it I needed help" (User interview transcription in annex: p 11).

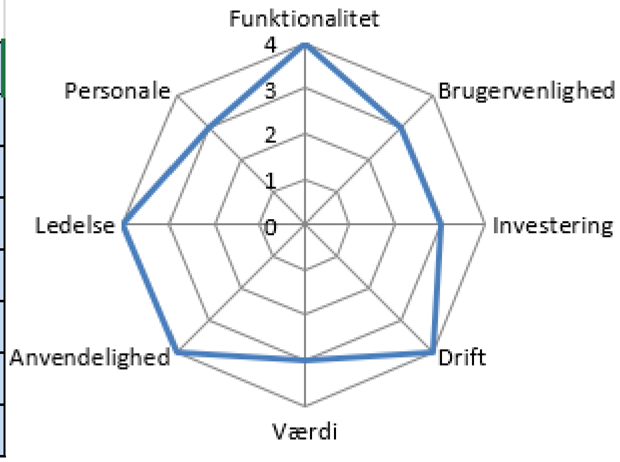
When entering the machine the user need to put on neoprene shorts which are tight, this has some challenges for disabled people who does not have full control over their body. Also when they have entered the machine the bag of the Alter G and the neoprene shorts need to be attached to each other with a zipper. According to the user this is one of the mayor challenges for him, i.e. not being able just to train completely independently without the physical therapist.

Question four: Is the technology a reason for you getting a better life quality?

"Also here will I say yes completely, I was so happy for the technology, I have never seen a machine like that, I was deeply impressed. It gave me freedom to walk in it" (User interview transcription in annex: p 11).

4.9.2 The VTV score after conducting the Alter G analysis through interviews

Hvad	VTV 0,0
Funktionalitet	4
Brugervenlighed	3
Investering	3
Drift	4
Værdi	3
Anvendelighed	4
Ledelse	4
Personale	3



(Results of the VTV cobweb on Alter G made illustrative, own field notes)

The cobweb and results of Alter G are in general all-round satisfying. Most of the parameters are filled out, four of them are at maximum points, and four of them are at three, the next best score. The next step is to look at why some of them are less satisfying. Since this is already mentioned earlier in the report through the analysis I will not go through the issues again, but I will elaborate on the results found and make recommendations. After figuring out why the cobweb looks like this, the project manager will write a report regarding what could be done to eventually make the technology better, or to let it be as it is. The recommendation will then be written and handed out to relevant directors for further process of implementation.

4.9.3 Statistics on welfare technology in Europe

A report from the EU from General Directorate for Communications Networks, Content and Technology has been published June 2015. This document is based on 28.701 EU citizens.

The report shows that people are more positive towards robots than negative. Denmark and Sweden have the most positive view with 84 percent (European Commission, 2014). The overall picture from the participants in EU shows that 64 percent are positive towards robots, but 70 percent are also afraid of that robots will take over their jobs. In Denmark it is only 24 percent that are afraid of losing their own job to a robot, but 56 percent in Denmark believes that it can “steal jobs”. The Nordic countries and central Europe are most likely to purchase robots in their own home while few in Eastern and Southern Europe would consider buying such a purchase (European Commission, 2014).

”85% of respondents agree that robots can do jobs that are too hard or too dangerous for people, and over seven out of ten (72%) agree that robots are a good thing for society because they help people” (European Commission, 2014: 4)

The report also shows that men are more likely to be positive towards robot technology than women, and that younger people are more positive than older people.

It is therefore important to be aware of these statistics when conducting field research. The participants should be variated between men, female younger and older if possible.

A report in Denmark performed by Ældresagen with 1736 participants with the age of 50+ has showed that elderly people are generally positive towards welfare technologies (Ældresagen, 2008).

- 62 percent believes that using robot vacuum cleaners is a good idea.
- 84 percent would be interested in using a patient suit case if they become chronically ill.
- 71 percent believes that sensor technology should be installed in their own home. It will make the residents more secure.
- 46 percent thinks it is a good idea using a bathing machine if the elderly have a hard time having a shower.
- 84 percent would prefer a fully automatic toilet.
- 81 percent would like some technology that could help them in their daily life.

Much more technologies are found positive in the report. Elderly people were not against the welfare technologies in most cases and 40 percent are friendly towards welfare technologies in general. The important thing for the elderly people was that it must not replace human contact 78 percent agree on this, and it must be easy to use 78 percent agree on this (Ældresagen, 2008).

5.0 Discussion

One of the main objectives of this report is to look at how welfare technology is implemented in the society. For this to be answered it is important to look at how welfare technology was implemented before. Through the interviews and literature research it is clear that welfare technology has come to stay and to become the future (Sund Vækst, 2015b). Technology has always been there, but with the quick technology development and the raising elderly population not only in Denmark, but also in most of the world (United Nations Population fund, 2015) has made the society look at how to overcome the rising challenges.

New educations have been introduced to educational institutions to overcome some of these challenges. One such new education is Techno-Anthropology which focuses on figuring out how to assess and optimize technology (Børsen and Botin, 2013). Also courses are made in Denmark to help asses and evaluate Welfare Technology (Uddannelsesguiden, 2015), (Uddannelsesguiden, 2015b).

According to the project manager of DTI, the VTV model took its first steps in 2008 when more welfare technologies had come out in the society, but there was no systematic way to validate the welfare technologies *(Project manager from DTI, see annex own field notes: p 25).*

"VTV talking the same language, developed in 2008 by two colleagues in DTI. There was a need for a welfare technology assessment"(Project manager from DTI, see annex own field notes: p 25).

According to the project manager of Sund Vækst the organization validated technologies on what seemed to be the right thing to do before the VTV.

"When I came here (Sund Vækst) I believe that they purchased technology on what they believed was the right thing to buy, they did not have any data to put as background, but it is more on what do we hear out in the society and what do we believe is the most reason to buy.. so it is actually first time they systemize knowledge on the technologies that should be purchased" "(Project manager Sund Vækst, 2015, 13:21-13:50 audio CD)

5.1 The significance of systemized knowledge and the question objectivity

As Latour states, *"The only way to understand the reality of science studies is to follow what science studies do best, that is, paying close attention to the details of scientific practices"(Latour, 1999).*

That is exactly what I have tried to do in my study. I have tried to figure out what this model can do, why it is relevant for implementing welfare technologies in the society and who the actors are. In the beginning the model seems simple, four main themes, and the project managers role is to raise the questions and get the answers, but already here it is important to be aware of that the VTV is made through different actors. In the idea phase, one project manager is assigned to figure out which technologies could be relevant out in the society. In the 0.0 test at Living Lab it is employees and citizens who test the technology first, in the 0.1 test it is another project manager, in the 0.2 test it is a third project manager and in the business case construction, it is a fourth person. A lot of different minds are having an influence on how this technology is shaped before it is stabilized in the end.

When I was collecting data and had the interview with the physical therapist I experienced it is not that easy to set the cross at the scoreboard of the VTV. A rehabilitation center as the one I was visiting had more than one department which had different patient groups. The physical therapist I interviewed was in favor of the welfare technology because he could see he could spare some time and maybe even spare himself physically. On the other side he had colleagues who did not wanted to use the machine at all. On my question as to whether he is motivated to use the Alter G technology, the physical therapist answered,

"Yes I believe so, I also hear the same thing by my colleagues, except those working with neurological patients, but the ordinary citizens and therapists are pretty motivated to use it" (Physical Therapist interview transcription in annex: p 13)

The reason for this is that the neurological patients have problems activating their legs correctly, especially a muscle called Tibialis interior; this muscle lifts the foot from the ground. Since the patient is in a bag, there is no way for the physical therapist to go down and correct the foot or facilitate the muscle (Physical Therapist interview transcription in annex: p 13). It is also impossible for the patients to look down at their foot since they cannot see through the bag. These two issues have compelled the physical therapists who work with neurological patients to refuse the technology. In the beginning, the Alter G was interesting because of the potential to rehabilitate the neurological patients. It is therefore important for the project manager to be aware of that there are different opinions on the same object, and it is important to go all the way around it. It also shows what kind of responsibility there is for the project manager, he has to be as objective as possible and also be sure that he has covered most perspectives on the case. It is the project manager who puts the cross on the scoreboard in the end.

Since it is the government who wants to apply welfare technologies and they have the goal to optimize through welfare technology, it is important to look at the different steps of the implementation process. The VTVs are performed by people who work for the government. Employees at Sund Vækst are hired to implement the welfare technology in the best possible way. Since the project manager and the employees of Sund Vækst all have the same end objective, namely to facilitate the technology, some concerns could be raised about the objectivity of this process.

5.2 Implementation of VTV and the inherent powerstructures

After studying the case through situational maps it is clear that society has a clear goal in regard to facilitating welfare technology out in the society (Sund Vækst, 2015b). On the top of the food chain, we have the politicians who have a political agendas in terms of optimizing the current processes, which is thought to spare some money in the state treasury one way or the other. These political views are then processed down to the Copenhagen Municipality who need to facilitate the way the society is heading. Sund Væsks and the DTI, two powerful organizations when it comes to welfare technology are collaborating in finding the best solutions for implementation.

The VTV model has now made it possible to analyze and discuss the technologies in a way that was not possible before. The collecting process is dependent mostly on the project manager’s data collection with the VTV. One thing is that the VTV is a powerful and systematical collecting tool, but it can also be used as a powerful allied.

Latour gives a telling illustrations of this through his example of La Perouse who traveled through the pacific for Louis XVI with the explicit mission of bringing back a better map of an island. One day when he arrived to what he calls Sakhalin he meets a Chinese man at the Island, Le Perouse tried to learn about the island from this man. The Chinese man drew a map in the sand which showed the Island precisely and Le Perouse drew this map in his book he had brought with him. The Chinese man is native and he does not need to have a map to go around the island he knows it, but for Le Perouse mission it is crucial that he gets this map back home. The big difference here is that the drawing in the sand will be erased when the tide water comes in, but the book has the same map in it, and it can be saved and carried back to the relevant actors. The first thing here is to understand that this book is an immutable mobile with an inscription in it,

"New inscriptions, and new ways of perceiving them, are the results of something deeper. If you wish to go out of your way and come back heavily equipped so as to force others to go out of their ways, the main problem to solve is that of mobilization. You have to go and to come back with the "things" if your moves are not to be wasted. But the"things" have to be able to withstand the return trip without withering away. Further requirements: the "things" you gathered and displaced have to be presentable all at once to those you want to convince and who did not go there. In sum, you have to invent objects which have the properties of being mobile but also immutable, presentable, readable and combinable with one another (Latour, 1986: *7).*

This phrase is interesting because Latour states that inscriptions and ways of perceiving them are results of something deeper. In my case, the depth of the issue at hand is understood through Latour's example: In the past technology was implemented in society much similar to the Chinese man. The staff worked with implementation of welfare technologies before they knew their way around and did what they believed was the right thing. Le Perouse could be seen as the new way of doing it. When the government implemented the technologies on what they thought was the right thing to do, a lot of these technologies got outdated after implementation, did not work properly or were not applied by the users. The government had no real way of analyzing and evaluating the welfare technologies. With the society having challenges, trying to spare money and trying to optimize in the best possible way, documentation (VTV, inscriptions etc.) is now needed. The government wants the optimal from the start.

Latour explains how scientists and engineers gain power. Scientists and engineers are making drawings, inspecting, calculating and discussing. He explains how these drawing, figures etc can persuade others *"You doubt what I say? I´ll show you"* (Latour, 1986: *13).*

The same thing can be done by the VTV models and reports. The person who has the VTV gains a lot of power and can persuade other actors. In the words of Latour,

"The effect on the construction of facts is sizeable if a writer is able to provide a reader with a text which presents a large number of the things it is talking about in one place. If you suppose that all the readers, and all the writers are doing the same, a new world will emerge from the old one

without any additional cause. Why ? Simply because the dissenter will have to do the same thing as his opponent. In order to "doubt back", so to speak, he will have to write another book, have it printed, and mobilize with copper plates the counterexamples he wants to oppose. The cost of disagreeing will increase". (Latour, 1986: *12).*

An interesting thing here is that Sund Vækst, DTI, Copenhagen Municipality are in close collaboration with each other, they are powerful allies who are working on the same goal in terms of implementing the welfare technology in the best possible way. It is also these agencies who are analyzing the VTV and welfare technologies. With every question that is asked and answered through the VTV an inscription is made. In the final product the VTV recommendation becomes a powerful inscription and immutable mobiles. When it is presented through Sund Vækst to the right politicians, it is really difficult to argue against the technology. This is also seen through Latour argument, .

"Positive feedback will get under way as soon as one is able to muster a large number of mobile, readable, visible resources at one spot to support a point… Once one competitor starts building up harder facts, the others have to do the same or else submit" (Latour, 1986: *12).*

As Latour states when you have a large number of inscriptions and immutable mobiles and you try to persuade the other person there are two possibilities. The first one is to disagree and try to persuade why the other is wrong, for this to happen it is important that the defendant have inscriptions and immutable mobiles that can be disapproving or weaken the other. The second possibility is to submit.

In praxis it can mean that Sund Vækst can work with welfare technologies and turn it an twist it in directions they want, if they want, because the person who is going to get the reports in the end will have a hard time disproving the report since he/she has not been working with the welfare technology case, and he/she will have minimum inscriptions to disapprove with.

One the other side the way technology implementation was done before the VTV, this has become a better option. Now the relevant actors who are interested in welfare technology can somewhat track the developmental process of the technology in question, look at how it became stabile, what the pros and cons are, and see if it is relevant for their work etc. Every VTV will be published on Sund Vækst' webpage, and made accessible for everyone. The positive thing with the VTV is that the Copenhagen Municipality are educating staff to systemize the use of the VTV, in this way it will be a better systematic way of evaluating and implementing, as some technology that has been tested in Copenhagen can be applied in Jutland. It becomes less time consuming and less expensive compared to if there was no systematic tool to use, and every municipality did their own evaluations in the ways they preferred.

One of the main things to pay attention to when conducting the VTV is a) the producer of the knowledge at hand; b) the period for testing; c) the potential of the technology; d) the number of potential users of the technology in society. Is it special diagnoses that there is a small number of or should they bet on the main diagnoses a lot of people have in the society that should be in focus? Can the relevant actors differentiate between this and how ethical it is, is another question.

After studying the VTV and attending the course it was surprising that there was no systematic way of collecting data relating to the VTV. You ultimately have four main topics or objectives and related questions, but no systematic way of how to apply these and how to ask the questions. It is not defined how many participants there should be for a minimum to make a VTV. It is not defined on when the VTV score is satisfying for implementation, and what if some of the actors are contradicting each other, will the technology be discarded or implemented? Since one of the purposes of the VTV is to systemize, publish and maybe take the results and implement in another place it is important to make some clear guide lines as to what the minimum of participants should be, and how to randomly collect them.

5.3 Recommendations for Alter G

After having interviewed relevant actors who has interfered with the technology I now have an overview of the possibilities and drawbacks of the technology.

According to the interviewed physical therapist, the Alter G is a good tool which can be used to spare time by having individual patients on a team instead of mainly individual training. This gives the physical therapist better workflow and he feels he can manage his worktime in a better way. He sees the potential in the technology by training the patients in a way that was not possible before.

Depending on which diagnose the patients could have some of the physical therapist find the technology positive and will use it, while others prefer the old fashioned lite gate when the concern is to neurological patients. The lite gate makes it possible for the physical therapist to correct the user's gait. This challenge could be put out for discussion at the rehabilitation center to see if these challenges could be managed in some way or if it is impossible to change the mind of some physical therapist. If it becomes possible for some of the neurological physical therapist to use the technology more, more time can be spared and new rehabilitation practices can be made for the patients. Otherwise relevant future buyers of the technology could rethink what kind of patients they work with, and if it is neurological patients then maybe not buy the technology as a first choice.

One of the challenges related to the technology is when you press pause it is not possible for the physical therapist to see how far in time and distance the patient has walked. There is also a practical problem in the fact that the walking distance on the display will reset and the air of the tent will blow out if the physical therapist or the patient presses the stop-button. There could be a need to reprogram this or find alternatives.

The second challenge is that it is difficult to come in and out of the machine for the patients. Most of the patients have disabilities in the lower limb, which makes it very difficult for them to be able to enter the machine as they need to lift the leg a bit higher than a normal stair step. It could be relevant to make an extra step for the patients to be able to enter the machine easier.

The third challenge to be aware of is the installation. Since the machine needs a special plug and electric installation, it is not easy to move it around afterwards. So if a rehabilitation center wants to buy the technology they must be sure that they have space for it and it is there that you want to keep it, otherwise an electrician needs to reinstall the box which the machine can be plugged into.

The neoprene shorts are used by every patient who enters the machine. It is important to have some kind of procedures on when the shorts will be washed.

To get the full potential it could be relevant for the physical therapist to sit in plenum and discuss what possibilities there could be with this kind of technology. It could be that some patients can train for themselves without supervision and this can optimize the rehabilitation process for some.

The user was generally positive about the technology and according to him it was a motivational factor for him to be able to train in Alter G. He believes that it is important for him to get a mix of strength training and Alter G, and Alter G should not stay alone in the rehabilitation process. It is important to be aware of that some users may prefer one thing instead of something else.

One of the difficulties was that the users could not put on the neoprene shorts by himself. It is therefore important for him to get assistance in the beginning. Related to this some patients could maybe be motivated to train for themselves if they get help in getting the shorts on and off. This information and possibility could be relevant to announce for the patients.

A feature I discussed with the physical therapist and the head leader of the rehabilitation center was that it could be a motivating feature if there was a screen in front of the machine. The users could watch TV while exercising. Another feature was to make an extension to a google map street view. Let's say that patients wanted to go for a walk in Paris. They enter a street name and when walking on the treadmill they walk on the google map street view. They could both see the potential but,the economical aspect was challenging.

Evidence has shown that Alter G can help patients in rehabilitation (Grabowski (2010). The physical therapist, the leader of the rehabilitation center, the user and the project manager have all found the technology to be a positive possibility and the Alter G has been scored positive on a VTV model. The recommendation is that this technology could be relevant for implementation in the society for some patients, but not for neurological patients as a first choice.

6.0 Conclusion

This Techno-Anthropology study has given me a better understanding of how the implementation of welfare technology is conducted in the Danish society. The research gave me the opportunity to come closer to the field and make observations of how users interact both with the technology and the VTV-model. I observed how the staff is educated in the use of the VTV model and what concerns there were related to the VTV in praxis. Interviews made it possible to get a deeper perspective on how the users make use of the technology but also the manager's view on the technology through VTV, their visions and evaluations of the technology. Desk research gave me the background to understand what the ambitions are of the welfare technology from the government, who it is that wants welfare technology, what the general concern is about welfare technology from user's perspective, and why welfare technology is needed in the society.

To begin with I wanted to write an assignment on welfare technology, entering the field with an open mind. The use of Stuational Maps (Clarke, 2003) as a tool made me look and analyze the different actors interacting with the technology and gave me a bigger perspective on how the situation was connected. The first interview with the Head project manager at Sund Vækst made me interested in a specific welfare technology (Alter G). Alter G was interesting because it was in a testing period and no data was collected beforehand, the head manager was interested in how to evaluate and what outcome there could be for this technology. It was a real case that could be relevant and useful for the implementation of the welfare technology in the end.

Applying the theory of Actor Network Theory pointed me in different directions in the beginning, where I was trying to figure out who the actors were and how they were connected, but after desk research and interviews it was clear that one of the main actors connecting the actors together was the VTV- model. The VTV model collects actors in one form and tries to stabilize each actor. Since ANT theory sees everything as an actor it was clear that I also needed to analyze what it meant to use the VTV model as a tool. The ANT theory pointed me in the direction of how the VTV model stabilize and destabilize the technology through inscriptions and immutable mobiles. Using Situational maps as a tool made it possible to draw maps, which I could connect and follow.

Using the VTV model makes up a useful tool to systemize different welfare technology assessments in the society. The model makes it possible to evaluate a welfare technology in

Copenhagen and transfer the results to a different place in Denmark. There is a template on how to use the VTV so more people do it more systematically compared to the way technology assessments were done before. The VTV is a powerful tool for those who have a complete VTV and in the end, this can be used to persuade others. There are some concerns relating to the structure of performing the VTV in praxis. It is important to have some guidelines on how many participants there should be before one could conduct a VTV evaluation. One of the goals of the VTV as a final product is to transfer the evaluations to different places in Denmark according to Sund Vækst. There could be a difference in the outcome of results if there were five or twenty participants attending, also some randomized participation is needed. It is good to have data on the participants that are willing to participate in the VTV evaluation, but what about those who did not want to use the technology at all or who after a period decided not to use it? It is also important to collect data from these since it could give a better perspective on why it did not work for them and make improvements if possible. After the interest of the Head project manager, I have conducted a small VTV evaluation. This has made it possible to evaluate the technology and make recommendations for future buyers of Alter G.

This report can help illuminate on how the welfare technology assessment is done in praxis, it asks relevant questions to how the VTV model is performed in praxis and tries to bring some structure to the VTV model assessment in praxis. It explains what the reason is for using the VTV model compared to the assessments in the past and it illuminates how the VTV assessment is performed by project managers in praxis.

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Contents of Annex

Interview with head manager of the rehabilitation center

Hvilken gruppe er du en del af og hvad går dit arbejde ud på?

Leder: Vi er et hus i stor udvikling og vi er igang med en fusion. Den gruppe jeg er leder for er alle fys og ergoterapeuter som er en 40 stykker. Vi er i en omlægningsperiode hvor vi skal fusionere med hele plejedelen. Derfor har vi en ny centerchef inde. Det er ikke helt defineret hvad min opgave er i virkeligheden, men det jeg kommer fra er terapeutdelen. Det er mig der har ledelsesansvaret og det terapeutfaglige ansvar og den del om rehabilitering. Vi er bydækkende for hele den Københavnske Kommune. Sidste år havde vi 550 ambulante neurologiske borger forløb. 30 neurologiske døgn rehabiliterings senge. Så har vi 52 rehabiliterings senge både yngre og ældre.

Enes: så det er alle borgere så længe de er neurologiske?

Det er almene, de kan have alle mulige andre diagnoser også, det er typisk borgere som har haft en fraktur, fået ny hofte været indlagt efter infektioner, inden de kan komme hjem og få rehabilitering. Det kan også være borgere som er gamle eller har mange komplekse diateriske problematikker. Borgerne kan fejle alt mellem himlen og jord. Kronikere post operative, infektionsborgere og alle neurologiske som den store del er apopleksi borgere.

Enes: Hvordan er stedet blevet bekendt med Alter G, hvordan er samarbejdet indeldt?

Det er Ian, Ian der kontaktede os. Han spurgte om vi ikke skulle prøve det fordi det havde man fået øje på derinde og man syntes det kunne give mening. Så det er Ian der kontaktede os. Så var vi ude og se den inde på Nørrebro fysioterapi eller Nørreport fysioterpait sammen med Ian og Lars Damkærd centralt fra. Så blev vi enige om at det vi vil gerne prøve.

Enes: Var du med derude?

Ja ja og vi havde et par terpauter med også

Enes: sker det tit at i bliver ringet op, hvis i skulle teste noget?

Leder: der var en bølge der blev rullet for nogle år siden omkring plejetoiletter. Det der velfærdstoiletter med skyl osv. Hvor vi var involveret rigtig meget. Og hvor man havde store ambitioner og det affødte så nogle kontakter som vi så blev involveret i nogle andre projekter i en anden stabsfunktion (Københavns kommune). Som et andet firma havde specialiseret sig i som de etablerede firmaer ikke tog ind. Det må jeg så sige det var der en god grund til at de ikke havde.

Enes: Ved du hvordan deres process har været bliver de kontaktet af andre firmarer hvor de finder produktet godkendt eller ikke godkendt og så kontakter de jer og så indleder i et samarbejde?

Leder: Jeg ved ikke hvordan han har set det om det er firmaet der havde kontaktet ham eller hvad eller han havde set den på en messe, det må du næsten spørge Ian om det ved jeg faktisk ikke. Men vi har jævnligt firmaer der kontakter os og jeg kunne sagtens forestille mig at der var nogen der kontakte andre steder også. Så det er en brugt vej som firmaerne bruger.

Enes: Kan du fortælle hvordan den tidligere behandling har været?

Jamen den gør ikke noget som vi ikke har kunnet før. Det var også sådan vi prøver det af og ser, for nu har vi en litegate i forvejen, som i princippet også laver vægtaflastet træning på et gangbånd, eller det gør den jo, men måden de gør det på er lidt forskelligt. Som det også er med sælgere og især dem som ikke har en terapeutfaglig eller bevægelsesmæssig baggrund så syntes de det de sælger er et vidunder og kan alt.

Enes: Jeg læste lidt på produktet og jeg kunne forstå at den ikke rigtig påvirker hasemuskulaturen og adducktore muskulaturen.

Leder: nej den har også nogle begrænsninger, hvis vi nu skal tale begrænsninger først. Det at det er det her store telt gør at til de borgere der ikke har et relativt normalt gangmønster gør at du ikke kan komme ind og korriegere for du kan simpelthen ikke komme ind. Det er en stor ulempe ved den. Han oversælger kraftigt den gode Kaare det må vi nok sige. Og så er der en anden ulempe ved den. Det er det her store telt der går op, det betyder faktisk at du skal have dine arme, hvis du har apopleksi og en paralystisk arm så er du rimelig meget på den. Og den har, du får et lidt andet mønster fordi armene er nød til at være højt oppe.

Enes: man kan ikke regulere højden?

Nej fordi du får en slags cykelbukser på som har en vis højde så bliver de lynet på, på det der telt. Selvfølgelig kan man vælge større mindre bukser men det er også det.

Enes: Jeg kan forestille mig med gangfunktion at det her krydsmøsnter bliver påvirket?

Det gør den jo for du kan ikke få den normale mønster især når du går, men når du løber da kan du godt. Så der har du nogle ulemper i forhold til LIte gaten. Der kan terapeuten komme ind og korrigere. Da har vi tit en terapeut der kan guide ens truncus, motivere eller fastholde koncentration og så har vi typisk en der er med til at hjælpe med helisæt eller fodafvikling. Stræk knæet eller bom hvad det nu er. Så på den måde kan lite gaten noget som alter g ikke kan. Men til gengæld kan Alter G, kan man sige til dem, dem som har virkelig god truncus kontrol dem der har styr på deres overkrop jamen de har mulighed for på en anden måde selv at være i den altså. De har mulighed for selv at være i den.

Enes: Hvis man skulle sige noget negativt i forhold til LIte gaten vil der så være noget der?

Jamen lite gaten er besværlig at få folk i, det syntes jeg er den store, men det er det også med Alter G at få folk i. Og da har ham der Kaare fortalt at der var et sted hvor de har haft den i længere tid som har arbejdet med noget skammel system eller et eller andet. Det tror jeg også hvis vi fik overskud at vi ville gøre det. Men det er besværligt at putte folk i begge dele.

Enes: Hvad med i forhold til når man får en patient, bliver han mere motiveret i forhold til Alter G sammenlignet med Lite Gaten. Har i nogle erfaringer der?

Hmm..

Enes: Tænker de det er sjovt eller tænker de puha det skal jeg ikke oppe i igen, jeg har flere smerter eller?

Det tro jeg ikke jeg er den rigtige til at spørge det skal du spørge Julie, hun har mere hands on erfaringer.

Enes: Nu er det et meget åbent sprøgsmål, men hvis i nu valgte Alter G hvordan tror du at det kan ændre rehabiliteringen?

Jamen idealt set så ville den kunne give nogle flere borgere noget mere træningsvolumen. Det vil den kunne. Jeg tænker funktionsniveau. Der er helt sikkert en del af vores almene borgere som har forskellige funktionsnedsættelser omkring gang som kan få mere træningsvolumen med den. Og der vil også være en del af de neuroligske, men det er de bedre neurologiske borgere. For de hårdest ramte har ikke balancen i truncius de har ikke stabiliteten, de har sjældent et gang mønster der gør at foden ikke falder ud til siden de har brug for korrektion imens de træner. Men en stor del af dem vi har ambulante neuroligske borgere dem som er lettere ramt og som har en relativt fornuftig gangfunktion, men som har brug for træningsvolumen, de kan simpelthen gå mange flere kilometer i den end de vil kunne i det fri. Så de vil kunne få trænet en del af det, men det bliver nød til at være som supplement. De skal stadigvæk have korrektion og træning.

Enes: Så hvis man valgte Alter G i fremtiden så skal den suppleres med Lite gaten?

Ja det vil den sku, den kan ikke erstatte lite gaten, ikke hos os……… stilhed, men den kan fange de bedre fungerende, de skal ikke oppe i lite gaten for det der med seler er at overgøre det på en måde. Og tage den funktion fra dem som de har i forhold til truncus da vil det så være at man tager alter G i stedet for

Enes: Hvor mange maskiner skal man bruge?

Vi skal kun have den ene

Enes: Han har ikke snakket om strategi?

Der står også en inde på Nørrebro den står der

Enes:Er det ham der ****?

Ja Københavns Kommune købte to og der står en inde på Ryg og genoptræning og den anden her. Den var i Tv2 Lorry faktisk her, jeg kan sende dig et link hvor der var en Tv præsentation. Så Københavns Kommune har de to og det er to meget forskellige målgrupper. De har mange opererede hvor det er unge mennesker som skal have en god løbefunktion

Enes: Jeg kan godt se det ud fra den fysioterapeutiske baggrund at man kan bruge det til de lidt bedre og der er grænser for hvor slem en diagnose man skal kunne have for at kunne komme ind i Alter G.

Præcis man kan sige mange af vores borgere har også brug for kredsløbstræning, gradueret vægttræning osv osv. De har de samme behov. Kunsten her er at hvordan man får dem givet det på trods af at de har deres funktionsnedsættelse. Og der kan Alter G sammen med de ander elementer være en af de redskaber man kan bruge. De er jo mega komplkese de her neuroligske borgere og man kan ikke bare sige de skal have 3 timer i Alter G og syv timer i en benpress og hvad ved jeg. Vi er nød til at trække på rigtig mange forskellige ressourcer og sætte det individuelt.

Enes: mit næste spørgsmål er hvordan i så udvælger patienterne?

Det er terapeuten der vurdere og ved hvad vi har på denne brede pallet af tilbud både af udstyr og andre former for tilgange, det er terapeuten der afgør hvad det er der skal til og ud fra borgerens mål. Vi arbejder meget ud fra hvad borgereren selv vil og mål. Det typiske kunne være at borgeren godt kan gå derhjemme men kan ikke gå langt udenfor, her vil alter G være oplagt. Det kunne så suppleres med balancetræning, syrketrænng osv. Da man ikke får styrketræning i Alter G men det får de jo så på en anden måde.

Enes: Det jeg hører dig lidt sige er at det vil være som et supplement, det er ikke noget der er banebrydende men det kan være som et ekstra redskab for at motivere flere?

Ja men også en ekstra mulighed for at give dem en ekstra mulighed for at få flere kilometer i benene som vi vil have svært ved at give dem på andre måder, men det er ikke alle der kunne have gavn af det.

Enes: I forhold til Alter G er det alle der bruger det? Det er primært fysioterapeuter. De har fået en introduktion af maskinen og så sidenhen sidemandsoplæring.

Enes: Bruger de det i forhold til hvad de selv tror på eller går de efter en bestemt teori?

I forhold til de neurologiske borgere er der meget lidt evidens for hvad der virker så vi kan ikke gå ind og sige at det er præcis den maskine vi skal træne den maskine fordi deres funktionsniveau er forskelligt så det vi i virkeligheden bruger er god praksis. Hvad er god praksis er som jeg snakker om kilometer i benene. Der skal mange gentagelser før det har effekt så det er alm fysiologiske træningsprincipper.

Enes: kan borgeren selv vælge/ søge om alter g ?

Det kommer an på om det er relevant og forsvarligt. For det kræver rigtig meget terapeut tid. Men der kan sagtens terapeuter der kan bruge det som en del af motivationen.

Enes: Et stort spørgsmål er hvordan man vil måle effekten af Alter G ?

Jaaah(sukkende) Vi taler rigtig meget effektmåling i københavns kommune og det vi godt kunne tænke os er at lave nogle mere systematiske data indsamlinger og det er vi ikke nået til men det vil vi gerne.

Enes: Har i tænkt jeg at inddrage metropol eller noget der er jo nogen studerende der kunne lave projektet for jeg

Det kunne sagtens være, vi har to terapeutiske vejleder som jo sammen med andre terapeuter står for disse ting men vi har ikke sådan kliniske udviklingsterapeuter på den måde som fuldtidsstillinger det er ligesom det vi har ikke og gøre med. Så det kunne sagtens være et projekt for studerende.

Enes: Nu taler du meget om den fysiske effekt hvad med den økonomiske effekt? Har i gjort jer nogen ideer om det vil gøre det lidt bedre økonomisk vil det koste mere eller hvad tænker du ?

Jeg tænker at omsætte Økonomi til træningseffekt og trænings volume, den kan helt klare være med til at øge træningsvolumen for nogen så på den måde ja. Fordi du kan sætte nogle borgere som er evlinsturetret i det til at træne imens du så har nogen andre på hold feks. Der kan den indgå der. Ellers vil det være svært for os for dem der skulle være vægtaflastet på hold.

Enes: Så man kan aflaste noget personale ?

Ja det kan man godt, men du kan frigive noget personale til at træne flere på en gang eller hvad man skal sige og på den måde er det jo rationelt.

Enes: Der er jo alt det her hvor man vil optimere træning effekt og mange af disse velfærdsteknologier kommer jo fordi de vil aflaste frigive, spare penge eller optimere systemet så borgerne kommer hurtigere igennem. Det må jeg nok snakke med Ian om.

Ja den er jo dyr jeg ved hvad den koster og man kan sige hvor meget terpeut kan man købe for den og da kan man købe så og så meget. Men man er nød til at se det lidt bredre. Jeg syntes der er meget nyt public management til velfærdsteknologi mange steder. Man forestiller sig man kan proppe velfærdsteknologi ind og slippe for noget andet fuldstændig. Sådan fungere velfærdsteknologi ikke i genoptræning. Der er man nød til at sige hvad er gevinsten, gevinsten er at man kan øge kvaliteten ud fra vore ressourcer. Da er man nød til at kigge på i stedet for at sige at det koster altid personale ressourcer at indføre velfærdsteknologi og drive velfærdsteknolgoi. DA syntes jeg måske nogen gange at politikerne kan være en lille smule naive og blåøjede fordi de ikke ved hvad det handler om og fordi de ikke kender målgruppen.

Enes: Det kan jeg godt forstå som terpeut da man ikke bare kan sige nu kommer du i Alter G seks gange og så fungere det at du kan gå 100 meter mere, men så står der en på den anden side i københavns kommune der siger at hvis vi køber denne maskine så forventer vi også at der kommer 50 flere patienter igennem huritgere på det år, for det er måske et regnstykke på den anden side. Da gætter jeg på at inde på rygvcenteret at da har de nogen meget mere afgrænsede problematikker. Yes det der svarer lige til alter G. Man kan sige at de neurologiske borgere deres problematikker er slet ikke afgrænsede på den måde uanset hvilken indsats vi gøre vil det altid være et element i det samlede vi vil aldrig kunne lave en motorvej eller smal sti. Man kan også se for det kliniske træningsforløb der er lavet her det er jo en ladeport. Det er en målgruppe der er svær at måle direkte effekt af en enkel indsats. Men der er ingen tvivl at vi har gavn af den men det vil ikke være så entydigt.

Enes: Er der er en businesscase du kender til?

Nej det ved jeg ikke, jeg ved ikke hvad de forestiller sig.

Enes: Hvordan er forløbet har i købt denne maskine?

Det er Ians afdeling der har finanseret den

Enes: Bliver den her?

Det vi har sagt er at vi vil gerne med respekt for den koster mange penge og i øvrigt fylder af helvede til altså i vores begrænsede lokaler, så har vi en aftale om at vi prøver den af et halvt års tid og så vil vi evaulere på og sige om det gør gavn herude. Der kan man altid diskutere i de bedste verdner kunne vi have en masse ressourcer til at vurdere effekten meget tydligere men det har vi ikke i den virkelige verden. Det har vi ikke.

Enes: Hvordan vil i så vurdere efter det halve år?

Der kigger vi på hvilke borger vi har haft igennem og hvilke erfaringer og effekter de enkelte har fået og hvad de enkelte terapeuter fortæller med begrænsninger. Så vil vi rigtig gerne invitere studerende med effektmåling. Det der er svært er her er en håndfuld borgere så laver i træning med Alter G. for borgerene har så mange ting de skal imens de er så det er lidt svært.

Enes: Tænker du at der er negative effekter af Alter G (fysiske eller ressourcemæssige)

Altså den fylder pænt meget her, et sted hvor man har kæmpe træningssal og plads er det ikke et problem.

Enes: Tænker du at det her har der været brug for i lang tid (alter G) eller tænker du at teknologien er blevet udviklet og så prøver man at sælge den eller fordi der er brug for den ?

Begge dele

Enes: begge dele?

Ja. Ehmm i gamle dage da jeg blev uddannet fysioterapeut så puttede man folk i svømmebassin. Og jeg har haft tusindvis af borgere i bassin og det har en skide god effekt og af den effekt var at man vægt aflastede dem, noget af det handlede om varme osv osv. Men det er en ekstrem dyr indsats. Og princippet omkring vægtaflasted træning giver rigtig god mening og så kom lite gaten som det nyeste teknologi og nu kommer der så en ny. Selve træning med vægt aflastning er ældgammel og mege fornuftig og mega relevant, og det er klart hvis man kan gøre det billigere smartere og nemmere, det er jo altid godt og så er vejen lidt snørklet ikke.

Enes: Nu siger du at det koster en del penge, men hvis man træner i bassin kan man have 5 borgere?

Jo men bassinet er sindssyg dyrt at køre. Selve det at have bassin kørende er sindssyg dyrt, rigtig dyrt. Der er rigtig meget omkring energi forbrug, plads forbrug, hygiejne aspekt. Borgerene skal i bad først i bad bagefter have hjælp til tøjet af, så på den måde er det meget ressourcekrævende. Da er det betydligt billigere at drive en alter G den kan hellere ikke det samme, men den kan noget af det samme. Så har den nogen andre fordele, at man ikke skal i klorvand, have tøj af og alt muligt. Det er måske nogen gange mere overskueligt for borgerne.

Løs snak efter interview

Jeg syntes jo at det der med at selvstændiggøre borgerene. Der hvor vi kan indføre noget teknologi hvor borgerne selv kan gøre noget fordi mande ressourcerne er jo dyrt og vi skal køre flere og flere borgere igennem på kortere tid. For mange af vores borgere er det svært fordi de er kognitivt skadet, men mange andre steder også hos os vil det være skønt at sige hvad er det borgerene selv kan træne når terapeuten ikke er der. Jeg er også hooked på den der robotarm. For jeg håber når terapeuterne er dus med den at de borgere der kan kommer ned om aften eller i weekenden alene eller med deres pårørende.

Enes: Det er jo også det jeg syntes er spændende fortalte om cyklen med parabol og google

Se det var noget vi havde foreslået til dem, men det var ikke muligt

Enes: Hvorfor var det ikke muligt?

Det ved jeg ikke

Enes: Det er jo en videreudvikling af teknologien som man kunne tage fat på, noget jeg kunne tage fat på.

Det vil give sindssyg mening, det syntes jeg du skal skrive en kapitel om. Jo men de borgere der mangler motivation og erkendelsen den realistiske sans, hvad er det jeg kan og skal kunde. Hvis man kunne sætte en skærm op og sige nu står du foran din hoveddør borger nu går du ned til købmanden. Kan du se det for dig? Det kan jeg godt.

Enes: ja det kan jeg godt

Det der vi snakker rigtig meget indenfor neurologien er hvordan kan vi overføre det man faktisk har trænet og lært til at bruge i virkeligheden. Hele ICF. Hvis du kunne sætte google maps op vil det give en meget meget større overførselsværdi at man går der. Så er der mange flere terapeuter der vil bruge den.

Enes: Ja det tror jeg også, det vil jeg notere

Det kan også være man kan det selv, men det har vi ikke overskud til i dagligdagen. Det kunne være rigtig godt.

Interview with the user of Alter G

Enes:Hvor lang tid har du trænet i Alter G maskinen?

Jeg tror det er tre og en halv måned

Enes:Hvor mange gange om ugen ?

To gange om ugen, vi startede med at belaste 40 % af min kropsvægt og så kom jeg op på 80% til slut. Til at starte med gik jeg ti min, så en halv time, men langt det meste af tiden gik jeg i 40 minutter.

Enes:Hvordan syntes du det var at komme ind i den første gang?

Det var en meget mærkelig fornemmelse, men jeg så det som en positiv oplevelse. Det var en pragtfuld fornemmelse at nærmest være vægtløs. Jeg syntes det var hæderligt, jeg fik jo ondt hver gang jeg belastede med fuld vægt, nu kunne jeg lige pludselig gå og gå uden problemer, så det var alletiders, jeg har aldrig set det før.

Enes:Hvilken behandling fik du (på Hasselbo)?

Jamen det startede med at de testede hvad jeg kunne, og hvor meget jeg måtte belaste og så begyndte de langsomt med den der(alter g) to gange om ugen, mandag onsdag og fredag var jeg i maskinerne og cykling.

Enes:Var fysioterapeuten med dig hele tiden da du trænede?

Ja jeg var alene i maskinen og han kan kom noget vand engang imellem, for jeg kunne bare gå og gå.

Enes:Var han ved siden af dig eller var han et andet sted?

Jeg må ærligt indrømme at han ikke var ved siden af mig

Enes:Var det sådan da han havde hold eller var det individuel træning?

Ja det mener jeg der skete noget inde ved siden af

Enes:Hvordan var det at gå rundt i maskinen alene?

Det var udmærket, du skal tænke på jeg har problemer med balancen, jeg har drukket hele mit liv så det går ud over lillehjernen, det var en af grundende til at jeg kom i maskinen for der er ingen problemer med at holde balancen. Man er nærmest spændt fast. Da kunne jeg bruge mine ben på en måde som jeg ikke har kunnet, i en menneskealder var jeg lige ved at sige. Det var den maskine der gav mest, det var det.

Enes:Okay

Fordi jeg kunne bruge benene, uden at komme i ubalance eller belaste for meget. Så det var jeg meget imponeret over

Enes:Hvis du nu stadig var i Hasselbo, vil du så kunne se dig selv komme ned og træne i maskinen?

Ja det kunne jeg sagtens.

Enes:Tror du at du selv kunne komme ind i den uden en fysioterapeut var tilstede?

Nej det tror jeg enlig ikke, der er jo en der skal sætte op lyne fast, der skulle en til at assistere det var tydeligt, men hvis jeg blev sat i gang kunne jeg jo bare gå.

Enes:Prøvede du også at løbe lidt ?

Ja jeg prøvede faktisk nogen gange at sætte i jogging

Enes:Det må have været spændende?

Ja det var det, jeg har ikke kunnet løbe i en tyve 30 år

Enes:Okay, hvad gjorde det ved dig at du ligepludslig kunne løbe noget hurtigere?

Jamen det var noget helt nyt, også fordi det var jeg slet ikke klar over, jeg er ked af jeg ikke fik forlænget mit ophold, jeg ville gerne kunne komme op på hundrede procent (belastning i maskinen). Men jeg kunne mærke at jeg måtte øge belastningen meget stille og roligt, fordi jeg ahvde altså i starten havde jeg smerterne selvom jeg gik i den der. Til sidst var jeg smertefri og jeg gik på firs procent belastning. Jeg ville meget gerne have fortsat.

Enes:Fik den her maskine dig lyst til at træne mere?

Jaa det gjorde den! Jeg kunne altså gå som jeg ikke var vant til. Det var sådan en befrielse jeg fik da jeg var i den maskine.

Enes:Hvis der var noget du kunne ændre ved maskinen hvad skulle du så være?

Jamen jeg syntes den opfylder mit behov.

Enes:Hvis du nu var på Hasselbo (rehabiliteringcenter) ville du så gerne have trænet noget mere i maskinen?

Ehm ja til sidst da havde jeg fået nok, når jeg havde gået 40 min

Enes:Jeg tænkte flere gange om ugen måske?

Jeg ville gerne, men jeg syntes også jeg var meget glad for det styrketræning, så ja det ved jeg ikke om jeg havde fortrukket, især hvis det var gået udover styrketræningen. Den var fint afbalanceret.

Enes:Så det skulle have været en kombination?

Ja, 3 gange i styrketræning og to gange i Alter G.

Enes:Har du hørt om noget der hedder VTV en velfærdsteknologisk vurdering?

Nej nej

Enes:Har du set denne før (jeg forklarer ham modellen)

Nej det har jeg ikke

Enes:Så du er ikke blevet spurgt om den før?

Nej det har jeg ikke

Enes:Første spørgsmål er opfylder teknologien dine behov, ja fuldstændig delvist eller slet ikke?

Da vil jeg sætte krydset der, ja fuldstændig.

Enes:Havde du et ønske om at anvende teknologien?

Da får den også ja fuldstændig, fordi det må jeg sige altså. Normale mennesker med lidt teknisk sans ville kunne betjene den, spørgsmålet er om de ville kunne komme ind i den får den lynet.

Enes:Så det vil sige det er når man skal ind i maskinen det giver nogle problemer?

Ja det giver nogle problemer, man skal trække nærmest sådan en sovepose over benene og den skal lynes fast da skal jeg have hjælp.

Enes:I forhold til værdi så står der om du er selvhjulpen til brugen af teknologien?

Delvist, fordi når man først gik i gang kunne jeg bare trykke pause men det der med at komme ind og lænke den fast til mig selv skal jeg have hjælp.

Enes:Har denne maskine givet dig mere livskvalitet?

Da er jeg også fuldstændig, den var jeg så glad for, jeg har aldrig set sådan en apparat før, jeg var dybt imponeret. Det gav mig frihed at gå rundt i den.

Physical Therapist Interview

Enes:Har du hør om en velfærdsteknologisk vurdering eller VTV som man kalder det?

Nej, nej

Enes:Okay fordi når man snakker velfærdsteknologi så bruger man sådan en vtv metode, hvor man har organisation, det kunne så være sund vækst københavns kommune der prøver at implementere nogen ting så er der teknologien, økonomien og så er der borgeren. Her vil du så være som fysioterapeut som organisation og så måler man lidt på hvor motiveret du er for at bruge maskinen, hvad syntes borgeren om det, er teknologien nem at betjene og hvor meget øknomi er der. Man bruger faktisk den her model til at vurdere om man skal implementere eller ej. Det er noget man systematisk bliver uddannet i, i københavns kommune igennem nogle kurser.

Ja

Enes:Så finder man nogle fokuspunkter hvor man til sidst kan score og så tager man den derfra, hvad virker og hvad virker ikke hvad kan man gøre bedre. Den bliver brugt faktisk til beslutninger, til at lave businesscase.

Nu ved jeg ikke om det blev gjort på denne maskine, den er allerede implementeret men i virkeligheden burde den være kørt igennem denne her.

Ja

Enes:Feks hvis du nu skulle score her.

Vi har et spørgsmål der lyder: er teknologien årsag til et forbedret arbejdsmiljø?

Hmm

Enes:Hvor man kan sige slet ikke, det er det samme, delvis hvor man kan sige der er nogle forbedringer i forhold til ergonomi, arbejdsstillinger. Eller ja fuldstændig, den har forbedret din arbejdsmiljø. Hvad vil du så svare?

Ja så vil jeg sige delvist, fordi ja jeg vil ikke sige den slet ikke gøre noget den giver netop muligheden for at du kan putte en relativ tung borger ikke vægtmæssigt, men en som du måske normalt vis vil have individuelt kan du nu have på et hold, hvor du så kan træne flere på en gang så dermed sparer man noget tid.

Enes:Hvad med hvis det er en speciel borger plejer i at være to omkring den borger, før alter Gen, eller vil du skulle selv stå alene med ham?

Altså vi har muligheden for at gå to og to sammen, men så går tiden jo fra nogle andre, så primært står vi med borgerne selv, så jeg syntes mere det er min tid der bliver sparet så jeg kan have nogle flere på samme tid, ved at jeg ikke behøver at være på borgeren når de først er kommet på maskinen.

Enes:Okay, også i forhold til samarbejde og arbejdsmiljø. Hvis det er en meget speciel borger så skal man jo hele tiden være inden over og bruge flere personlige ressourcer end hvis man sætter ham i alter G?

Ja ja helt præcis

Enes:Okay

Enes:Hvad syntes du generelt for alter G er du motiveret for at bruge den?

Ja, det syntes jeg og det oplever jeg også blandt mine kollegaer

Enes:Ja

På nær dem i neuro som ikke har den store fidus til den, men de almene borgere og terapeuter er sådan ret motiveret for at bruge den ja.

Enes:Ja, hvem er det der ikke gider at bruge den?

Det er mange fra ambulant gruppen, eller dem som har de her neurologiske borgere, de føler ikke de kan komme til at korrigere i gang mønstreret og brogerene ikke kan forstå. For hvis de har et ben hvor der ikke er noget sensibilitet i så, så er det svært fordi de ikke kan se noget visuelt. De er ikke så glade for den og motiveret for at bruge den, men vi er ligesom (huset) er opdelt i almen og neuro rehabilitering og ambulant gruppen.

Enes:Okay så hvis du skulle svare på denne score.

Hvis jeg nu skulle svare for hele huset, så ville den hedde delvist fordi der ligesom er nogle grupper der ikke bruger den da de ikke føler det er et godt redskab til at korriegere. Så må den blive delvist, hvis jeg skulle svare på mine egne vegne så vil jeg sige ja jeg er motiveret for at bruge den.

Enes:Okay

Enes:Syntes du der er ledelsesmæssig opbakning til bruge af teknologien?

Ja, det er der, ***** (leder) har ligesom sagt at, nu tænker vi at vi beholder den og har ligesom indkaldt mig og ***** (terapeut) og sagt nu skal i pudse denne lidt op, og gøre at vi bruger den lidt mere i hvert fald i almen gruppen. Hun har bakket meget omkring den, og vi skal også have nogle folk igennem så det vil jeg sige da er ja fuldstændig opbakning.

Enes:Understøtter teknologien gode arbejdsgange, det var det der med om din arbejdsdag er blevet forbedret?

Ja ja, hmm

Enes:Altså forbedrer den din arbejdsmiljø, eller gør den noget ved dig?

Jamen jeg syntes den gør noget godt i mine arbejdsgange, den tillader mig at tage nogle borgere som jeg normalt skulle have brugt mere tid på. Dem kan jeg tage med i nogle sammenhænge som jeg normalvis ikke kunne have taget dem med. Så ja det syntes jeg jo den gør. Den gør min arbejdsdag generelt lettere. Den nomering vi har herude, med det antal terapeut timer og sådan noget. Der hedder den brogerne skal so udgangspunkt tilbydes træning to til tre gange om ugen. Det er det de får at vide. Nogen tænker de skal træne hele dagen og hvorfor kommer der ikke terapeuter hele tiden? Men sådan terapeut timer mæssigt da er de nomineret til at skulle træne to til tre gange om ugen. Det er sådan det de har krav på. Så hvis de får træning en gang om ugen så kan de komme og sige, hov hov jeg har hellere ikke fået nok træning. Hvis jeg så har en hvor jeg siger, ehmm og den her træning kan også være holdtimer. Så hvis jeg nu har en tung borger hvor jeg skal tilbyde ham tre timer og jeg skal, det skal kun være mig og ham, så kan jeg måske sige nu hvor jeg har alter G så kan jeg sige. To gange i ugen da kan han komme i den for så kan jeg træne med nogle andre samtidig med. Får han to gange der så skal jeg måske kun se ham en gang mere. Det er den måde det ligesom giver mig tid. Det er sådan lidt ucharmerende at sætte en behandling op på den måde, men det er ligesom det vi bliver nød til at sige, de skal tilbydes denne form for træning, så gør det jo bare at han kan få mere træning.

Enes:Okay hmm ja, jeg forstår det godt, så hvad vil du så svare her i forhold til arbejdsgange?

Jeg syntes den understøtter nogle gode arbejdsgange, jeg vil svare ja fuldstændig.

Enes:Så er der noget i forhold til økonomi og drift.

Enes:Frigiver teknologien medarbejder ressourcer.

Det vil jeg sige den gør som jeg lige har forklaret, fordi jeg kan få flere ressourcer da jeg ikke skal sætte en individuel tid til det. Det gør mig mere effektiv.

Så hvad vil du svare?

Jeg vil svare ja fuldstændig

Enes:Erstatter teknologien andre hjælpemidler eller tilbud?

Ja hvad kan man sige nu bruger jeg jo den her i stedet for light gate så på den måde så gør den at jeg kan i de tilfælde hvor man vil syntes at det er relevant med at vægt aflaste borgerer så vil jeg kunne bruge den i stedet for light gaten. Hvis man tager light gaten som et hjælpemiddel det er jo også et tilbud vi har. Så ja det syntes jeg det gør dem.

Enes:Okay så hvad vil du svare?

Så vil jeg sige ja fuldstændig

Enes:Så er der noget i forhold til investering, syntes du at teknologien kan benyttes uden ressourcetung kompetenceudvikling? Har du fået vejledning i den og så fungere den eller har du været på kursus?

Nej man kan altså sige, vi har jo bare fået den og så har vi haft ham ***** (sælgeren) ude for at vise hvordan bruges den, men han er selvfølgelig også meget, han vil gerne sælge den så han syntes den kan rigtig meget, men ellers har vi sådan bare *****(fysioterpaeut) som er faglig vejleder, hun har noget tid til at se hvad er der studier på det her, hvor kan man dokummentere at den helt sikkert virker og ellers så har vi jo bare intern undervisning, jeg har haft nogle kollegaer nede og vise dem hvordan det foregår så det er ikke huset skal bruge tid på at gå på kurser og sådan noget, jeg ved ikke engang om der er kurser, så jeg syntes ikke den er speciel ressourcetung kompetenceudvikling. V>i bruger jo bare intern sparring.

Så den vil jeg sige ja til.

Enes:Kan teknologien benyttes uden ombygning eller indkøb af andre produkter?

Nej det kan den ikke, jeg ved vi har haft, der skulle noget speciel el til, vi har haft håndværkere herude som skulle investere et eller andet som var kostede også rigtig meget, selvfølgelig ikke ligeså meget som maskinen, men det var ret dyrt og få den her el installation. Som jo også gør når man først har besluttet hvor den skal stå henne så kan vi ikke rykke rundt, vi kan ikke sige hov nu har vi lige fået et ledigt lokale her, jo det kan vi godt men så koster det en fem seks tusinde at få lavet denne her el installation. Så det kan den ikke, man kan ikke bare købe den, man er ligesom afhængig af, så det vil jeg sige nej til, slet ikke.

Enes:Er teknologien let og intuitiv at anvende?

Delvist, man skal være meget sikker på at borgeren har forstået at hvis de vil holde en pause, så skal de trykke pause og ikke stop for når du trykker stop så ryger luften ud med det samme, det syntes jeg den ulempe…… der skal ikke meget til at de få skubbet til snoeren og så ryger luften ud, det syntes jeg ikke er så smart, og så. Og så var der en ting til, hvad pokker var det. Jo det var hvis jeg skal notere hvor lang tid de har gået og ja den her du har jo displayet hvor du kan se, hvor lang de har gået og hvor lang tid. Så trykker jeg ikke stop, for så lukker den luften ud, og jeg vil gerne lige have borgeren står og får vægten i benene før jeg lukker luften ud, så da trykker jeg pause, så kan man ikke se på displayet, så skal du starte den igen og så skal du skynde dig at tage hastigheden af, giver det mening?

Enes:Ja, jeg forstår det godt

Så, det syntes jeg også det må man kunne lave, det kan man lave på en smartere måde, det syntes jeg ikke borgeren det er sjældent de kan finde ud af at gøre det selv og sige hov, hvornår er det jeg må ikke trykke stop og så pause og så skal jeg starte igen og så skal jeg tage farten af, og sådan noget, før man kan sige de forskellige værdier.

Enes:Er teknologiens manualer og vejledninger anvendelige?

Ja det syntes jeg fuldstændig.

Enes:Kan teknologien det som det forventes at den skal kunne?

Ja det syntes jeg, ja fuldstændig

Enes:Fungere teknologien her gang den anvendes?

Ja

Interview with head project manager of Sund Vækst

Enes: hvordan er denne afdeling blevet etableret og hvad var formålet?

Ja. Altså man kan sige afdeling er blevet etableret i, programmet blev etableret i slutningen af 2012 som program. Organitorisk form som program. Da var vi 2,5 3 mennesker i dag er vi 11-12 personer og baggrunden for det er a vi har længere tids erfaring for brug af teknologi og velfærdsteknologi og har haft nogle projekter rundt omkring feks på Sølund og andre steder, plejecenteret Sølund som sådan set var fin nok men, vi har haft svært ved at tage det for den enkelte projekt ud til noget som rammer flere borgere, rammer mange borgere. Så denne baggrund for etablieringen har ligesom systematiser hele processen fra hvilke ideer er det enlig og hvilke behov er der lokalt os medarbejder over hvilke løsninger er der på marked og hvordan etablere vi et godt samarbejde med virksomhederne. Hvordan tester vi den og afprøver tingene systematisk, hvordan følger vi op på og lave et foreslag hvis vi vil have den udbredt til vores politikere, hvordan implementer vi til sidst så vi sikrer resultater. Og det er ligesom hele den vej som denne afdeling skal kunne, sådan både og levere bedre og bedre løsninger til Københavnerne inden for det her sundheds og omsorgsområde og gøre det i samarbejde i virksomheder på forsknings instutioner så det er sådan det kort baggrund for det.

Hvad og hvem består denne afdeling af lidt mere detaljeret?

Ja altså man kan se, vi har dels sådan som mig som man kan sige, den klassiske bureaukrat som ligesom kan lave forslagene og ligesom tale ind i resten af kommunen om vores politiske og administrative nivaeu og da er vi to tre stykker afhængigt hvordan man tæller det kan man sige. Så er vi ellers meget blandet nu har vi to ingeniører og en tekno-antropolog har vi sådan set også ansat på som er på barsel nu her, vi har også geografer og klassisk administrativt uddannede, folkesundhedsvidenskab har vi også. Så det er en bred gruppe af medarbejdere. Man kan sige noget som kan leve op til det for at komme i mål med denne process som jeg skitserede før fra ide til virkelighed er der sådan brug for nogle forskellige kompetencer så der er brug for nogen som er gode til at opsøge ideer og opfange dem, tale med folk, lave nogle gode processer for at finde ud af hvad der rører sig, der er også brug for nogen som er gode til at samle ting op undervejs få dokumenteret det få lavet en businesscase et forslag som rent faktisk kan rent faktisk kan tages beslutning for rent politisk ehm og så er der også bruge for gode projektleder der kan ikke kun være opmærksomme på fantasiske ideer der er derude, men som også er fokuseret på at komme i mål med dem. Så det er ligesom nogle af de kerne kompetencer som vi skal have her i centeret kan man sige så, såå både sådan lidt af kreativit innovativt vil nogen kalde det, men samtid også sikre os at vi har styr på at alle de ting vi laver skal blive til en beslutning i sidste ende. Så det er sådan lidt balancen mellem de forskellige kompetencer. Jeg kan i hvert fald sige at noget af det jeg har været meget optaget af er at vi ikke ”kun” innovations folkene som fik vilde ideer i deres innovations ø, men at der rent faktisk er en kobling i praksis.

Har i så nogle bestemte virksomheder, universiteter eller samarbejdspartnere som i samarbejder meget med i sund vækst?

Ja vores primære samarbejdspartnere det er Københavns Universitet, ehm i kraft af at vi deler bygning med dem og er en del af samme miljø og de har fokus på nogen af de samme områder, så på rent lavpraktisk nivaeu er det dem vi kan snakke med hver dag, vi kan gå ned snakke med og få sparring og vi samarbejder med. Så det er en forskningby vi har tæt samarbejde med, faktisk også med Metropol, haft nogle projeketer med dem og kørt foreksempel, har en fælles phd forløb med dem. Så det har ligesom været nogle primære samarbejdespartnere. Ehm både fordi vi er så tæt på men også historisk har de en del med sundhedsområdet og gøre og Metropol meget med ældre området at gøre. Ehm så det har været vores primære samarbjdspartnere. Altså man kan sige det har både været studenter projekter, specialer, praktik, men også i forhold til forskningsprojekter og andre ting. Så det har også været lidt på forskellige og så også lidt på sparring på forskellige nivaeuer man har samarbejde med. Hvis man skulle sige noget nyt i forhold hvad vi havde gjort tidligere så kommer der mere samarbejde med DTU end vi tidligere har gjort hvor vi måske har været meget fokuseret på alt andet lige det blødere område som KU og Metropol står for. Ehm, men i af kraft at vi har sådan en afdeling vi ineressere os for teknologien i de ydelser vi har og digitalisering i det.

Enes: Bliver de så brugt til at udvilkle teknologien DTU?

Ja altså man kan sige, vi er ved at starte det samarbejde op med DTU, men det er helt klart at det er et samarbejde der kommer til at fylde noget mere. Et konkret eksempel er ude på vores test center ude på strandvejen 119 ehm er nogen studerende fra DTU som gerne vil arbejde med lys, lyssætning så de vil gerne bruge sådan en test lejlighed til at teste nogen ting og sætte nye løsninger op. Så det er sådan nogen ting de gerne vil og vi kan stille ting til rådighed på den måde.

Enes: Nu har du været lidt ind på det, men hvis du skulle sige hvad det vigtigste mål for sund vækst er hvad vil du sige sådan kort om det?

Jamen vi har to vigtigste mål kan man sige. Det vigtigste det er at de løsninger vi arbejder med de giver højere livskvalitet for Københavnerne, det er ligesom der vi starter, ehh så alle de ting vi taler og gør er sådan set, det handler sådan lidt at finde, hvor er der nogen gode foreslag nogle gode udfordringer eller store udfordringer som vi kan arbejde med og finde løsninger på for at give højere livskvalitet. Så det er ligesom målsætningen på det helt overordnede niveau. Derudover har vi også den delmål sætning at det skal ske på en måde hvor vi skaber vækst og arbejdspladser ude i det private erhvervsliv. Så det er den anden anden del af det. Så for eksempel hvis vi har nogle behov eller interesser vil vi gerne fortælle det hurtigt til virksomhederne når vi køber nogle ting ind vil vi gøre det på en måde hvor vi ikke fastlægger os for meget på specifikke produkt fra starten at de kan udvikle nye løsninger. Altså der er sådan meget nu, jeg syntes enlig det er en meget god eksempel vi har sådan en medicin kasse derover som, sådan set blev udviklet på baggrund af en ide ikke herfra afdelingen, men af en af vores kollegaer. Ehh og lavede sådan set hurtig en ide udbud hvor man ligesom beder virksomheder komme ind med nogle forslag. Det handlede om. Hvordan kan man lave sikker medicinering i folks hjem på en struktureret måde. Der var en virksomhed som bød ind med et godt foreslag, nu har vi så købt, jeg tror det er 3000 af de der æsker, ideen kom for et par år siden. Så det er et eksempel på at det kan folk få en forretning på til at sælge det til andre. Det er sådan en ide sådan tanker vi gerne vil have flere af. Det kunne også være studerende der kunne udvikle sin egen virksomhed. Så det er hovedindsætningerne hos os. Livskvalitet og deraf vækst.

Ehmm er der noget efterspørgsel for det og det var den sidste måde den her kom istand på. Vi har hele tiden godt vidst at der var et behov for at afprøve og udvikle nye løsninger for det her område og der var nogle borgere med et behov kan man sige. Og vores genoptræningsfolk som du også kan snakke med hvis det er kunne være meget fint hvis du manglede nogle respodenter er der en der hedder Lars Damkjær som er meget fin at snakke med. Han er rigtig god og meget inde i det her, så han kunne også være god at snakke med. Under alle omstændigheder vidste vi der har været et behov og politisk opmærksomhed omkring området, omkring hjerneskade området. Så vi fik henvendelsen omkring muligheden, fik den demonstreret, hvor vi havde nogle medarbejdere og ledere ud fra NRK med til en demonstration. Og finde ud af er det her noget eller er det her ikke noget. Ehmm de fik mulighed, de var så positive omkring det kan man sige. Det kunne godt hjælpe nogle af vores borgere som supplement som du siger før. Så havde vi så mulighed for at få den ud til først en test periode på en måned. Hvor de ligesom kunne afprøve den og se om det overhoved var noget. Er det noget der overhoved kunne give noget virkning. Når vi tester teknologier er det vigtigt at være opmærksom på, vi bruger sådan en VTV metode hvor vi ligesom går ind velfærdsteknologisk vurdering hvor vi går ind og kigger på fungere teknologien, du kan få en beskrivelse af den.

Enes. Det vil jeg meget gerne.

Hvordan er det for borgerene hvordan er det for medarbejderne, hvordan er det for organisationen. I den der, da lavede vi ikke den formelle opsamling, men vi har spurgt ind til NRK hvordan de oplevede den inden for de her områder. Ehmm. Fik posetiv tilbagemelding så man kan sige på den måde beslutningsprocessen har sådan set været at hvis deres oplevelse er at det her kunne hjælpe dem og deres borgere, hvis de syntes det var noget som gav værdi så vil vi gerne stille det til rådighed for dem og betale for dem i sidste ende.

Enes: lige for at uddybe spørgsmålet syntes du det er mere normalt at i går ud og finder ud af hvor der er et behov henne eller er det sådan at virksomhederne ringer ind og siger vi har det her til jer?

Det er forskelligt det er simpelthen forskelligt altså det er meget, det kan blive begge veje. I praksis er det lidt svært at adskille de to ting sådan lidt fordi, det er sjældent der kommer en virksomhed med et produkt med et behov som vi aldrig nogensinde har hørt noget om. Vi har hele tiden sådan en bank. Vi har den her strategi og snakker med både vores kollegaer og andre projekter med borgere og læser dokummentation så der er sådan en grundelægende viden hvilke behov borgerne har. Ehmm så man kan sige der er ikke noget, man kan sige vi har projekter hvor vi går meget åbent ud, vi har et demens projekt og Christina går meget åbent ud og spørger ber medarbejderne om at melde ind i forhold til de udfordringer de ser på området, kommer også til at snakke med pårørende og borgere med demens.

Enes: Brugerdreven innovation?

Ja det kan man godt sige, hvis vi skulle kigge efter noget hvor skulle vi se henne af. Det gør vi på nogle områder hvor vi er ret søgende, hvor vi måske ikke kender så godt behovende og hvor der ikke rigtig er sådan en tradition for at bruge så meget teknologi, hvor vi gerne og tror der er noget potenatiale. Så det er ligesom et godt område og gøre det der. Vi har enlig snakket med nogle virksomheder, men vi har prøvet at se bort fra løsninger der er på marked og tage udgangspunkt i de behov der er og hvad de melder ind. Det er en tilgang til det, men nogen gange er der også bare nogle behov i drift som sådan set er der i dag og i morgen. Ehh og der kommer virksomheden med en løsning og så er det også nogen gange og sige vil den her virke for jer. Begge min erfaring er at begge tilgange har hver deres værdi. Nogen gange, min erfaring er at man skal prøve begge dele. Så fordi nogen gange for så bliver folk præsenteret for en løsning, det er sjældent folk siger hvorfor har jeg ikke en stor flad telefon, men når de så bliver præsenteret for den. Da præsentere man for en gadget.

Enes:Hvad er vigtigt for sund vækst ved implementering af Alter G, nu siger du at øge livskvaliteten er det?

Det er primært det, vi har også nogle løsninger som hvor vi på en eller anden måde regner en form for effektivisering af arbejdsgange, det gør vi forhåbentligt her også, men også hvor, hvor vi regner med at det kan spare noget tid eller spare nogle arbejdskraft. Det kan det måske her, det kan være de kan det ude på Ryg og genoptræning, men det vil egentlig ikke være min forventning til det her og det er enlig hellere ikke derfor vi er gået ind i projektet omkring. Det handler mere om livskvaliteten og kan man sige har det en effekt fagligt set for borgeren og selvfølgelig er prisen også en faktor, men jeg regner ikke med at vi ligesom kan sige den giver ligesom en eller anden form for positiv afkast om fem år, fordi borgerne er kommet sig hurtigere og så laver vi en businesscase på at vi skal have 25 flere, fordi det er mere som en styrkelse af det vi gør i forvejen og som en supplement til det vi gør i forvejen.

Enes: Fordi det er jeg meget interesseret i, er det fordi man tænker man vil have flere borgere igennem det her eller er det fordi man gerne vil give dem flere ressourcer derude så de kan træne på en helt anden måde eller måske aflaste nogen fysioterapeuter?

Det er mere de to sidste ting kan man sige ikke også, ehmm også for at se om hvad kan man sige, vi er også spændt på at se virkningen af den, og hvad de oplever så på den måde er det også sådan set en ny teknologi vi er usikker på hvordan den virker. Så det er også en afprøvning af det så på den giver det forhåbenligt, idealt set giver det jo borgerne, de kommer sig hurtigere kan man sige og kan hurtigere træne og det syntes jeg ligesom er hoved pointet for denne her teknologi. Og det er også mere for at sige at der er nogle teknologier vi har mere øje for de effektiviserings potentialer og der kan ligesom gøres så det ikke koster mere for kommunen kort sagt.

Enes:Det er lige præcis det jeg tænkte på, hvornår er projektet godt nok, denne maskine koster rigtig mange penge

Den koster rigtig mange penge

Enes: Hvad vil man måle det på kan man sige?

Ja men det vil jo blive målt på af, hvis ikke det ikke giver en god faglig gevinst på det her, man kan sige det er ligesom hvis man tog denne velfærdsteknologiske vurdering, ehm økonomien er vigtig her, men hvis det ikke giver den der borgerne får det bedre, ehm, de går ud fra en faglig vurdering kommer de sig hurtigere har de flere muligheder, hvis ikke det kommer med posetive resultater der så er det klart så er det svært at argumentere for at have flere af dem og det skal også være give nogle markante muligheder der.

Enes: Så er mit næste spørgsmål hvordan vil i så indsamle data ud fra om borgerne får det bedre, med de fysioterapeuter der arbejder med maskinen eller hvad vil du vurdere det ud på?

Det tror jeg vi vil gøre i det her tilfælde her, ja. Fordi vi har ikke sådan lige i det her tilfælde ressourcer til at gøre det med en ekstern part for eksempel, men vi håber også at dit speciale kan være med til det. Det er også derfor jeg syntes du var interessant at lave det her samarbejde. Nu har de lært at bruge maskinerne og har haft den i et stykke tid. Så jeg håber også (hahaha) at du vil kunne biddrage til noget viden omkring, hvad virker og hvad virker ikke så.

Enes: har i en bestemt målgruppe som i tænker i vil implementere velfærdsteknologi til i Danmark?

Man kan sige i vores forvaltning sundheds og omsorgsforvaltningen så har vi sådan borgere over 65 år og så har vi genoptræning som en del af vores portfølje og så har vi også forebyggelse som også en del af det. Det er ligesom hovedområderne. Vores strategi nye veje til sundhed og omsorg som sad og kiggede i det her prøver sådan set at tage de hovedgrupper og samle dem i 3 hovedgrupper og sige hvor er der noget teknologisk potentiale inden for det her. Det spænder jo sådan set både fra forebyggelses vinklen apps til træning, muligheder for at mødes. Vi har også udviklet sådan en app med sundhedsstyrelsen omkring rygestop så der er både noget forebyggelse, der er noget for de borgere som har mulighed for at klare sig selv i længere tid, det kunne være ældre der får hjemmepleje, men det spænder sådan set alle de målgrupper vi har, der er sådan set ikke nogen som jeg tænker her.

Enes: Det kan jeg også godt se, det er en stor målgruppe. Har i så en bestemt pulje eller er det hvad er kommer ?

Nej det er hvad der kommer, og man kan sige det her, der er nogen ting der er nogen løsninger der er rigtig gode på marked der virker og dem vi vil selvfølgelig gerne tage i brug. Så det er lidt hvor vi kan hurtigst få noget i brug der giver den største effekt et eller andet sted, det er i hvert fald udgangspunktet. Så er der nogen denne konkrete teknologi, så er der nogen det specialiserede område hvor samme logik ikke helt giver mening, hvor spørgsmålet er om at priotere og gøre noget ekstra på et særligt område ,fordi vi kommer ikke til at købe 30 af det her hvis det var.

Enes: Det er også lidt mit andet spørgsmålet, hvor mange tænker du at indkøbe af de her?

Det har jeg også svært ved at svare på, vi bliver forhåbenligt klogere på dette speciale og når de har brugt den lidt, men jeg tænker det er et specialiseret produkt som vi også har købt fordi der er nogen med specialiseret viden eller behov som måske ikke ville kunne bruge nogen af de andre ting vi har på hylden, så ja vi har både produkter som er specialiseret, dem har vi færrest af kan man sige og så er vi nogen ting som er mere generelle. Men vi har ikke ligesom allokeret eks antal tusind til demente, det har vi i budget ønsker, men det er ikke sådan på en eller anden scala hvor vi har alle vores målgrupper og så deler vi nogen penge til hver. Det kan man ikke sige. Det er klart vi følger vores budget og de muligheder der er. Vi bruger klart flest penge på ældre og ældre området.

Enes:Tænker du at der er en bestemt dato hvor implementeingsprocessen skal være færdig (alter G)? Også i forhold til videre samarbejde vil man lægge det ud i kommunen så lade medarbejderne passe det eller vil der være opsamling efter et år ?

Ja det er det vi har aftalt med dem kan man sige, de kunne prøve det et halvt års tid og så vil vi høre hvad effekten var.

Enes: Hvis de så bestemmer sig for at det er positivt beholder i så den maskine og så køber flere ?

Det kommer an på hvad resultatet er

Enes: Jeg tænker i forhold til at måle, hvordan vil den ideale sucsess være for Sund vækst og Alter G ?

Vi har ikke opstillet, VI (VI med tryk) har ikke opstillet sådan mål på forhånd kan man sige såå, men det er det som blandt andet vi også håber denne process vil hjælpe til. Det er også det vi skal have vores fagfolk der bruger den til at hjælpe med fordi dybest set, de vigtigste mål for denne her er de faglige mål, altså virker det, giver det en forbedring. Jeg har ikke selv sådan nogle målepunkter som jeg tænker ikke andet end de to hovedgrupper.

Enes: I forhold til videreudvikling af produktet eller supplering af anden teknologi, er der mulighed for det og der tænker jeg på Alter G, jeg kiggede lidt på jeres andre velfærdsteknologier, jeg kiggede på denne her google cykel hvor man kunne cykle i en parabol. Det kunne man i realiteten også gøre i Alter G hvor man skiftede retning

Ja gør det lidt sjovere

Enes: Også fordi inden for fysioterapi i forhold til motorisk kontrol er der rigtig meget med overførselsværdien så hvis du kan få en patient til at stå foran hans hoveddør og sige gå ned til supermarked så bliver det pluslig nemmere når man skal overføre det til det virkelige liv. Det snakkede jeg også med Karin om og det syntes hun var utrolig interessant, hun syntes jeg skulle skrive en kapitel om det fordi der er rigtig meget inden for vore teori og baggrund. Hvad tænker du generelt om et produkt man kan udvikle, når du får et produkt som Alter G, har du mulighed for at videreudvikle det feks med en skærm.

Det er rigtig rigtig meget afhængigt af producenten og virksomheden, den her det er sådan en amerikansk baseret så vidt jeg kan huske. Man kan prøve at give den feedback tilbage til virksomheden og sige det er sådan noget man kunne tænke sig og håbe på de tager det til sig. Igen er det et specialiseret produkt som vi har hellere ikke rigtig mulighed for at sige hvis producenten ikke vil så laver vi det selv. Det vil være alt for omkostningsfuldt. Vi laver ikke, vi skal ikke ligesom være ingeniør virksomhed eller producent, nogen gange vil vi gerne bestille ligesom medicin kassen et produkt der kan bestemte ting, men vi vil ikke ligesom være inde og justere produktet og lave om på det fordi det vil være, vi skal ikke sælge det bagefter vel, så på den måde så vores rolle er at efterspørge og give feedback. Det er blandt andet også derfor jeg syntes du var interessant hvis du vil samle op på produktet og give feedback il levadøren.

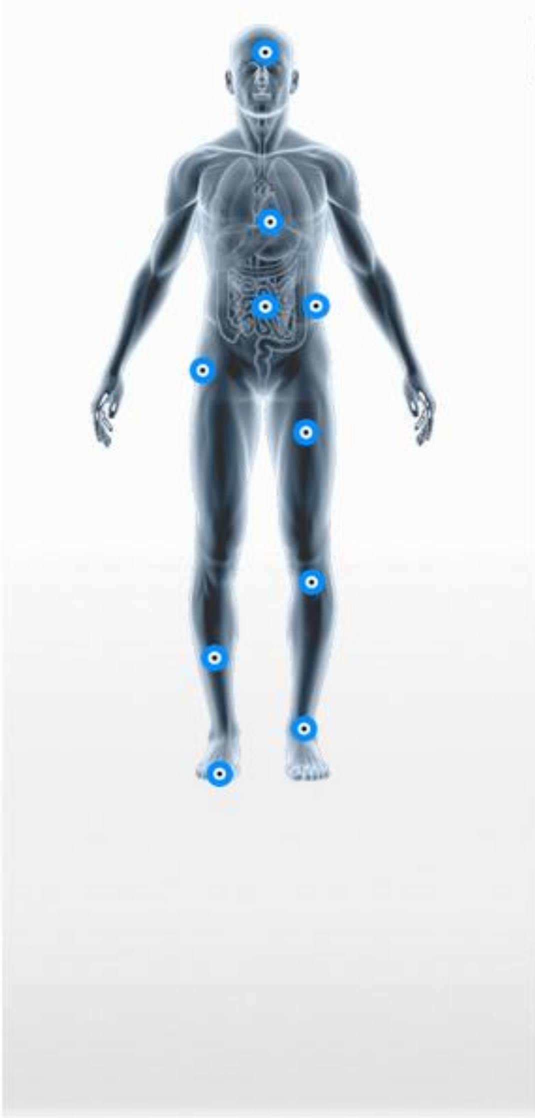
Enes: Nu snakkede du lidt om businesscase. Er der en bestemt businesscase nu eller kommer det efterfølgende med Alter G?

 Det jeg tænker i forhold til Alter G er at bruge noget af dit arbejde, se hvor meget der kommer ud fra det og se hvor meget vi kan bruge af det i vores VTV, altså vores velfærdsteknologiske vurdering, så på den måde vil vi ikke lave en businesscase. Vi plejer altid at lave businesscase på forhånd, ned til vores beslutningsprocesser, her vil vi prøve at samle op bagefter i sådan en VTV skabelon.

Enes: har du mulighed for at sende mig sådan en VTV så kan jeg kigge på det?

Det vil være rigtig godt for os på overførsel så vi kan bruge det, det vil jo være en erfaringsopsamling, inden for den måde vi normalt laver erfaringsopsamling på. Det kunne være godt hvis du blev inspireret af VTV det vil give mest overførebarhed og mest værdi for os. Fordi vi laver det på andre områder.

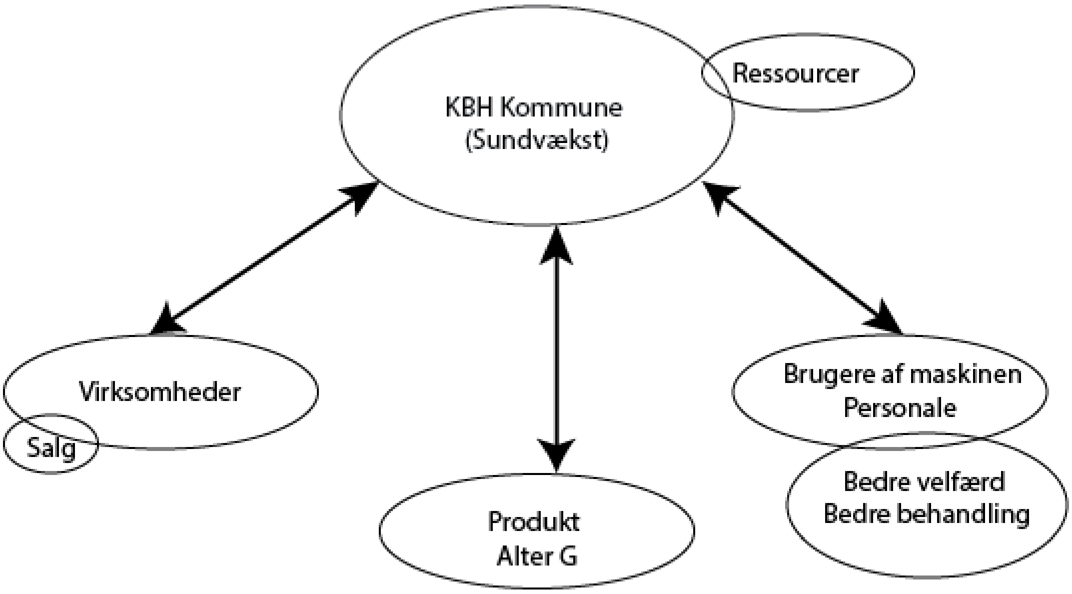
What kind of diagnoses Alter G can help with according to their webpage (Annex G)



INJURY RELATED CASE STUDIES

- 3rd Metatarsal Stress Fracture Treatment
- Acetabular Fracture
- ACL Allograft Reconstruction
- ACL and Medial Meniscus Tear, Nonsurgical Intervention
- ACL Reconstruction Rehab and Microfracture
- Arthroscopic Partial Medial Meniscectomy Rehabilitation
- Below the Knee Amputation (BKA)
- Bilateral Hip Resurfacing
- Bilateral Knee Osteoarthritis
- Bilateral Knee Pain and Heel Pain
- Brainstem Cerebrovascular Accident
- Cerebellar Atrophy
- Cerebrovascular Accident/THA
- Chronic Patellofemoral Pain
- Complex Regional Pain Syndrome
- Femoral Fracture: Intramedullary Rod
- Fibula Stress Fracture
- Functional Decline
- Hip FAI Arthroscopy
- Hip Labrum Repair and Microfracture
- Lateral Ankle Reconstruction
- Lumbar Disc Herniation
- Lumbar Herniated Disk
- Multiple Disc Herniation
- Multiple Lower Extremity Fractures
- Non-surgical Knee Osteoarthritis Treatment
- Normal Pressure Hydrocephalus
- Pelvic Ring Fracture Treatment
- Plantar Fascia Tear Treatment
- Postural Orthostatic Tachycardia Syndrome Treatment
- Proximal Tibia Fracture Treatment
- Slipped Capital Femoral Epiphysis Treatment
- Stress Fracture – 4th Metatarsal
- Tibial Plateau Fracture
- Total Ankle Replacement
- Total Hip Arthroplasty
- Total Knee Arthroplasty
- Total Knee Arthroplasty #2
- Total Knee Arthroplasty #3
- Transient Ischemic Attack
- Treadmill Rehabilitation Study for Total Hip Arthroplasty
- Unicompartmental Knee Replacement
- Walking Program for Obesity

Own model based on the interaction between companies, technology, users and Sund Vækst



Own field notes written on the VTV course

VTV systematisk måde at vurdere på.

Ide til borger

Borgere til ide

0.0 test Testlab i strandvejen, Masser af teknologi inden for velfærd. Test af borgere. Inden praksis (Pilot screening)

0.1 test med borgere på strandvejen eller ud i hjemmeplejen to borgere to medarbejdere i praksis. Her kommer VTV på første gang. Er det inden for ældre og omsorgspolitik. Målet er for øje skal dette investeres i?

0.2 test begynder at lave test flere forskellige steder. Appelere teknologien bredt eller et sted? Test i rehabilitering, hjemmeplejen, og flere forskellige centre (MAN vil ikke købe noget uden det er veldokumenteret).

LIvinglabstrandvejen.kk.dk der ligger VTVer der er færdige.

VTV "tale det samme sprog" Udviklet i 2008 af to kollegaer i DTI. Behov for velfærdsteknologi vurdering.

Formålet med kursus er at alle der kommer med bruger den ens hver gang. Men der er en slide om at man bruger den forskelligt.

Forskel på hvordan man indsamler data ifølge underviser

2 kvalitative interview masser af data

10 kvantative spørgeskemaer

Et spørgsmål i plenum *"Bliver der taget stikprøver så hele målgruppen bliver repræsentativ? Større undersøgelser".*

Teknologisk institut laver kæmpe dataindsamlinger som efter projektleder skulle være mere valide så man kan dokumentere over for styrelsen.

Dem der er på VTV kursus, laver mindre vurderinger til at kunne tage en beslutning om denne teknologi skal implementeres. Hensigten er at det er en her og nu vurdering. Men den bliver ikke repræsentativ for hele befolkningen.

I ens interview er det godt at tage citater med, da man kan bruge det som ekstra dokumentation under nogle af de generelle punkter

Da vi i 3 grupper har vurderet andelers

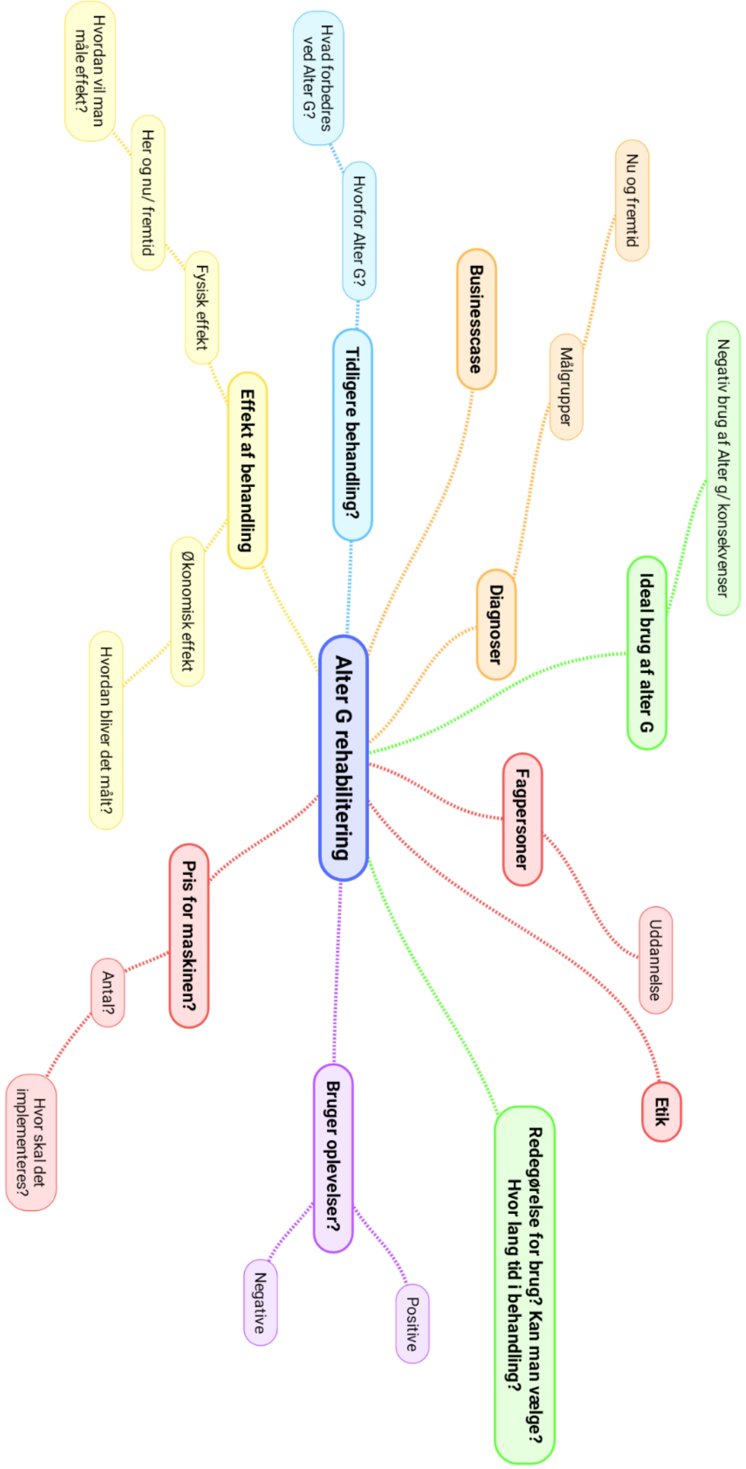
Efter spindelvævet går man i dybden og ser på hvordan man kan forbedre nogle af tingene i spindevævet.

Da der blev spurgt ind til hvornår vurderingsresultatet er godt nok, blev der svaret det er jeres rammer som i sætter som projektleder.

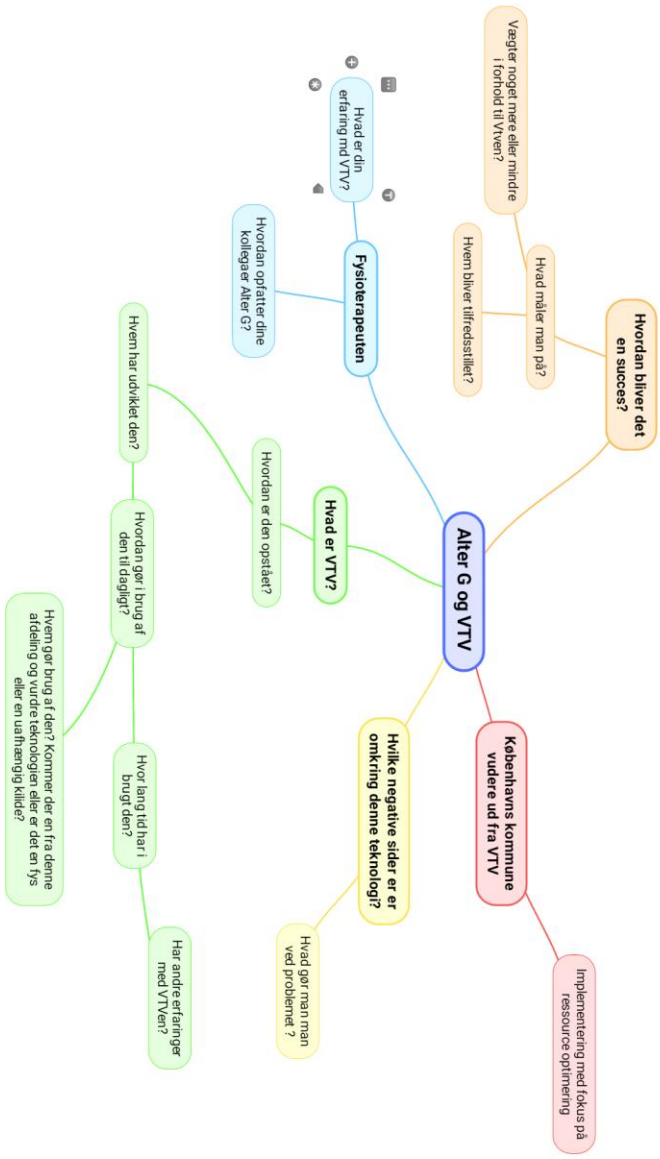
Hvis nogle parametre er mindre gode skal man finde ud af hvad man gør med dette problem. Man kan arbejde med det individuelt. Man notere det og så må dem der skal vurdere tage det afgørende skridt.

Tænk over hvordan man formulere sine spørgsmål til borgerne, de har måske en anden måde de tænker på.

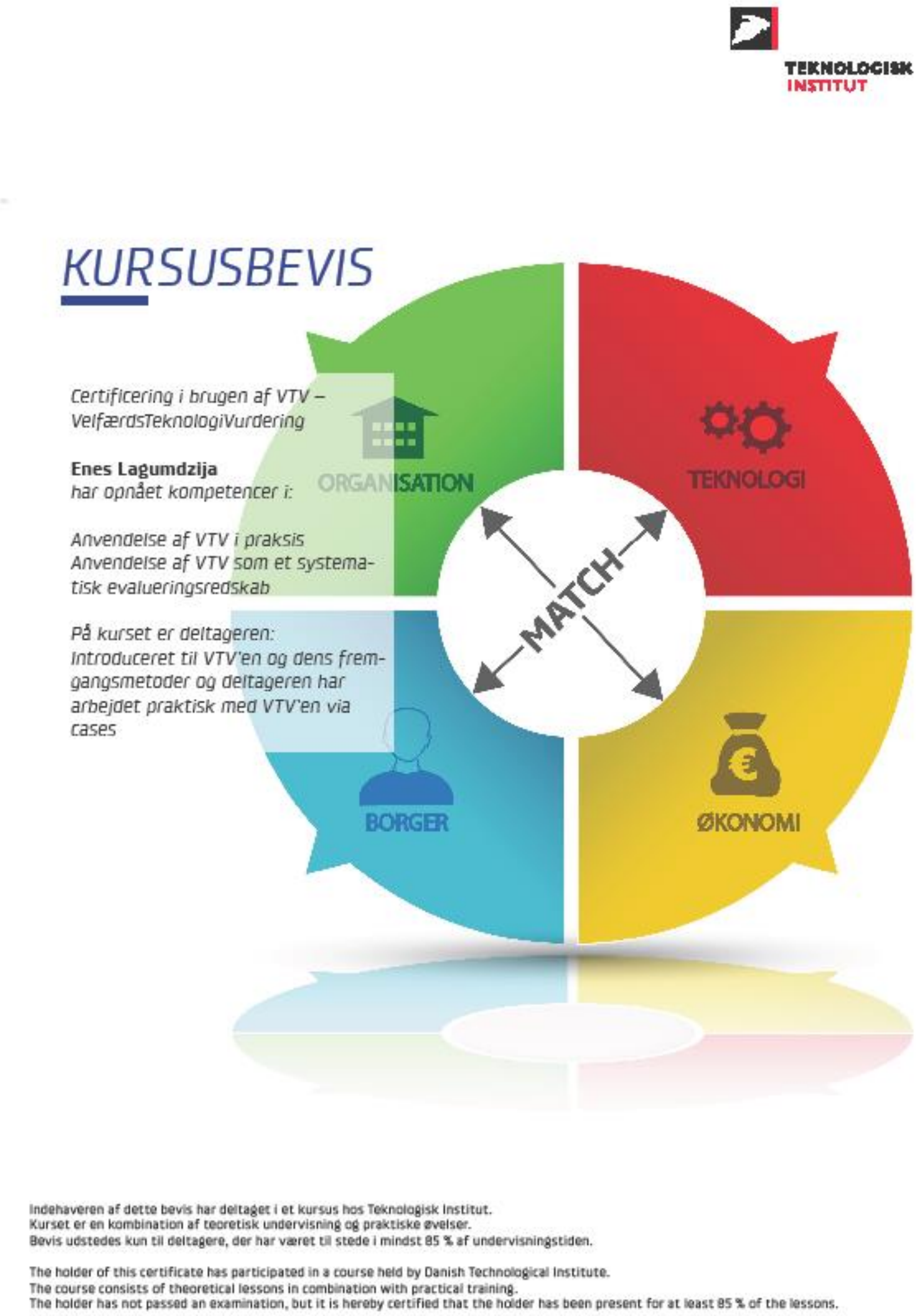
Alter G rehabilitation Mindmap



Alter G and VTV mindmap



Course certificate


TEKNOLOGISK INSTITUT

KURSUSBEVIS

Certificering i brugen af VTV – VelfærdsTeknologiVurdering

Enes Lagumdzija
har opnået kompetencer i:

Anvendelse af VTV i praksis
Anvendelse af VTV som et systematisk evalueringsredskab

På kurset er deltageren:
Introduceret til VTV'en og dens fremgangsmetoder og deltageren har arbejdet praktisk med VTV'en via cases

Indehaveren af dette bevis har deltaget i et kursus hos Teknologisk Institut.
Kurset er en kombination af teoretisk undervisning og praktiske øvelser.
Bevis udstedes kun til deltagere, der har været til stede i mindst 85 % af undervisningstiden.

The holder of this certificate has participated in a course held by Danish Technological Institute.
The course consists of theoretical lessons in combination with practical training.
The holder has not passed an examination, but it is hereby certified that the holder has been present for at least 85 % of the lessons.