



# Repairing the throw-away culture

A techno-anthropological study of the Danish repair cafés' practices

**Master's thesis in Techno-Anthropology**

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## Tak

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Tak til både koordinatorene, de frivillige reparatører og de besøgende på alle repair caféerne, vi har været i kontakt.

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Please note that all text which has originally been in Danish has been translated into English by the authors of this thesis. This includes fieldnotes, interview transcriptions, and literature quotations.

## Resumé

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Dette tekno-antropologiske kandidatspeciale tager udgangspunkt i danske repair caféer i organisationen Repair Café Danmark. En repair café er et sted, hvor frivillige reparatører hjælper de besøgende med at reparere deres defekte ting gratis. Repair café-konceptet er en del af en global reparationsbevægelse, der arbejder hen mod cirkulær økonomi og affaldsreduktion. Samtidig forsøger repair café-konceptet at gøre op med brug-og-smid-væk-kulturen.

Ud over litteratur om repair caféer, reparation, cirkulær økonomi og affaldsreduktion er det empiriske grundlag for dette speciale et omfattende feltarbejde med besøg hos seks forskellige repair caféer i Københavnsområdet. Kvalitative metoder har været centralt for dette feltarbejde, og specifikt løst-strukturerede interviews samt deltagerobservation. Derudover indgår også 11 semi-strukturerede interviews som empirisk grundlag. Heraf er otte af interviewene med personer, der er tilknyttet danske repair caféer, ét interview med en repræsentant fra Miljøpunkt Amager, ét interview med en ekspert i frivillighed, og ét interview med en ekspert i cirkulær økonomi. Gennem indsigter fra det etnografiske feltarbejde har det været muligt at analysere de seks repair caféers praksisser ved at bruge Social Praksis-teori som det primære teoretiske udgangspunkt. Gennem denne analyse er det blevet tydeliggjort, hvordan repair caféernes praksisser udføres gennem en gensidig afhængighed af kompetencer, materialer og meninger. Desuden blev det tydeligt, at der er forskelle og ligheder i bl.a. repair caféernes fysiske rum, reparationskompetencer og de frivilliges værdier. Disse forskelle og ligheder blev præsenteret for, samt diskuteret af personer tilknyttet repair caféer ved en vidensudvekslingsworkshop kaldet 'Den Gode Repair Café'. Denne workshop blev afholdt som et led i arbejdet med dette speciale. Diskussionerne fra workshoppen dannede grobund for et udviklingspotentiale til at styrke repair café-konceptet på tværs af de individuelle repair caféer i Repair Café Danmark. En styrkelse af Repair Café Danmark i feltet om reparation, cirkulær økonomi og affaldsreduktion ved at bruge statistisk reparationsdata som 'interessement device' diskuteres også i dette speciale. Dette gøres ved brug af Aktør-Netværksteori, og munder ud i et konkret forslag til et værktøj, som Repair Café Danmark kan bruge til at indsamle reparationsdata på tværs af de individuelle repair caféer.

## Abstract

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This techno-anthropological master's thesis takes the point of departure in the Danish repair cafés within the organization Repair Café Denmark. Repair cafés are places where voluntary repairers help visitors to repair their broken items for free. The repair café concept is part of a global movement of repair working towards circular economy and waste minimization, while also attempting to break with the throw-away culture.

In addition to literature in the field of repair cafés, the empirical basis for this thesis is a comprehensive ethnographic fieldwork with visits to six different repair cafés in the metropolitan area of Copenhagen, where qualitative methods of participant observations and loosely structured interviews were central. In addition, eight semi-structured interviews with repair café affiliates, one interview with a representant from Environmental Center Amager, one interview with an expert in voluntariness, and one interview with an expert in circular economy have also been conducted. Through insights from the ethnographic fieldwork, it has been possible to analyze the practices of the six repair cafés by applying Social Practice Theory as the main theoretical approach. With this, it is highlighted how the practices of the repair cafés are performed through the interdependency of competences, materials, and meanings, with similarities and differences in, i.a., repair competences, the physical spaces, and values regarding voluntariness. These similarities and differences have been presented to as well as discussed by repair café affiliates at a knowledge exchange workshop called 'The Good Repair Café' as part of this master's thesis process. These discussions showed breeding ground for a strengthening of the repair café concept across the individual repair cafés in Repair Café Denmark. A strengthening of Repair Café Denmark in the network of repair, circular economy, and waste minimization through the strategic use of statistical repair data as an intersement device is also discussed in this thesis. This is done with Actor-Network Theory as the theoretical point of departure, and results in a concrete proposal for a tool which Repair Café Denmark may use to accumulate repair data across the individual repair café

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## Reading guide

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In the following, a short overview and description of each chapter of this thesis will be presented.

In chapter 1, we present this thesis in an introduction. Next, the problem field will be laid out in chapter 2, followed by the research question in chapter 3. In chapter 4, the organization of Repair Café Denmark is presented. Next follows a literature review in chapter 5 which reviews literature from the field of repair cafés, repair, circular economy, and waste minimization, and accounts for how this thesis differs from other studies and can contribute to the field. Next, in chapter 6, we account for some of the overall principles and regulations in the field of repair in Denmark and EU as well as movements and initiatives that want to have more emphasis on product sustainability. In chapter 7, we present the methodology. This chapter encompasses all the methods and approaches used to conduct the ethnographic fieldwork, interviews, workshop, etc. Following the methodology is chapter 8, which is a presentation of our theoretical framework, including Social Practice Theory and Actor-Network Theory. Chapter 9 accounts for the program of Repair Café Denmark in a broader network of other actors in the field of repair, circular economy, and waste minimization. Next is chapter 10, which is about the six repair cafés of this thesis, and in which we analyze their practices and thereby similarities and differences. This is followed by chapter 11 which discusses the inclusion of visitors in the repairs in relation to voluntariness and the meaning of Repair Café Denmark's vision. Chapter 12 describes our knowledge exchange workshop for repair café affiliates conducted as part of the process of this thesis. Next is chapter 13, which discusses how to potentially interest, enroll and mobilize the actors presented in chapter 9 into Repair Café Denmark's program with the use of strategic interessement devices. Chapter 14 is the conclusion of this thesis. Lastly, suggestions for further studies will be presented in chapter 15.

## 1. Introduction

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In the year 2019, climate is one of the most debated topics. This is especially prevalent in the light of the European Parliament election, where it appears that protests against unambitious climate policy and a general urge to act against the climate changes have mobilized the European voters (Riegert 2019). Countries like Ireland and the United Kingdoms have declared a climate emergency to underline the severity of this problem that the world faces (Owoseje 2019). Though it is necessary to mobilize initiatives on a global scale to counteract climate problems, local initiatives also have a part to play if a sustainable societal change is to take root. The concept of repair cafés is a reaction to an increased dissatisfaction regarding short product lifespan and the throw-away culture that permeates our society and started in the Netherlands in 2009 (Repaircafe.org 2019). In short, repair cafés are local initiatives where voluntary repairers help ordinary consumers with prolonging the lifespan of their products for free. The purpose of repair cafés is to wake an interest and knowledge about repair as an option opposed to throwing away (Repair Cafe Denmark n.d.a). The repair cafés in Denmark are members of the organization Repair Café Denmark. The repair cafés included in this thesis are open once a month in 2-3 hours. Each repair café consists of a coordinator who organizes and structures the events, and voluntary repairers who repair the visitors' broken items

In this master's thesis, we have researched the practices of six of the repair cafés in the metropolitan area of Copenhagen through a comprehensive ethnographic fieldwork. With this, the concept of repair cafés is possible to be perceived as a case study, where highlights of similarities and differences enable discussions of Repair Café Denmark's vision. But first, an unfolding of the problems in the field of repair, circular economy, and waste minimization will be presented in the next chapters.

## 2. Problem field

To repair has always been considered as a way of prolonging the life of a product, to be able to keep an item with sentimental value, or as a cheaper alternative compared to buying a new item. But over the years, the number of repairs has declined. In the 1990s, the average household in Denmark spent on average 250 DKK a year for repair, but in 2015 the amount was only 20 DKK, highlighting the decline of repairing (Christiani 2016). Today we live in a throw-away culture. Throw-away culture describes a culture which promotes materialistic overconsumption. This type of culture might end up exhausting our natural resources while also producing unmanageable amounts of waste (MacArthur 2018). An example of this could be the fact that 220,000 new washing machines are sold annually in Denmark, meaning that almost 9 % of Danish households each year replace their washing machine (IDA 2018). This can be seen in relation to the annual amount of money spent on durable consumer goods and the amount of money spent on repairs in the illustration below.

**Tabel 1: Udvikling i årlige udgifter til køb og reparation af varige forbrugsgoder i en familie med 2 voksne og børn – faste priser**

	2000	2004	2008	2012	2016
Køleskabe, fryser og køle-fryseskabe	646	581	610	758	730
Vaskemaskiner, tørretumlere og opvaskemaskiner	1.055	1.265	1.698	1.475	1.360
Komfurer	435	471	720	648	430
Reparation og leje af husholdningsmaskiner	460	307	260	226	165
Tv, dvd-afspiller, videoptager o.l.	313	717	1.719	2.151	1.906
Mobiltelefon, udstyr	129	184	562	1.601	2.826
Pc'er, tablets mv.	265	540	1.306	1.468	2.179
Reparation af udstyr, audiovisuelt og fotografisk	151	14	6	94	3

Kilde: Danmarks Statistik

Illustration 1: The illustration above shows that the annual expenses on most durable consumer goods has increased since 2000, while the amount of money spent on repairs has decreased considerably in the same period (IDA 2018).

As we become increasingly aware of the consequences of the throw-away culture and overconsumption on Earth, movements working to counteract this are emerging. One of these is the 'Right to Repair' movement, which is a collection of campaigns supported by several different environmentally focused organizations and consumer associations in Europe and Northern America. Right to Repair demands

that companies give “*easy access to information, spare parts and repair tools*” and build products that are possible to be repaired (Anastasio 2018a). EU supports this movement as they propose ‘eco design’ standards, which in time should phase out products from the market that are difficult to repair or recycle. But this proposal is being blocked by large nations in the European Union, like Germany and the United Kingdom (Anastasio 2018b). However, even though the EU legislation might be delayed, NGOs and other voluntary organizations are still working towards making a change. In Denmark, organizations like Environmental Center Amager and Repair Café Denmark support local repair cafés where people can get help with repairing their broken items. Even though these initiatives keep gaining ground, only 1 % of the people in need of repair had an item repaired at a repair café (IDA 2018). However, one must keep in mind that the repair café concept in Denmark is continuously developing as more repair cafés keep joining the movement nationally (Repair Cafe Denmark n.d.b.). This master’s thesis will through a multi-sited ethnographic approach research and analyze how repair cafés are performed as practices. The knowledge of this will be utilized to discuss how Repair Café Denmark may potentially streamline their concept and gain greater political momentum in the network of repair, circular economy, and waste minimization.

### 3. Research question

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The research question of this master’s thesis is:

*How are the social practices of six different repair cafés in the metropolitan area of Copenhagen performed through the interdependency of competences, materials, and meanings?*

- *How can knowledge about similarities and differences of the repair café practices strengthen the concept of Danish repair cafés?*
- *How might Repair Café Denmark mobilize allies in the network of repair, circular economy, and waste minimization through the establishment of strategic interessement devices?*

## 4. Repair Café Denmark

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As presented in the introduction, a repair café is an event held once a month where consumers are able to visit and get help by voluntary repairers to repair their defect items. The concept of repair cafés began in 2009 in the Netherlands (Repaircafe.org 2019). At repair cafés, you cannot get items repaired which would make them the repair cafés in competition to other repair specialists. Repair Café Denmark thereby puts restrictions on e.g. pleating of jeans and bicycle repairs. The consumers will be referred to as visitors in relation to the repair cafés.

On a global scale, there are more than 1500 repair cafés which are all part of the international organization Repair Café International (Repaircafe.org 2019). In Denmark, there are currently 16 established repair cafés (Repair Café Danmark n.d.b.). However, only one of these is a member of Repair Café International. As a Danish counterpart to Repair Café International, the organization Repair Café Denmark covers all 16 repair cafés. Repair Café Denmark does not have their own physical repair café, but rather works as an umbrella organization for the 16 repair cafés. Repair Café Denmark thereby helps to set an overall agenda for the local repair cafés, articulated in their vision:

*“The purpose of Repair Café Denmark is to minimize waste, change consumer patterns, and create knowledge and a desire for green transition. We want to do this at local non-profit repair cafés by showing the consumers that it is possible to repair items rather than throw them away and buy new. Repair Café Denmark thereby affects the consumers’ mentality about circular economy in practice.*

*But it is not only the throw-away culture we want to change. In the long run, we wish to affect the legislation so that products to a greater extent will be produced so they are repairable - which isn’t always easy. It is proven that many products are designed without the possibility of disassembly and replacement of spare parts. We work to reduce the production of products which cannot be repaired. Manufactures should be certified when products are developed with the possibility of replacement. We wish the right to repair.*

*Another goal is in the same way as Sweden to get a tax reduction introduced and a “Repair- tax deduction”. The Swedes have since January 2017 halved the tax on small repairs of bikes, shoes, clothes, leather products and other textiles, and introduced a tax deduction on wages for professional repairs and maintenances of domestic appliances. All this to give these longer lives.*

*In short, Repair Café Denmark wants to work towards a more sustainable future!”*

(Repair Café Danmark n.d.a).

In the next chapter we will account for some of the cases and literature which are concerned with some of the same issues and challenges as this master’s thesis.

## 5. Literature review

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This chapter is with the purpose of positioning the relevance of this thesis in the field of studies on repair initiatives and repair cafés in a world where repair, circular economy, and waste minimization are the antipoles to the throw-away culture. Because of this, the central literature search terms used to explore this field are ‘repair cafe’, ‘throwaway culture’, and ‘throwaway society’. The sources of information have primarily been the database of Aalborg University Library, with the focus on peer-reviewed academic articles and book compilations on the subject, supplemented with literary references by our supervisor Michael Søgård Jørgensen who also conducts research within the field.

### Establishing a new repair café in Sydhavn

The first piece of literature is a bachelor’s thesis from 2018 in Sustainable Design which focused on the establishment of a repair café in Sydhavn in Copenhagen (Larsen, Beck & Olsgaard 2018). The thesis is called ‘Design af reparationsaktiviteter i Sydhavn’, in which Larsen, Beck and Olsgaard outline the process of establishing this repair café as a community-oriented activity. The thesis draws on theories such as Actor-Network Theory and Social Practice Theory, investigating how their repair initiative fits with the local network of citizens and other circular economy initiatives in Sydhavn. Methodologically, they draw on design thinking and co-design with the locally engaged actors, thereby making single-sited research prior to the rooting of the repair café in Sydhavn. Through mapping the actor-network of circular economy initiatives in Sydhavn in close collaboration with a local socio-economic initiative, insights of the local controversies were obtained. Through tests of a prototype setup, the authors were able to establish a local Repair Café, which later has continued its success.

Equally to 'Design af reparationsaktiviteter i Sydhavn', this master's thesis also theoretically draws on aspects from Actor-Network Theory and Social Practice Theory. On the contrary, this Techno-Anthropological master's thesis has a greater focus on the interactions and the local practices at each repair café, based on comprehensive ethnographic fieldwork. Thereby, our research is multi-sited in order to draw similarities and differences between the repair cafés in the metropolitan area of Copenhagen, with the purpose of generating a space where Repair Café volunteers may gain insights of themselves and exchange experiences with other repair café affiliates.

## Statistics from international repair cafés

Another study investigating repair cafés is the paper 'Repair Cafés: Potential implications for product design and development', which is chapter 19 in the book 'Designing for the Circular Economy' by Scott Keiller and Martin Charter (2019). Scott Keiller is an ecologist and mathematician, and Martin Charter is a professor of innovation and sustainability. In the chapter, Keiller and Charter look into repair cafés and how these initiatives may affect policy makers. Thereby, they look at the experiences from the first years of the repair cafés' existence, grounding their statistics on 1538 repair cafés globally. Their statistics show that on average, each of the world's repair cafés attract 29 visitors who bring 19 items for repair each month. That means, that annually, more than ½ million visitors are exposed to repair as an alternative to throwing away. Lastly, Keiller and Charter conclude that there is a need for a shared methodology on a global level for how to repair different items. Some repair cafés already use online platforms such as iFixit, but Keiller and Charter argue that "*A key objective of the alliance is to develop an Open Repair Data Standard for its members to combine and share open data on electronics repair. [...] the introduction of a standard could open up a potentially valuable source of information for product designers*" (Keiller & Charter 2019: 202). This would pressure product designers to better design products to last as they would build on knowledge accumulated by local settings. In this master's thesis, we also argue for accumulation of repair data and statistics as a way for Repair Café Denmark to pressure lawmakers and products manufacturers.

## The present and the future of repair cafés

In chapter 25 of the same book - 'Designing for the circular economy' - called 'Repair cafés: circular and social innovation', Martin Charter and Scott Keiller review the results of a quantitative survey of repair café visitors and repairers, and compare the results with a similar survey from 2014 (Charter &

Keiller 2019). They have found that there is a clash of interest - or availability - between the intention of repair and the manufacturers' intentions of the items. This is clear as most manufacturers do not provide access to repair guides or even sell spare parts directly to the consumers. Rather, third parties come into play.

The survey also covers the volunteers' demographics and motivations. Charter and Keiller found that repair cafés attract slightly more men than women, and the majority of the volunteers are aged between 56 and 65 years, and 20 % are even above the age of 65. The volunteers' motivations are largely connected with experiencing the work of other like-minded people who have a lifetime of repair skills, and to use those skills to make a difference and give something back to their communities. The survey also covered the vision for the future of the repair cafés. More than 60 % "strongly agree" or "agree" that the repair cafés in the next 5 years will 1) get greater links with other repair cafés to form more effective local repair networks, 2) get greater involvement with campaigning to improve product reparability/longevity, and 3) get more involvement with wider sustainability issues.

As base for this master's thesis about the repair cafés, these statistics will be relevant knowledge to know as a point of departure. During the ethnographic fieldwork for this master's thesis, we have also found that strengthening the network of repair cafés in Repair Café Denmark is desired, as well as strengthening the organization's position through involvement with campaigning to improve product reparability/longevity. Accordingly, this master's thesis focuses on developing such network and how to strategically mobilize allies.

## The vision of iFixit: Individual empowerment through repair

In the paper 'iFixit: A case study in repair' which is chapter 28 in the book 'Designing for the circular economy', Kyle Wiens - one of the founders of iFixit - explains the motivations and mission of iFixit (Wiens 2019). iFixit is an organization within the repair movement, as they provide free online how-to videos and forums to enable people to repair electronic items by themselves. iFixit grew out of Wiens' frustrations about his broken iBook laptop when he was in college. With great pains and trouble, he repaired the iBook. From that point, Wiens believed that a smaller revolution against the throw-away culture was needed. Buying a new device because the owner cannot even open the item or does not have spare parts or guidance on how to repair simple problems is not sustainable. Neither for the

environment or the student's personal finances. iFixit thereby wants to break with the throw-away culture and call for action against the manufacturers' assemblage of products.

iFixit is a great example of knowledge gathering becoming a powerful tool for people together to go up against the corporate systems and work towards a circular economy, starting with one user at a time. This is somewhat the vision for the repair cafés as well, though the repair cafés are "live" rather than "online" and attempts to change people's mindset through a practical as well as social approach. The practice of this approach is what we research and analyze in this master's thesis.

## Investigation of the broader category of open workshops

Lastly, professor in urban geography Bastian Lange and professor in social geography Hans-Joachim Bürkner (2017) have investigated the concept of open workshops in the perspective of assemblage theory in their paper 'Open workshops as sites of innovative socioeconomic practices: approaching urban postgrowth by assemblage theory'. As a difference to this master's thesis, Lange and Bürkner's paper includes not only the investigation of repair cafés, but social, non-profit driven workshops in general, which in addition to repair cafés also include e.g. FabLabs, makerspaces, Techshops, and Open Worklabs. Lange and Bürkner highlight that these kinds of makerspaces are interesting as they seem to be driven by local interests and include both hardware, software, lowtech and hightech. Lange and Bürkner use assemblage theory to lay out how persons, networks, ideas, institutions, symbols, everyday objects and physical artifacts are combined into heterogeneous socio-material mosaics. They highlight the instability of these assemblages. Accordingly, Lange and Bürkner are sceptical regarding whether open workshops will be able to gain political momentum: *"The clearly anti-commercial, often even anti-monetary, approach of open workshops, often combines with the uncalculable changeability of assemblages. The habit of doing something different all the time and avoiding money-making turns them into unreliable partners of any project of political reform"* (Lange & Bürkner 2017). Acknowledging the instability of voluntary workforce when attempting to gain political momentum will be taken into consideration in this master's thesis. Accordingly, we focus on the motivations of the volunteers when analyzing and discussing how the repair café practices are performed, and how Repair Café Denmark may potentially mobilize actors such as lawmakers with the use of strategic interessement devices.

## 6. Warranties, obsolescence, and circular economy

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In this chapter, we will shortly account for some of the underlying concepts used in this master's thesis. This includes warranties and regulations in Denmark and EU, the discussion and definitions on planned obsolescence, and a foundational comprehension of the concept linear economy.

### Product warranties and regulations

In Denmark we have the 'Law of purchases', which gives the buyer the right to complain about defects of a product for up to two years after its purchase. This is also called the 'warranty' of a product. The warranty covers any defects of a product not caused by unintended use, either present at the time of purchase or on certain problems that occur later (Carlsen 2018). If the product is proven to be defect, the customer has the right to decide if they want it repaired or replaced with a new, unless the seller can prove that the chosen option is significantly more expensive or if it is impossible to comply with the customer's wish. If the defect is significant, the customer can also demand to get their money back (ibid.). If a product is successfully repaired, the warranty for the spare part will be prolonged by three years (ibid.). The Danish 'Law of purchases' is quite specific but falls within the framework of EU legislation. EU legislation on this subject states that the customer has two years warranty on any product purchased from EU countries, and that the customer has the right to get a full refund if the product cannot be repaired or replaced (Dit Europa 2019).

With all these laws about warranties and regulations, the products that consumers buy today will inevitably be in pristine conditions, right? Though this is for the most part true, it may not be reality, as products which last might be perceived as bad for business by product manufacturers. This will be elaborated upon in the following section of planned obsolescence.

### Planned obsolescence

In short, planned obsolescence is when manufacturers artificially plan a limited lifespan of a product outside the warranty. In recent years, many activists and movements argue that planned obsolescence is in fact a reality today, and some technological products are accused of having a built-in end-date (Dannoritzer 2010). Manufacturers are thereby suspected do this to make consumers buy new and throw away the old before the product would actually be worn out.

The term “planned obsolescence” appeared in the media as early as 1932 in the midst of the Great Depression in the United States. The real-estate broker Bernard London published an article called ‘Ending the Depression through Planned Obsolescence’, in which he outlined the plan for how to stimulate the economy in tough times. In this publication, London suggested that planned obsolescence should be intentionally built into all products. This would then generate the need for new products at a higher rate than before and stimulate the economy, as manufacturers would produce and sell continuously (Boradkar 2010). To London, planned obsolescence contains an intentional technological aspect, while also advocating that product manufacturers push down the cost of their goods by slacking on the goods’ quality (Nielsen 2014). London was supported by other economic visionaries, such as the business professors Roy Sheldon and Egmont Arens. As proponents of planned obsolescence, they argued: *“People are persuaded to abandon the old and buy the new to be up-to-date, to have the right and correct things. Does there seem to be a sad waste in the process? Not at all. Wearing things out does not produce prosperity but buying things does” (Sheldon and Arens 1932: 7)”* (Boradkar 2010: 182).

London’s mission never succeeded during the Great Depression, as it never reached a political level (Dannoritzer 2010). Today however, obsolescence is argued to be incorporated into products anyway, and the “planned” obsolescence is only one aspect. Firstly, there is the psychological obsolescence, which is when the consumer for any reason is no longer attracted by the product. The psychological obsolescence also includes a social aspect, as the obsolescence can also be caused by the end of a social trend, like the example of the fidget spinner in Denmark a couple of years ago. Next is technological obsolescence, which is caused by the introduction of technologically superior replacement products, like when Apple releases new versions of the iPhone every year and consumers instantly crave this version. Accordingly, technological obsolescence can both be about design and technological improvements. Lastly, there is the aspect of economic obsolescence. This is when a product is so old that it no longer holds economic value (McCollough 2009; Burns 2010). With the obsolescence term being expanded into planned, psychological, technological and economic aspects, the challenges regarding products’ obsolescence become complicated, as companies have several methods to apply when attempting to increase consumption. This makes the challenges of breaking with a throw-away culture that much harder to accomplish. Though this can be hard, some movements have taken up the mantle and have begun to demand rights regarding broken products, such as the international Right to Repair movement, which grew out of consumers’ dissatisfaction with the short lifespan of products and the

lack of repair possibilities. Their demand is therefore access to information, spare parts and tools that will make repair processes easier (Anastasio 2018a). The Right to Repair movement is part of an agenda of changing the current linear economy towards a circular economy worldwide.

## Circular economy

The framework of circular economy is built on the recognition that Earth's resources are limited, and energy consumption should be sustainable. Perceiving the world as a circular system where waste and pollution will be turned into valuable resources is essential to this approach (Bocken, et al. 2016). This approach of circular economy is in sharp contrast to the current linear economy model that entices a throw-away culture. The Ellen MacArthur Foundation is an important actor in affecting businesses to adopt to a more sustainable approach and calls for a transition to circular economy. The notion of circular economy is not traced back to a specific time or author but is an array of principles that over time has created the framework of circular economy, which is continuously being developed (Ellen Macarthur Foundation 2019). As noted in chapter 4, in Repair Café Denmark's vision they mention the possibilities of repair and that repair should be incorporated in the product design as well as supported by better legislation (Repair Cafe Danmark n.d.a). This aligns with the demand from The Right to Repair movement, as they demand information and spare parts for the products that break before their time has come. Both demands fall within the framework of circular economy, especially the notion of slowing the resource flow. "Slowing" is a part of three design strategies for reducing the resource cycles of products: slowing, closing and narrowing (Bocken, et al. 2016). The slowing of resources is a strategy that through design prolongs the lifespan of products through services like repair or remanufacturing. Though the implementation for this is done by the manufacturer, the repair could be done by external initiatives like the repair café concept. Closing of the circular economy loop is achieved through the recycle and reuse of resources, thereby connecting post-use and production, making a circular motion. The last strategy is narrowing the resource flow. Narrowing aims to reduce the resources needed to product each product. This point has already been successfully implemented into many linear models. However, it is important to note that making the production efficient through narrowing could also lead to an increased output of products, as the use of cheaper or more fragile materials could lead to a decline in durability, and thereby an example of technological obsolescence. Because of that, narrowing should be combined with the other two strategies for a sustainable production to be established. These three strategies and their combinations are illustrated in illustration 2.

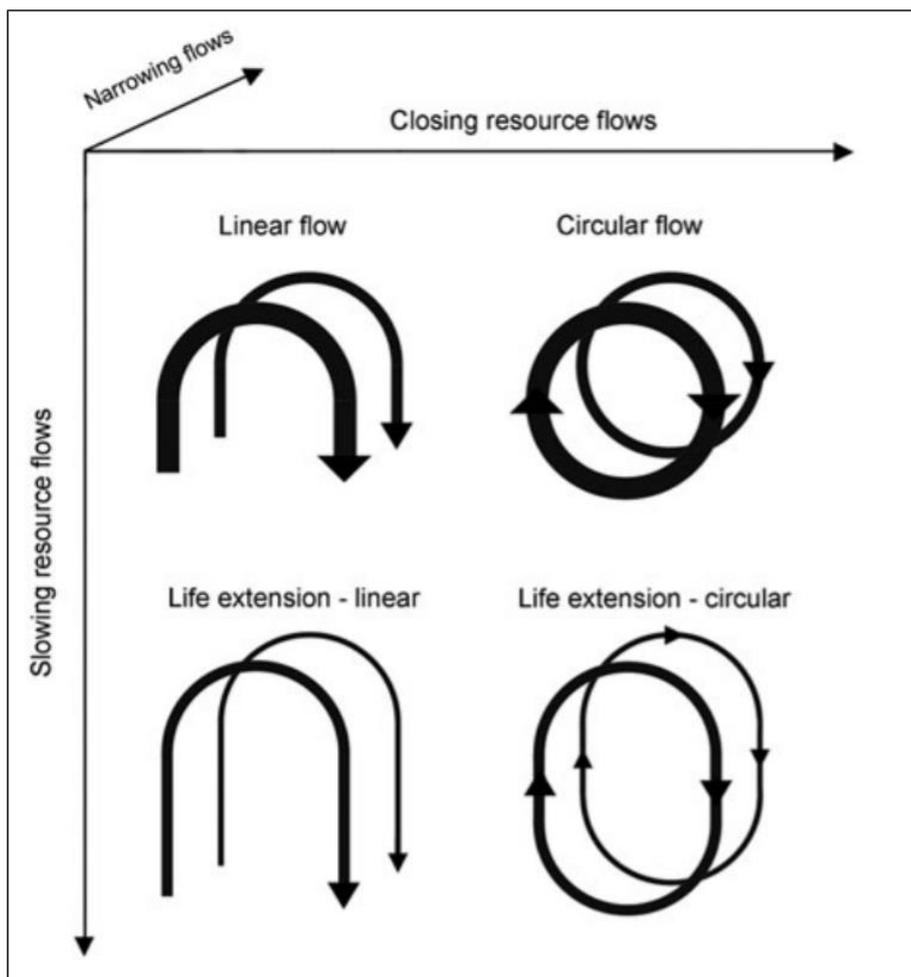


Illustration 2: Slowing is illustrated by the elongation of the lines. Narrowing is illustrated by the thinner lines, and closing is illustrated as connecting the ends of the arrows from the linear lines to the circular loop (Bocken, et al. 2016).

Each of the three circular economy design strategies have an emphasis on different areas, but as Repair Café Denmark advocates for the possibility to repair and thereby prolong the lifespan of products, slowing the resource flow is thereby their primary focus. Firstly, this calls for a design where maintenance and repair are implemented in the beginning of products' lives, which can also be achieved through modification and upgradability. For this to become an opportunity, the design should be using a standardization of materials and tools to ensure a proper dis- and reassemblage for such procedure to take place. None the less, designing a technical approach to prolonging the lifespan through repair and modification is necessary, the psychological aspect is still paramount to avoid products to become obsolete (Bocken et al. 2016).

## 7. Methodology

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In this chapter, we will explain the various methods and approaches used to gather the empirical data which is the foundation of this master's thesis. First, we present access into the field of the repair cafés. Then, we will account for how we have observed and positioned ourselves as researchers in the field, followed by our interview structure, our workshop, and methods of transcription and anonymization. Finally, we present a short explanation of our approach to coding and mapping the empirical data.

### Access to the field

When conducting an ethnographic field study, the difficulties with entering the field are often not acknowledged and can contain some unforeseen barriers that restrict the progress of a project. Fortunately, our supervisor Michael Søgård Jørgensen was able to provide us with some key contacts, as he is already heavily engaged in the field of repair, circular economy and waste minimization. These contacts, we wrote an email to (see appendix A). Before entering the field, we also conducted a literature review to investigate other repair initiatives to understand which other concepts existed, and how the repair cafés are different from these initiatives. One of these initiatives is the Electronics Workshop facilitated by Environmental Center Amager. The Electronics Workshop Amager is an open workshop for people to learn how to repair other people's broken items for free. To our luck, both the Electronics Workshop Amager and the repair cafés are already open for public participation as a part of their concepts. This meant we had easy access to events where we could talk with volunteers and visitors. Also, as we conducted our project in the metropolitan area of Copenhagen, quite a few repair cafés are accessible.

Our first experience with a repair café was at Repair Café Brønshøj. At first, we did not unveil that we were students working on a master's thesis about repair cafés. Rather, we merely visited the repair café in order to get an impression of the concept. With that, we also brought a couple of items to be fixed; a bicycle and a power supply. By not at first unveiling our agenda of studying the repair café concept, we were able to get a visitor experience at first hand. That way, we positioned ourselves as 'complete participants' during the first visit to a repair café. This was an advantage, as the experience of being a visitor allowed us to become curious of what to research further. And through being a participant, the need to understand the world of the repair cafés began to develop (Bundgaard 2010). At this initial encounter of a repair café we also met Stig, who is the chairman of Repair Cafe Denmark, as he was

visiting Repair Café Brønshøj that particular day, and whereas we unveiled our agenda of research for our master's thesis. Stig gave us a lot of information about the concept, values, and some of the challenges which the repair cafés and Repair Café Denmark face. After we had talked, he gave us his email address to set up an interview in which we could go into further details.

### From one repair café to many

After our visit at Repair Café Brønshøj, we decided to visit several others of the repair cafés in the metropolitan area of Copenhagen too. This was done in order to get multiple perspectives and as much empirical data as possible to create an elaborate representation of the repair cafés and be able to compare them with each other as a case study. The fact that most of the actors associated with the repair cafés are volunteers and the repair cafés tend to be quite busy, meant that while we were in the field, we became reliant on a loosely structured interview approach. During this process we established contacts for some relevant volunteers of the repair cafés to interview with a semi-structured approach as well.

In total, we visited six different repair cafés in the metropolitan area of Copenhagen, and four of them more than once. In addition to the repair cafés, we also visited the Electronics Workshop Amager once. The latter was with the purpose of researching the broader concept of community repairs in addition to the repair café concept. Being able to conduct research across multiple geographical sites led our fieldwork to be a multi-sited ethnographic study. Conducting multi-sited ethnography allowed us to investigate the field of research - which in our case is the concept of repair cafés - and thereby be able to highlight similarities, differences and challenges (Marcus 1995). Accordingly, multi-sited ethnography allowed us to consider each repair café to be separate cases of the same phenomenon, enabling a cross-case analysis of the variations of the repair cafés afterwards (Flyvbjerg 2006). Our visits to the six repair cafés and the Electronics Workshop Amager are illustrated in the timeline in illustration 3.

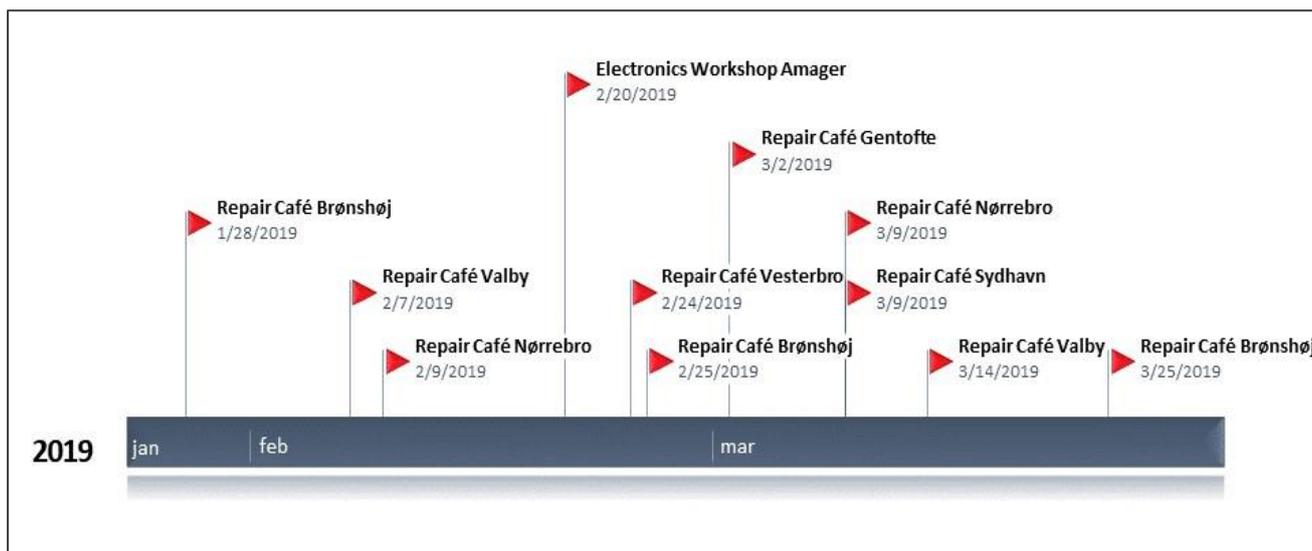


Illustration 3: The timeline of our visits at the six repair cafés and Electronics Workshop Amager. Semi-structured interviews with the coordinators, repairers, and experts were conducted alongside within the two months of fieldwork.

At our multiple field visits, our anthropological observational competences were at play. Being aware of our presence as researchers on site while conducting observations will be elaborated in the next section.

## Observations and our positions in the field

As we have conducted quite a lot of observations as part of the fieldwork, we have also been reflecting on our own position in the field, and how we might be perceived by visitors and volunteers at the repair cafés.

There are multiple purposes for conducting observational fieldwork in addition to conducting interviews as part of the fieldwork for this master's thesis (Szulevicz 2015). First, observations can be a way to open the field. Secondly, conducting participatory observational research can be a method to build a relation with the actors in the field of study. Next, observational fieldwork makes the researcher able to ask the "correct" questions in the following interviews, and the researcher also gets a more intuitive understanding of the collected data. Lastly, observational fieldwork is especially valuable when the researcher intends to describe a practice, as it allows for more details when communicating: *"One of the strengths of participatory observations is that it makes the researcher able to provide*

*saturated descriptions [...] which is both an advantage in written communication, oral communication, and when sharing one's observed insights orally with one's colleagues or the observed subjects*" (Szulevicz 2015: 87). As we were interested in the practices of the six repair cafés, observational fieldwork was thereby inevitable, as observing practices allows for different insights than what is accessible through interviews, as actions and intentions might not be the same (Szulevicz 2015).

The sociologists Martyn Hammersley and Paul Atkinson (1995) describe how a researcher might take on different positions during an observational field study. The researcher can be in the spectrum between a 'complete participant' and a 'complete observer' as illustrated in illustration 4 below:

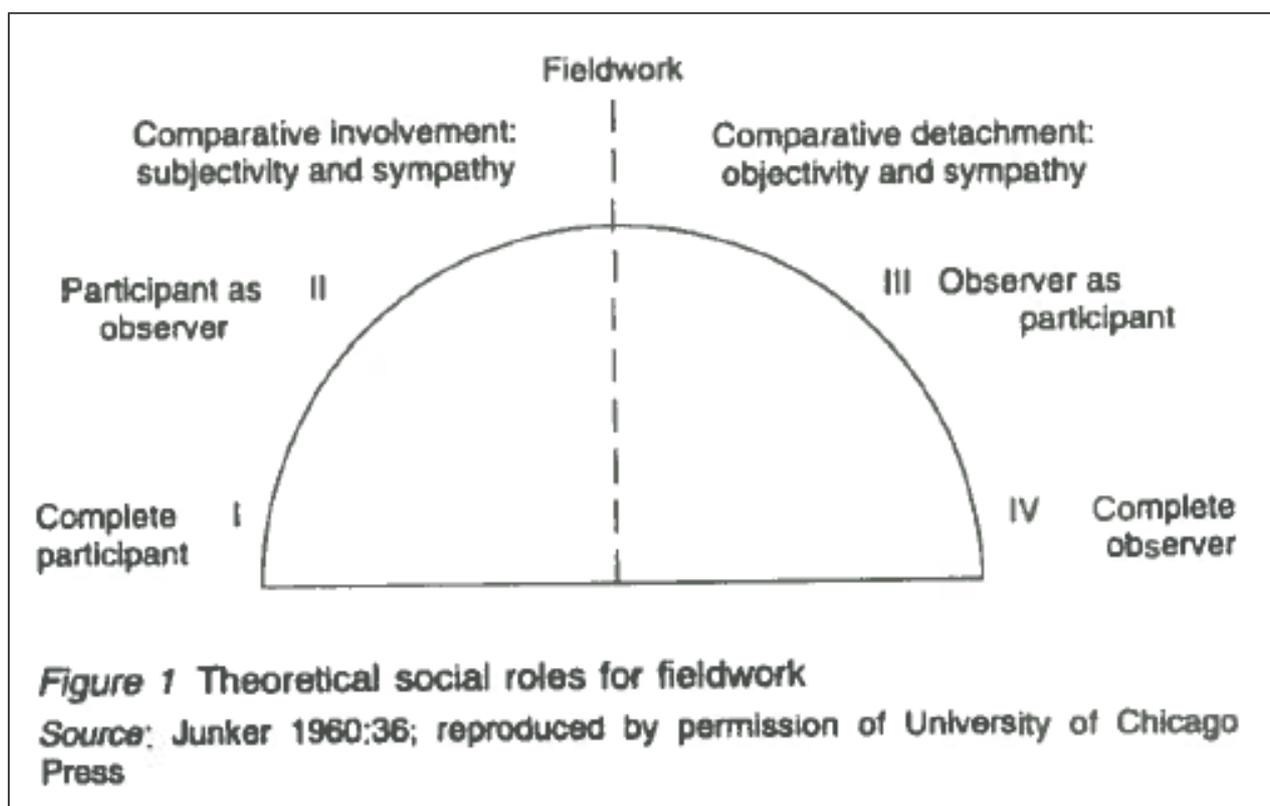


Illustration 4: The position of the researcher in the field may differ between the roles of complete participant and complete observer (Hammersley & Atkinson 1995).

After the initial visit to the repair cafés, we were quick to identify ourselves and our agenda to the coordinators of the repair cafés, as we now had begun the primary fieldwork and wished to take pictures, scribble down observational fieldnotes, and quotes from the loosely structured interviews. The intention of being open about our agenda was therefore a way to gain trust with the people at the repair cafés in order to secure further access to the field.

However, as the coordinators usually were the ones who greeted the visitors at the door, he or she did not immediately tell the other repairers or visitors that we were students, as they were all busy. Because of that, we needed to continuously introduce ourselves and our role to the people at the repair cafés to keep our integrity. A couple of times, we experienced the presence of our notebooks and our scribbling in them to be less discrete than we felt at the time. For instance, at one point, Nicolai was being stared at during a visit:

*“The bar at the repair café was still open, and I observed a couple of girls sitting behind a pole. They really stared at me. I guess it’s because I was walking around with my notebook, so they were probably very curious of what I was up to”*

(Nicolai’s Fieldnotes, Nørrebro, February 9th 2019).

The feeling of exposure in this way, was also experienced by Mie at another repair café. This time, the unveiling and curiosity was much more straightforward than just a staring gaze:

*“I took out my notebook and pen from my bag and discreetly positioned myself at a random spot in the room, beginning to scribble down observations of the actions in the room. Shortly after, I realize that I was not discreet at all. The woman who had brought the dishwasher looks at me and says: “Oh there’s a lot of you writing in notebooks”. Suddenly I felt embarrassed and kind of ‘busted’. I react by smiling to her and quickly tell her that it’s definitely not something secretive, and that we’re all three of us together, and that we are working on our master’s thesis which is about the repair café”*

(Mie’s Fieldnotes, Valby, March 14th 2019).

In these examples, Nicolai and Mie at first had the roles of observer as participant, according to illustration 4. The uncovering of our presence through staring gazes and direct comments from the people at the repair cafés are evidence that we have not taken on the roles of ‘complete observers’. Our interactions with the visitors and the volunteers at the repair cafés did however make us take on a third role. Which is the role of ‘participant as observer’. With this role, we were outgoing and participated in the practice of the repair café, but at the same time also reflected on our own position while observing the interactions of the other people. Multiple times, we were asked if we could help with a specific thing at the repair cafés:

*“After a short while we were asked if we were the students that Stig had talk about (based on our notebooks) and if we had any usable skills to contribute with. I said that I might be able to help with bicycles, and Nicolai was headhunted to look at an old woman’s computer”*

(Felix’ Fieldnotes, Nørrebro, February 9th 2019).

Additionally, we also experienced being asked to look at the calendar setup for one of the coordinators’ smartphone at Repair Café Valby, and at Repair Café Gentofte we helped the coordinator take photos and post them online on their Facebook page. Being headhunted on the spot to help with specific tasks made several contributions to our fieldwork insights. First, this was an opportunity to get a perspective of what it is like being a repairer and a coordinator at a repair café. Secondly, it put us in a great position to initiate conversations with other people at the repair cafés. And lastly, contributing to the tasks within the repair cafés showed some goodwill from us. This might be considered as a tactical move with the purpose of nurturing the relationship with our contacts at the repair cafés. The three different roles which we have possessed during our observational fieldwork have thus allowed us to get different insights, and as Hammersley and Atkinson puts it: *“Different roles within a setting can be exploited, then, in order to get access to different kinds of data”* (Hammersley & Atkinson 1995: 109).

The reflections on our presence and participation has made us aware of how to act, what to say, and how to maintain a good relationship with our contacts in the field throughout the fieldwork. During our observational fieldwork, we also jotted down fieldnotes.

## Fieldnotes

Jotting down notes while being in the field becomes an important element, as the notes are the written empirical material we generate. As noted in the previous section, we jotted down notes while we were on site in the field. Later, these notes were elaborated and typed into an online document. As we had been to 11 repair cafés’ events it became important to reflect on, ‘what’, ‘how’ and ‘when’ to write fieldnotes (Hammersley & Atkinson 2007). A type of ‘what’ and ‘how’ to write fieldnotes were where we individually focused on jotting as many details as possible to create a description of the field, the atmosphere, the place and people’s interactions. These kind of fieldnotes were mostly jotted when first visiting a repair café. The question about ‘when’ to write has on the other hand not been a problem, as

we most times were at least two researchers present at the same time, so one of us could write while the other one talked. While in the field, the notes were written as jotted notes, as it was not possible in situ to note other than a brief description of the situation or interaction (Emerson, Fretz & Shaw 2011). When we afterwards stepped back from the field, the jotted notes were used to jog our memory of the experiences and then refined and elaborated into typed fieldnotes.

### Photo fieldnotes

During the fieldwork we also used photos as a means of documenting our experiences and to prolong our memory (Rasmussen 2007). Photos as a type of fieldnotes have multiple purposes. First of all, it is a good way to document experiences that would otherwise be almost impossible to describe with the same degree of detail. Also, the photos were a mean for supporting our fieldnotes with a visual aspect, as the camera captures things we otherwise would have overlooked at a busy repair café. The last purpose of photo fieldnotes is to make it easier to communicate our experiences both with each other during the analysis process and with other actors in and out of the field.



Illustration 5: An example of a photo fieldnote. A repairer is helping a visitor with repairing a blender while they small talk (Photo, Valby February 7<sup>th</sup> 2019).

## Interviews

Conducting interview is a means for data collection used to gather knowledge about a person's life-world and how they experience certain phenomena (Tanggaard & Brinkmann 2015). During our observational fieldwork we conducted loosely structured interviews. This approach led to a deeper conversation not directed by us, but rather the interviewees' interests and stories. Prior to the loosely structured interviews in the field, we had prepared a loosely structured interview guide (see appendix B). Using loosely structured interview guides rather than semi- or strictly structured interview guides made it easier to engage with people on site, as we were able to follow their interests in the conversations. The most important points from our loosely structured interviews were afterwards documented as fieldnotes.

In addition to the loosely structured interviews, we also conducted 11 semi-structured interviews. These were with the coordinators and repairers associated with the repair cafés, the coordinator of Electronics Workshop Amager, an expert on voluntariness, Andreas Nilsson from The Danish Scout Association, and an expert on circular economy, Kirsten Schmidt from Aalborg University Copenhagen. After the interviews, unfortunately one of the interviewees requested that we did not use her statements, and because of that only 10 of the interviews are represented in this master's thesis. The semi-structured interview was the method we used when we were able to set up interviews outside the repair café events. Before conducting the semi-structured interviews, we also formulated in interview guide with the purpose of both leading the conversation, but also leave room to follow up on stories and topics that might be relevant or interesting (Tanggaard & Brinkmann 2015). As a difference to our loosely structured interview guides, which were lines of simple questions to ask on site of the repair cafés, the semi-structured interview guides consisted of 'research questions' and 'interview questions'. Our research questions were made as themes, and the interview questions were the questions to ask the interviewee. An example is the excerpt in illustration 6 below:

Motivation	<ul style="list-style-type: none"> <li>- What motivates you to be a voluntary repairer? Are there differences from when you joined till now that you are part of it?</li> <li>- What is the best part of repairing items at the repair café?</li> <li>- How is the fellowship at your repair café between the volunteers? <ul style="list-style-type: none"> <li>- For instance, do you hang out with some of the others in addition to the repair café opening hours?</li> <li>- Do you have any distinct events just for you repairers and the organizers?</li> </ul> </li> </ul>
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Illustration 6: Excerpt from semi-structured interview guide.

Most of our semi-structured interviews were conducted face to face with the interviewee. However, three of the interviews with repairers were conducted by phone or Skype call without video. It is preferred to conduct interviews face to face, as it creates better dynamic interactions between researcher and the interviewee, as it is easier to read to the situation, atmosphere, gestures, and body language. However, it is worth to acknowledge that a phone interview still creates good data and is sometimes even preferable as interviews thereby can be conducted with limited time and across long distances, and it is not considered as time consuming by the interviewees (Agerbæk 2018).

## Transcription

After the semi-structured interviews were conducted, we proceeded to transcribe the recorded interviews. Transcribing the interviews is a way of making the data ready for coding, mapping and analysis, and is an important - however a time consuming - process (Tanggaard & Brinkmann 2015). We decided to focus on the meaning when transcribing the interviews, leaving out words like ‘uhm’ and ‘argh’ and with that simplify sentences as people has a tendency to make “thinking sounds”. In some instances, we made the decision to only transcribe some sections we found to be relevant, which were in the cases for the interviews with the two experts and the recordings from our workshop of ‘The Good Repair Café’.

## Workshop: ‘The Good Repair Café’

The last part of our fieldwork was the workshop ‘The Good Repair Café’. The workshop was meant as a way of creating value for affiliates of Repair Café Denmark. The idea for a workshop began at our interview with Stig, where we talked about how we as techno-anthropological researchers could contribute to the repair café concept. He mentioned that he was interested in something that could improve the sharing of knowledge between volunteers, promotion of the concept, and overall streamlining of how the repair cafés are conducted:

*“Stig, interviewee: I would like a workshop where you do not just sit and get filled with circular economy and all that kind of stuff. I would like something more technical; “here we have five different problems and now you should learn what they are!” But I should not be too nerdy, as everybody should be able to join”*

(Interview with Stig, Repair Café Denmark, February 11th 2019).

This gave us a basis of which direction to develop a workshop that both benefited the repair café affiliates and gave us insights about the repair café concept and Repair Café Denmark.

Our first challenge was to identify topics which the volunteers at the repair cafés found interesting and challenging. The identified topics were based on direct inputs from our contacts at the repair cafés and from our own insights from the fieldwork. For instance, one of the main purposes of the workshop became to enable better communication and knowledge exchange across the repair cafés, with an emphasis on discussion and networking. Next, we had to find a location for the workshop to take place. Luckily, the coordinator of Repair Café Brønshøj, Mette, offered us to loan a room at the culture house Pilegården.

As part of the workshop design we made an appointment with an expert in process facilitation who has years of experience with motivating volunteers: Andreas Nilsson from The Danish Scout Association. He gave us some inspiration on how to facilitate the workshop and which exercises to conduct.

We then proceeded to create an invitation to the workshop, which we called ‘The Good Repair Café’, and invited all our contacts and their affiliates from the repair cafés and the Electronics Workshop Amager. In the invitation, we emphasized that the participants would gain concrete knowledge and ideas to strengthen their individual repair cafés at the workshop. (See the invitation in appendix C).

The workshop was held on April 24th 2019 and with 10 participants attending. We started out by presenting some key insights from our fieldwork to the participants, which then laid the grounds for further discussions at the three exercises we had developed for the rest of the workshop.

## The ADJ Triangle

The first exercise was the ADJ triangle. The purpose of this exercise was to bolster the social structure at each individual repair café and make the participants reflect on what they found to be essential for a repair café to flourish. This made them aware of how other repair cafés are conducted, and they discussed what motivates volunteers in general.

To facilitate this, three categories were created and put onto a triangle. The three categories were: ‘Achieve’ (*Udrette*), ‘Develop’ (*Udvikle*), and ‘Joint social development’ (*Udskeje*). The 3-4 participants by each game board should then write a proposal on a game piece about what they thought was necessary to be fulfilled if the ‘Good Repair Café’ was to be realized, and then place it by the corner they found most fitting. This way, a multitude of suggestions were placed at each corner, reflecting what the participants did or wished they did at their repair cafés.

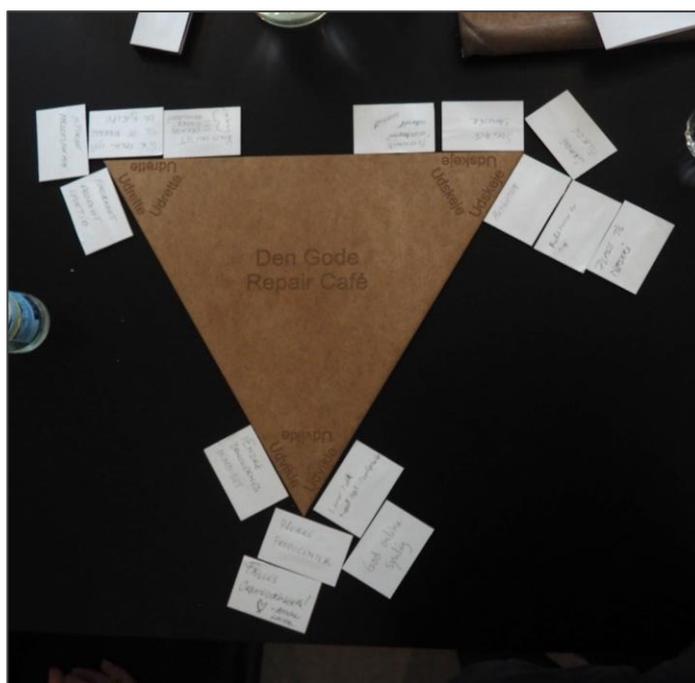


Illustration 7: In the center of the board was engraved “The Good Repair Café” and at each corner there was engraved either ‘Achieve’ (*Udrette*), ‘Develop’ (*Udvikle*), and ‘Joint social development’ (*Udskeje*) three times so it could be read from every angle (Photo, Workshop, April 24<sup>th</sup> 2019).

The ADJ triangle has been inspired by a design game approach as we did not want to focus the attention on the individual, but rather use a game board to direct the conversation. A design game is a tool that focuses on the playfulness and willingness aspects of a participatory process. A design game is defined by rules and material that guide the participants while facilitating a dialogue (Brandt, Binder & Sanders 2013). The game board we designed consisted of a triangle which was cut out with a laser cutter and big enough for 3-4 participants to join at a time. We made an extra game board so that two games could be played at the same time during the workshop, and Repair Café Denmark could get one to use afterwards at potential future workshops as well.



Illustration 8: One of the ADJ triangle games in use at the workshop (Photo, Workshop, April 24<sup>th</sup> 2019).

## The law of the two feet

The second exercise was inspired by the most common topics we found in the fieldwork and which had been noted by our contacts prior to the workshop. The topics were: ‘The physical framework’, ‘Voluntariness’, ‘Responsibilities’, and ‘Financial support’. These topics were put onto posters with two additional facilitation questions to kick-start a discussion. In relation to the title of the exercise, the participants were then free to walk to the posters they found most interesting and discuss with the others participants about how and why the specific topics should be addressed.



Illustration 9: The posters had room for writing the participants' own reflections under the headlines' facilitation questions (Photo, Workshop, April 24<sup>th</sup> 2019).

### Self-reflections

The third exercise was focused on self-reflection followed by a discussion in plenary. In this exercise, the participants' task was to write eight insights or experiences they had gotten during the workshop and then choose the two most important ones and present them to the other participants in plenary. This was to make them choose the most essential topics and thereby make it easier for them to explain to others who were not present at the workshop. It also made it easier for us to sum up the insights from the workshop.

	God Skramling *	God ledelse Torholder	Tilstrebeligt Værktøj og nogle "komponenter" *
fixere, samarbejde	Samarbejde mellem fixere el/sy eller el+cy *	Hvad skal der til for at opnå "Den gode repair café"?	Workshops for Fixere *
#	Bredere udvalgte mellem Alle Fixere af repair coffeeerne Eks på "Majens" *	<del>Alle</del> give videre videre *	Workshops for Brugere
	Branding	Hvem er vi?	Hvad gør vi?

Tilføje for fixere i selve repair café  
(Lokal)

Illustration 10: A self-reflection table, filled out to the very last corner (Photo, Workshop, April 24<sup>th</sup> 2019).



Illustration 11: After noting their own most important insights from the workshop, the participants presented their notes and had a plenary discussion to end the workshop (Photo, Workshop, April 24<sup>th</sup> 2019).

We found that the workshop was an overall success with great discussions, enthusiasm and engaged participants. After the workshop, we made a summary document of the topics discussed, the exercises, and the presentation, which we then sent to all the participants.

## Anonymization

During the fieldwork at the six repair cafés, the Electronics Workshop Amager, and at the workshop ‘The Good Repair Café’, we met a lot of people with different backgrounds and relations to repair cafés. Because of this, we had to reflect on how to anonymize these people as well as their locations.

First of all, we decided not to anonymize the particular repair cafés, as it is important for the context of this master’s thesis to be able to refer to them specifically by name and location, as we also wish for this piece of work to contribute to Repair Café Denmark and the repair cafés’ knowledge about their own organization. Additionally, we reasoned that it would be very easy to identify specific repair cafés based on our description of them, making it counterproductive to anonymize them. Regarding specific persons in the field, some have been anonymized, and some have not. We have anonymized repairers and visitors by not referring to them by name, but rather by function and location, e.g. “repairer at Repair Café Valby” and “the woman with the dishwasher”. Some of the key persons at each repair café and from Repair Café Denmark would easily be able to be identified, such as the coordinators and the chairman of Repair Café Denmark. For that reason, these have not been anonymized and are referred to by their first name; with their consent of course (Karpatschhof 2015).

## Coding and mapping the empirical data

After we finished the fieldwork and transcribed the interviews, we began the process of coding and mapping our empirical data with the purpose of getting a better grasp of our compilation of data to analyze it. Our approach was based on two notions from Grounded Theory described by the sociologist Udo Kelle (2007), from which empirical categories emerge. Kelle’s notions are:

*“- Categories must not be forced on the data, they should emerge instead in the ongoing process of data analysis.*

*- In developing categories, the sociologist should employ theoretical sensitivity, which means the ability to see relevant data and to reflect upon empirical data material with the help of theoretical terms” (Kelle 2007: 192-193).*

This process began alongside with the fieldwork as we continuously discussed and reflected on our experiences. This was to get a shared understanding regarding emerging topics and their connections to our theoretical framework. Therefore, the specific coding process began with a wide range of already

established categories, which had emerged prior to the thorough reading of our data. A practical reason for this approach was also that we had 185 pages of raw empirical data and some predetermined topics would offer structure, making the management of the data easier to comprehend. When we found a statement in one of the interviews or a fieldnote that correlated with a category, we copied it into its corresponding document with a few words about the context and our reason for doing this categorization. This meant that coding and mapping of the data was in fact done simultaneously. Our pre-established categories were: ‘The greater network’, ‘The internal network: The specific repair café’, ‘The internal network: Between the repair cafés’, ‘The practices: Material, competences and meaning’, ‘Ambiguity’, and ‘Stories’. During our digging in the data, three additional categories emerged as well, which were: ‘Experts’, ‘Voluntariness’ and ‘Workshop’.

This was how we coded and mapped the empirical data. In the next chapter, we will explain the theoretical framework with which the coded and mapped data has been analyzed.

## 8. Theoretical framework

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In this chapter, we will account for the theories which make up the theoretical framework of this master’s thesis. First, we will present the framework of Social Practice Theory. This theoretical point of departure has been applied in the analysis of the six independent repair cafés which we visited and researched through our comprehensive ethnographic fieldwork (see chapter 10). Social practice theory enables us to understand the similarities and differences of each repair café and will lay the ground for inspiration to their wider concept and development of Repair Café Denmark.

After the presentation of social practice theory, we will present the framework of Actor-Network Theory (ANT). This theoretical point of departure enables us to first analyze the position of Repair Café Denmark in the Danish network of repair, circular economy, and waste minimization (see chapter 9). Later, it is discussed how Repair Café Denmark can potentially strengthen their position through the use of concepts based on the framework of ANT (see chapter 13). This discussion will be based on the initial analysis of their position, as well as the analysis of the six repair cafés’ similarities, differences and potential collaborations.

## Social Practice Theory

Social practice theory is part of the theoretical field of cultural theories (Reckwitz 2002). Cultural theories are a distinct from the classic economic theories and the sociological theories. The economic theories explain human actions as being based on individual purposes, intentions and interests, where social order is then a product of the combination of these interests. In opposition, the sociological theories point to humans acting as a result of social norms, orders, symbols and values. And the individual is then only a small piece of the collected social system. In contrast to both the economic and sociological theories, cultural theories consist in *“explaining and understanding actions by reconstructing the symbolic structures of knowledge which enable and constrain the agents to interpret the world according to certain forms, and to behave in corresponding ways”* (Reckwitz 2002: 245-246). That way, cultural theories, and thereby social practice theory, do not consider either the social order to be a product of the individual, nor the individual to be a product of the social order, but rather that social order is imbedded in collective cognitive and symbolic structures and actions, and actually take the implicit, tacit or unconscious layer of knowledge into consideration (Reckwitz 2002).

### The role of the individual

In social practice theory, the human and its actions are neither the precursor, nor the result of social order and norms. Rather, the individual is considered a carrier of diverse social practices, being an agent who consists in the performance of practices. The agent as a carrier of a practice understands the world and themselves and is able to use know-how and motivational knowledge according to the particular practice. The role of the individual, however, is not the same as an agent. An agent is specific to the particular practice, but the individual human being will always be carrying out a multitude of different social practices and thereby holding the “hat” of several different type of agents from the different practices. Thus, the individual is the unique crossing point of practices (Reckwitz 2002). This way, the individual is not a pure agent of one practice. Instead, the individuals will be able to challenge one another’s performativities, as they are each coordinated by distinct understandings, procedures and engagement taught from their crossing agents and practices, e.g. work practices, parenting practices, and relationship practices (Halkier & Jensen 2008). This understanding of the individual is important to keep in mind when analyzing and understanding the actors’ individual points of departure, as each participant - volunteers as well as visitors - of the repair cafés will be carrying meaning, materials and competences brought together by their other participating practices. This notion of the individual is

thereby important when wanting to make an influence in a broader perspective than just locally during the practice of the repair café events.

## Practice as entity and performance

In social practice theory, one element of its entity is no more important than the other. Rather, as social practice theory takes its point of departure in the so-called practices, all elements are in an interplay with one another in order to make up the entity of a practice. According to the cultural sociologist Andreas Reckwitz, these elements are the interplay of body, mind, things, knowledge, discourse and language, emotions, structure and process, motivation, and the agent/individual. And again, no element is the precursor of the other (Reckwitz 2002). This way, social practice theory, as also being a cultural theory, builds on a constructivist interpretation of the world, where symbols, humans, objects and meaning are all equal parts in sense-making and thereby valued symmetrically (Jensen 2011).

The Danish sociologists Bente Halkier and Iben Jensen also note that this non-privileging of single elements is an important aspect of social practice theory: *“In opposition to previously mentioned approaches, practice theory does not privilege the analytical single aspects, e.g. such as discourse or intention. That means that the theoretical assumptions about practice are open and multi-relational”* (Halkier & Jensen 2008: 50). Furthermore, Halkier and Jensen argue that because practice is to be considered with the notion of practices as ‘performativity’, social practice theory has a distinct analytical view on the social in everyday life (Halkier & Jensen 2008). Thereby, Halkier and Jensen highlight how practice - in addition to being an entity - is also to be considered a performativity; a routinized type of behavior, connecting the elements of practice through actions and performance. Shove et al. explain that it is *“through performance, through the immediacy of doing, that the ‘pattern’ provided by the practice-as-an-entity is filled out and reproduced. It is only through successive moments of performance that the interdependencies between elements which constitute the practice as entity are sustained over time”* (Shove et al. 2012: 7). By understanding practice as a performance, we are enabled to perceive the doings and sayings at the repair cafés to be the glue holding together and activating the elements of the practice. But what are these elements?

## The elements of practice

The elements of practice are widely discussed and nuanced in the sociological field of practice theory. In this thesis, we will take our point of departure in Shove et al.'s (2012) further development of Reckwitz' distinction of elements. Elizabeth Shove is professor in sociology, Mika Pantzar is research professor in consumer research, and Matt Watson is lecturer in social and cultural geography (Shove et al. 2012). As previously noted, Reckwitz suggests that practices consist of the interdependent relations between bodily activities, mental activities, things and their use, knowledge as understanding and know-how, discourse and language, emotions, structure and process, motivation, and the agent/individual (Reckwitz 2002). Instead of working with all these distinct elements in an unorganized manner, Shove et al. have taken a liberty and categorized the elements of social practice theory into three greater elements: Materiality, meaning, and competence (Shove et al. 2012).

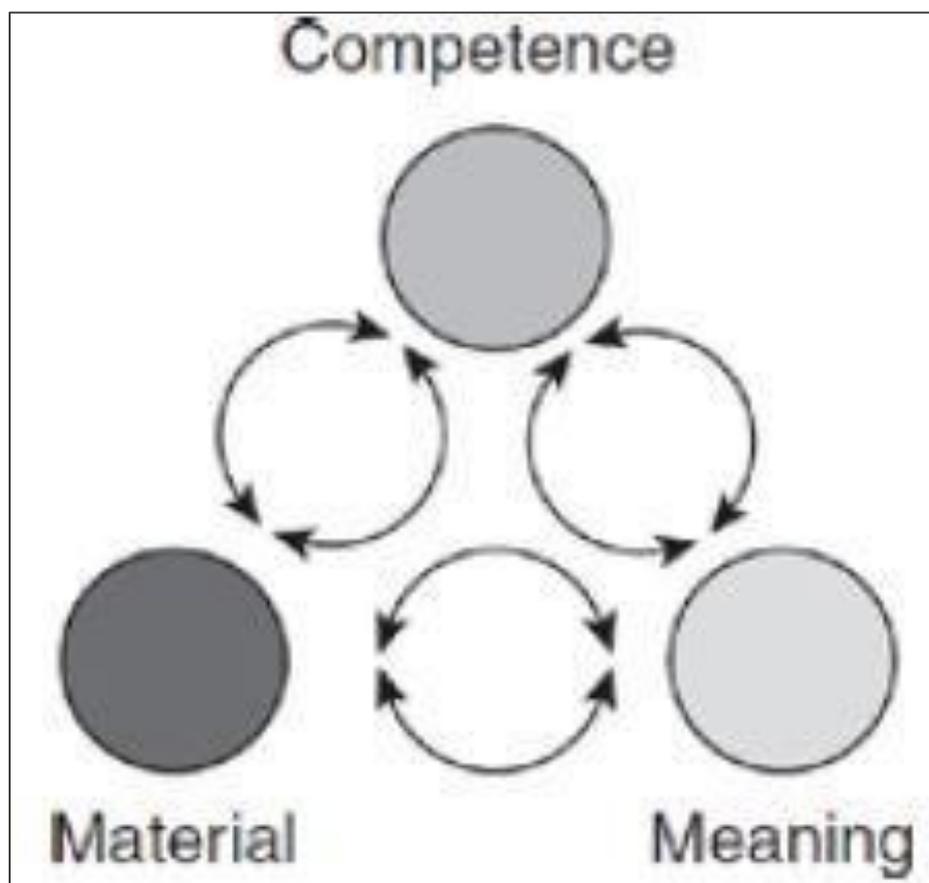


Illustration 12: The interdependency of the elements of practice according to Shove et. al (2012: 32).

As Reckwitz (2002) and Halkier and Jensen (2008) also point out, Shove et al. highlight that these three categories of practice are interdependent, which is also seen in illustration 12 above. Furthermore, Shove et al. elaborate their understanding of these three categories to be consisting of the following:

*“By elements we mean:*

- *materials – including things, technologies, tangible physical entities, and the stuff of which objects are made;*
- *competences – which encompasses skill, know-how and technique; and*
- *meanings – in which we include symbolic meanings, ideas and aspirations”* (Shove et al. 2012: 14).

The advantage of working with Shove et al.’s three elements of practice is to be able to think about the dynamics of practices, starting from first principles. This way, we can treat the elements as building-blocks of practice, and by that identify emergent patterns and connections (Shove et al. 2012). Finally, this will enable us to conclude similarities and differences between the six repair cafés we have visited in the metropolitan area of Copenhagen which additionally will be a tool for Repair Café Denmark to strengthen their internal corporation through common grounds for knowledge sharing.

## Actor-Network Theory

Actor-Network Theory (ANT) emerged in the late 1970s. In 1979, the sociologists Bruno Latour and Steve Woolgar published the book ‘Laboratory life: The Social Construction of Scientific Facts’, with the controversial view that scientific facts are partially socially constructed (Olesen & Kroustrup 2007). This provoked many natural scientists who perceived the social and natural sciences as two completely different fields. Latour and Woolgar did not question the conventional scientific method, but simply mapped the process in which it is constituted. In prolongation of that, Latour argues that ANT is not a theory as the traditional understanding of a theory, as it does not claim to know ‘how’ and ‘why’, but instead offers a toolbox for the investigation of heterogeneous networks and underlying structures that make up any entity (Latour 2005).

## The background of ANT

So, if ANT is not a theory, what is it then? To answer this, we need to take a step back to the epistemology of ANT and the notion of truth. In philosophy there is a divide between the modernist and the postmodernist definition of truth, but ANT does not fall into either of these categories. The modernist view is that truth is out in the world free from humans and is only to be discovered by scientists. The postmodernists believe in a universal truth, but one which is constructed by every individual (Dankert 2012). To ANT, the truth is understood as a state of affairs which is made and remade over time by the actors connected by it. Therefore, ANT does not focus on “essence” or “truth”, but instead on the factors which determine it and how negotiations take place (ibid.). This, and the notion of agency is the key to understand why a network is considered heterogeneous in ANT, as actors are not solely humans but also non-human artefacts and animals alike. This is where the term of ‘actor’ comes in handy, as an actor is to be understood as any entity which has agency. And within ANT, even non-human artefacts possess agency, thereby making humans and non-human artifacts symmetrically important in the analysis of the negotiations and power-structures of a heterogeneous network of relations, as explained by Olesen & Kroustrup (2007: 72): *“In other words, the scientist needs to refrain from dividing the world into regions and mattering subjects in advance. Instead of focusing on a well-defined, homogenous world, the ANT-scientist will study the formation of heterogeneous networks where actors of any kind partake in mutual alliances to gain results which they can join and gain from”*.

In this master’s thesis, the framework of ANT is utilized in order to identify and analyze the multitude of actors in the network of repair, circular economy and waste minimization along with the organization of Repair Café Denmark. Additionally, ANT will also enable us to discuss which power-relations Repair Café Denmark is currently part of and more importantly, how they potentially can use non-human actors and tools to their advantage in negotiations with other actors.

## The process of translation - and other terms within ANT

In order to use ANT for our analysis and discussion of Repair Café Denmark, we need to understand the underlying concepts and terms within ANT. A central term is ‘translation’. Translation is the notion of establishing connections with other actors and going through a transformation in order to fit within

a network. A process of translation is thereby all the negotiations, intrigues, calculations, acts of persuasion, and violence through which an actor is changed to fit within a network. In other words, the process of translation is the way which actors interact with each other in order to establish connections and make and remake the balance of the actor-network (Dankert, 2012). The four moments in the process of translation are ‘problematization’, ‘interessement’, ‘enrollment’ and ‘mobilization’ (Callon 1986). However, terms such as ‘programs’, ‘obligatory passage point’, ‘spokesperson’ and ‘immutable mobile’ are also relevant. All of which will be elaborated below.

## Programs

In ANT, an actor can hold intentions of action, also called programs of actions. The actor may need to make alliances with other actors, human or non-human, in order to come through with the program. In short, the actor’s program is his or her intentions and visions of action (Latour 1991). In this master’s thesis we will focus on the program of Repair Café Denmark based on their official visions of their organization and practices. The vision of Repair Café Denmark has been accounted for in chapter 4.

## Obligatory passage point

An obligatory passage point (OPP) may arise if the translation can only happen through a certain point or actor. Attempting to control a process of translation to go through the obligatory passage point may be an advantage to an actor, as they will thereby control the other actors’ positions and abilities to negotiate (Callon 1986). Making oneself indispensable as an OPP in the network is part of the moment of problematization (ibid.).

## First moment of translation: Problematization

The first moment in the process of translation is problematization. The moment of problematization is about investigating the central problem and identifying the other actors. Accordingly, the problem needs to be considered in the perspective of the other actors as well, in order to understand their positions, alignments and needed points of negotiation in the further process of translation. In short, the problematization describes a system of alliances, or associations between actors, thereby defining the identity and what each of them “want” (Callon 1986).

## Second moment of translation: Interessement

The next moment in the process of translation is interessement. This moment consists of a series of processes by which the actor in question - in our case, the Repair Café Denmark - seeks to lock other actors into roles which Repair Café Denmark has proposed for them to their own benefit in their program (Callon 1986). The interessement strategies can vary. It can be anything from seduction to simple solicitation. It can also be done with the use of interessement devices, which are physical materials or broader concepts used to interest the other actors into one's program (*ibid.*). In chapter 13, we will specifically discuss the potential use of an interessement device which Repair Café Denmark might use across the network of repair, circular economy and waste minimization.

## Third moment of translation: Enrollment

If the moment of interessement turns out to be successful, it leads to the third moment in the process of translation: Enrollment. The moment of enrollment consists of a set of strategies in which the main actor - Repair Café Denmark - seeks to define and interrelate the various roles which they allocate to the other actors (Callon 1986). This is done through testing and adjusting their new relations in the network. It is important to note that the mutual negotiation and interrelated roles of the actors are continuously tested, and the roles in the moment of enrollment thereby does not imply, nor exclude, pre-established roles in a simple, functionalist sense. Rather, roles are interrelated and attributed to actors who accepted them in the moment of interessement. Enrollment is therefore the description and test of the group of multilateral negotiations (*ibid.*).

## Fourth moment of translation: Mobilization

The fourth and final moment in a successful process of translation is mobilization. Mobilization is a set of methods used by Repair Café Denmark to ensure that supposed spokespersons for various relevant collectivities are properly able to represent these collectivities and not be betrayed by the latter (Callon 1986). The moment of mobilization thereby ensures that the actors which in previous steps were displaced now become reassembled, and that they are rendered mobile and easily accessible in order to establish Repair Café Denmark's program (*ibid.*).

As noted, the process of translation is never a fully completed accomplishment, as negotiations, identities, relationships and goals of the different actors are not static actions, but continuously developing, and other actors may arrive at the scene as well. Accordingly, the consensus and alliances of the so far finalized translation and established power-structure may be contested at any moment.

## Spokesperson

As mentioned in the four moments of the process of translation, spokespersons for each actor group may become important. A spokesperson is not necessarily a human entity but may as well be a non-human actor. The term 'spokesperson' is inspired by the same term from worker unions, where the masses have a representant who speaks for the masses to other actors (Callon 1986). The spokesperson is thereby weighted in accordance to the negotiated alliances, and the importance of a good spokesperson is urgent. As constant negotiations in the network is inevitable, the designation of a spokesperson relies on its ability to constantly negotiate and keep holding value to be heard (Akrich et al. 2002).

## Immutable mobile

An immutable mobile is a non-human object which has been negotiated to hold a stabilized status. The understanding of the object is so stable in its configurational state and so widely acknowledged by the other actors, that the object takes the same shape and meaning across time, space, and networks. The printing press is an example of a technology which made newspapers into immutable mobiles (Latour 1986). In the case of Repair Café Denmark, the establishment and use of immutable mobiles may be strategic interessement devices in their negotiations with the other actors in the network of repair, circular economy and waste minimization. This will be discussed in chapter 13.

## 9. A network of repair, circular economy, and waste minimization

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Previously, in chapter 4, we accounted for the Danish repair café concept and the vision of Repair Café Denmark. But how is Repair Café Denmark positioned in a greater network of actors in the field of repair, circular economy, waste minimization? In this chapter, we lay out some of the relevant actors within this network and analyze how the program of Repair Café Denmark may mobilize these other actors through a process of translation, specifically the moment of problematization. The delimitation to the relevant actors in the network is based on literature desk research, references by our supervisor who is engaged within the field, and references and impressions from our ethnographic fieldwork. In addition to Repair Café Denmark, this has led us to the actors listed below:

- Consumers
- Repair Café International
- Environmental Center Amager (as a spokesperson for environmental centers in general)
- iFixit
- The Danish Consumer Council
- DAKOFA
- Danish university researchers
- Ministry of Environment and Food of Denmark
- The Danish municipalities (as a general actor, though we are aware of the political differences in each municipality)
- Product manufacturers (as a general actor, though we are aware of the magnitude of this definition)
- Product retailers (as a general actor, though we are aware of the magnitude of this definition)

In a process of translation, it is first necessary to identify each actor and the system of alliances in their power-structure. This is done through the moment of problematization (Callon 1986). The actors' identities and what they 'want' will be determined with Repair Café Denmark's program as the point of departure in an interdefinition of the actors. Based on Repair Café Denmark's vision as accounted for in chapter 4, the program of Repair Café Denmark is defined as: Making repairs and having access to repair through legislation are necessary steps towards an urgent sustainable future.

## Consumers

An important actor in the network of repair, circular economy and waste minimization is consumers. A consumer is defined as someone who utilizes economic goods (Merriam-Webster 2019), which of course is an extremely broad term. In the perspective of Repair Café Denmark however, most consumers are part of the throw-away culture and are thereby not aware of repair being an option. Consumers' mindset of the throw-away culture is what Repair Café Denmark intends to change, though it may become a great challenge as the identity of the consumers are contested by other actors' problematization. Repair Café Denmark will have to compete with the interestment from both product manufacturers and product retailers who might use strategic interestment devices such as discounts and product upgrades to interest the consumers. This is something which Repair Café Denmark will need to be aware of.

## Repair Café International

The initial repair café concept from the Netherlands has now developed into the international organization Repair Café International (Repaircafé.org 2019). The motivations and ambitions of Repair Café Denmark and Repair Café International are very much alike. Among others, the similarities include minimizing waste by promoting repair as a mean towards a sustainable future, presenting repair as an alternative to throwing out, and thereby working against the mindset of the throw-away culture. The organization Repair Café International is a relevant ally to Repair Café Denmark. Together, with some of the same aims and visions, they have a potential of getting publicity and political attention on an international level as well as in EU and on national levels.

There are a few differences between the two organization however: Repair Café International states that they want to repair with the purpose of making people with practical repair knowledge to become

acknowledged once again by society (Repaircafé.org 2019). Furthermore, and most importantly, Repair Café International does not formally state that they aim to pressure repair legislation, which Repair Café Denmark is preoccupied with. Thereby, even though the concepts of repair cafés are alike on many points, the greater aim and visions are slightly different. Because of that, Repair Café Denmark needs to be aware of this when attempting to interest, enroll, and mobilize Repair Café International into their program.

## Environmental Center Amager and environmental centers in general

Environmental Center Amager is a local environmental center which is financially supported by Amager East Local Committee and Amager West Local Committee. As most environmental centers, Environmental Center Amager's aim is to promote environmental care and sustainable development on a local level and impact political decision-makers (Miljøpunkt Amager 2019). Common for most Environmental Centers is that they have a local point of departure in their specific part of the city, and they work project oriented with several concrete initiatives going on. They aim to include the local citizens, associations, companies and other institutions in their projects and inspire them to make a sustainable difference (Miljøpunkt Amager 2019; Miljøpunkt Nørrebro 2019; Miljøpunkt Østerbro 2019). The interests and projects of the individual environmental centers may vary. Environmental Center Amager has among other projects initiated the Electronics Workshop Amager. As a contrary to the repair cafés, the volunteers at the Electronics Workshop Amager are not yet competent repairers, but instead they partake with the aim of learning how to repair. This way, the focus of the repair workshop is mainly on the volunteers learning how to repair, and not the visitors partaking in the repair (Interview with Kim, Electronics Workshop Amager, February 20th 2019). A similarity with Repair Café Denmark is the wish to affect political decision-makers by showing the practical results of repairing items which would otherwise have been thrown out. Because of similar interests, there is a great potential for Repair Café Denmark and Environmental Center Amager to form an alliance. However, they and other environmental centers will need to figure out how to practically work together and which interessement devices they may agree on using if collectively attempting to interest, enroll and mobilize political actors together.

## iFixit

As also presented in the literature review in chapter 5, iFixit is an encyclopedia-based site that aims to enable anyone to repair electronics. Allying with iFixit may potentially lay the grounds for further training of competences and easier access to material tools for the repair cafés in Repair Café Denmark to use during their repair café events. And iFixit as a business will gain more customers through a mutual vision of why to repair. iFixit is partly based on a motivation to empower people to repair their own electronics devices by making accessible repair manuals for people who have no previous technical background. This is also a counteract to the electronics manufacturers' profit from production of endless goods. The other part of iFixit's motivation is an environmental perspective, as they want to hinder the amount of electronics waste in landfills in third countries. iFixit believes that a way to hinder the contamination at these landfills is to repair and use devices for longer times instead of buying new products: *"If we worked together and doubled the length of time the average piece of electronics was used, we could halve the amount of e-waste created"* (iFixit 2019)

The aims of iFixit and Repair Café Denmark thereby have some similarities. iFixit wants to reduce the amount of electronics waste produced, through empowering even non-technical people to repair their own devices. The methods of the two organizations are thereby a bit different, as Repair Café Denmark advocates for physical spaces where people can get physical help from technically skilled volunteers, and iFixit is an online platform. Secondly, Repair Café Denmark relies solely on voluntary forces, whereas iFixit is based on a business model. These differences of method are relevant to be aware of if Repair Café Denmark wants to interest iFixit into their program.

## The Danish Consumer Council

The Danish Consumer Council is an independent consumer organization who defends consumer rights and aims to enhance the power of consumers by engaging politically in e.g. the EU (Forbrugerrådet Tænk 2019). By allying with The Danish Consumer Council, Repair Café Denmark will be enabled to get a mouthpiece to greater political actors both nationally and in the EU.

The Danish Consumer Council regularly rolls out campaigns and activities with specific focuses. In 2016 they had a campaign called 'It doesn't hold up!' which focused on repairs being too difficult, resulting in consumers buying new products instead. The difficulties include challenges of procuring

spare parts, software updates which make devices slow, and products that are assembled in ways which make them impossible to take apart (Forbrugerrådet Tænk 2016). The ‘It doesn’t hold up!’ campaign resulted in more than 7000 signatures to support the Council’s work in the area, making a political pressure to i.a. expand the two-years period of warranty on products (Salamon 2016). Though this campaign goes a few years back, the subject of repairs and pressuring manufacturers to produce better products is still prevalent for the Danish Consumer Council. This is clear e.g. in the newer initiative of their ‘Brand Bank’, in which they attempt to cover how long different products last (Forbrugerrådet Tænk n.d.). The main differences between Repair Café Denmark and The Danish Consumer Council are the environmental focus of Repair Café Denmark’s program and the consumer focus of the Danish Consumer Council. The Danish Consumer Council might become an important ally to Repair Café Denmark as they are already part of the EU and Danish legislation power-structure network. The challenge for Repair Café Denmark will be to prove the power and importance of their program as something powerful enough for the Danish Consumer Council to engage with.

## DAKOFA

DAKOFA - Waste and Resource Center Denmark - is the Danish network for waste and resources, supporting the need for sharing knowledge, information, experience, and innovation regarding waste and resources (DAKOFA 2019a). DAKOFA is an independent member-based organization with about 250 members from national and local authorities, private organizations, research institutions, inter-municipal waste management companies, waste producers, waste handlers, transportation companies, consultants, and suppliers. DAKOFA is the only association in the Danish field of repair, circular economy, and waste minimization where *“both private and public actors can meet on neutral grounds to exchange experience and views in a non-political forum”* (DAKOFA 2019a). DAKOFA facilitates several events each month where the actors of their organization and other interested parties can partake, share knowledge, and discuss viewpoints. Thereby, DAKOFA is a forum where various actors across multiple fields can have a say (DAKOFA 2019b). DAKOFA will be a valuable ally for Repair Café Denmark, as DAKOFA is a facilitator and meeting spot for several powerful actors. DAKOFA does not have a clear agenda as Repair Café Denmark’s program, as they rather attempt to keep a sort of neutral battleground for their participants to share knowledge. That needs to be considered in the interesement of DAKOFA for Repair Café Denmark.

## Danish university researchers

Within the network of repair, circular economy, and waste minimization, several highly educated university researchers also play an important role. For instance, Associate Professor at Aalborg University Copenhagen Michael Søgaaard Jørgensen works to create dialogue between various actors in the field of repair, circular economy, and waste minimization, and on articulating the ‘matters of concern’ in order to empower the civic society and orchestrating a green transition through action research. Additionally, researchers from Southern University of Denmark, Henrik Wenzel, Thomas Kaarsted, and Anne Kathrine Overgaard have been conducting a research project, collecting knowledge about Funen citizens’ electronics items left in drawers and closets as part of a citizen science campaign. Through this campaign, they wished to create dialogue with the local Funen citizens, combined with collecting user-based knowledge about the electronics waste they get handed in (Syddansk Universitet 2019). Even though these researchers are placed within different universities and specialist domains, they have a common goal of reaching out between the actors in the field of repair, circular economy, and waste minimization, similar to DAKOFA who also stages networking and knowledge sharing. The researchers are actors who additionally generates a pool of knowledge to feed into the power-negotiations. For Repair Café Denmark to align with the university researchers, knowledge sharing through a common platform might hold potential as an interessement device in itself, as information from inside the field of repair will be valuable to the researchers. Furthermore, the researchers’ knowledge and connections to other actors and stakeholders will be valuable for Repair Café Denmark to have their program rolled out and mobilized nationally.

## Ministry of Environment and Food of Denmark

The Ministry of Environment and Food of Denmark has in the recent years begun to focus on circular economy and how legislation can support circular economy in regard to both private and corporate affairs in the Danish society. The ministry has published a formal strategy for circular economy in collaboration with the Ministry of Industry, Business and Financial Affairs (Miljø- og Fødevarerministeriet 2018). Both ministries are relevant allies for Repair Café Denmark, as the ministries have a direct influence on Danish legislation.

As the Ministry of Environment and Food of Denmark also collaborates with the Danish Ministry of Industry, Business and Financial Affairs in relation to the government’s circular economy strategy, the

focus of the strategy is highly aimed towards businesses and making circular economy financially meaningful for the Danish corporate businesses. The consumer as aim is somewhat less represented in the strategy, whereas the individual consumers' mindset is the primary means towards the goal of Repair Café Denmark. If they want to interest, enroll, and mobilize the Ministry of Environment and Food of Denmark into their program, Repair Café Denmark needs to find the right angle of incentive for the Ministry, as the Ministry will have other more "powerful" initiatives to ally with. The organization of Repair Café Denmark will need to use strategic alliances to make a call for action to the Ministry, and they will need to highlight their localized knowledge of the repair field to show their value.

## The Danish municipalities

In Denmark there are 98 municipalities (Folketinget n.d.), each with their own agenda and interests. Because of that, to interest all of them with the same strategy will probably not work for Repair Café Denmark. However, most municipalities have their own environmental initiatives within their local communities. Throughout the process of our fieldwork for this master's thesis, the presence and importance of municipal support for the local repair cafés have been extremely prevalent. Even though the local municipality is not an imbedded part of the concept of repair cafés a priori, the municipalities have shown to be important for the practice of the repair cafés regarding e.g. the physical spaces, financial support, material support, and coordinating support. In short, the Danish municipalities are an important actor to be interested, enrolled and mobilized into Repair Café Denmark's program, as the municipalities possess a unique position as political institutions with both local and national impact.

## Product manufacturers

Product manufacturers as an actor is extremely general. However, this actor is essential for both circular economy, waste minimization, and the actual possibility to repair broken items, as the product manufacturers are at the root of these issues. In broad terms, the aim and incentive for product manufacturers is to make a profit. There are of course different ways for the various manufacturers to do this, but in the perspective of Repair Café Denmark, the manufacturers produce their products in a manner which hinders repair, e.g. through lack of spare parts and tightly glued products, but also prod-

ucts which are based on planned obsolescence (Repair Cafe Denmark n.d.a). To interest product manufacturers into Repair Café Denmark's program, manufacturers need to have a financial incentive for increased turnover.

## Product retailers

Similar to product manufacturers, the general actor of product retailers also relies on financial turnover as an overall aim. The relevance of interesting product retailers into Repair Café Denmark's power-structure is due to product retailers being a facilitating part of the throw-away culture. Product retailers are actors which have a direct influence on all consumers. Because of that, allying with product retailers is important for Repair Café Denmark to come through with their agenda to more people than only the visitors during repair café events.

To interest product retailers, Repair Café Denmark will need to propose some kind of financial incentive. Creativity might be needed for Repair Café Denmark to consider different indirect methods of enticing and knowing that here-and-now sale of products is not the only way to enhance the profit for the retailers.

## Next moments of translation

The delimitation of relevant actors to consider for the program of Repair Café Denmark have now been surveyed through a moment of problematization. The next moments of the process of translation is for these actors to create a network powered by the Repair Café Denmark and their program. This should be done through intersement, enrollment, and mobilization.

In summary, each actor and their obstacle-problem for intersement in Repair Café Denmark's program are illustrated on illustration 13 below, inspired by Callon (1986):

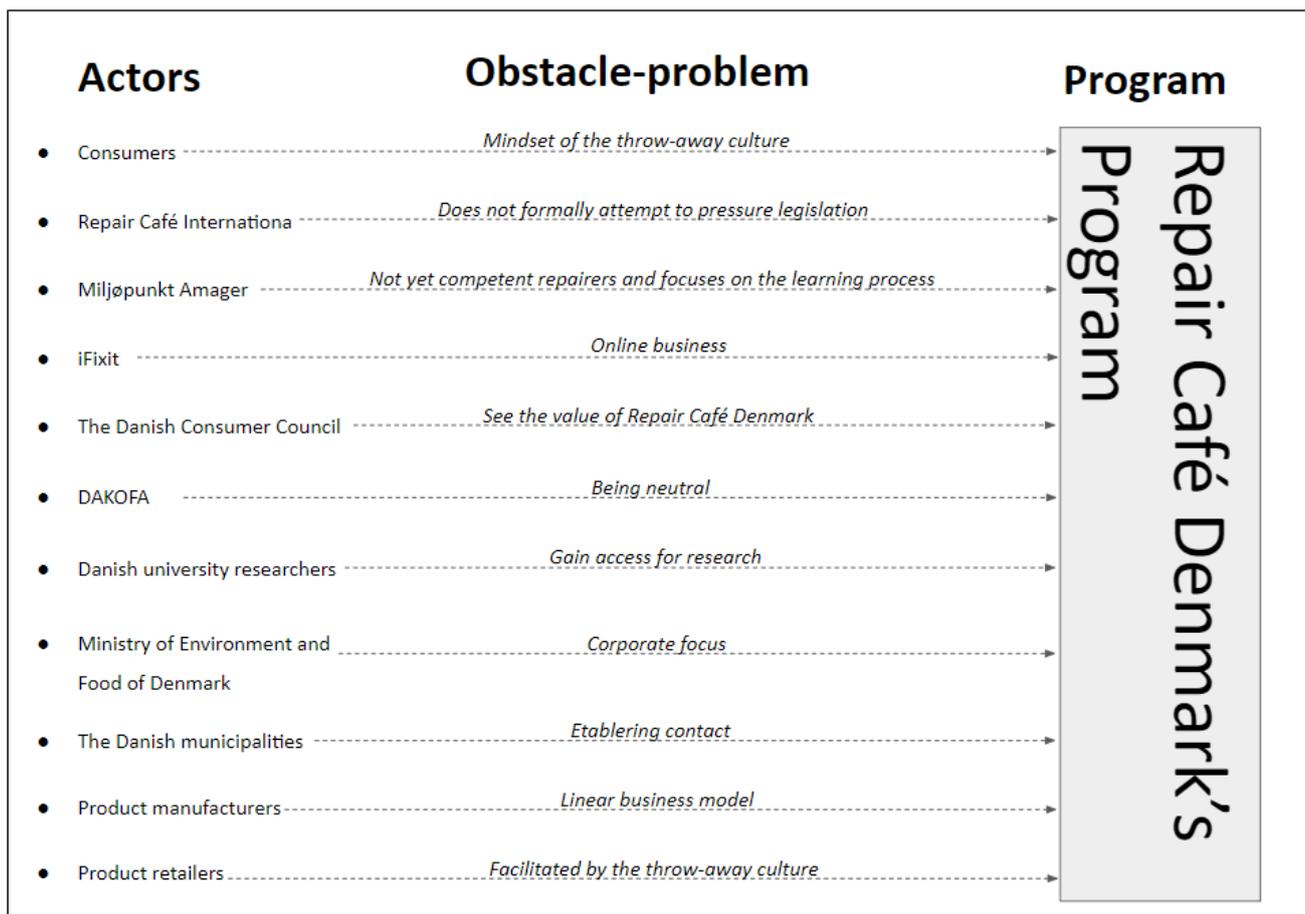


Illustration 13: Actors and the obstacles for being enrolled into Repair Café Denmark’s program.

For us to understand how Repair Café Denmark can most strategically interest other actors, and which interessement devices to potentially use, we need to understand Repair Café Denmark’s practical context. In other words, we need to understand the actual practices of the repair cafés which make up the organization of Repair Café Denmark. Therefore, we will in the following chapter analyze the practices of the six repair cafés we have visited during our ethnographic fieldwork. This analysis will afterwards lay the foundation for understanding and unfolding the potentials of the repair café concept, as well as how their alignments and differences can strengthen the position of Repair Café Denmark in the network of repair, circular economy, and waste minimization.

## 10. The practices of the 6 repair cafés

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As previously mentioned, this master's thesis takes its point of departure in six different repair cafés in the metropolitan area of Copenhagen. Specifically, these six repair cafés are located in Brønshøj, Valby, Vesterbro, Gentofte, Sydhavn, and Nørrebro, respectively. These six repair cafés represent a case study. The selection of these specific six repair cafés were not information-oriented selected, but rather selected from a practical point of view, as they were geographically easiest accessible for our sites of ethnographic fieldwork. However, even though the selection of repair cafés has been somewhat random, the collected case study became a maximum variation study of cases. Flyvbjerg notes that maximum variation cases are relevant when the researcher aims to “[...] obtain information about the significance of various circumstances for case process and outcome (e.g. three to four cases that are very different on one dimension: size, form of organization, location, budget)” (Flyvbjerg 2006: 230). In our analysis of the six repair cafés, their location, materials, tools, competences, coordination, number of volunteers, and number of visitors varied considerably. Thereby making each one of the repair cafés into individual cases of a repair café practice, despite of their geographically close locations. The study of these six repair cafés as individual cases enables us to make a cross-case-analysis of repair café practices through the unfolding of similarities, differences, successes, and challenges for each repair café across different aspects. The repair cafés' aspects of opening hours, location, tools and facilities, coordination, the repairers and visitors, and the registration of repair data are represented in the illustration 14.

Repair Café	Location	Opening hours	Tools & facilities	The role of the coordinator	volunteers	Visitors	Registering statistics
<b>Brønshøj</b>	Pilegården: Local culture house; workshop and café.	Last monday every month from 17:15 to 19:15 o'clock	Tools from the workshop of the culture house. Access to an elevator.	Greeting visitors, repairer coordination, PR, registration, and simple repairs. Employed at Pilegården.	~6	~ 5-15	Manual registration on an A4 piece of paper.
<b>Valby</b>	Fabrication Lab (FabLab) in the local culture house on the 4th floor.	First Thursdays every month from 17:00 to 19:00 o'clock	Most equipment is stored at the Fablab. Some of the sewing machines are brought along. Monthly financial support by the local hardware store. Access to an elevator.	Bipartite coordinator role, one takes care of recruitment and registering, and the other one takes care of coordinating repairers and establish new contacts. One is employed at Valby local committee and the other is volunteer.	~10	~ 15-20	A printed A3 paper version, of Repair Cafe Denmark's official template.
<b>Vesterbro</b>	Settlementet: socioeconomic network initiative.	Last Sunday every month from 14:30 to 17:30 o'clock	Tools brought privately by the volunteers	Not present at the repair café due to illness. Employed at Settlementet.	~6	~ 10+	A printed, but unused, paper version of Repair Cafe Denmark's official template.
<b>Gentofte</b>	Classroom in a former school building.	First Saturday every month from 13:00 to 16:00 o'clock	Tools bought for funds given by the municipality. Some tools are found on the recycling depot. Is an operation association. Access to an elevator.	Greeting visitors, registration, logistics for each event, coordinating repairers, affiliations to other similar initiatives.	~15-20	~ 50-100	Questionnaire in Microsoft Access.
<b>Sydhavn</b>	Art gallery and studio.	Second Saturday every month from 13:00 to 16:00 o'clock.	Tools brought by the volunteers.	Greeting visitors, coordinating repairers, recruiting new repairers, PR, registration and simple repairs.	~5	~5-10	Both manually on paper and afterwards a Google Sheet document.
<b>Nørrebro</b>	Beer bar, Kolsters Tolv Haner.	Second Saturday every month from 13:00 to 16:00 o'clock	Tools owned by the repair café, but transported for every event. Have been financed through funds.	Greeting visitors, registration and weighing items, recruiting new repairers, and PR. Delegates tasks to repairers.	~10-30	~40-50	Digital in an Excel document.

Illustration 14: A table of differences between the six repair cafés visited in the ethnographic fieldwork for this master's thesis.

The analysis of each repair café takes its point of departure in Social Practice Theory, as explained in chapter 8. The terminology of material, competences and meaning are central for this analysis. The notion of materials should be understood as physical framework of the repair cafés like tools, facilities and locations. The competences cover the skills and know-how of the volunteers, and how it benefits the concept. Meaning lies in the reason why repairers, coordinators, and visitors find repair cafés interesting, and why the volunteers are motivated to participate and perform the practice.

After this chapter, we elaborate on how specific topics from the case study of the six repair cafés may be important topics for Repair Café Denmark to reflect on for a streamlined practice. In prolongation of that, we present how the knowledge of similarities and differences from these maximum variation

cases have been utilized at a knowledge-exchange workshop for repair café affiliates. But first, a comprehensive analysis of the practices of each repair café is presented one by one in the following sections.

## Repair Café Brønshøj

Our first experience with a repair café was the one located in Brønshøj, a couple of kilometers northwest of Copenhagen's city center. This repair café is held at the local culture house Pilegården, which also houses many other cultural activities for the local citizens. The repair café occupies half of the Café Pilen at the culture house. At the moment, Repair Café Brønshøj has six repairers affiliated. Four of them are electronics and mechanics repairers, and two of them are sewers. Not all six repairers are present at the same time during the repair café events.

The coordinator at Repair Café Brønshøj is Mette. Besides being the coordinator of the repair café, she is also the daily leader of the culture house. This means that she is not a volunteer in the same sense as the repairers, but she initiated the repair café. The Repair Café Brønshøj roughly has about 5 to 15 visitors at each repair café event and is open the last Monday every month from 17:15 to 19:15 o'clock.

### The physical spaces

In the interview with the coordinator Mette, we were told that they had recently moved the repair café from their workshop outside into Café Pilen. She explained that this format is more practical and comfortable:

*“Mette, interviewee: In the beginning, we were holding the repair café event back in the workshop the first couple of times. And that's been working out OK. But as we have gotten more and more visitors, it became kind of an issue. People were sitting uncomfortably and became impatient and such, and it is just extremely stressful when that kind of atmosphere begins to develop. So we decided to move the repair café over here [into Café Pilen at Pilegården, ed.], and then it became much calmer. Then people can sit here and get a cup of coffee, and it's warm over here, while it's cold in the workshop. And we have soft chairs here”*

(Interview with Mette, Repair Café Brønshøj, February 22nd 2019).

Being inside Café Pilen gives the repair café a feeling of being larger and busier than it actually is, as people kept coming in and out of the café (Felix' Fieldnotes, Brønshøj, January 28th 2019). As Mette highlighted, a repair café and the practice of it needs to be comfortable and a place for socializing over a cup of coffee in order to be meaningful and joyful. Accordingly, the physical spaces can have influence on the repair café's success - and potential for success. Even though an already established workshop outside might seem as a perfect place to repair items, other factors have influence as well. At this point, one needs to be aware of the differences between a repair practice and a repair café practice, as those are not the same. As Mette mentioned, the workshop was not sufficient in space when visitors were waiting to get their items repaired, which resulted in a stressful atmosphere for all of the persons present; visitors as well as volunteers. However, this is not to say that outside workshops or the like will not be able to act as a facilitating space for a repair café event. The important aspect is that the repair café depends on other factors as well, needing space for socialization and comfortability, thereby highlighting the combination of 'repair' and 'café' as a combined practice. This thereby highlights the importance of having supportive facilities for the meaning of the repair café practice as being a place comfortable place to socialize in addition to make repairs is important for the concept to thrive.

### Tools and competences

Another and equally important material aspect of the repair café practice in addition to the physical spaces are tools. Tools are necessary to conduct the repairs of the items. In the case of Repair Café Brønshøj, access to the workshop outside had turned out to be an advantage in their start-up phase. The coordinator Mette elaborated on this:

*“Mette, interviewee: [...] we already had tools, and that's why it was so easy to start up. Because we already had soldering irons and all kinds of neat screwdrivers. And our initial repairer had all sorts of bits and pieces and things that he could pull out of the drawer and say “Oh I think it's just this one screw that's missing”. So yeah it was right up our street compared to if we had had to start ALL the way from scratch, right”*

(Interview with Mette, Repair Café Brønshøj, February 22nd 2019).

The access to the necessary tools and generic spare parts made the start-up of the Repair Café Brønshøj easy, as they did not have to raise funds to buy tools or bring their own before getting started with the

repair café. However, tools and the physical space for the repair café are not enough in order to perform a repair café practice, as those are only the material element of the practice. Competences and meaning intertwined with the use of the materials are elements needed for a practice to be performed, and to even be a practice (Shove et al. 2012). In the previous quote, Mette mentions that their initial repairer already had a variety of bits and pieces to use for repairs. The initial repairer has previously worked at the culture house and has been an important actor together with Mette in the start-up of the repair café. When Mette initiated the repair café, she needed someone to repair items, as she herself did not have any specific repair competences. Because of that, the initial repairer became and still is important for the repair café practice at Repair Café Brønshøj to be performed. The physical spaces and materials such as tools and the defect items brought by the visitors to be repaired cannot be repaired if no person holding repair competences participates in the repair café events. Additionally, the notion of repair competences covers both the competences of knowing, understanding, and physically being able to use the tools, but also knowing, understanding, and physically being able to use the tools for the specific items brought to be repaired. And those items may vary from children's toys and broken coffee makers to ripped clothing and chipped china. One repairer seldomly has the competences within all fields of repair, which is evident in the way the repairers at Repair Café Brønshøj identify themselves as either 'electronics and mechanics repairers' or 'sewers'. This distinction also highlights how the repair café practice needs support from several fields of repair competences, as the concept of a repair café is not restricted into narrowly defined areas of repair expertises, but rather by the items which the visitors bring along. Sometimes however, the local repair café practice is limited to only repair items which fit into the voluntary repairers' types of repair competences. In the case of Repair Café Brønshøj, their collected field of repair competences covers sewing, mechanics, and electronics, though not high-tech electronics:

*“Mette, interviewee: Well there is a lot of electronics. And that can be lamps, toasters, kettles, coffee makers, DVD players and so on. We don't repair computers or cell phones though. That's something which we have announced that our competences do not suffice to”*

(Interview with Mette, Repair Café Brønshøj, February 22nd 2019).

The quote above clearly shows how the specific competences of the participating volunteers shape the practice of their repair café. The competences influence the material items able to be repaired, but

limited to the existing repair competences present. With that said, the Repair Café Brønshøj is also a room for learning how to repair within other fields than one's own set of preliminary repair competences. Mette explained that she has learned a thing or two from the voluntary repairers:

*“Mette, interviewee: I definitely learned some things. Because I think that it's extremely interesting. But when it's very busy, I don't have time to concentrate on repairs, right. [...] But I've definitely learned some things from these talented gentlemen we have at the repair café”*

(Interview with Mette, Repair Café Brønshøj, February 22nd 2019).

When Mette does not have much time to be immersed in conducting repairs during the repair café events, it is because her competences as a coordinator are important instead.

### The role of the coordinator

Mette's primary, visible role during the repair café events is to greet the visitors and guide them on how the concept works. The visible role is however not the only task of the coordinator at Repair Café Brønshøj. Mette explained to us that she takes on the responsibility as the hostess but also holds multiple other responsibilities:

*“Mette, interviewee: I'm kind of the hostess you could say. I greet the visitors as they arrive, and I'm also the one to make sure that there will be voluntary repairers attending. I'm the one they call if they can't make it. I'm also the one responsible for marketing the repair café. Or well... Our communications employee is... If we need to buy... For instance, I have bought a sewing machine recently, so I spent our money. If we cannot afford it though, I also need to apply for funding somewhere. I'm kind of... What do you call it...? The frame of the content. And then the voluntary repairers get here and fill out that frame”*

(Interview with Mette, Repair Café Brønshøj, February 22nd 2019)

As Mette puts it, she considers herself to be the frame of the repair café, which accordingly makes her to be mainly accountable for the meaning imbedded in the repair café practice. And this meaning is to Mette also associated with the purposes of the culture house Pilegården:

*“Mette, interviewee: I would really like that we in general are... What do you say... That we're an environmentally friendly [culture, ed.] house. That we use the correct paper, that we don't use too many paper cups. So how could we do more of things like that? And then I thought of Repair Café”*

(Interview with Mette, Repair Café Brønshøj, February 22nd 2019).

With this in mind, it is clear how once again the meaning of Repair Café Brønshøj's practice is closely connected with the meanings imbedded in the existing practice of Pilegården. It is also evident that this repair café is closely affiliated with the municipal power-structure which in this case is a force for the repair café, as they have Mette to conduct and handle the repair café coordination as part of her official job as the daily leader of Pilegården. Furthermore, her job allows her connections to official help with e.g. marketing of the repair café events and other external communication by the employed communicator at Pilegården. Communication is important if any visitors are to attend the repair café events, so the fact that someone is responsible for it can make it more consistent and ease Mette's responsibility as the primary coordinator.

In addition to the facilitating roles, Mette also has the responsibility of registering the items brought in for repair. We experienced her way of doing this by using a simple piece of paper at our very first visit to Repair Café Brønshøj:

*“As we entered the repair café, we were greeted by a woman [Mette, ed.] who asked us what we had brought to get repaired. Afterwards, she directed us to the repairer who would be able to help us. The lady noted which items the visitors had brought as well as whether the items are repairable or not after a repairer had taken a look at it”*

(Nicolai's Fieldnotes, Brønshøj, January 28th 2019).

Contrary to the other statement about Mette's role as a coordinator, this one focuses on how visitors experience her as a hostess, as she tells them what to expect. By getting a visitor's perspective to the repair café, we saw how important the greeting is for the setting of the repair café, in addition to its practical importance when guiding the visitors to the most relevant repairers. Put shortly, the ability to organize the repair café and give the visitors a great experience is an equally important competence as the repair competences to be performed at the repair café.

The illustration 15 below shows how Mette notes the repairs during the repair café event.

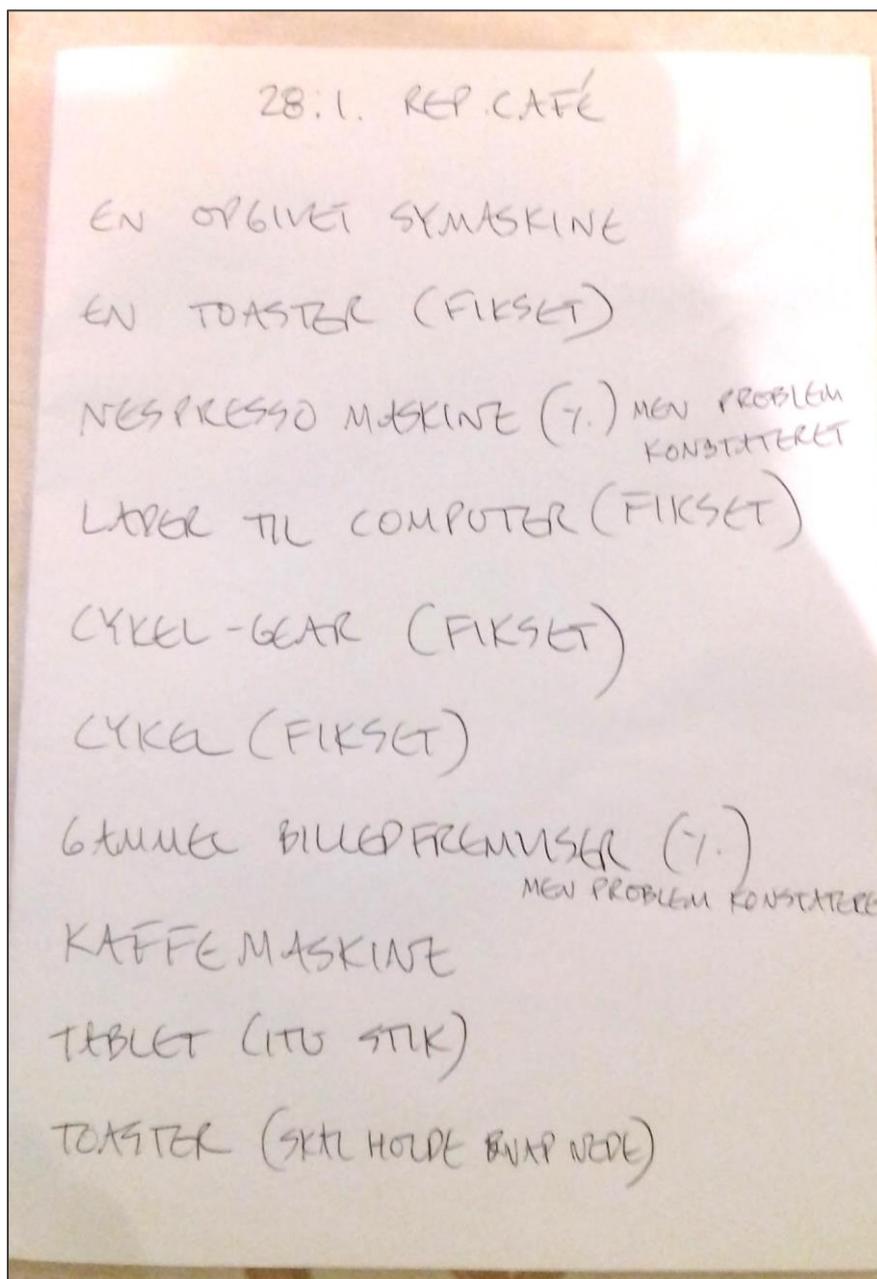


Illustration 15: Mette notes the items and the state of it as they leave with the visitors after the attempt of repair. The repairers manage to repair most of the items brought to the repair café, and if not, the problem is noted as identified (Photo, Brønshøj, January 28<sup>th</sup> 2019).

As illustration 15 above shows, Mette does not focus on other registration categories than type of item and its repair status when using her own blank sheet of paper. This way, the registration practice at

Repair Café Brønshøj is quite simple and mostly with the purpose of assisting the coordinator's overview during the event. Unfortunately, it is not clear to us if or how the repair data is used after the repair café events.

## The visitors

Another component that makes up a repair café is the visitors. The visitors are an important component as they provide the items for repair, and at the same time are a main reason for a repair café's existence regarding the purpose of changing consumers' mindset about the throw-away culture. In regard to the visitors in Brønshøjs, it is important to understand Pilegården's position as a local culture house with daily activities for especially older people. This can be a reason for the repair café primarily having visitors past retirement.

*“Mette, interviewee: A lot of single elderly come here and get a chat with the repairers, as well as they bring them a little something. Also, it seems like it's also often the elderly generation who has a focus on recycling and reuse instead of throwing things out, right”*

(Interview with Mette, Repair Café Brønshøj, February 22nd 2019).

Because the culture house is a place with an environmental focus as well as a place that offers local activities for especially elderly locals, it makes sense that the repair café's visitors are mostly elderly people. Their meaning and intentions also correlate with the meaning of the repair café as being somewhere to help minimize waste, as Mette highlights that the older generations are more focused on recycling their durable consumer goods or clothes. Even though the meaning of the visitors and the meaning of Mette and the culture house correlate, the repairers' meaning of the repair café practice also needs to be considered. The repairers at Repair Café Brønshøj seem to enjoy the concrete tasks of repairing, but do not include the visitors in the repair. We experienced this at our visits, and Mette also explained it during the interview:

*“Mette, interviewee: [I believe, ed.] That the repairers should be more than helpers - they should be supportive initiators to the process [of repair, ed.]. But it hasn't really gone that way. And maybe it is too difficult. And maybe they [the visitors, ed.] learn something by looking at the repairers doing it, right?”*

**Felix, interviewer:** [...] *Is it because it's easier for the repairers to do it [the repair, ed.] themselves?*

**Mette, interviewee:** *[answers immediately] I believe that, yes. They do not want the pedagogical task in it. And that is just something you have to accept"*  
(Interview with Mette, Repair Café Brønshøj, February 22nd 2019).

This way, the practice of Repair Café Brønshøj is one which has a meaning of better environment and sustainability, but not performed through an inclusion and close interaction between repairers and visitors. Rather, the repairers just conduct the repair for the visitors, performing the goal towards sustainability through the concrete repairs.

## Summary

Repair Cafe Brønshøj has the materials, competences and meaning imbedded in their practice with a sustainable purpose. This is seen in their access to the tools and facilities that make a functioning repair café practice, possessing the ability to motivate volunteers and visitors alike, and with the necessary competences to handle the administrative and organizational tasks and give visitors a pleasant experience. Even though these elements could be considered as being separate, it is the entanglement of the collected materials, competences and meanings that comprise Repair Café Brønshøj's practice. This is especially seen through the coordinator Mette's efforts, as she makes sure to keep the visitors happy. At the same time, Mette also takes care of the repairers and makes sure that the different repair competences are represented in the repair café. Mette's competences of starting up a repair café, organizing the voluntary repairers, being a hostess, and taking on the responsibility of repair data registration and delegating communications tasks are paramount for Repair Café Brønshøj. The case of Repair Café Brønshøj is most specifically an example of how the concept of a repair café can be an offspring from a municipal environmental agenda, and how a repair café may not necessarily only rely on voluntary forces.

## Repair Café Valby

Repair Café Valby is open one of the first Thursdays each month in two hours from 17 to 19 o'clock. Repair Café Valby has been initiated by the local Environmental Group which is a subgroup of Valby Local Committee in the Municipality of Copenhagen. One of the coordinators of Repair Café Valby is Kirsten who is a member of Valby Local Committee. She is now on retirement but has previously worked with municipal environmental projects and recycling centers. Therefore, The Environmental Group of Valby Local Committee seems like a natural extension of her former professional work life (Mie's Fieldnotes, Valby, February 7th 2019).

When Kirsten and the rest of the Environmental Group of Valby Local Committee started the repair café, they called themselves "the repair network". In the initial phase, they then discovered Repair Café Denmark and joined them. Thereby getting logos and guidelines regarding conducting a repair café. However, they have locally kept calling themselves "the repair network". The fact that they keep using this name underpins that they have organized themselves in their own way with the point of departure in the Environmental Group. Many of the current repairers are volunteering in relation to their affiliation with the Environmental Group, and they are in total about 10 repairers. The repairers are distributed so that they are four sewers, three electronics and mechanical repairers, and one computer repairer, but their attendance at the repair café events vary. There is often a majority of repairers compared to visitors during the repair café events. Usually, 15 to 20 visitors come to the repair café during an event. But as not all visitors are present in the full two hours of the repair café's opening hours, in practice, the repairers often have surplus of time to help with the repairs.

In addition to Kirsten, the coordinator Asger also plays a large role at Repair Café Valby. Asger is formally employed at the secretariat of Valby Local Committee, and he i.a. organizes tools, sponsorships and manage their Facebook page. However, over time he is supposed to be phased out of the repair café, so that the repair café will solely run on volunteers. But for now, similar to Repair Café Brønshøj, Repair Café Valby is dependent on an employed coordinator.

## The physical spaces

Repair Café Valby is located on the 4th floor of Valby's culture house and has an elevator, which makes access easy for disabled people and visitors with larger items for repair. The culture house is central for several local initiatives and organizations. Furthermore, Valby's culture house also hosts a

fabrication laboratory (FabLab) and a ceramics workshop, which both are located on the 4th floor too. The repair café uses FabLab's space for their events.

At Repair Café Valby, you will see that visitors and repairers alike are placed around big tables in soft office chairs. Centrally placed in the rooms is a small table with coffee, cake, and other snacks. In connection to the FabLab, there is access to a 3D-printer, a computer, several sewing machines, a laser cutter, and programming- and tool manuals. However, these tools primarily belong to the FabLab and are not moved back and forth for each repair café event. Rather, the repair café has a cage on wheels in which they organize their own tools, which consist of screwdrivers, multimeters, pliers, screws, and the likes. Asger explained that they transport the cage from the storage room in the basement with the elevator up to the 4th floor when the repair café opens. The cage has a lock, and in that way, they can keep their tools and materials safe (Nicolai's Fieldnotes, Valby, March 14th 2019). Just like Repair Café Brønshøj, Repair Café Valby have easy access to tools and a place to store them safely. This minimizes the responsibility both for the repairers, as they do not need to bring their own tools, and for the coordinators as they can easily store the tools in the basement.

The fact that the room of the repair café is large, and an elevator is accessible makes it easy for visitors to bring larger items for repair. As an example, we observed a woman bringing in a tabletop dishwasher to the repair café (Mie's Fieldnotes, Valby, March 14th 2019). Additionally, there was no pushy flow of visitors arriving to the repair café. The room of the FabLab thereby facilitates the frames for a variety of potential items to be brought into repair by the visitors, as the space is big, and elevators make it easily accessible for visitors who are bringing large items. For the items to be repaired however, the repair café is also dependent on tools and competences.

## Tools and competences

As previously highlighted in the analysis of the practice of Repair Café Brønshøj, tools are not useful in and of themselves. Especially competences to handle the tools are important to conduct the repair café practice. Furthermore, organizational competences are also important. It was clear at Repair Café Valby that an essential competence for their practice is the ability to enroll external actors into Repair Café Valby's network. In addition to motivating and communicating with the repairers of the repair café, Asger has access to mobilize resources and contacts through his employment at Valby Local Committee. Like Mette in Brønshøj, Asger thereby has a network that can support his work and his



Of the six repair cafés we have visited, Repair Café Valby is the only one who has gotten a sponsorship from a local hardware store. Enrolling a private actor into their network may strengthen their position, as they not only have one less aspect of the repair café practice to worry about prospectively, but they will also have access to the newest equipment, be able to replace worn tools, or perhaps over time even provide spare parts to the visitors.

As explained, the rooms and the tools are mostly in place for supporting the practice of repairing, which of course also will need competences to be carried out. One of the electronics repairers had been working professionally with electronics but is now retired:

*“During our conversation, he told me that he is now retired but has been working at The Technical University of Denmark for 46 years. I thought to myself ‘wow here’s a man who definitely knows a thing or two! It’s great that he participates in an event like this and wants to help other people with the knowledge he possesses and has been working with professionally’”*

(Mie’s Fieldnotes, Valby, February 7th 2019).

This type of repairer is common across the repair cafés: Someone who has developed repair skills through education and work and now wants to contribute with their skills in a voluntary setting. Entanglement of tools and competences was also evident. One of the electronics repairers explained to us how his repair competences depend on the tools available, as well as other materialities in the repair café:

*“I approach the repairer who’s sitting closest to the computer and ask him what they use it for. [...] The repairer tells me that to ‘an electronics guy like him’, the computer is just as an important tool as the special set of screwdrivers and the multimeter. He opens the special set of screwdrivers to show it to me, and also points to the multimeter which the visitor is currently using”*

(Mie’s Fieldnotes, Valby, March 14th 2019).

Several ladies with the competences of sewing are also volunteering at the repair café. The sewing machines accessible at the FabLab are sponsored by a former initiative elsewhere in Valby. That way, the sewing machines are part of a greater network of reuse and sustainable circularity. Unluckily, the

sewing machines are not usable. They are not broken, but they are older models which the sewing ladies do not know how to use (Nicolai's Fieldnotes, Valby, February 7th 2019). This shows how the tools and materialities in the repair café do not comprise the practice of a repair café, as the practice is a performed entity and includes competences both within the specific trades and to competences actually handle the tools. The lack of knowledge and competences to handle the sewing machines was also something which Kirsten pointed out in our conversation of her idea of a "dream repair café":

*"Kirsten said that it's very neat with that many tools collected in one place [at the FabLab, ed.], but it can also be quite overwhelming at times, because there are so many initiatives taking place: "I would really like a place that's more manageable. There are too many things in one place here. It's nice with that many tools, but we don't really know how to manage them. It would be better with fewer things, but things which we all actually knew how to use", and exemplifies her point by referring to the 5 sewing machines in the room which none of their repairers know how to use"*

(Mie's Fieldnotes, Valby, March 14th 2019).

In addition to having the tools at hand and the competences to use them, meaning is equally necessary for the repair café to be a performed practice. The meanings at play at Repair Café Valby are multiple, though only subtly observed and heard through conversations with the initiating coordinator Kirsten. This will be elaborated in the next section.

### The role of the coordinator

The coordinators Kirsten and Asger have individual tasks. Whereas Asger is mainly responsible for sponsorships, the Facebook page, and the official coordinator tasks outwards to the Local Committee and the culture house, Kirsten is mainly responsible for the repairers of the Environmental Group and being the greeter at the repair café. Similar to Repair Café Brønshøj, Kirsten as the greeter welcomes

visitors to the repair café, while she also notes down the items brought for repair. They use a simple A3 sheet of paper with a table on to register the items, as illustrated below.

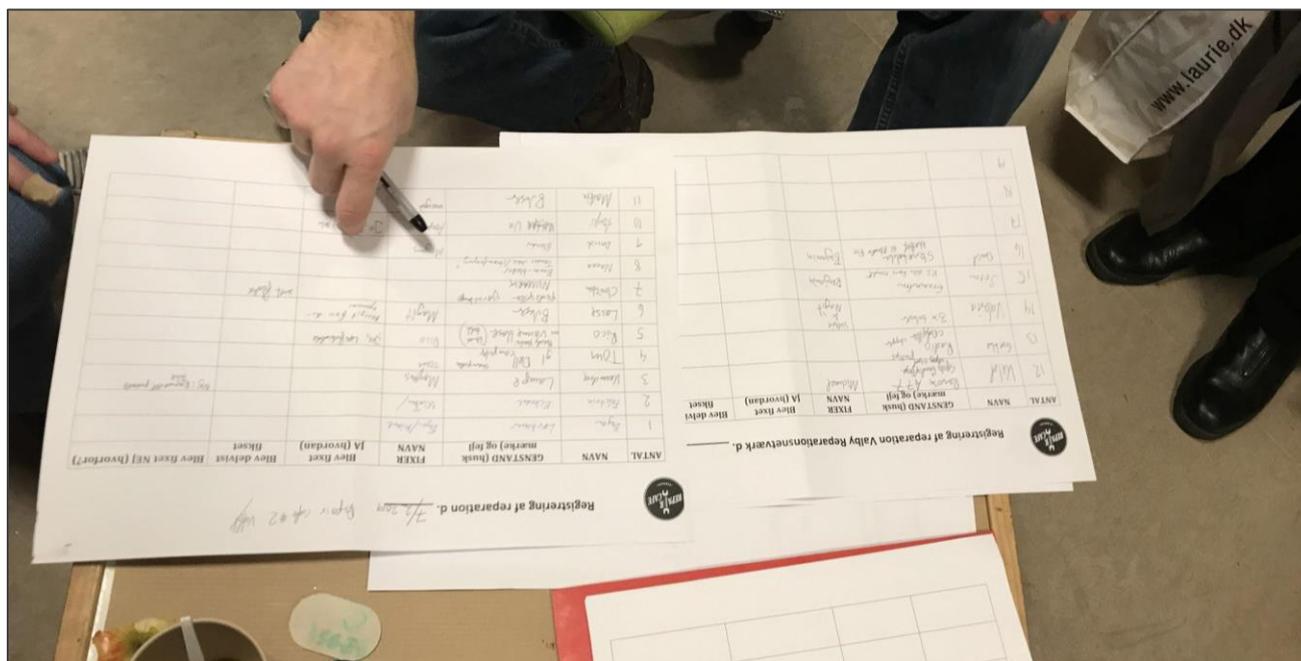


Illustration 17: The table which they use to register items for repair at Repair Café Valby. (Photo, Valby, February 7<sup>th</sup> 2019).

In the table illustrated above, they register the number of visitors, items and the problems, the name of the repairer, and whether the item was repaired. Except for whether the item was repaired or not, the categories of the table are mainly for a practical purpose during the repair café events. It was not clear whether these tables with repair data is used after the events, and if so how.

Kirsten was one of the main initiators of Repair Café Valby, and to understand the values and meanings entangled with the practice, it is relevant to consider her point of departure. In prolongation of her professional life, initiating a repair café is close to her mind, and she told us that she considers repair as something we all ought to do. In her perspective, repair is considered as normal practice when an item breaks down in order to minimize waste (Nicolai’s fieldnotes, Valby, March 14th 2019). Analyzing that point of view, the main objective for Kirsten and the meaning she brings with her to the practice of the repair café is to minimize waste of items which could have been repaired, and additionally to support a culture that endorses this mindset. This is something which is close with the organization of the Environmental Group which Kirsten is part of (Valby Lokaludvalg 2019b). As previously mentioned, many of the voluntary repairers are also affiliated with the local Environmental Group, and the



*that the repairers' interest peak regarding technical items that are difficult to repair, and sometimes they join each other, like 3 repairers around the same item and discuss different solutions to the problem”*

(Nicolai's Fieldnotes, Valby, March 14th 2019).

This was consistent with our own observations on site, however with one exception. At one point, we talked with one of the sewers about her motivations:

*“I asked her what motivated her to be a voluntary sewer. She was quiet and looked away. [...] After a bit of time, she laughed and then answered: ‘I wouldn't say that I'm motivated. I guess I'm here more as a duty.’ [...] Next, she elaborated her answer and said that she chose to partake in the repair café ‘because if the Environmental Group wants to get the repair café up and running, I need to support it’”*

(Mie's Fieldnotes, Valby, March 14th 2019).

We were impressed with the honesty of this volunteer. Her position clearly highlights how new Repair Café Valby is, with the event in March only being their third one. Additionally, her statement shows how reliant the repair café initiative is on the local forces of the Environmental Group. Meaning may thereby root in other practices and alliances and make an influence on the repair café practice and its stability.

## The visitors

In addition to the repairers, the practice is performed through the actions of the visitors as well, who are in interaction with the repairers and the materials. In alignment with the rest of the official objective of Repair Café Denmark, Repair Café Valby also underpins the importance of the visitors' inclusion in the repairs on their description of the repair café on their Facebook event: *“You thereby need to take part in the repair, in collaboration with our talented repairers”* (Valby Lokaludvalg 2019c). We did observe several examples of visitors being included in the repair of their items at Repair Café Valby. For instance, there was the male visitor with a repairer by the computer, who was handling the multi-meter under supervision of the repairer, when trying to repair a charger for a remote control:

*“The visitor and the repairer talk back and forth about what to do now that the transformer does not work. The repairer suggests that they can use a standard USB charger’s transformer instead [...]. The visitor agrees and believes that he has one of those at home he can use. He asks how long the repair café is open, as he would like to go home and get the transformer and come right back”*  
(Mie’s Fieldnotes, Valby, March 14th 2019).

Similarly, we observed a woman with a broken sewing machine who was also engaged in the repair together with the repairers. And at the first visit to the Repair Café Valby, we also encountered a visitor who had a broken blender and tried to disassemble it himself. Another woman with a broken computer was also engaged with repairing, and lastly, the woman with the dishwasher was also eagerly trying to repair it by herself with some supervision from the repairer next to her. In general, we observed great engagement of the visitors in the repairs. At times even, it was difficult to tell the difference between repairers and visitors. In some instances, however, the lack of interest in the repairs also appeared. Once, we observed a lady who had brought a broken lamp:

*“The repairer takes a look at the lamp together with the lady. It’s something about a wry ring which holds the entire lamp together. A few minutes go by while I talk with another woman. The next time I take a look at the lamp repair, I see the repairer working on the lamp, while the lady just sits on the other side of the table, still wearing her outdoor coat and looking at something on her phone”*  
(Mie’s Fieldnotes, Valby, March 14th 2019).

The lady with the broken lamp thereby did not seem interested in the repair, and the repairer also did not actively attempt to include her in the repair. At another point, an old espresso machine was also being fixed. This time, the visitor and thereby the owner of the machine was nowhere to be seen, though at first, we did not realize that:

*“I ask the repairer if the espresso machine is one brought to the café by himself, as I at that point didn’t know anything about it. He answered: ‘No, someone came and handed it in. They were in a hurry’. The woman fixing her dishwasher had stood*

*right next to us and listened to the conversation. As the repairer had answered, the woman exclaimed: 'Did they just hand it in?! That's like totally against the entire concept!'*

(Mie's Fieldnotes, Valby, March 14th 2019).

This small event shows how expectations and meanings of the repair café might be very different. The repairer in question did not seem to mind repairing the espresso machine for the visitors who had left. Perhaps the primary meaning for him is not so much the inclusion of the visitors in the repair, but rather the satisfaction and gratitude of the repair. This however is not what is being communicated outwards on e.g. Facebook to the visitors, which is why the woman with the dishwasher had such a strong reaction. Thereby, the management of expectations between all the participating parties, visitors as well as repairers and coordinators regarding the level of visitor inclusion is not performed in practice, even though it has been written clearly on the repair cafés Facebook event.

## Summary

Repair Cafe Valby's material framework is well supported, as their accessibility and storage of tools are part of the location, and they have a sponsorship by the local hardware store. This gives them a great foundation on which other matters can be taken care of. One of these matters is phasing out the coordinator Asger who currently makes a solid contribution to the repair café practice as the spokesperson externally and by handling the communicative tasks. For now, Repair Café Valby has plenty of repairers in relation to the number of visitors. For the repair café practice to keep being performed in the future, they need to make sure to keep getting visitors, and perhaps even more visitors than now. However, this may become a challenge if Asger's position and thereby coordinator tasks will not be filled out. One may argue that the other coordinator Kirsten could take on Asger's current responsibilities. However, her meanings as a volunteer may not comply with the meanings of Asger as an employed coordinator. Additionally, the fragility of Repair Café Valby's practice is also highlighted by one of the repairers who is not motivated to participate due to an interest in the repair café concept but rather due to her affiliations with the Environmental Group. This way, both the competences of the repairers and of the coordinators might be missing in Repair Café Valby's future, if they do not find stability.

## Repair Café Vesterbro

Repair Café Vesterbro was one of the first official repair cafés in Denmark and opened in 2013 by a group of volunteers (Repair Cafe Danmark n.d.c). Repair Café Vesterbro is open every last Sunday of the month from 14:30 to 17:30 o'clock.

Even though Repair Café Vesterbro is a repair café with many years of experience, they have come across challenges. These challenges include both the location, volunteers, the tools, and visitors' experiences. Officially, they are approximately six repairers affiliated with the repair café, and about 10 or more visitors visit the repair café at each event, though this does not sum up their number of repairs as they often have to turn repairs down. The repair café's physical space is a challenge as well. This will be explained in the next section.

### The physical spaces

The location of Repair Café Vesterbro is quite well. The visitors are able to walk right in from street level to the repair café, and it is located central to the residents of Vesterbro. The repair café's spaces are part of Settlementet's main building. Settlementet is a local foundation working on both social and cultural initiatives at Vesterbro, with focus on creating hope, development, and meaningful relations for the local vulnerable and socially marginalized people. In addition to their main building, they have several local cafés and shops which support the vision of socio-economic improvements and fellowship of everyone in the local community (Settlementet 2019). Our first impression when arriving on site to Repair Café Vesterbro was quite different from the other repair cafés:

*"We looked through the windows of the repair café and it looked pretty dark and empty in there, except from someone sitting next to two sewing machines [...]. Felix and I agreed that it looked pretty boring and definitely not very busy compared to the other repair cafés we have visited"*

(Nicolai's Fieldnotes, Vesterbro, February 24th 2019).

As we entered the repair café, we came into a small room with a bar desk and three smaller tables where two sewing machines were placed on two of them. Next to one of the sewing machines was a man in his 60s sitting and working on a piece of clothes. In the room next to the main room were three to older men chatting. We were in doubt whether this was actually the repair café. No official greeter

met us and in that small, almost empty room, we did not know where to hang our coats or position ourselves. This was a contrast to Repair Café Brønshøj and Repair Café Valby. It turned out that the repairer by the sewing machine was the only one affiliated with the repair café at our arrival. Later, another volunteer arrived as well but did not conduct any repairs.

## Tools and competences

During our conversation with the two volunteers, we got the impression that it did not seem to be atypical with only a few volunteers present. They do however wish for at least two repairers to be present to accommodate the number of visitors, in order to repair both clothes and electronics. However, they face a problem regarding storage of tools and other materials at the location. The non-repairing volunteer during our visit pointed out two major challenges for Repair Café Vesterbro. The first is the lack of storage space. They have experienced their tools going missing when leaving them in their shelf by the backdoor of Settlementet, and the repairers thereby need to bring their own tools for every repair café event. The second challenge is the lack of coordination, as the coordinator is busy with other initiatives at Settlementet. This thereby affects the repair café's administrative and organizational capabilities. As a result of both challenges, the number of repairers and visitors is decreasing (Mie's Fieldnotes, Vesterbro, February 24th 2019).

The lack of repair competences is grounded in the fact that only one repairer and one other volunteer were present on the day we visited the repair café – and in general – and none of them considered themselves to have the competences with mechanics or electronics. In fact, when we asked the repairer which repair competences he possessed, he answered “sewing” straight ahead. He had always liked sewing and has done it at home throughout his life. This repairer is thereby an example of a repairer who possesses autodidact repair competences within a specific repair field, which in his case was sewing.



Illustration 19: The repairer present at Repair Café Vesterbro on the day of our field visit was a sewing repairer, using his own sewing machine brought along from home (Photo, Vesterbro, February 24<sup>th</sup> 2019).

The repairer's specific field of repair and the fact that he was the only repairer at the event led to them turning down several visitors. One example was a mother and her son with a broken toy ambulance, and another example was a visitor bringing a robot vacuum cleaner. The problem with the vacuum cleaner had already been diagnosed by the owner prior to his visit to the repair café. He explained how one of the wheels underneath was stuck, with the result of the vacuum cleaner going in circles. Even though the problem seemed quite basic and had nothing to do with the internal electronics of the vacuum cleaner, neither tools nor competences to repair the vacuum cleaner were available. Therefore, even though the meaning of helping to repair the visitors' items was present, it was not possible. Thereby, Repair Café Vesterbro is also an example of how the needed competences exceed the repair café's capabilities.

## The role of the coordinator

In addition to the two volunteers telling us how their coordinator is currently busy with other work and not present, this also became evident later in a post on their Facebook page, acknowledging their challenge: *“Repair Café Vesterbro is currently quite understaffed and we are in need of both repairers and coordinators/administrators for our monthly events”* (Repair Café Vesterbro 2019a)<sup>1</sup>.

During the event of the repair café, the most evident lack of a coordinator was the missing greeter for the visitors entering the room. Additionally, the register of repairs was not done either. The intention of registering repairs was there, but not carried out:

*“As I observed the room, I discovered a piece of paper behind the counter where there was a table to fill in with the different items to be fixed. But the paper was completely empty, even though we knew that several people had visited the café and had had items fixed”*

(Nicolai’s Fieldnotes, Vesterbro, February 24th 2019).

The blank registration sheet is - unfortunately - a prevalent symbol of the lack of volunteers, tools, and coordination at the Repair Café Vesterbro. The repairer was focused and busy with the concrete activity of repair, and no one was registering the repairs. Thereby, the meaning of Repair Café Vesterbro’s practice does not enclose broader agendas than repairing clothes for visitors during their opening hours. For broader and deeper meanings imbedded into the practice, other perspectives would need to be present. This could for instance have been brought to the practice by a coordinator in alignment with the meaning of *Settlementet* but was not.

## The visitors

The fact that the physical spaces of Repair Café Vesterbro is small, limits the number of visitors and repairers that can be present at the repair café, and also challenges the ability to include the visitors in the repairs. Therefore, the practice of this repair café is different to both Brønshøj and Valby, as there

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<sup>1</sup> 1.5 months after this post, they have announced that they have temporarily closed the repair café until they get more volunteers to help out (Repair Café Vesterbro 2019b).

was no room for the visitors and repairers to engage with each other during the repair. However, this might actually suit the repairer:

*“A father and daughter enter the repair café with a yellow coat. It has a hole in the pocket. The repairer talks to the father about the hole and promises to take a look at it. They agree that the father and daughter can come back, and the repairer would then repair the coat in the meantime. About a half an hour later, the father and daughter come back to the repair café”*

(Mie’s Fieldnotes, Vesterbro, February 24th 2019).

The repairer’s wish to simply repair the visitors’ items was very prevalent. When asked what motivated him in being a repairer, he answered: *“I just really like to repair things for people”* (Mie’s Fieldnotes, Vesterbro, February 24th 2019). That statement might also explain why he does not mind the visitors to simply hand in their items and come back later. At no point while visiting the Repair Café Vesterbro we observed the visitors partake in the repairs. However, there is a great focus on service for the visitors. During the half hour where the father and the daughter with the yellow coat had been away, the repairer said to other present volunteer in the middle of a conversation that *“I just need to repair this before the people get back”* (Mie’s Fieldnotes, Vesterbro, February 24th 2019). This shows attention to provide good service for the visitors. Additionally, even when the repairers do not possess the tools nor the competences to repair mechanics and electronics, they kindly refer the visitors to Repair Café Nørrebro instead, as they know that both competences and tools are present there. This action also constitutes the current meaning of the repair café practice as being helping out the locals. Even though they might not be able to do so for all the visitors at the location of Repair Café Vesterbro.

## Summary

Due to the lack of a coordinator at Repair Café Vesterbro, they are facing challenges regarding the attendance of repairers, management of the tools, café-like refreshments, a greeter, and registration of repairs. This can be further pinpointed by looking at Repair Café Brønshøj and Valby, because even though these seem quite different in materials and compositions of repairers, they both have coordinators who handle tasks which facilitate the repair café. Repair Café Vesterbro does not lack the willingness to help visitors, they but lack some fundamental materials and competences which are necessary for the practice to be performed successfully. Additionally, the current imbedded meaning of Repair

Café Vesterbro is so far restricted to helping other people through the concrete conduction of repair for the visitors.

## Repair Café Gentofte

Repair Café Gentofte is open every first Saturday each month from 13 to 16 o'clock. They had their first event in the fall of 2018 with approximately a half a year of preparation beforehand. The main coordinator is a volunteer who found the concept great as an extension of the local sustainability initiatives, and she reached out to Repair Café Nørrebro with the purpose of getting help to start up a local repair café in Gentofte.

Now, Repair Café Gentofte is one of the most active repair cafés in the metropolitan area of Copenhagen in regard to the number of visitors. At each repair café event they have between 50 and 100 visitors, and about 8 of the 15 to 20 affiliated volunteers present, including both repairers, sewers, the main coordinator, and assisting coordinators. At our visit in March, the repairers consisted of two sewers, one mechanics repairer, and five mechanics/electronics repairers.

### The physical spaces

As the idea of Repair Café Gentofte began to develop, the main coordinator and the two other initial volunteers needed a location to conduct the repair café events. In collaboration with Gentofte municipality, they were assigned a room at a former school. Their room is currently only used by the repair café. When you enter the room of the repair café, you first walk through a small passage with a narrow table where cookies, tea, and coffee are placed. Through the next door, you reach the registration table. Here, the main coordinator greets the visitors and registers their items. Behind the coordinator is a seating area with a sofa, a coffee table, and a couple of armchairs. Visitors are seated in this area while they wait for their turn to get help with repair. Worktables are placed on each side of the room, with a sewing area to the left, and electronics, mechanics, and woodwork to the right.



Illustration 20: The seating area of Repair Café Gentofte. Visitors in queue are hanging out while they wait for their turn to get help with repairing their items (Photo, Gentofte, March 2<sup>th</sup> 2019).

The furniture and tools at the repair café are financed through the sponsorship of different external actors. The furniture has been given to Repair Café Gentofte by a local socio-economic initiative called iGenbrug, which is a thrift store employed by citizens with socio-economic challenges. The collaboration with iGenbrug was established through the municipality. One of the initial volunteers of the repair café has the primary role of making and sustaining the connection with the municipality. Through them, the repair café has also been allowed to take sewing machines and other usable tools at the local recycling center. Additionally, the municipality has also granted the repair café some finances to purchase new tools for the electronics and mechanics repairs, which we were told at our visit:

*“Tools for electronic repairs had been bought with subsidies from the municipality. The volunteers and the coordinator told us that those types of tools, you would not be able to tot your way to, if you wanted tools in proper condition. So, they have bought those from new”*

(Mie’s Fieldnotes, Gentofte, March 2nd 2019).

Because of their close collaboration and financial support from the municipality, the repair café is registered as an official association. As far as we are aware, Repair Café Gentofte is the only repair café of the six we have visited that is an official association. The establishment as an association allows them to be financially supported by the municipality. This also makes the repair café more prevalent in the local political arena, as they are now an official actor within the municipality among its other initiatives.

For now, all the rooms in the former school are not yet occupied, as the municipality is still in the process of figuring out the future purpose of the building, which we were later told by one of the volunteers from Repair Café Gentofte (Workshop, April 24th 2019). However, the same volunteer also explained that the future of their repair café is not as much at stake as our initial impression was. They might need to share their room with other local associations, but they do not consider that as a hindrance to their repair café practice. Rather, they and another similar association might benefit from each other (ibid.). Benefits would include a stronger position in the local community, as they might form an alliance through their common physical location and attraction of citizens. As we saw the physical spaces of Repair Café Valby located at the FabLab in the local culture house, a similar future for the physical space of Repair Café Gentofte might be ahead, where the simple elements such as availability of tools might become improved.

## Tools and competences

As Repair Café Gentofte's location is only used by them for now, it allows for permanent storage of tools. Thereby, the location and the storage capabilities allow them to focus on other tasks that may be more prevalent, such as recruiting more volunteers and strengthening their political position in the field of repair, circular economy and waste minimization.

Based on the website, the Facebook page of Repair Café Gentofte, and on our small talk with the main coordinator on site, it is clear that Repair Café Gentofte wishes to position themselves as a protester against the throw-away culture. Additionally, they want to be a promoter of circular economy, sustainability, and minimizing the consumption of the Earth's resources. They also actively address how they fulfill the UN Global Goals, and specifically Goal number 12, target 5, which is about responsible consumption and production. Target 5 is to substantially reduce waste generation through prevention,

reduction, recycling, and reuse (The Global Goals 2019). Thereby, the meaning of the repair café practice at Repair Café Gentofte is an environmental agenda. Additionally, this meaning is represented in the materialities of the repair café, as the furniture and the sewing machines are second-hand. This meaning of the repair café practice was also pointed out by one of the voluntary electronics repairers:

*“**Electronics repairer, interviewee:** We all want to do something that makes sense, right? Whatever that is. To me it is to do something for someone else [...]. I find it fun to do something which is related to what I have been working with, but without making money from it. The prize is that you make people happy. I go home with a clear conscience. That’s unpayable.*

***Mie, interviewer:** Would you like to elaborate on what you mean by ‘clear conscience’?*

***Electronics repairer, interviewee:** Well it’s partly that you do something good for other people. You repair something which they would not otherwise have afforded to replace. And then you do something good for the society by minimizing the things we use, and also that we produce less waste. [...] It’s the thing about that it’s good for the individual’s economy, it’s good for the society’s economy, and it’s good for the climate. And it’s also good for the use of our raw materials. I mean, the raw materials that are used for the things we repair are expensive!”*

(Interview with electronics repairer, Repair Café Gentofte, March 13th 2019).

In addition to the focus on doing good for the climate, this repairer also points out the interaction and gratitude of the visitors as meaningful to him, and that this is a motivation for him to volunteer. This highlights the attendance of visitors as a central element of the repair café practice, as the visitors in addition to bringing the material items for repair also constitute the social aspect of the practice. Additionally, the previous quote from the repairer underlines how the competences of the repairers are central too. Personally, this repairer has a background as an electrical engineer and has through his whole life been working as such. Furthermore, he has always had an interest in how items work, which now enables him to repair almost anything at the repair café. In fact, the other repairers often ask this repairer for advice when they have troubles with their repairs. Also, this repairer has a background

working with humanitarian organizations, which underpins his eagerness to do something good for other people (Interview with electronics repairer, Repair Café Gentofte, March 13th 2019).

In these cases, the repairer's meaning of the repair café practice becomes quite clear. He finds motivation and meaning in having the opportunity to use his repair competences to help others through social interactions, with something that is also for a greater environmental good. The wish to help your local community is also the case for another repairer we talked with. The sewers of the Repair Café Gentofte are also affiliated with other local sustainability initiatives and likewise want to participate in the repair café. Like the electronics repairer, they also have skilled repair competences, though primarily sewing:

*“One of the sewers was a retired designer. She had signed up for some local recycling events where she had heard about the repair café. Then she had thought: ‘I would like to take part in that’. ‘It’s what I CAN, so it’s the natural thing to do’. During the conversation she also mentioned how she cares about the environment, sorts her waste and so on. The other sewer was the daughter of a tailor: ‘So I have grown up with sewing on buttons, zippers and so on’”*

(Mie's Fieldnotes, Gentofte, March 2nd 2019).

Overall, there are two common denominators of all the repairers' competences. First, they all have competences within specific fields, and second, they have gained those competences either through educational training, or autodidact from growing up with the interest close by.

The motivation of the volunteers to put their competences to use in a place such as a repair café is highly connected with the social part of the repair café practice. This was evident in several of the loosely structured interviews on site and in the semi-structured interview with one of the electronics repairers later on. In addition to helping the visitors with concrete repairs, they are at the same time performing a social practice where people meet across competences and with social fellowship at the center:

*“**Electronics repairer, interviewee:** It’s something which is deeply imbedded within us humans; that we want to be together and that we want to be social. So, it’s also an expression of the social fellowship. Most of the people who visit the repair café don’t own any tools. And if they do, they wouldn’t have a clue on how to*

*use them. So yeah, we all contribute to the community with whatever we are able to. It's different what we can give. Then perhaps someone else brings a guitar and sings and plays [laughs]. And then that's what he is able to do. I believe that it's very deeply imbedded in the human to be social"*

(Interview with electronics repairer, Repair Café Gentofte, March 13th 2019).

Creating this atmosphere is also dependent on the physical spaces and the tools at hand, as the fellowship will need a physical space to unfold, and the repair café practice and purpose is dependent on tools to conduct the repairs. Repair Café Gentofte has had success with the establishment of great relations with their local municipality and has thereby been granted physical surroundings, furniture, and tools to constitute the practice of the repair café.

### The role of the coordinator

As previously mentioned, Repair Café Gentofte was initiated by one main voluntary coordinator and two other initial volunteers. Together, these three share the tasks of a coordinator, each one with different areas of responsibility. The main voluntary coordinator is the primary face outwards by also being the greeter at the repair café events. Additionally, she has professional experience with marketing and branding, which enables her to be the prime mover behind the repair café's communicative tasks. One of the initial volunteers is the primary contact person with the municipality, but also conducts sewing repairs during the repair café events. The second initial volunteer primarily conducts repairs during the repair café events but is also responsible for the repair café's website. Furthermore, he has set up a digital questionnaire to use for registration. This questionnaire is set up in the program Microsoft Access, which collects all repair data into a collected spreadsheet after each repair café event.

Nr	<input type="text"/>
Produkt	<input type="text"/>
Alder	<input type="text"/>
Nyværdi:	<input type="text"/>
Problem	<input type="text"/>
Fixer	<input type="text"/>
Resultat	<input type="text"/>
Hvad vil du nu gøre med	<input type="text"/>
Råd givet	<input type="text"/>
Hvorfor?	<input type="text"/>
Oplevelse i dag	<input type="text"/>
Postnummer	<input type="text"/>
Set os hvor?	<input type="text"/>
Kommentarer:	<input type="text"/>

Illustration 21: The questionnaire set up in Microsoft Access which the greeter at Repair Café Gentofte uses to register the repairs for each visitor.

When registering the repair data, the greeter – the main voluntary coordinator – asks the visitors for the diagnosis of the item’s problem, how it was fixed, if they got some advice to bring home, and the visitor’s zip code. The information registered for each visitor is thereby more extensive than at the other repair cafés we have visited. Additionally, the data being registered is saved digitally. It is not to our knowledge how the repair data is being handled after each repair café event. We have however been fortunate to loan some of the data extractions from Repair Café Gentofte in order to dive deeper into its potential. This will be elaborated later in chapter 13.

An important task for a coordinator which may not be visible during the repair café events is to recruit volunteers. Even though Repair Café Gentofte has several active voluntary repairers at each event, their number of visitors puts a pressure on the volunteers. As many of the other repair cafés, Repair Café Gentofte relies highly on the word of mouth method to reach out in their respective networks. Furthermore, they have tried to recruit volunteers through posters they placed at dorms at the Technical University of Denmark, as well as on social media and at other sustainability events (Interview with electronics repairer, Repair Café Gentofte, March 13th 2019). For now, the two initial volunteers of the repair café are primarily responsible for the recruitment of more volunteers, whereas the main coordinator takes care of communication, branding and other administrative tasks. This makes the two initial volunteers the spokespersons to new potential volunteers and for the current volunteers, as they try to represent the incentives and motivations of voluntariness. Their own roles as voluntary repairers during the repair café events support this position.

### The visitors

As previously noted, almost since their very first opening, Repair Café Gentofte has had more than 50 visitors each time, and at some point about 100 visitors. The last couple of times, visitors have even arrived in advance before the opening hours. Unfortunately, the coordinator and volunteers feel a bit of a pressure with such large numbers of visitors, and some of the visitors do not always get their items repaired within the opening hours. As a result of the large number of visitors, and as part of the registration process, the coordinator hands out physical numbers for the visitors when they are being registered at their arrival. This is a way to manage the queue of the visitors and to maintain a sense of fairness and progress regarding the visitors' waiting time.



Illustration 22: The greeter registers the visitor's experiences and status of repair as they leave Repair Café Gentofte. At the visitor's arrival he had been given one of the physical numbers on the table (Photo, Gentofte, March 2<sup>th</sup> 2019).

We talked with several of the visitors during Repair Café Gentofte's event in March. No one directly pointed out the inconvenience of the waiting time to us, though we did sense it between the lines:

*"Ole was one of the visitors who had arrived early at the repair café. He was however met by the long queue of visitors. He had also been confused by the number and queue system. He told me that he had been at the repair café for 1.5 hours. When I asked him whether he would consider visiting the repair café again, he said yes, but I definitely sensed that he hesitated a bit before answering me. I had asked in prolongation of talking about waiting time, so it seemed like that definitely affected his evaluation of his experience at the repair café"*  
 (Mie's Fieldnotes, Gentofte, March 2nd 2019).

The reason for the great number of visitors at Repair Café Gentofte is partly due to their visible positioning in the local media. Firstly, the Repair Café Gentofte is set up with an official and nicely designed website (Repair Café Gentofte 2019). Secondly, they use their Facebook page regularly for news about the repair café and repair initiatives in general. Lastly, they advertise the repair café events in the local newspaper, and they also were displayed in a news feature on the news station TV2 in the fall of 2018 (Repair Cafe Danmark 2018). Especially this exposure on TV2 is being highlighted by the volunteers to be one of the main reasons for the large number of visitors to the repair café. Having gained many visitors through media exposure shows the important effect of advertising and being present on different media, though it is often an invisible task on site of the repair café which the coordinator takes care of. However, the ability to make relevant communication strategies is one of the necessary tasks for a repair café.

## Summary

The practice of Repair Café Gentofte is comprised of many aspects regarding the material layout of the repair café and their ability to handle the issues they face. This is shown as their location in an empty school gives them an edge regarding time not spent on transporting tools. In addition to having their own physical space, the coordinators' relation with the municipality also strengthens the repair café's financial position. This greatly increases their ability to focus on other challenges such as finding a balance in their communication strategy and recruiting more volunteers. Another point where Repair Café Gentofte differs from the previously presented repair cafés is their ability to manage a large number of visitors and recognize their needs for a fair queue and a comfortable waiting area. Additionally, they attempt to support the meaning of the repair café practice through the materiality of second-hand sofas from the local socio-economic initiative. This shows that continual development helps to form and adapt to their local community, with an emphasis on their commitment to sustainability, repair, waste minimization, circular economy and enacting the UN Global Goal 12.5.

## Repair Cafe Sydhavn

During our fieldwork in the spring of 2019, Repair Café Sydhavn was located in the Gallery and art salon at Mozarts Plads<sup>2</sup>, which is a café, photo bookstore, studio, gallery and just an all-round cultural facility based in Sydhavn. Repair Café Sydhavn was initiated by three students from Aalborg University Copenhagen as part of their bachelor's project in sustainable design in the spring of 2018 (see chapter 5). Today, it is still the same three people who facilitate the repair café. Christine is the main coordinator, while the two others are electronics repairers. Besides these three, there is another electronics repairer and two sewers affiliated. At our visit in March, only three visitors was accounted for, but we were told that they normally have 5-10 visitors at each repair café event. Repair Café Sydhavn is open every second Saturday each month from 13 to 16 o'clock.

### The physical spaces

The repair café would normally be conducted in the basement of the art gallery, but due to water damages it was held at the actual gallery on ground level at our visit in March. This area is not very large, but it seems sufficient in size as there is a large round table in the middle where all the visitors and repairers can sit together. The small facilities also mean that they cannot store any tools, so they have to bring their own tools for each repair café event.

As Repair Café Sydhavn is the product of a university project, this makes them unique to other repair cafés, and they thereby have an alternative approach to the concept. In this regard, they have used their study environment to recruit volunteers and advertisement for the concept, as well as leaning on their supervisor's contacts to establish a network in the local community. The fact that most of the repairers live in the adjacent area makes it easier for them to bring their own tools back and forth for every repair café event. The lack of storage space for tools and financial support for buying tools is therefore not considered a major challenge for the coordinator of Repair Café Sydhavn, though they would consider it nice to have. Rather, other challenges such as the visitors' expectations to the service at the repair

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<sup>2</sup> In May, they announced on their Facebook page that they have moved to new spaces (Repair Café Sydhavn 2019), but this analysis will take its point of departure in their previous location at the gallery at Mozarts Plads.

café are more urgent at the moment, which the coordinator Christine explained to us during an interview with her:

*“Christine, interviewee: [...] it’s not a huge problem for us to bring the tools along. It’s more of a nice-to-have. Another big challenge is also to make the visitors understand that when you attend the repair café with something that’s broken, you need to bring the spare parts yourself. And then we can repair it. That means that we deliver the competences and the tools that are needed for the work to be done. But the rest, you need to take part in. You need to be there if we have any questions”*

(Interview with Christine, Repair Café Sydhavn, February 13th 2019).

Having a space for storage and enough room to conduct the repairs is therefore not considered the most urgent challenge to the coordinator. However, as she also mentions in the quote above, competences, spare parts and tools are closely intertwined in the performance of the repair café practice. Additionally, matching expectations is a needed task in order to accommodate a nice social setting for both visitors and volunteers.

## Tools and competences

As noted, the voluntary repairers of Repair Café Sydhavn need to bring their private tools for the repair café events. In contrast to Repair Café Vesterbro, bringing tools back and forth for every repair café event is not considered as a problem for the volunteers at Repair Café Sydhavn. For now, the representation of competences is widely spread with both electronics repairers and sewers, and the attendance of repairers is also high at each repair café event. This was not the case for Repair Café Vesterbro, where only one repairer with one type of competence was present. The multiple types of competences as well as the number of attending volunteers thereby have influence on whether or not bringing the tools back and forth for every event may be considered a major issue. With that, Repair Café Sydhavn does have the overall material frames to perform a repair café practice. In addition to simply repairing the items for the visitors, the repairers at Repair Café Sydhavn also utilize their competences to guide the visitors regarding spare parts:

*“Mie, interviewer: You said something about the things which need spare parts and that you thereby cannot repair as you need those spare parts...?”*

*Electronics repairer, interviewee: Exactly.*

*Mie, interviewer: What do you do in those situations?*

*Electronics repairer, interviewee: I show them a link to eBay or write down which component it is [...]*

*Mie, interviewer: And then you tell the visitor to go home and buy them themselves?*

*Electronics repairer, interviewee: Yes, so they can buy the spare part, and then they can visit the repair café the next time and then I will help them put the parts in, or I'll tell them where to put it.*

*Mie, interviewer: Have you experienced that the visitors re-visited like that?*

*Electronics repairer, interviewee: Yes.”*

(Interview with electronics repairer, Repair Café Sydhavn, March 18th 2019).

This way, the repairer often has to help the visitors find the right spare parts, as the visitors do not have the competences to do so by themselves due to lack of diagnosis competences. In this way, the repairers' competences and materials are an entangled part of the repair café practice. Furthermore, the social aspect is also present as the repairers depend on the engagement of the visitors in order to successfully conduct the repair, because the repair café is not a supplier of spare parts, but instead rely on the visitor to use a professional repair business.

To take a closer look at the competences entangled in the practice of Repair Café Sydhavn, there is the sewing, and there is repairing of electronics. The electronics repairer initially started out being a voluntary repairer at Repair Café Nørrebro but has later connected with Repair Café Sydhavn instead. He changed location for three reasons: first, that he lives in Sydhavn and is thereby geographically closer to Repair Café Sydhavn than Repair Café Nørrebro. Secondly, he wanted to support the startup of

Repair Café Sydhavn, and third, he is interested in spreading out repair competences in order to strengthen the concept and give the visitors a better experience. He explained this to us during an interview with him:

*“**Electronics repairer, interviewee:** The knowledge I have in this field, the other repairer does not have. He might be able to solder this and that, but he might not be able to figure out if it has been short-circuited as that’s a pretty special way to figure out. So, we try to spread out our knowledge to a bigger area, so that the chance that people get here and get their items repaired and have a nice experience is bigger”*

(Interview with electronics repairer, Repair Café Sydhavn, March 18th 2019).

As the repairer also mentions, some repairers are able to repair certain items, and some have specific fields of interest and thereby specific areas of competences. This awareness about who has the competences to conduct which specific repairs strengthens the repair café practice, as the repairers can spar with each other and thereby successfully repair more items.

### The role of the coordinator

Christine’s role as a coordinator has changed a bit since the start-up of Repair Café Sydhavn. Initially, when she and her two fellow students initiated the repair café, they took on the role of repairers during the repair café events. While the other two brought tools for electronics repairs, Christine brought her sewing machine and was the repair café’s sewer. However, this has changed, but was more of a coincidence than planned:

*“**Christine, interviewee:** [...] One day when I got sick, something magical happened. The repair café was supposed to be open, but as I was sick, no one would be working at the sewing station. But then the boys [her two fellow students, ed.] just posted in the Facebook group ‘Sydhavns bedste karmagruppe’: ‘Hey, our sewer is sick, can any of you come and help us out?’ And then a local sewer here in Sydhavn wrote ‘I’ll be there in 2 minutes if there will be cream cakes’, and then the sassiest woman shows up, walking with crutches and is just like ‘where do I sit?’. This is as Sydhavn-ian as anything can be! And she has been our sewer ever*

*since then”*

(Interview with Christine, Repair Café Sydhavn, February 13th 2019).

This special vibe of Sydhavn that Christine exemplifies in the quote above is something which she and her two fellow students had discovered to be an important aspect to the meaning of the repair café practice at Sydhavn (Larsen, Beck & Olsgaard 2018). Being able to help out their local community is prevalent. Using and withholding contact with the community at Sydhavn is therefore one of the tasks which Christine as the coordinator considers important, and it is mainly done through the local Facebook group ‘Sydhavns bedste karmagruppe’.

Now that Repair Café Sydhavn has another permanent sewer, Christine can focus on some of the other tasks to perform for the repair café practice. One of these tasks is registering the items brought by the visitors to be repaired. For this, she uses a digital spreadsheet. In this, Christine notes the type of items, which repairer will help out, whether the item was repaired, and sometimes a small note on why the item might not have been diagnosed. An example of the registration sheet is shown in illustration 23 below:

Januar			
12/1-2019			
Genstand	Fixet (ja/nej)	Diagnose	Fixer
Lampe	Ja	-	Anders
Bukser, hul	Ja	-	L
Jakke, hul	Ja	-	L
Bukser	Ja	-	L
Kitchen Aid Røremaskine	Nej	Ja	Anders
Støvsuger	Nej	Nej	
Jeans, hul	Ja	-	
Frakke, foret	Ja	-	
Højtaler, rem	Ja	-	
Kjole	Ja	-	
Forstærker	Nej	Ja	



**CWiiO**  
14.32 12. jan.

Luk

Den var ikke designet til at blive åbnet,  
Anders kunne ikke komme til

Svar...

Illustration 23: The spreadsheet which the coordinator at Repair Café Sydhavn uses to register the repairs at the repair café.

The spreadsheet in illustration 23 has a practical function during the repair café events. Additionally, the spreadsheet also collects the number of their visitors for each event.

## The visitors

As previously argued, a repair café practice would not be able to be performed without visitors and the visitors' items to be repaired. Even though they did not seem busy with visitors and repairs when we visited Repair Café Sydhavn in March, the coordinator Christine told us that they normally have about 10 repairs when they are open. The visitors' engagement is something which Christine told us about during our interview with her:

*“Christine, interviewee: Last time, we had a visit from two little boys who had brought their gamer headsets to be repaired. One of the electronics repairers was repairing them, and meanwhile the boys were quietly and politely asking him questions; ‘what are you doing with that?’ It was just such a cute scene. And especially the part with showing people that just because something is broken doesn’t mean it’s useless. There’s still a way to turn it around. And to show people that the repairer easily puts two cords together and thereby showing people that it’s not like rocket science. It’s just the product manufacturer who produces products which cannot be repaired. But it is often that people make it into rocket science, rather than understanding that it’s corrupt, it’s capitalism. It’s not that I’m hating capitalism, but we really need to make this practice transparent. That’s where I see the success stories - when we succeed in making that practice transparent”*

(Interview with Christine, Repair Café Sydhavn, February 13th 2019).

This is a story about the visitors and the meaning of the repair café practice shown through actions at the repair café. It is clear how the motivation and meaningfulness of the repair café practice to the coordinator Christine is related with the enthusiasm and engagement by the visitors and improving the visitors' awareness of how broken items can become repaired. In Christine's story, the success of the repair was not solely that the headphones were repairable, but also the fact that the visiting boys got an understanding of what it requires to repair something, and that it is not as difficult as one might think. In Christine's words; repair is not rocket science. That way, engagement, enthusiasm and learning are meaningful elements for the repair café practice according to Christine, and she considers it

important that the visitors support that in order to gain a momentum of awareness about repair. However, not all visitors are equally engaged which was clear from our interview with the electronics repairer:

*“Electronics repairer, interviewee: Sometimes people get here and say ‘Hey, I have this thing that’s broken. Please help me to get it repaired’, but then they have no intentions of learning anything from the repair”*

(Interview with electronics repairer, Repair Café Sydhavn, March 18th 2019).

The repairer elaborated on this and said that sometimes it can be necessary to just go along and conduct the repair instead of trying to force the visitor to be interested, even though this might defy with the meaningfulness expressed by the coordinator Christine. This means that it might be more important to actually get visitors to the repair café than it is to focus on inclusion of the visitors. Because if they do not get visitors, the practice cannot be performed. When the visitors are not engaged in the repair, the meaning of the repair café practice is rather that of bringing down waste through the concrete act of repair.

## Summary

Repair Café Sydhavn’s physical spaces reflect some of the common challenges that repair cafés face. This means that the room they use is quite small and that they do not have a place to store their tools on site between events. However, this does not restrict them in regard to the competences they provide to the visitors, as they are a solid competent team of repairers covering more than one field of competences. One big challenge regarding materials though, is being able to clarify and match expectations with visitors bringing their own spare parts and for the visitors to understand the importance of their presence during the repair.

A strength which Repair Café Sydhavn possesses is the enrollment of the local community, which creates meaning for the volunteers and visitors. This strength is highlighted by the fact that they had a new sewer mobilized through the use of the local Facebook group. The engagement of the visitors varies, which challenges the meaning of the repair café practice, changing dependent on the level of the individual visitor’s engagement and participation in the repair. However, overall one of the challenges that Repair Café Sydhavn faces is the lack of visitors. The practice of the repair café will be

unable to be performed if no visitors attend, as their meaning to create a socio-economic initiative in Sydhavn and spread awareness regarding product-lifespan will fade. For now, time will show if they get more visitors, as they have also recently moved location to another nearby café.

## Repair Café Nørrebro

Next to Repair Café Gentofte, Repair Café Nørrebro is the busiest of the six repair cafés we visited. They are open every second Saturday each month from 13 to 16 o'clock<sup>3</sup>. It is located at the beer bar Kølsters Tolv Haner on outer Nørrebro, abutting to Frederiksberg. Repair Café Nørrebro has 10-30 repairers affiliated, with competences within electronics, mechanics, sewing and jewelry. During our visits, about 10 repairers were present and active. Within their three hours events, about 40-50 visitors visit the repair café. Repair Café Nørrebro has existed in 3 years and was initiated by Arlette and Stig, after Stig had been a volunteer at Repair Café Vesterbro and instead wished to start up another repair café. Later, Stig has also become the chairman of Repair Café Denmark (Interview with Stig, Repair Café Denmark, February 11th 2019).

### The physical spaces

The beer bar Kølsters Tolv Haner is a medium sized room with large windows facing the street. Besides the bar desk, there are three large tables which are all used by the repair café during their events. Like Repair Café Brønshøj, Repair Café Nørrebro is located in a public food and drinks setting. However, at Repair Café Nørrebro, they take up most of the room, and there is only a small corner of the bar reserved for other visitors. But as the repair café event is happening mostly outside of the bar's opening hours, it does not seem to be a problem. An issue with being located at a bar is that they are not able to keep their tools at the location between repair café events. This is the same as we experienced at Repair Café Vesterbro and Repair Café Sydhavn. During interviews with affiliates of Repair Café Nørrebro and observations on site, the physical spaces of Kølsters Tolv Haner has not been articulated as an issue. However, more space and permanent storage of tools and banners nearby might be beneficial and ease the practice by removing time consumption of transportation.

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<sup>3</sup> After our fieldwork, Repair Café Nørrebro has expanded their opening hours to be from 12 to 16 o'clock.



Illustration 24: Two electronic repairers at Repair Café Nørrebro (Repair Café Nørrebro 2018).

## Tools and competences

Like we have experienced at the other five repair cafés, the competences of the repairers are very specific and they identify themselves by it. As previously noted, competences do not only include the knowledge of how to repair, but also a practical knowledge of handling tools. At Repair Café Nørrebro, they have several toolboxes brought along with various types of tools. An example is seen on illustration 25 below.



Illustration 25: Due to Repair Café Nørrebro being located at a local beer bar, the coordinators need to bring the tools back and forth for every repair café event (Photo, Nørrebro, February 9<sup>th</sup> 2019).

These toolboxes are strategically placed in the room, so that they are not in the way but still easily accessible for the repairers during the repair café events.

The distribution of the repairers in the room is separated according to their repair competences. We have not observed this as clear-cut at any of the other repair cafés, but we quickly discovered it during our first visit to Repair Café Nørrebro:

*“At one point I zoomed out and perceived the repair café in a greater perspective. It was as if there was an assembly line with different groupings who were repairing items together. Things and objects flew across the table to the other guys, and someone else would shout something from the back of the room, e.g. if anyone had any knowledge about computers. In one end of the room all of the sewers were sitting, and in the other end, the technical repairers were sitting with electromotors and screwdrivers”*

(Nicolai’s Fieldnotes, Nørrebro, February 9th 2019).

The idea of dividing the repairers into sections where the sewers are at one table and the electronics repairers are at another table could at first glance seem like an attempt to optimize some sort of production/assembly line. But when you look closer at the practice, it becomes clear that the division has a variety of reasons. For instance, it makes the electronics repairer’s work easier if he does not have to move around the room looking for the specific tools he needs. He is also able to ask other repairers with same type of repair competences for help very close by if necessary. This way, the distribution of the tables into separate repair fields also enables the repairers to communicate internally regarding concrete repairs. It can be beneficial to sit close with other repairers to identify problems and repair faster, but it can also facilitate a social space. We were however told that the social space and meaning is also dependent on the repairers’ respective repair fields, as the level of concentration is different between the fields:

*“Stig, interviewee: They [the electronics repairers, ed.] find it difficult to talk and talk and talk like the sewer-girls do. We now have the tables across from each other [...] and over here [at the electronics table, ed.] you often need to be fully concentrated and absorbed in the repair”*

(Interview with Stig, Repair Café Denmark, February 11th 2019).

In this instance, meaning and competences are correlating as there is an acknowledgement of the necessary surroundings for a repairer to conduct a certain task, depending in the specific field of repair. The social space of the sewers - which, according to the electronics repairers, is a space where sewing and talking can be done simultaneously - has a connection to the materiality of the repairs along with the needed competences for that type of repair. This can be attributed to how electronic devices have

become more complex over the years, and they require more attention to have their problems identified. Whereas the level of complexity of the materiality and tools used for sewing is not as high. Socializing among each other is however not restricted to the sewers. The initiator and electronics repairer Stig told us that the need for socializing in regard to the repair café events differs for the voluntary repairers:

*“Stig, interviewee: [...] It’s very different how the volunteers feel about it. Somebody thinks that it’s great ‘only’ to be here during the three hours and then leave afterwards, where other people are more like ‘I don’t want it to become like a job’, and others want it to be more cozy. Often, we have other things to do and just pack up all the stuff and go. It’s been like that a lot. But we have had some of the volunteers expressing that they would like to be together and just hang out more, which is also fine as it is OK that the repair café is more than just the event. There’s also the entire social part of it”*

(Interview with Stig, Repair Café Denmark, February 11th 2019).

Later, during an interview with an electronics repairer, he told us that they also have social events for the separate groups of repairers outside the repair café events (Interview with electronics repairer, Repair Café Nørrebro, March 15th 2019). This is not something which has been prevalent at the other repair cafés.

But who are the volunteers of Repair Café Nørrebro? And what motivates them and enables them to possess repair competences? One of the volunteers is a man who considers himself as an autodidact handyman of electronics and mechanics repair. During the interview with him, he told us how he had an interest in disassembling items from a young age. Additionally, he had developed an interest and a worldview where he finds it meaningful to help other people and make a difference in minimizing waste. He believes that the practice of the repair café accommodates his interests:

*“Electronics repairer, interviewee: Well, I’ve always been a handyman and been repairing things. And then there’s the social part of it, and I really like to help other people. I’ve also been distributing emergency aid in several countries since I was a teenager.*

*Nicolai, interviewer: So being part of the repair café is a wish to help people out where you can?*

*Electronics repairer, interviewee: I guess it is. As well as I thought that it was a really cool connection of helping people out combined with the social aspect of it. And you sit down quietly. I guess it's a connection of helping people out combined with my interests in electronics, technique, and stuff like that. And by soldering and having disassembled all sorts of appliances through the years, I can repair a lot of different things"*

(Interview with electronics repairer, Repair Café Nørrebro, March 15th 2019).

In other words, this repairer's reason for volunteering at a repair café is because it creates meaning for him to help other people with technical items. This is also something that the initiator of Repair Café Nørrebro Stig has noted:

*"Stig, interviewee: We are really lucky that we have such good people [...]. The 'payment' is of course that you get so damn happy when you see how people get their items to work again"*

(Interview with Stig, Repair Café Denmark, February 11th 2019).

In addition to the repairers and Stig, an important person at Repair Café Nørrebro is the coordinator and greeter Arlette.

### The role of the coordinator

When the visitors at Repair Café Nørrebro enter the room, the first person they meet is the greeter and coordinator Arlette. Arlette asks the visitors about the items they bring in for repair. Then she redirects the visitors to sit and wait and talk with each other during the waiting time by the table and benches next to her. Additionally, Arlette lets the visitors know that the actual café next door is open and that you can buy a cup of coffee and come back and wait. When it is the visitor's turn, he or she will be told by Arlette who of the repairers that is available to help.

Like the coordinator at Repair Café Sydhavn and Gentofte, Arlette uses a digital spreadsheet to note the items and repairs during the repair café. She notes the type of item, the name of the visitor, the

name of the repairer, whether the item was fixed, and the weight of the item. Besides the registration of the weight, the registration categories are overall similar to the other repair cafés' registration categories.

Arlette and Stig are considered the spokespersons of Repair Cafés in Denmark, which is seen in the media coverage of the repair café concept (Jensen 2019). Additionally, Repair Café Nørrebro is indirectly referred to as the exemplar of a repair café, which is evident in the fact that other repair cafés such as Repair Café Gentofte and Repair Café Holstebro visited Repair Café Nørrebro to research how to start up a repair café (Repair Cafe Danmark 2019).

One of Arlette's tasks as a coordinator at Repair Café Nørrebro is to post news articles and photos from repair café Nørrebro's events on their Facebook page. Additionally, one of her tasks as a board member of Repair Café Denmark is to update the social media and cover the communication to other actors related to repair cafés. She also advertises for recruitment of more volunteers through the Repair Café Denmark Facebook page. The combination of these tasks and the fact that both her and Stig are on the board of Repair Café Denmark and initiators of Repair Café Nørrebro shows how the Repair Café Nørrebro and Repair Café Denmark are closely intertwined, and perhaps also why Repair Café Nørrebro has become the exemplar of a repair café.

## The visitors

As Repair Café Nørrebro is considered the exemplar of a repair café, and their coordinator Arlette is actively posting news on their Facebook page, Repair Café Nørrebro does not lack visitors. In fact, they rather have the opposite challenge as they sometimes have to ask visitors to come back at the next event instead. This can both be attributed to the success of their advertising and the visitors advocating for their service. It could also be attributed to the fact that other repair cafés such as the one at Vesterbro refers their visitors to them. We did observe some of the visitors from Repair Café Vesterbro visit the following event of Repair Café Nørrebro. Overall, the reputation of Repair Café Nørrebro is beaming. Both because the repairers at Repair Café Vesterbro talk nicely about Repair Café Nørrebro, and because their own visitors do too:

*“The man told me that he always visits this repair café at Nørrebro as it works great, even though he had previously visited other repair cafés as well. But this one is something special. He visits the repair café every month and brings a bag of*

*stuff which he had collected to be repaired throughout the month”*  
(Nicolai’s Fieldnotes, Nørrebro, February 9th 2019).

As previously mentioned, Repair Café Nørrebro has between 40 to 50 visitors for each of their repair café events. The type of visitor differs from the man described by Nicolai above, to mothers with children, to exchange students. No specific type of visitor is clearly defined. The inclusion of the visitors by the repairers also differs. Overall, the initiator and repairer Stig believes that they should try to include the visitors in the repair:

*“Stig, interviewee: It can be difficult to do the repair while also teaching about it, but teaching is definitely the purpose”*  
(Interview with Stig, Repair Café Denmark, February 11th 2019).

Another one of the electronics repairers also elaborated on this aspect. He highlighted how he intends to include the visitors in the repair, but that the circumstances might not support it:

*“Electronics repairer, interviewee: [...] I’m also getting better and better at thinking about how to involve the visitors in the repair task. Because sometimes as a repairer you need to sit down and have an enormous focus, and then you can’t have some visitor sitting next to you and asking thousands of questions. Because you can’t manage those things at the same time. A couple of times, I have had to say to a visitor [...] that now I needed some peace and quiet for a moment in order to concentrate. But I do believe that you should include them. We experience more and more visitors who wish to screw things apart and want to learn how to solder and so on. Because that’s something they have never learned”*  
(Interview with electronics repairer, Repair Café Nørrebro, March 15th 2019).

In addition to the needed level of concentration by the repairers, the fact that the room of Repair Café Nørrebro is crowded with both visitors and repairers, the physical space might thereby be a hindrance for full inclusion of the visitors in the repair. And as the repairer in the quote above suggests, a repairer’s competences do not necessarily include teaching, but may mainly be a practical repair competence which needs concentration to carry out.

## Summary

Repair Café Nørrebro is often described as the exemplar of a repair café, as several of the other repair cafés refer to them. This is further supported by the fact that Stig, who is the chairman of Repair Café Denmark, is also the initiator of and repairer at Repair Café Nørrebro. Regarding the material elements, Repair Café Nørrebro has many of the necessary tools and equipment to perform a successful repair practice, but they lack the storage capacities at the location, so the tools have to be transported back and forth for each event. This is currently not articulated as an issue, however. The transportation of tools does not influence the number of participating visitors and repairers, as there are about 40-50 visitors and approximately 10 repairers at each event. The limited physical space at their location of the beer bar may in combination with the complex repairs limit the repairers' ability to include the visitors in the repair though. However, a strength in the organization of the physical space is the close approximation it creates between repairers with the same type of competences, as communication becomes easier and tools do not need to be physically moved around in the room. The meaning of the repair café practice at Repair Café Nørrebro comes from being part of a functional and well-organized repair café that has emphasis on socializing and helping other people who lack repair competences.

## Sub-conclusion of the practices of the 6 repair cafés

To generalize the repair café practice through a maximum variation case study (Flyvbjerg 2006), the framework of Social Practice Theory has been used to lay out the materials, competences, and meanings of each of the six repair cafés. This has led to an investigation of the similarities and differences across the repair cafés, which were also pointed out in the beginning of this chapter on illustration 14.

As Social Practice Theory highlights how the three elements of material, competence, and meaning are interdependently entangled in the performance of practice (Shove et al. 2012), it did not make sense to slavishly analyze these three elements for each of the six repair cafés. Rather, based on the grounded approach to our process of coding the empirical data, the analysis of the six repair cafés turned out to follow four main themes, which were then analyzed in the perspective of how materials, competences, and meanings are interdependently entangled within and across these themes. In the following sections, we will account for the main points of analysis from each of the four main themes across the cases of the six repair cafés.

### The physical spaces

The physical spaces of the six repair cafés vary from being at an ordinary café in Brønshøj to being at a FabLab in Valby. In Sydhavn, the repair café is at an art gallery, at Nørrebro they are located at a beer bar, in Gentofte they are located in their own lockable room at a former school, and finally, at Vesterbro, their location is in the rooms of a local socio-economic initiative. At half of the repair cafés, they are able to have their tools stored on site, and the other half of the repair cafés need to bring the tools back and forth between every repair café event. Common to the three repair cafés with storage opportunities is a close and active collaboration with the local municipality and culture initiatives. In Brønshøj and Valby, they even have employed coordinators affiliated with the repair cafés, and in Gentofte, they are housed in school building owned by the municipality. Being able to store tools and other equipment on site of the repair café events is considered nice-to-have but not need-to-have for at least two of the three repair cafés who do not have storage space on site; Nørrebro and Sydhavn. At Repair Café Vesterbro, they do consider the lack of storage space as a prevalent issue. However, their general challenges are not limited to that.

## Tools and competences

The availability of tools and the competences of how to use the tools are closely connected. Some repair cafés have better access to tools than others. For instance, Repair Café Vesterbro only had a couple of sewing machines, which was brought along personally by the voluntary sewer at the day of our visit. At Repair Café Nørrebro, they also bring their tools to the location for each event. Repair Café Nørrebro is in no lack of tools, which have been financially supported by funds. At Repair Café Sydhavn, they also bring the tools back and forth, though the tools are mostly the repairers' private ones like at Vesterbro. At Repair Café Valby and Brønshøj, they have been fortunate to be able to use some of the already existing tools on site from the FabLab and the outside workshop, respectively. Additionally, Repair Café Valby has gotten a sponsorship from their local hardware store to acquire new tools and supplies each month. At Repair Café Gentofte, they have partly gotten some tools through financial funding by the municipality, and partly by making arrangements with the local recycling center to get second-hand tools for free. This is deeply entangled with the meanings imbedded in the practice of Repair Café Gentofte, as they wish to make a difference in regard to the UN Global Goal 12.5. At Repair Café Valby, they also have second-hand sewing machines, but none of the sewers know how to use them. This emphasizes how the tools are not valuable in themselves if the repairers do not know how to use the tools.

Overall, the competences of the repairers were clearly defined into specific fields such as electronics, sewing, mechanics and jewelry, though not all types of competences were represented at all repair cafés. Another similarity of the repair cafés was how the repairers' competences are either learned through professional/educational settings or through autodidact interests.

## The role of the coordinator

Common for most of the coordinators at the repair cafés is that they do not possess specific repair competences, with the one exception of Christine at Repair Café Sydhavn. Additionally, the repair café coordinators are engaged with the repair cafés, with the exception of Vesterbro who lacks an active coordinator. The fact that Repair Café Vesterbro is the only one of the six repair cafés that does not function on several parameters suggests that an active coordinator is highly important. At the other five repair cafés, the coordinators' roles includes being the greeter of the repair café events, making sure that the visitors feel welcome and are introduced to the concept and process of the (sometimes)

waiting time, and direction to a relevant repairer. The coordinators also take on the task of advertising about the repair cafés on their respective Facebook pages and in the local newspapers. This is however with one exception, as Mette at Repair Café Brønshøj has an employee at the culture house to conduct this task. Recruitment of volunteers is also a task for the coordinators. At some of the repair cafés, they have parted the coordination responsibilities, so that e.g. in Valby, the voluntary coordinator Kirsten is mainly in charge of the volunteers, and the employed coordinator Asger is mainly in charge of the communicative and logistic tasks. At Repair Café Gentofte, they have separated the coordination tasks into three, where they each respectively have the responsibilities of communication and administration, contact with the municipality, and volunteer recruitment. At Repair Café Brønshøj, Valby, Gentofte, Sydhavn, and Nørrebro, the coordinators register repair data during the repair café events. They each register different categories about the repairs, and some have more categories than others. Repair Café Brønshøj has the most narrowed registration written manually by hand, and Repair Café Gentofte has set up a Microsoft Access database to register several more categories with information about each repair. So far, to our knowledge, the data is stored locally for each repair café, and not actively being used for anything specific.

## The visitors

The number of visitors at each repair café differs greatly. At each end of the spectrum, Repair Café Sydhavn gets around 10 visitors at each event, whereas Repair Café Gentofte has experienced getting up to 100 visitors at one event. And then there is Repair Café Vesterbro which has several visitors but has to turn some of them down due to a lack of both repairers, competences, and tools. When Repair Café Gentofte gets 50 to 100 visitors at each of their events, it puts their 8 present repairers under pressure. On the contrary, Repair Café Valby has plenty of repairers compared with their number of visitors. At other repair cafés such as Brønshøj and Sydhavn, they could easily have more visitors as well. At Repair Café Nørrebro, they are also occupied with visitors, as there are 40 to 50 visitors each time. This is not the same number as in Gentofte, but the size of Repair Café Nørrebro's room makes it feel equally pressuring, and because Nørrebro is also an exemplar of a repair café, they might feel a pressure of having to live up to their reputation as well. Both Repair Café Nørrebro and Repair Café Gentofte are actively promoting their repair cafés on e.g. Facebook. In addition to advertising about their events, they also post other news about repair, circular economy, and waste minimization. Additionally, Repair Café Gentofte had a news feature on TV2 in the fall of 2018 which may partly be the reason for their great number of visitors.

The level of inclusion of the visitors in the repairs differs greatly from each repair café and even between each repairer. Repair Café Denmark wishes to include the visitors in the repairs (workshop, April 24th 2019), but the actual inclusion in the repair depends both on the materiality of the item, the competences of the repairer, the visitor's willingness to participate, and the repairer's motivations to volunteer. These challenges and differences will be further elaborated in the next chapter.

## 11. Visitors and repairers - inclusion and motivations

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The interaction between repairers and visitors was a recurring theme for all six repair cafés. Specifically, the challenge of this theme revolves around the level of visitor inclusion in the repairs. This is important to discuss, as the concept of a repair café does not only cover repairs but should also be understood as an informative and consumer-based concept. This is explained in Repair Café Denmark's vision:

*“The purpose of Repair Café Denmark is to minimize waste, change consumer patterns, and create knowledge and a desire for green transition. We want to do this at local non-profit repair cafés, by showing the consumers that it is possible to repair things, rather than throw them away and buy new”* (Repair Cafe Danmark n.d.a).

Repair Café Denmark's goal is thereby clear: Changing consumers' mindset about repair. They state that the means towards that goal is by *“showing the consumers that it is possible to repair things”*. However, this is not done in the same way at the six repair cafés, which is pinpointed by the varying levels of visitor inclusion accounted for in the previous chapter. Should the visitors leave their item and get it repaired? Should the visitors stand by and wait? Should the visitors help with some of the repair? Should the visitors conduct the full repair with the repairer only as a guide? These questions will be the central discussion of this chapter.

### The three types of repairers

In prolongation of our observations and interviews with some of the repairers, we have identified three different types of repairers at the repair cafés. These are 'The Repairing Repairer', 'The Indifferent Repairer', and 'The Including Repairer'. Examples of these repairer types were also presented at the workshop of 'The Good Repair Café' on April 24th to spark a discussion about the level of visitor

inclusion. It is important to note that these are fictional but are built on several real experiences during the fieldwork, inspired by the technique of personas (Brandt 2006).

## The Repairing Repairer

The Repairing Repairer does not expect any level of participation from the visitors. The meaning for this type of repairer is to help others by conducting the repair by himself. This is also why it does not matter if visitors stay or not during the repair. An example of this could be the scenario from Repair Café Vesterbro:

*“A father and his daughter came into the café with a yellow jacket. It had a hole in the pocket, and the repairer talked with the father and promised to take a look at it. They agreed that they could come again in a short while and the repairer would repair it in the meanwhile. This came true, as half an hour later the father and the daughter came into the repair café again to get her jacket, which the repairer had repaired in the meantime”*

(Mie’s Fieldnotes, Vesterbro, February 24th 2019).

This is a good example of the Repairing Repairer, as he does not expect the father and daughter to stay while he repairs the jacket.

## The Indifferent Repairer

The Indifferent Repairer is probably the most common type of repairer. This type of repairer will usually try to include the visitors and request that they stay during the repair. However, this repairer feels rather indifferent if the visitor does not actively participate in the repair. An example of this type of repairer is one of the electronics repairers from Repair Café Sydhavn:

*“**Electronics repairer, interviewee:** I really like the part about planting the idea in the visitor’s head ‘you are able to repair this yourself’, because of lot of people consider electronics to be like magic, but it isn’t. It’s just simple physics. [...] Other people just get in and say ‘I don’t know what this is’ [...] but then you just repair it for her and move on to the next item afterwards.*

***Mie, interviewer:** So it's not like you push people and say 'no, you need to participate'?*

***Electronics repairer, interviewee:** No, that would be to force people. And if you force people to participate, then they won't learn anything anyway. They need to want to. So if I force a visitor to learn something about electronics, she won't have a nice experience, and then she won't get back at another time"*

(Interview with electronics repairer, Repair Café Sydhavn, March 18th 2019).

This way, the Indifferent Repairer helps as long as the visitors stay at the repair café, but the repairer does not have high expectations to the visitor's inclusion and engagement.

### The Including Repairer

The Including Repairer is someone who actively makes an effort to include the visitors in the repair process as much as possible. By doing so he tries to teach the visitors about the possibility of repairs and the technicalities of the specific item. This gives the Including Repairer a feeling of fulfillment, and he becomes greatly motivated when he sees the fascination and involvement of the visitors during the repair. One of the repairers at Repair Café Nørrebro is an example of an Including Repairer:

***“Electronics repairer, interviewee:** [...] in the start of the repair café, some of the repairers helped some people and then they left, and then came back and got their things later. Then I steered it towards that people stayed while we repaired, because it was a café. After we moved to the new place at Rantzausgade, I changed the focus towards that people should actually repair their own items, but with our guidance. And you can see it very clearly that people are very excited and happy about it”*

(Interview with electronics repairer, Repair Café Nørrebro, March 15th 2019).

In the quote above, this repairer even explains the development of their repair café concept as it has moved from being kind of a service to a concept where they try to include the visitors as much as possible. The Including Repairer recognizes how happy the visitors are when they have repaired something by themselves, which in turn makes his voluntary work meaningful.

## A Repairing, Indifferent or Including repairer?

As previously noted, the brief explanations of the three types of repairers have been developed with inspiration from the persona technique. In relation to that, and as observed during our fieldwork, one repairer is not necessarily categorized as being only one type of repairer. Rather, the repairers will often experience being more than one type, as they adapt to the specific situation. Their type thereby depends on the visitor's interest and the concrete challenge of the specific item to repair. However, the individual repairers do tend to be comfortable in acting out one of the types more than the others.

## Meaning, inclusion, and voluntariness

The varying levels of visitor inclusion turned out to be a recurring theme during our fieldwork. As highlighted in chapter 10, the meanings in the practices of the repair cafés vary too. These meanings are different depending on whether you are a coordinator or a repairer. The meanings of the Repairing Repairer are much different from the Including Repairer, each with their distinct perspective on how to attain the goal described in the vision of Repair Café Denmark (Repair Cafe Danmark n.d.a). The variations across the repair cafés might be related with the fact that up until now, Repair Café Denmark has focused on helping to establish more repair cafés in Denmark. And due to that, the organization of Repair Café Denmark is cautious with making too many restrictions on the repair cafés:

*“Stig, interviewee: In general, it doesn't really matter what the repair cafés call themselves, but if we are to present our initiative, it's cool to show that we're so many repair cafés. [...] I'm not going to impose something on the repair cafés, because then they'll just say 'Shut up, Stig!' [...]*

*Felix, interviewer: Sure, and they're also volunteers so they do it out of their own desire right. So there can't be too many rules because of that?*

*Stig, interviewee: Exactly. That's also one of the first things I tell people when they contact me and ask how to start up a repair café and how to get permission to do it: 'You make your repair café, and I hope you will be part of us [Repair Cafe Denmark, ed.] when you open, and that you don't charge money for it. But that's pretty*

*much it.' It can't be more simple than that"*

(Interview with Stig, Repair Café Denmark, February 11th 2019).

Because of this caution, the differences in expectations emerge both between the repair cafés, and within the individual repair cafés. One specific example of the latter is Repair Café Brønshøj. The coordinator Mette told us about her ambitions of visitor inclusion when she first started Repair Café Brønshøj:

*"Mette, interviewee: [I believe, ed.] that the repairers should be more than helpers - they should be supportive initiators to the process [of repair, ed.]. But it hasn't really gone that way. And maybe it is too difficult. And maybe they [the visitors, ed.] learn something by looking at the repairers doing it, right?"*

*Felix, interviewer: [...] Is it because it's easier for the repairers to do it [the repair, ed.] themselves?"*

*Mette, interviewee: [answers immediately] I believe that, yes. They do not want the pedagogical task in it. And that is just something you have to accept"*

(Interview with Mette, Repair Café Brønshøj, February 22nd 2019).

In the quote above, Mette highlights her ambitions for the repair café to be a place where the visitors could learn to repair rather than use it as a free repair service. In reality this ambition turned out to be easier said than done, as the repairers at Repair Café Brønshøj seems to find it easier to just repair the broken items themselves, instead of supervising the visitors to repair. The difference between ambition and reality might be because the repairers and Mette are motivated by different things, and the repairers seem to not be interested in including the visitors, thereby making them the type of Repairing Repairers.

But why has Mette has not just simply corrected the repairers' inclusion of the visitors, if she really wishes the repairers to be Including Repairers? The answer to this is complicated, and partly related with the concept of the repair café being reliant on voluntary repairers. Working with volunteers is different than working in a professional setting with employees, as voluntary work means that the repairers cannot be forced to work in a certain way (Dahl-Gren 2016). This and other important points

were pinpointed by the voluntariness expert Andreas Nilsson in our interview with him. Most importantly, he stated how voluntariness means ‘free will’, and that responsibility in a voluntary setting will only derive from the volunteer’s personal desire:

*“Andreas, interviewee: The exciting part of this is that you’re free. It is your free will to do it. [...] That means that there will be playing around, experimented and tried out all sorts of things”*

(Interview with Andreas, Voluntariness expert, March 7th 2019).

This supports why Stig as the chairman of Repair Café Denmark is cautious of not making too many restrictions for the new repair cafés, and why Mette as the coordinator at Repair Café Brønshøj does not push her voluntary repairers to become Including Repairers. Instead, they accept that the voluntary repairers volunteer out of their own free will, and might be motivated a bit differently than themselves, as they acknowledge their different positions in the repair cafés. In fact, research shows that there are variations in the motivations to volunteer in Denmark in general. The highest score is that the volunteer wants to be able to help other people through concrete actions. Next comes the social, fun aspect of reasons to a volunteer. And motivations such as using professional competences and experiences also motivates some volunteers according to the statistics, in the illustration below (Hjære et al. 2018; Fridberg & Henriksen 2014).

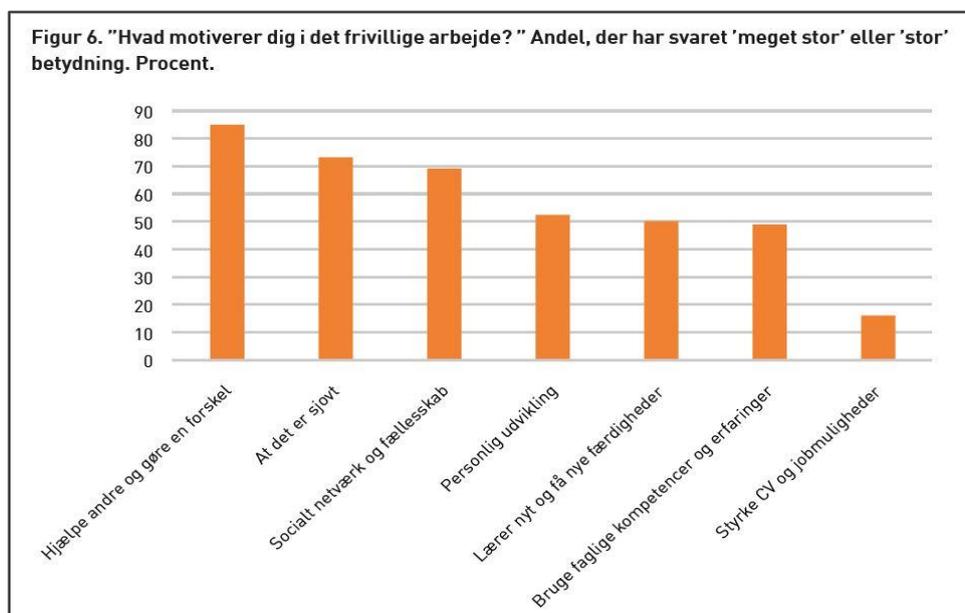


Illustration 26: Helping others and making a difference is the highest prioritized motivational factor for being a volunteer in Denmark, but other factors are also relevant to know when working with volunteers (Hjære et al. 2018).

Another answer to why Repairing Repairers and Indifferent Repairers are not simply corrected into being Including Repairers is related to the time frame of the repair café concept. Sometimes the three hours of volunteering a month is all that the volunteer can manage and wishes to do. This is for instance the case for a repairer at Repair Café Nørrebro:

*“Her reason for being a repairer is that she likes to help people and the company of the other repairers. Her reason for specifically volunteering at the repair café is that she likes that it’s not too time consuming, as it is only once a month”*

(Felix’ Fieldnotes, Nørrebro, February 9th 2019).

The 2-3 hours once a month in the current concept of repair cafés may easily fit the motivations and meanings for the Repairing Repairers and the Indifferent Repairers, who will thereby be able to get repairs done during the short period of three hours. But perhaps the short period of time during the repair café events is also too challenging for the Including Repairers to fully include the visitors? Perhaps the concept of a repair café needs to be expanded in order to accommodate full inclusion in the repair for the visitors and the Including Repairers? This is something which has been highlighted several times during our fieldwork. One of the repairers at Repair Café Gentofte highlighted that the current format of repair cafés has too little time for him to include the older visitors:

*“**Mechanics repairer, interviewee:** [...] For example, last time a lady brought a fruit grinder that wasn't working. I would have to spend a week or something showing her how to use a soldering station or how to cut cables or how to disassemble this”*

(Interview with mechanics repairer, Repair Café Gentofte, March 13th 2019).

Another repairer who is volunteering both at Repair Café Gentofte and Repair Café Nørrebro also pointed out how the current concept of the repair café does not accommodate full inclusion of the visitor. Rather, he suggests that the concept of repair cafés could be supplemented with repair workshops for the visitors:

*“**Electronics repairer, interviewee:** We typically repair about 40 items in the three hours when we are 8, 9, 10 repairers. But the problem is that it needs to go fast. And it’s a bit stressful [...]. There isn’t much time to include the visitors that much,*

*I'd say. [...] I do not believe that the visitors will be able to repair items by themselves after that sort of repair café. It would be so beautiful, but I don't really believe in it. [...] But I'm thinking about to do something in Hellerup [Repair Café Gentofte, ed.]. That we'll be open once a month as usual, but then also be open a couple of times extra each month, where visitors can come by. Where it's supposed to be only one repairer who will then instruct the visitors about the tools, so people can come by and use our tools"*

(Interview with electronics repairer, Repair Café Gentofte, March 13th 2019).

The point of adding an additional type of repair concept to the repair café concept was also presented by the same repairer at the workshop for repair café affiliates on April 24th 2019. Here, he presented it in prolongation of a discussion about how much visitors can be expected to be included in the repairs. Representing Repair Café Denmark, Arlette pointed out that for the future, Repair Café Denmark will officially make visitor inclusion written in their articles of association. Thereby highlighting that a repair café cannot be a place where the visitors can hand in their items and come back later while the repairers repair the items (Workshop, April 24th 2019). The other participants' points of view were also presented. Most of them agreed that visitors should be included, though no concrete suggestions were presented, except the idea about additional repair workshops for visitors (see the participants' full discussion in Appendix D).

We argue that streamlining expectations and finding a format where both the vision of Repair Café Denmark and the motivations of the voluntary repairers is an important next step for the development of the repair café concept. This should be done through implementation of concrete, uniformed repair practices and clearer expectations to visitor inclusion, where the repairers' Repairer Types are respected, e.g. through additional supplementing repair café activities as proposed by the repairer from Gentofte and Nørrebro. The importance of the clarification of expectations will be unfolded in the next section.

## Clarifying expectations

The importance of streamlining the processes of visitor inclusion is because the vision is a spokesperson for Repair Café Denmark, as it may be the visitors' and potential political allies' first exposure to Repair Café Denmark and their goals. An example of this could be the chairman Stig's appearance

on the radio on April 20th 2019 (Jensen 2019), where he only had a couple of minutes to talk, so he had to be clear and concise about what a repair café is and what Repair Café Denmark tries to achieve. In these cases, he should be able to refer to Repair Café Denmark's vision to explain their concept and ambitions. As a result, the vision he expresses might end up defining how the repair cafés are perceived, and by that act as a spokesperson towards the enrollment of both visitors and political allies. But this raises a question about what should define the vision. As previously noted, from the current formulation of the vision, the link between the goals and the means towards the goals are not similarly performed at the six repair cafés. Thereby, by clarifying expectations of visitor inclusion in the vision, Repair Café Denmark will be able to align the practices of the individual repair cafés across the organization. Accordingly, with that, the vision will be able to be used as a spokesperson representing the entire organization and their program, when attempting to enroll consumers, political allies, and other external actors. However, when Repair Café Denmark clarifies their expectations to the repairers' inclusion of visitors, they need to acknowledge the free will of voluntariness. And by that also respect that the repairers have different motivations according to repair type.

As argued in the previous chapter the repair cafés have similarities but also differences. This makes up six individual repair café practices. One of the differences is the level of visitor inclusion in the repairs. As argued in this chapter, there needs to be greater alignment on especially this matter, as clarifying the level of visitor inclusion is one of the means towards achieving Repair Café Denmark's goals. Streamlining the expectations of this means in the formal vision will make Repair Café Denmark stand stronger in the political network of repair, circular economy, and waste minimization. Furthermore, this will enable the vision to be a spokesperson for Repair Café Denmark, as it then will represent both the means and the goals across the repair cafés in the organization and be a common point of reference for external actors. However, an important notion is also voluntariness. The voluntary repairers' motivations need to be taken into Repair Café Denmark's consideration when they streamline their expectations of e.g. visitor inclusion. In order to do so, they need a forum where volunteers and coordinators as well as Repair Café Denmark representants are gathered to exchange knowledge. During our fieldwork for this master's thesis, we have attempted to create such a forum at a workshop called 'The Good Repair Café' on April 24th 2019. Here, a repairer's idea of a supplementing workshop concept to the current repair café concept was presented. Other points were also discussed. These will be presented in the next chapter.

## 12. Workshop: ‘The Good Repair Café’

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The purpose of the workshop ‘The Good Repair Café’ was to create a forum where experiences and expectations could be discussed, and thereby align the repair cafés’ practices to be more similar than different from each other. Such a forum will also enable Repair Café Denmark to clarify their vision and establish it across the repair cafés. We designed the workshop with inspiration from the voluntariness expert Andreas, and with exercises inspired by participatory design (Brandt, Binder & Sanders 2013). The workshop consisted of four components, which was a presentation by us, two team exercises, and one self-reflection exercise<sup>4</sup>. At the workshop there were 10 participants present, 9 of which were affiliated with a repair café and 1 from Environmental Center Amager. The outcome of the three exercises will be presented in the following sections.

### The ADJ Triangle

In the first exercise, the participants discussed and reflected upon how the notion of ‘development’ ‘achieve’, and ‘joint social development’ played a part in the repair café practice. This was with the purpose of elaborating on the elements in the good repair café practice and how it would be performed. With this in mind, the participants proceeded to fill out the point of ‘development’ with notions of affecting actors like manufactures and political agendas by changing the mindset of consumers, and by enrolling other initiatives that can help to do this. This was also reflected in the point of ‘achieve’ on the game board, as the notion of inclusion was in focus. The concrete act of helping and making visitors able to repair by themselves was at the center of this discussion, as many of the participants believed that some degree of inclusion is essential for a well-functioning repair café. This was reasoned with the argument that bigger societal changes should be imbedded in the everyday lives of consumer. Another important aspect of the repair café concept was the importance of the social atmosphere of the repair cafés, and that everyone should feel welcome and be comfortable. In this regard, the participants mentioned that doing something extraordinary is a great way to strengthen fellowship and create a feeling of belonging as volunteers. Therefore, the internal stability and social development of a repair café is paramount if the volunteers are to thrive and keep being volunteers.

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<sup>4</sup> For more information see Chapter 7, section *Workshop: ‘The Good Repair Café’*.



tubing, which is nice-to-have but not extremely needed for a repair café, according to the participants. These materials do however increase the potential of successful repairs. The participants also highlighted the importance of having a room which does not only support repair but also socialization and coziness, and to be able to perform a café practice in addition to a repair practice.

The second poster was about voluntariness. At this, the participants were eagerly discussing their points of view on expectations to volunteers. One aspect was the different kinds of motivational factors that appeals to different type of volunteers. Additionally, the participants discussed the recruitment process and how to entice both existing and new volunteers. During their discussion, the participants realized that the social aspects of being a volunteer is essential to most of them. Thereby, a common value to the participants is a good social atmosphere and to get appreciation by other volunteers and visitors. Lastly, the participants discussed whether it might be beneficial to have an employed coordinator and thereby separate the voluntary roles between the coordinators and the repairers. This point in their discussion probably stemmed from our presentation prior to the exercises, where we presented the variations in coordinator affiliations across the six repair cafés.

The topic of the third poster was responsibilities. The participants considered it important to discuss and agree on how different areas of responsibility are taken care of, and who is accountable for them. The administrative and organizational ability was seen as a task of the coordinator, and the repairers should be focusing on the repair at hand and include the visitors as much as possible, they argued. The participants also pointed out that the responsibilities of the coordinator include documentation of repairs, making sure they have a location, promotion through social media, fundraising, coordination of the repairers, and communication with Repair Café Denmark and other repair cafés. The greeter should let the visitors know that the repair café cannot take responsibility of the items they bring to get repaired. The greeter and the coordinator do not have to be the same person. Additionally, the participants also discussed that the responsibilities of the repairers are to maintain and clean up the tools, in addition to be present and help with conducting the repairs at the repair café events.

The fourth poster was about financial funding. Here, the participants were quick to agree that it would be nice for them to be able to centralize the process of applying for financial funding. This would be with the aim of easing the job for the individual repair cafés, but also for Repair Café Denmark to stand united as a collected entity in the network of repair, circular economy, and waste minimization.

After the collective exercises of the ADJ Triangle and the Law of the two feet, the last part of the workshop was an individual self-reflection exercise. The main points from this exercise will be elaborated in the next section.



Illustration 28: A poster from 'the law of the two feet' in use at the workshop (Photo, Workshop, April 24<sup>th</sup> 2019).

## Self-reflection exercise

The last exercise of the workshop was a self-reflection exercise, which had the purpose of articulating some of the insights that the participants had found to be the most essential during the workshop. Through the self-reflections, the participants compressed their insights into concrete examples (For all notes on the reflections see appendix F).

These insights can support the current structure of the repair café practice and further develop it. One

of the most prevalent insights was the importance of the volunteers to socialize at the repair cafés and form new relations which in turn will amplify the overall atmosphere at the repair cafés. A good social atmosphere would both make it easier to keep the volunteers motivated and recruit new repairers. Specific social initiatives should further bolster the repair cafés as this holds potential to be the reason that visitors keep returning to or advocating for their concept. These social initiatives should not be restricted to the repair café events but could also be dinners or professional presentations for the volunteers.

Another theme shared by several participants was that the repair café should be able to affect a political agenda. This could be achieved by gaining momentum on a national level through alliances with NGOs, municipalities, and others. By doing so, they believe that the repair cafés can establish themselves as a spokesperson for a network of other similar initiatives sharing their ambition for minimizing waste, thereby greatly increasing their political power. A mean to support this ambition is to be more visible, both online and at relevant climate events.

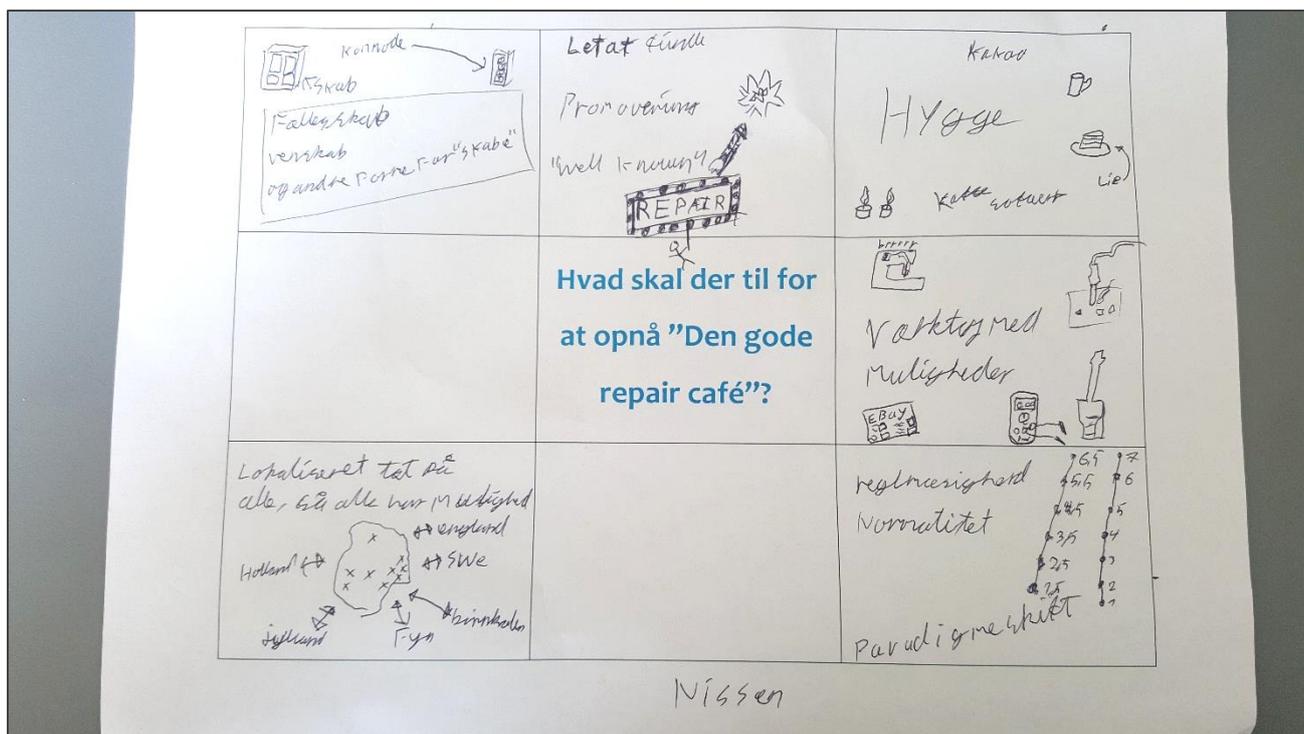


Illustration 29: An eksempel of the 'Self-reflection exercise' (Photo, Workshop, April 24<sup>th</sup> 2019).

## Engagement, excitement, and new relations

It seemed like the participants left the workshop with both engagement and excitement. A repairer from Nørrebro invited a repairer from Sydhavn to participate in their social network of electronics repairers. And the repairer from Sydhavn asked the repairer from Gentofte whether they could use another hand at their repair café as well.

About a month later, we were eager to know if we had sparked even more interest and engagement beyond the room of the workshop. As we reached out to the participants, we were told that the representative from Environmental Center Amager had initiated a procedure for a streamlined collection of repair data (see appendix G). In the next chapter, we will unfold and discuss the relevance of these repair statistics, their potential, and why Repair Café Denmark should take the collection of them seriously.

## 13. Mobilizing the network of repair, circular economy, and waste minimization

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In chapter 9, we enlisted the most immediate actors to Repair Café Denmark in the network of repair, circular economy, and waste minimization. These actors are consumers, Repair Café International, Environmental Center Amager, iFixit, The Danish Consumer Council, DAKOFA, Danish university researchers, Ministry of Environment and Food of Denmark, Danish municipalities, product manufacturers, and product retailers. The identities, goals, and interests of these actors were accounted for as the moment of problematization. In this chapter, we discuss how Repair Café Denmark may potentially interest these actors into their program to later also enroll and mobilize them. Our wish for doing this is partly due to Repair Café Denmark's own vision of wanting to make a greater political impact in the field of repair, circular economy, and waste minimization, and partly due to Keiller and Charter's (2019) survey showing that the future of repair cafés is believed to be to get more involvement with wider sustainability issues. Because of that, this chapter presents a suggestion for a tool to mobilize political power in the network of repair, circular economy, and waste minimization.

Our suggestion is for Repair Café Denmark to formally collect and manage repair data from all their associated repair cafés. This has also already been initiated by the representant from Environmental Center Amager, but we will discuss how to further apply the data strategically. The collected repair data will - if handled properly and used strategically - have the potential of being a highly important interestment device to several of the mentioned actors that Repair Café Denmark wants to enroll and mobilize in accordance with their program. In the next section, we will shortly account for the repair cafés' current status of repair data registration. This will be followed by suggestions on how to use statistics as interestment devices.

### The current status of repair data registration

First of all, the accumulation and thereby the registration of the repair data needs to be based on as many of Repair Café Denmark's associated repair cafés as possible to make the amount of the data solid and comprehensive. Furthermore, in order for the data to be valid and trustworthy, the registration of the it needs to be included as an active part of the repair café practice. And lastly, the categories of data need to be aligned across all repair cafés in order to represent Repair Café Denmark as

one entity. As noted during the analyses of each repair café in chapter 10, the repair cafés currently have different ways of registering repairs, as illustrated in the following illustration:

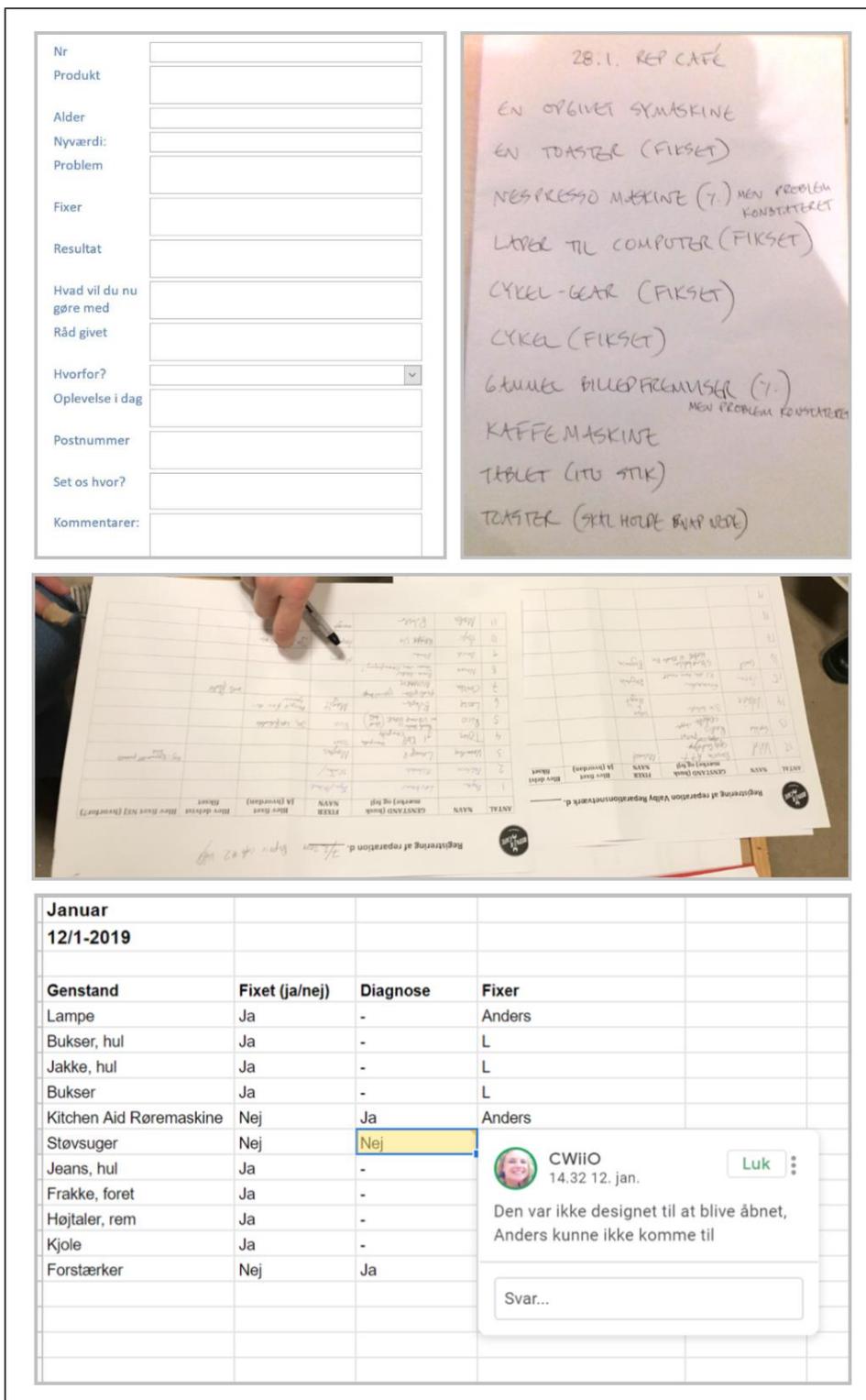


Illustration 30: Repair registration sheet from Repair Café Gentofte (upper left), Brønshøj(upper right), Valby (middle) and Sydhavn (button)

At the moment, each of the repair cafés have their own method of data registration, which results in the data only being representative for the individual repair cafés. The examples in the previous illustration show how some of the registration sheets primarily are for a practical purpose during the repair café events. Also, physical registration sheets on paper would need to be converted into digital data sheets afterward. The amount of data accumulated so far is quite small and might be difficult to use as an interessement device to persuade other external actors to align with their program. In short, the data needs to be comprehensive, digital, and quantifiable in order to transform it into a spokesperson to act as an interessement device for Repair Café Denmark. In the following sections we will present some key categories of repair data, and how these may be used as interessement devices to the other actors presented in chapter 9 and in the beginning of this chapter. These key categories are inspired both by our insights from the ethnographic fieldwork, some of the repair cafés' existing categories (see illustrations 30, and the registration sheet initiated by the representant from Environmental Center Amager (see appendix G).

## Statistical repair data as interessement device

Even if the data registration procedure becomes aligned across all the repair cafés and Repair Café Denmark gets a formal hold on it in a collected database, the data in itself will not hold value. It is only when the data is transformed into statistics, diagrams, charts and worded as insights and arguments that the data is valuable and can act as an interessement device to other actors in the network of repair, circular economy and waste minimization. In prolongation of our fieldwork, we have been very fortunate to get access to the repair data collected by Repair Café Gentofte. The data is collected from four repair café events in the period of December 2018 to March 2019. It is important to note that the data is not a complete representation of repairs carried out at a repair café due to the short period of four months. Additionally, Repair Café Gentofte is often very busy and thereby sometimes miss to register some of the repairs. Therefore, some data points are missing, and the categories used in the following sections are thereby only based on the data points which have been fully represented. Nevertheless, exemplifications of how visualized statistical repair data can act as interessement device will be presented with the use of data from Repair Café Gentofte in the next sections.

## Category and brand of items brought to the repair café

At Repair Café Gentofte, they register the type of items which the visitors bring. For instance, they write ‘cd-player’, ‘coffee maker’, ‘gramophones’, ‘chair’, etc. However, these items are not further categorized than this. We suggest, that Repair Café Denmark makes room for a more elaborated categorization of the items. This will have multiple purposes. Knowing the most common category of items brought to be repaired will enable the organization of Repair Café Denmark to make more strategic campaigns when searching for new repairers, as knowing which competences are needed, enables them to focus their communication strategies. Additionally, visualizing the categories of items repaired will also allow Repair Café Denmark to narrow their political efforts towards the right product retailers. For instance, it would not make sense to advocate for better repair opportunities for ceramics items and attempt to interest, enroll and mobilize ceramics retailers, if no ceramic items are being brought to the repair cafés. In fact, in the example of Repair Café Gentofte’s repair statistics, electronics and mechanics are the main culprits. This is clear in the illustration below, where we have roughly identified the categories of items that have been brought to Repair Café Gentofte:

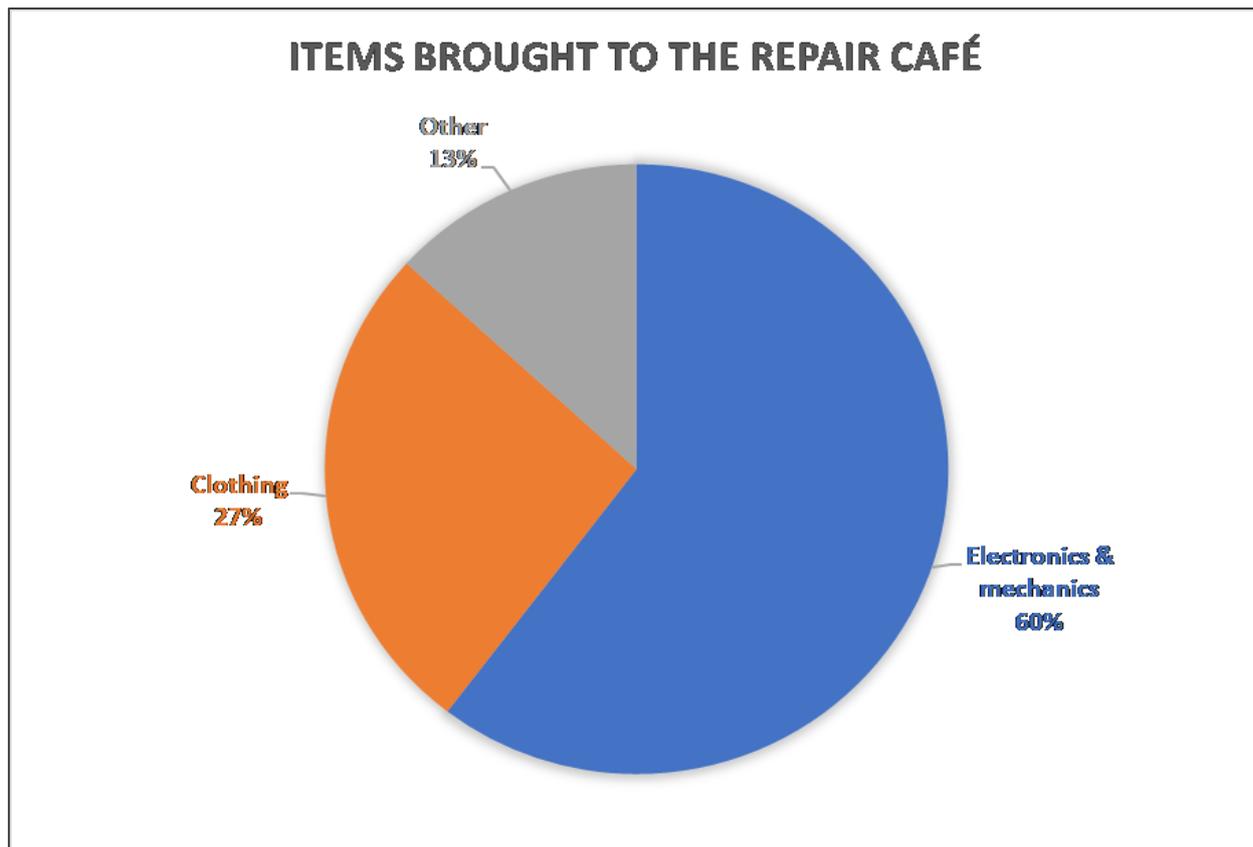


Illustration 31: A rough of item categorization of the items brought in for repair.

The illustration above shows a very rough categorization of the repaired items. We suggest that Repair Café Denmark with their knowledge of the repair categories makes a better and more granulated categorization of items. Visualizing the categories of items that they repair will allow Repair Café Denmark to focus on pressuring or aligning with the specific product retailers in question. Following the previous illustration, electronics and mechanics retailers would thereby be more relevant than clothing retailers. One interestment tactic may even be to use these visualized statistics as a threat to the various retailer businesses; thereby pressuring them to offer better repair services to their customers in order to not have their reputation damaged publicly.

In addition to a granulated categorization of the items, it would also be relevant to identify the brand. For instance, repairers at Repair Café Nørrebro have experienced that Apple is a manufacturer who produces chargers that often need repair (Interview with Stig, Repair Café Denmark, February 11th 2019). Being able to statistically show that 'Brand A' needs more repairs than 'Brand B' will affect both brands. The manufacturer of 'Brand A' would need to improve e.g. their products' quality or repair services in order to compete with other manufacturers' reputation. However, 'Brand B's' reputation will also suffer even from being on the repair list. This way, the brand identification and statistical visualization may be used as a threatening interestment device - or put in a nicer way; a pressuring solicitation strategy.

## Age of the repaired items

In the data sets from Repair Café Gentofte, they have also registered the approximate age of the items brought to the repair café. This enables us to make a statistical overview of how old the items are:

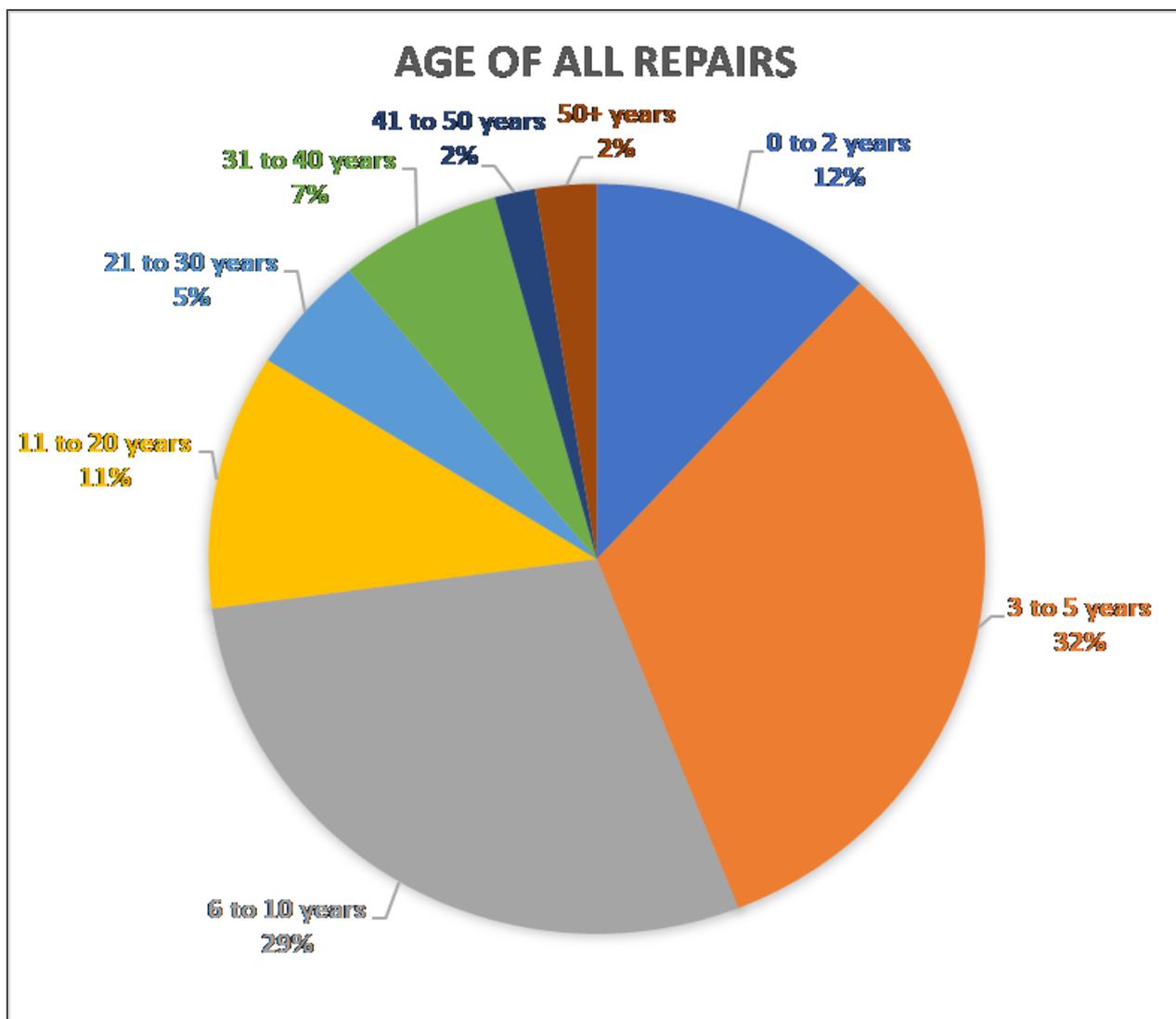


Illustration 32: A statistical overview of the age of the items brought to be repaired at Repair Café Gentofte.

This overview makes it clear how items brought to the repair café are often relatively new, as 44 % of the items are only 5 years old or younger. This statistical overview of items' age is valuable for Repair Café Denmark when attempting to interest actors such as The Danish Consumer Council and political lawmakers. The Danish Consumer Council is interested in protecting consumers' rights and to make the market of consumer goods more fair. For instance, they focus on pressuring the politicians to expand the two-years period of warranty (Salamon 2016). The statistics on age of items

could thereby be an interestment device to make The Danish Consumer Council align with Repair Café Denmark in their common goal of creating a political pressure for a prolonged period of warranty, by offering these statistics to The Danish Consumer Council to use in their political program as well.

### The success rate of repairs

In addition to age, brand, and item categorization, the data registration should also include whether the items are repaired. In fact, this is already being noted at all the repair cafés. Making a statistical overview of this data will hold value towards the individual repair café's municipalities and other financial foundations when applying for funds and other types of support. Enabling both the individual repair cafés and Repair Café Denmark to concretely show by numbers how well they have repaired items at the repair cafés will enhance the organization's legitimacy in the network of repair, circular economy and waste minimization. Additionally, a statistical success rate of repair will also affect the consumers' mindsets of repair being an option for their defect items, as numbers speak louder than words. An example of a visualization of success rates is illustrated below:

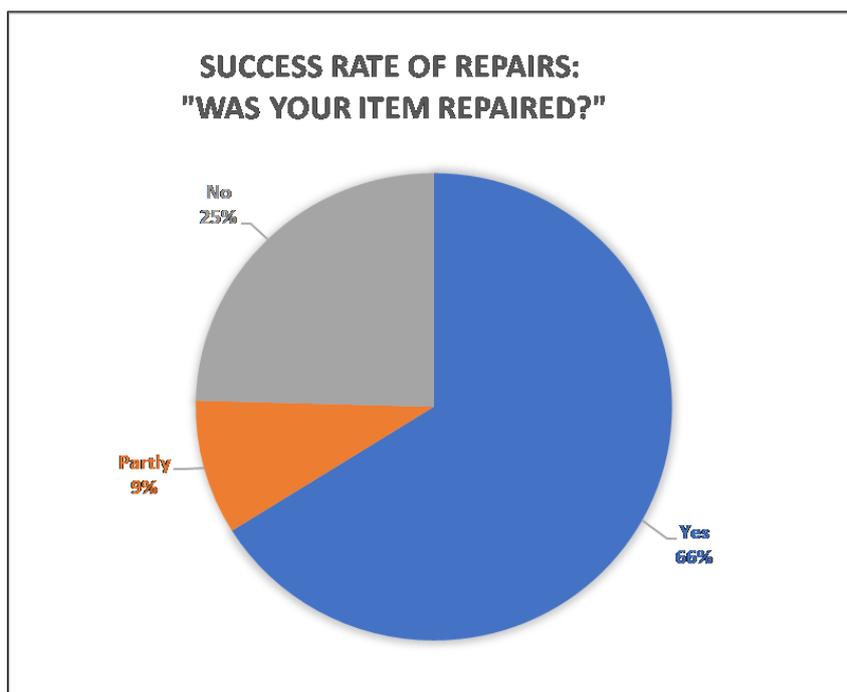


Illustration 33. These statistics from Repair Café Gentofte shows how only one fourth of all the items brought to the repair café could not be repaired.

It is also possible to combine the statistics of the age of the items with the repair success rate. This will clarify the urge for expanding the 2-years period of warranty, as even the items which are only 5 years old or less have a success rate of 63 % in the data set from Repair Café Gentofte:

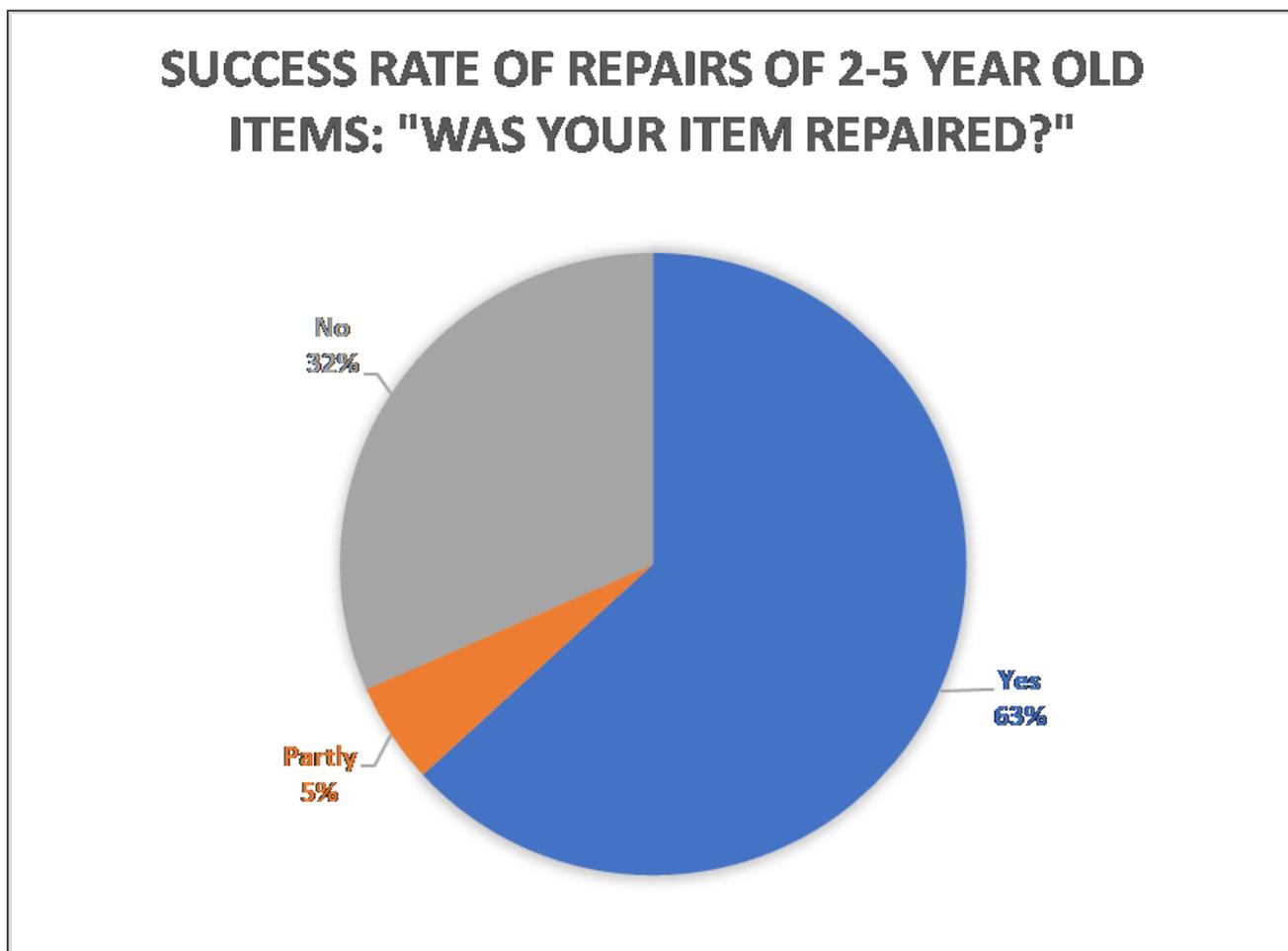


Illustration 34: This statistic from Repair Café Gentofte's data shows the success rate of items within the 2 to 5 years old items.

The success rate statistics will also enable the repair cafés and Repair Café Denmark to communicate to the consumers: step by step, using the visualized statistics as an interestment device. By enrolling the consumers into Repair Café Denmark's program using visualized success rates as an interestment device, they will be able to weaken the link between the manufacturers and the consumers. Repair Café Denmark's change of the consumers' mindsets into 'my products can be repaired' will change the identity of the consumers from persons who are willing to upgrade their obsolete items at any time to more conscious consumers. In effect, the consumers will align with Repair Café Denmark's program instead of the product manufacturers' program, which is visualized in illustration 35:

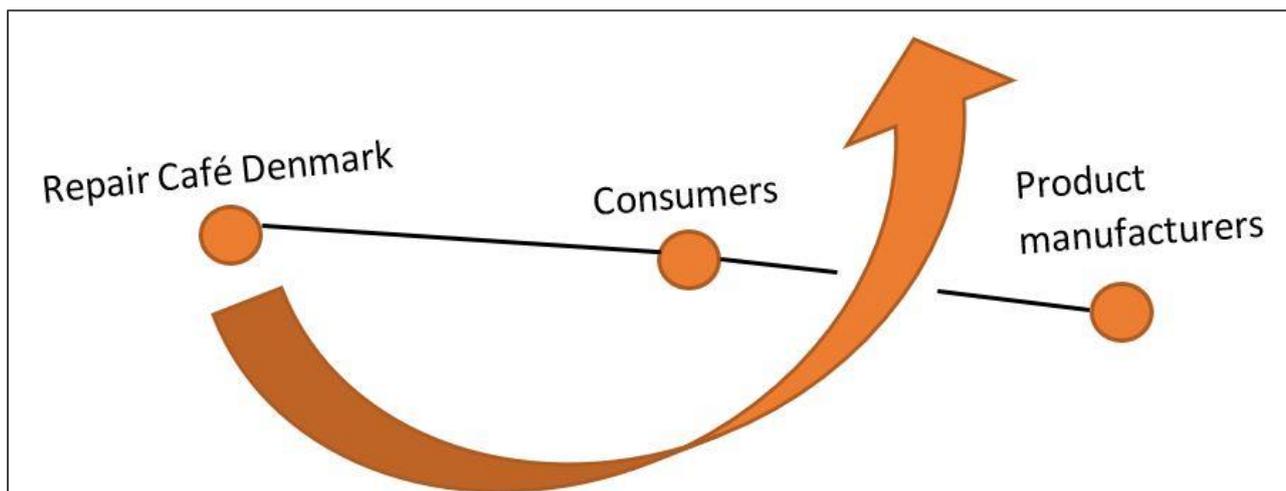


Illustration 35: By interesting and enrolling the consumers into their program, Repair Café Denmark will cut the tie between the consumers and the product manufacturers, thereby forcing the product manufacturers to change strategy.

As visualized in the illustration above, Repair Café Denmark will try to cut the tie between the consumer and the product manufacturers. This might force the product manufacturers to rethink their approach and align it with Repair Café Denmark's program, as they would otherwise lose customers. This also goes for the product retailers. If Repair Café Denmark is able to change the mindsets of the consumers, both the product manufacturers and product retailers will need to rethink how to appeal to their customers.

## Statistical repair data as interessement device for mobilizing the network

Overall, the visualized data of the repair cafés is an important interessement device for actors previously identified in chapter 9 and in the beginning of this chapter. More importantly, the visualized statistics becomes a spokesperson of Repair Café Denmark, as it becomes a representant for Repair Café Denmark which the other actors agree to align and negotiate with. Repair Café Denmark will thereby be able to use the collected and visualized data as a spokesperson to enroll other actors. Mobilization will take place, when the actors actively use the visualized data as the spokesperson of their agendas.

The actors which have not been mentioned yet may indirectly become interested and then enrolled and mobilized if Repair Café Denmark offers these actors to use their statistical repair data as an immutable

mobile for their own programs. These actors include iFixit, Repair Café International, DAKOFA, Danish university researchers, and the Ministry of Environment and Food of Denmark, as these specific actors already align with the program of Repair Café Denmark on a general level. Because of that, the solicitation to these is to promise them that they are allowed to use Repair Café Denmark's statistical data in their individual programs of repair, circular economy, and waste minimization. Each of all the presented actors in relation to Repair Café Denmark is shown in illustration 36 below.

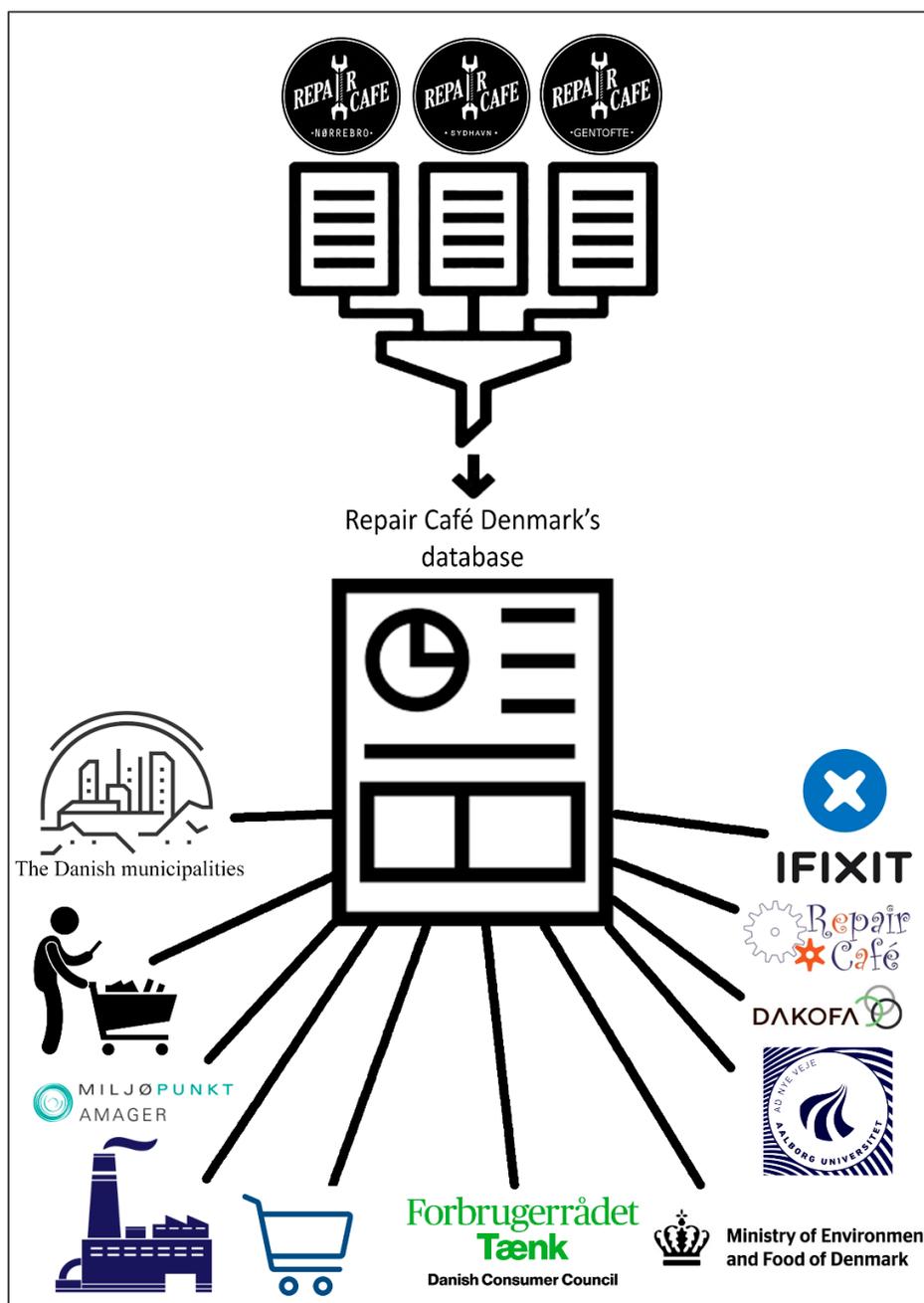


Illustration 36: How statistical repair data can be used as either an interessement device or as an immutable mobile for Repair Café Denmark's program

## Repair data registration in practice - how to?

Before rolling out a streamlined repair data registration procedure, Repair Café Denmark needs to figure out a practical tool which accommodates the practice of the repair cafés. As techno-anthropologists, we stress the importance of making technical solutions that fit into the real-life context of the users, as technologies are always socio-technical artefacts imbedded in a human world. The representant from Environmental Center Amager has set up a registration sheet, which after the workshop on April 24th has been distributed as an Excel file to the individual repair cafés. Even though this initiative is praiseworthy, the format of the registration sheet might not be optimal in practice, as Repair Café Denmark will need to make a great effort when recollecting the individually filled out registration sheets from each repair café each month. Because of that, we suggest that Repair Café Denmark sets up an online form to use as registration sheet, e.g. Google Forms. This will enable Repair Café Denmark to get the data inputs directly into one collected database from each individual repair café. Additionally, Google Forms also visualizes the statistics from the data inputs directly in the backend of the form to Repair Café Denmark (see example in appendix H). That way, Google Forms is an easy-to-use tool even for coordinators who do not have time or the analytical skills to make the statistics manually from the data extractions.

We are aware, that the current practical element of the repair registration sheets is still very important to support the repair café practice. This is the primary role of the current registration sheets we have observed. Because of that, the registration form which we suggest should first act as a practical support during the repair café, and secondly, it should act as inputs to Repair Café Denmark's collected database of repair statistics.

The practical aspect of the registration form are the remarks on:

- Repair Café name
- Item number
- Visitor's name
- Type of item (e.g. coffee maker, pants, blender etc.)
- Repairer

The statistical aspect of the registration table are the ones previously discussed, and are summarized below:

- Item category (e.g. ‘antiques’, ‘kitchen appliance’, ‘children’s toy’, ‘music player’ etc.)
- Brand name
- Age of item
- Was your item repaired? (“yes”, “no” or “partly” as a drop-down menu)

In practice, filling out the practical remarks of the registration form should be done at the visitor’s arrival, and in order to accommodate potential long wait for visitors at well-visited repair cafés, the second half of the form could be filled out by an assisting coordinator as the visitors leave the repair café. When this is carried out in practice, and the registration form thereby is turned into two separate forms, it is important that the second half of the form also notes the visitor’s item number and name of the repair café again, so the two separate data registration inputs are able to be collected into one data sheet in the extractions after the repair café event, if it is considered valuable to combine the practical and the statistical data inputs. An example of a registration form made with Google Forms can be seen in appendix I and J. To coordinate this in practice, the system of registration can be combined with a physical numbering system as it will enable the coordinator to manage the queue of visitors like we observed in Repair Café Gentofte (see illustration 22). That way, the visitors will fill out the rest of the form as they hand back the number before leaving the repair café.

## 14. Conclusion

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In this thesis, we have researched how the social practices of six different repair cafés in the metropolitan area of Copenhagen are performed through the interdependency of competences, materials, and meanings. Additionally, we have presented how knowledge about similarities and differences of the repair café practices can strengthen the concept of the Danish repair cafés. Lastly, we have discussed how Repair Café Denmark might mobilize allies in the network of repair, circular economy, and waste minimization through the use of strategic intersement devices.

Having explored and analyzed the practices of six different repair cafés through an ethnographic fieldwork, we have highlighted the similarities and differences in competences, materials, and meanings. These are expressed through the physical spaces, the repair competences of the voluntary repairers, and the values of sustainability and helping out one's local community. Getting access to location and tools, organizing the volunteers, registering repairs, and facilitating the repair cafés' presence on different media are efforts often made by a coordinator at the repair cafés. These tasks are essential for repair café events to take place and are done to different degrees at each repair café; some by employed coordinators and others by voluntary coordinators. The level of visitor inclusion also differed. In this regard, the voluntary repairers can be categorized either as 'Repairing Repairers', 'Indifferent Repairers', or 'Including Repairers'. The necessary type of repairers for the ambition of Repair Café Denmark was discussed at the knowledge sharing workshop 'The Good Repair Café' on April 24th. Presenting the knowledge about similarities and differences of the six repair café practices at the workshop was beneficial for all the participating repair café affiliates. The discussions were centered around how an ideal repair café practice should be performed in regard to the three repairer types, social atmosphere, and how to push the political agenda in relation to repair and product manufacturing. Through further collaborative knowledge exchange processes such as 'The Good Repair Café' workshop on April 24th, Repair Café Denmark will be able to streamline the repair café concept and clarify their expectations regarding visitors and volunteers alike. In addition to streamlining, they may also need to develop additional concepts, e.g. repair workshops for visitors as proposed by an electronics repairer, in order to accommodate the Repairing Repairers and the vision of empowering the consumers into being able to repair their own items. Such development of the repair café concept and strengthening of their communication across the individual repair cafés will enable Repair Café Denmark to bolster their own position in voluntariness and their ability to mobilize the network of repair, circular economy, and

waste minimization. Concretely, we highlight how the strategic use of statistical repair data as an interestment device might improve Repair Café Denmark's position, and will enable allies of Repair Café Denmark to use the data as an immutable mobile to further their own programs as well. This mobilization has the potential to act as a catalyst for profound adjustments to the throw-away culture and save our planet, before the day of reckoning.

## 15. Further studies

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In this final chapter, we will present some ideas for further studies of repair cafés, as this thesis has not covered all aspects. This thesis primarily focused on creating an in-depth understanding of the repair café practices and their position in the network of repair, circular economy, and waste minimization. Because of that, we suggest that the next step should be to focus more on concrete actions for Repair Café Denmark to take, in addition to our already proposed management of visitor inclusion expectations and a streamlining of repair data registration procedure across the individual repair cafés. As our suggestions so far are relatively subtle, we propose that a next step could be approached as Action Research. With this, the researcher will seek to address issues by empowering vulnerable groups. This empowerment is done by creating emancipating conditions, where people are able to address concerns and take action against oppression (Andersen, Bilfeldt & Jørgensen 2014). In relation to the field of repair cafés, the action researcher could perceive the organization of Repair Café Denmark to be the oppressed actor as they are not yet stabilized in the field of repair, circular economy, and waste minimization. So far, in this thesis, we have suggested a streamlining of repair data accumulation with the purpose of being able to enroll and mobilize other actors in the network of repair, circular economy, and waste minimization. However, this initiative is still only in the initial phase. Therefore, the action researcher should actively help the repair cafés and Repair Café Denmark with rolling out the streamlined data registration procedure, while also actively play a role with applying the repair data statistics as intersement devices for the various actors.

Next, we also suggest for an action researcher to conduct a study on repair cafés with a stronger focus on circular economy. So far, the focus of repair cafés is only in the “slowing” aspect of the tripartite understanding of circular economy. How may the repair café concept develop into also containing the aspect of “narrowing” and “closing”? (Bocken, et al. 2016). An ambitious goal for the action researcher should be to affect product manufacturers to make products that naturally have upgradability and repairability implemented. This would be the first steps towards design for reusability of products, which would thereby close the loop and narrow the number of products in society. A step towards circular economy and a break with the current throw-away culture.

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## Appendix

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- A. Initial e-mail sent to contacts provided by our supervisor.
- B. Interview guide for loosely structured interviews.
- C. Invitation to the workshop 'The Good Repair Café'.
- D. Participants' full discussion on the topic of visitor inclusion from the workshop 'The Good Repair Café'.
- E. Full notes from the exercise 'The law of the two feet' from the workshop 'The Good Repair Café'.
- F. Full notes from the exercise 'Self-reflection' from the workshop 'The Good Repair Café'.
- G. Repair data registration sheet made by the representant from Environmental Center Amager (in Danish).
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- J. Our suggestion for a repair data registration form for when a visitor leaves the repair café.

## A. Initial e-mail sent to contacts provided by our supervisor.

Dear XX

We are three master's students from Techno-Anthropology at Aalborg university in Copenhagen. In the relation to our master's thesis we are interested in understanding and potentially help with the development of the repair cafés in Denmark.

Therefore, we write to you to hear if we could interest you with a cup of coffee and an interview on how you work with the repair cafés, and which meaning it has to you? We are very flexible regarding time and space.

We look forward to hearing from you.

Best regards

Nicolai, Felix & Mie

## B. Interview guide for loosely structured interviews

### Interview guide - Visitors at the repair café

1. What do you need help to repair today?
2. Why have you chosen to get this item repaired?
3. What have you done with it up until now?
4. Where have you heard about the repair café?
5. What do you think about the concept?
6. Why did you choose to come here - what can it give you?
7. What do you think the repair can give you - do you get anything else out from being here, other than your item being repaired?

### Interview guide - Repairer at the repair café

1. What are you an expert in repairing?
2. How did become a repairer?
3. How often do you help at a repair café?
4. What do you think about the concept?
5. How do you think the repair café is being received by the visitors?
6. How do you share your knowledge about repair - both in relation to visitors and other repairers?
  - a. Do you have any guides or systems, you use when helping each other?

### Interview guide - Coordinators at the Repair Cafés

1. How did this repair café start?
2. How do you recruit new repairers?
3. How do you communicate your existence?
4. How do you register repair data?
  - a. Is this used to better prepare the repairers?
5. Can I see how you register what has been repaired?
  - a. What do you use this data for?

## C. Invitation to the workshop ‘The Good Repair Café’

# INVITATION TO THE WORKSHOP

## “THE GOOD REPAIR CAFÉ”

-----  
Wednesday 24th of April 17 to 19 o'clock in Brønshøj

You are hereby invited to a workshop about “The Good Repair Café”.

You are especially invited because you are a volunteer at a repair café in the metropolitan area of Copenhagen.

### **What do you get out of participating?**

You will for instances learn a lot about:

- How other organize and conduct repair cafés
- How to get more visitors in the repair café
- How to recruit and keep volunteers
- Which physical and organizational framework is optimal and realistic to a repair café
- How to cooperate with municipalities about e.g. financial support

Together we will discuss these points with you and reflect about them through concrete exercises.

We promise that it will not be boring! And after the workshop, you will be emailed the main points summarized.

### **The goal: Concrete knowledge, sharing of experiences, and networking**

After the workshop you will leave with concrete knowledge and ideas to strengthen the repair café concept at your repair café and a stronger network to the other repair cafés.

The workshop is a part of a master's thesis in techno-anthropology, and takes its point of departure in two months of fieldwork at your repair cafés. Your participation in the workshop is completely non-binding.

Side 1 af 2

## PRACTICAL INFORMATIONS

### Time and place

The workshop will held Wednesday 24th of April. From 17 to 19 o'clock at Pilegården Brønshøj. The address is Brønshøjvej 17, 2700 Copenhagen. There will be signs showing the way, when you arrive.

### Program

17:00 - 17:30	<ul style="list-style-type: none"> <li>• Arrival and dinner</li> <li>• Presentation of insights from our ethnographic fieldwork at the repair cafés.</li> </ul>
17:30 - 18:30	<ul style="list-style-type: none"> <li>• Concrete exercises where we touch upon themes related to “The Good Repair Café”, and in relation to this; financial support, voluntariness and the physical framework.</li> </ul>
18:30 - 19:00	<ul style="list-style-type: none"> <li>• Joint recap: The most important insights from today, and what you exactly will take home from this workshop.</li> </ul>

### Registration

Registration is made to the e-mail: XXX. Write “Attending workshop” in the subject.

Participation is free, but we want be sure that there are enough food and drinks, so please RSVP no later than Wednesday 17th of April at 12 o'clock.

### Need more information?

If you have any questions or need more information, you can contact us at:

E-Mail: XXX

Phone: XXX

**We hope that you want to participate, and we are looking forward to see you.**

Best regards Mie, Nicolai and Felix

Techno-anthropology students, AAU CPH

### Who are we?

*We have in the past two months conducted an in-depth ethnographic study of the practices at six different repair cafés in the metropolitan area of Copenhagen. We therefore want to give some of our insights back to you who work with the repair Cafés. Because knowledge is worth nothing if it cannot be shared. Especially knowledge sharing is central to our master's thesis. And how voluntary work plays a role in sustainable development in Denmark. We are looking forward to talking more about this with you.*

Side 2 af 2

## D. Participants' full discussion on the topic of visitor inclusion from the workshop 'The Good Repair Café'.

### **“Participant 1:**

I am a proponent for advocating that people should be at least be participating in the repair. And we do not accept that people just hand in their things and leave. We are not a workshop where you can just hand in and leave. Then you could just hand it to a professional workshop and pay for it. If so, you do not respect the work we do voluntarily. Participate and learn. There are some visitors who want to participate, there is some who find it difficult, and there some who are fine with not participating in the repair. But alone by, them coming in and put their nose in it, drinks a cup of coffee and in some way is a part of the process [...] Those visitors were you can put them to work with measuring something or something in that manner, then it becomes some sort of a repair café workshop. So, to those who want to participate, it becomes a workshop. So those who have the capacity for it and, and understand it and want to participate, to them its' kind of a workshop. And those where you can see that they are not able to participate because they do not understand it or would get hurt... Especially with electronics where you have to be very concentrated; two people cannot measure at the same time, in the same way as you cannot sew the same pair of pants twice either. But I can see that there are very large differences in the visitor'' enthusiasm, if they are a part of the repair or not. And I can see that there are more children and young people coming in that find it interesting. [...]

### **Participant 2:**

What we work towards at Repair Café Denmark's board of directors, and what we write in the articles of association and what we try to start up with the new repair cafés, is that the goal is to include the visitors. We are not a place, where you hand in your things, but a place where you participate in the repair. The more we can include them, the better it is. [...] But it is important, that we get them to participate - one way or another - as a part of the process. So that is a goal [...]

### **Participant 3:**

The reason that I am a repairer is not to repair FOR people, but it is the educational part [...]. So, I find it essential to the repair café concept, that the visitors are part of the repair.

### **Facilitator, Mie:**

(Our assumption): At one end there is the repairer who repairs the most things and thereby reduces the amount waste, here and now. And at the other end, the repairer who includes the visitors thereby reduce the amount of waste slower in the longer run.

**All the participants, as one collective voice:** We do not agree with that differentiation!

**Participant 2:** It is the same number of repairs that are being conducted, either way. Each time a visitor gets something repaired, they become more keen to get something repaired next time that something breaks.

**Facilitator, Mie:** Yes, so...

**Participant 4:** Now I have to put a fly in the ointment. Because it is idealistic enough and there should be a repairer who tells you to “screw there and turn there”. But that is not how it is in reality, right? Because in a home it is not like there is something that breaks every day or even month. So, if you have learned how to repair a toaster, can you use that knowledge 6 months later? Then they have forgotten everything about it.

**Participant 3:** But they learn that you CAN.

**Participant 1:** Exactly. I agree.

**Participant 4:** But another thing is, that most people come from a home without tools. Which means that they do not have any options to do what we do at the repair cafés. This is something we talk a lot about, how to handle. Some visitors don't even know what a screwdriver is. They are completely lost. And it would be a cool thing to do with that education thing, but it may need to be extended. We would get a lot more out of it, if we made downright workshops... [...].

**Participant 5:** At our repair café, they are asked to stay and not leave. So they are in the room. [...] If they stay, they experience that the item can be repaired. Then they come over - at least in our experiences - and want to participate. But I can't force people to learn. But I can give them the desire, when they are here anyway. And they get an understanding of the item they bring in and what is wrong with it, and how they can identify the problem. So, at some point they might be able to say “I think that the motor burned out, because of this” or something like that. So it's not like they can repair it themselves, but they might be able to identify the problem.

**Participant 2:** Clearly, it does not matter if they participate a little or a lot, it still helps to change their mindset, about things CAN be repaired, if it breaks. So, they have to stay. Second point: If they are there and cannot themselves repair their own stuff, then we experience “Oh, is that a lamp? That I can help with”. So they stay and help with other people's stuff. So it is clearly a good idea to let people stay.

**Participant 6:** In principle it is help to self-help. That what's carries it.

**Participant 7:** At Environmental Center Amager we have great experiences with people who want to participate. So there is a lot of curiosity.

**Participant 1:** [...]. It is clear, the more you explain it to people and show them, the more they want to repair [...] And prolong its lifespan. And there it is much more green in the end [...], as people learn what they are dealing with.”

## E. Full notes from the exercise 'The law of the two feet' from the workshop 'The Good Repair Café'.

<b>The physical framework</b>	<b>Voluntariness</b>	<b>Responsibilities</b>	<b>Economic support</b>
Repair starter kit - private and cafés	Hold on to - how? - Ownership	The coordinator - statics, (economy), facilities & coordinating the repairers	Centralization of fundraising, to benefit the individual repair cafes
Promotion #Sydhavn4Lijf	NB! The differences between volunteer repairers and coordinators	Repairer - Responsibility, tools, etc.	
facilities/locations	How to recruit volunteer coordinators	Political lobbyist	
Festival - event, fix your stereo	Developing - technical/sparring	Social media - Webmasters	
Cafe coziness - experiences, cake & social	Social activities, fun, Repair Cafe party	Fundraiser	
Electricity - light, tools, sew machine, electronics, spare parts(nice2have)	A welcoming feeling	Responsible for the legal stuff (responsibility)	
Usable Parts. shrinkable tubing, cleaning alcohol, WD40	Acknowledgement - from coordinator and visitors	Host/registration - Make visitor aware of the rules	

## F. Full notes from the exercise 'Self-reflection' from the workshop 'The Good Repair Café'.

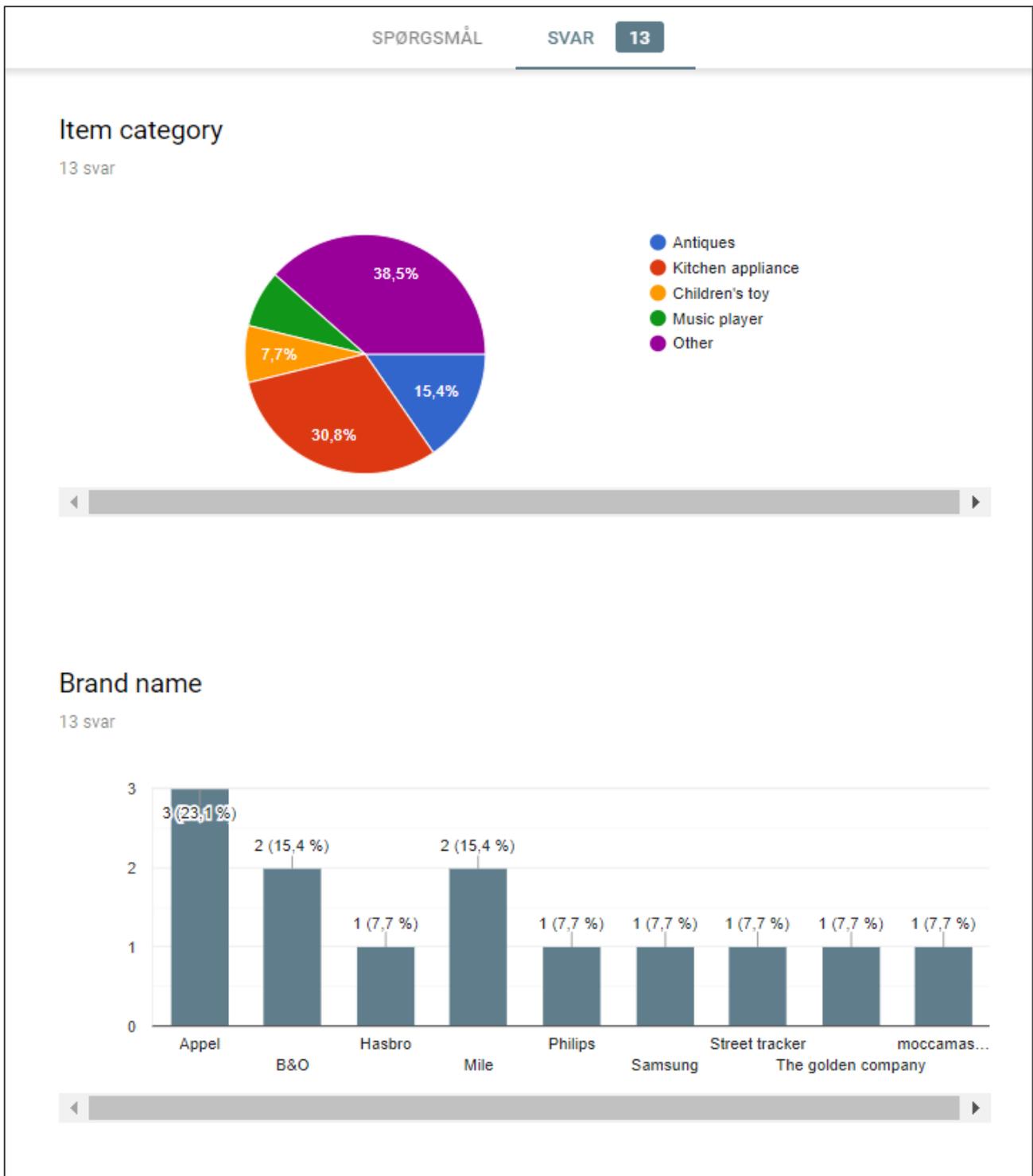
Engagement	Reliable repairers and adherence of them
Openness towards newcomers and users	Community respect and unity :)
Influence personal / political	means
Having fun together - party	Bright rooms with good tables
Network	Tools & Machines
technical sharing	X - Good user experience
Experienced repairers	X - Good atmosphere
Management of expectations + "Product Manager"	Good management (coordinator)
Repairers feel anchored	X - present tools and components
X - Happy users who become "ambassadors" -> user involvement	X - unity between repairers and sewers
The physical framework	X - workshop for repairers
Funding of tools	X - better communication between repairers and repair cafés e.g. messenger
X - Community between repairers	Give knowledge to visitors

X - “Casual” Repairers	Workshops for visitors
A good and stable coordinator	branding - Who are we? what do we do?
Tools, physical framework for storing tools and repairs from time to time	Influence for the repairers in the particular repair cafés
Good hosts!	X - organization and normalization
continuity and stability	X - The more repair cafes are generally known -> the stronger political pressure
X - online visibility	coordinators who register repair data
X - community and training	Coordinator (employee or volunteer)

## G. Repair data registration sheet made by the representant from Environmental Center Amager (in Danish).

	C	D	E	F	G	H	I	J	K	L	M	N
1.	Navn indleverer	Navn fixer	Elektronik / Sy / Andet	Genstand	Mærke	Model	Vægt i gram	Fixet/ikke Fixet	Hvis Fixet: Hvad blev gjort?	Hvis ikke Fixet: hvorfor kunne det ikke fikses? Vælg fra rulleliste	Hvis "Andet" valgt, - grund	Var manual tilgængelig? Vælg fra rulleliste
86												
87												
88							56	Ikke Fixet		Defekt del kunne ikke udskiftes		NEJ
89							45					
90										Andet, - udfyld næste colonne		JA
91												
92												
93										Apperatur kunne ikke åbnes		NEJ
94								Ikke Fixet				
95												
96								Ikke Fixet		Årsag ikke fundet		NEJ
97												
98												
99												
100												
101												
102							1134,00	Fixet i alt 2	Ikke Fixet i alt 4	I alt: Årsag reparation ikke kunne foretages'		Antal med Manual tilgængelig
103							1,13			Defekt del kunne ikke udskiftes		1
104										Apperatur kunne ikke åbnes		1
105								0,96		Reserve dele ikke tilgængelige		0
106								0,96		Reserve dele for dyre		0
107								1,91		Årsag ikke fundet		1
108										Andet, - udfyld næste colonne		1

## H. Example of automatic visualizations in Google Forms



## I. Our suggestion for a repair data registration form for when a visitor arrives at the repair café.

### Repair registration when the visitor arrives to the repair café

This is a registration table to use during repair café events, and with the purpose of accumulating repair data to further use strategically for and across the organization of Repair Café Denmark.

The first section is for practical reasons during the repair café event.

*\*Skal udfyldes*

**Repair Café \***

Brønshøj ▾

**Number \***

55

**Visitor's name \***

Bjarne

**Item type \***

Radio

**Repairer \***

Tim|

**NÆSTE**

Indsend aldrig adgangskoder via Google Analyse.

## J. Our suggestion for a repair data registration form for when a visitor leaves the repair café

### Repair registration when the visitor arrives to the repair café

*\*Skal udfyldes*

#### Repair registration when the visitor leaves the repair café

This section is to be filled out as part of collecting data to use strategically for the repair café and Repair Café Denmark.

**Number \***

55

**Repair Café \***

Bronshøj ▾

**Item category \***

These are examples of categories but should be made by Repair Café Denmark before the final initiation of this questionnaire.

Antiques

Kitchen appliance

Children's toy

Music player

Other

**Brand name \***

Sony

**Age of item \***

12

**Was your item repaired? \***

Yes

No

Partially (diagnosed, advice given or other, but not fully yes or no)

**If your item was NOT repaired - what are you going to do with it now?**

Dit svar \_\_\_\_\_