

Oslo, 17.12.2017.



THE COMPLEX NATURE OF A SHARING ECONOMY – A SYSTEMIC APPROACH

A structural comparison of four organization models of carsharing in Oslo, Norway

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University of Oslo 2017

Acknowledgements

In this brief preface, the author would like to accredit persons that have been of particular and crucial importance for the realization of this master thesis, such as close family and friends, my professor, the informants of this master thesis, interpretive communities debates, and at last, my fellow students; they have struggled and fought by my side. My family and close friends have supported me throughout this master thesis and I am very grateful for the hours you have put in to encourage me and lift my spirits when challenges have seemed too difficult to manage and critique too hard to handle. You have been by my side consistently, and you probably know more about my master thesis than you would have liked to! Thank you for your warm support and clever words. My professor, Bjørnar Sæther, is however the one who has challenged me and given me rich advice on which road to take when a crossroad has approached. You're challenging and constructive comments have encouraged me to continuously 'stretch-and-transform', and search for all opportunities, potentials and possibilities, for each different crossroad. Thank you nurturing my critical sense and creativity! Although family and close friends, as well as my professor, have been solid pillars of my research process, I could not have accomplished my master thesis without the informants that participated in the interview sessions. They are key figures in this master thesis, and they have also taken time off to contribute and share their insightful knowledge. I am immensely grateful.

Interpretive community debates on the sharing economy, carsharing and evolutionary economic geography, as well as on innovation are where I have sought inspiration, guidance and support – they represent the scientific foundation on which my analysis, concepts and the questions problematized are embedded. It would have been impossible to conduct my master thesis without the effort they have put in to clarify and create theories that have been highly relevant for my master thesis. My fellow students are however the ones I have met every day throughout this process, which has been there silently supportive and sometimes loudly entertaining. Although I have not expressed it I am obliged to have taken this joyful ride with you!

Thanks to all of you!

Ingrid K

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Abbreviations

B2C	Business-to-business
G2P	Government-to-peer
ICT	Information and communications technology
P2P	Peer-to-peer
RA	Regulation approach
SINTEF	Stiftelsen for industriell og teknisk forskning (The Foundation for Scientific and Industrial Research)

Photo collages

Photo collage 0 (the front page): Visualization of the thought process

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What something is, as it is, we call its essence or nature (Heidegger, 1935/1971, p. 182).

1.1 Relevance and actuality

We are about to, or currently experiencing, violent upheavals in our societal systems. These kinds of upheavals have functioned as *milestones* for our societies throughout our history. They are powered by hidden mechanisms; behind the vast and comprehensive canvas of which the patterns of history's structural forces unfolds. In these current times of refractions a boom of carsharing in Oslo, Norway is currently unfolding. This is thoroughly documented and revealed by SIFO's statistics (2017) and various journalists. In this master thesis, the author takes a bird's eye perspective (systems and structures) by addressing several key issues that shed light on this phenomenon and then moves towards the frog's-eye perspective (informants). To approach this challenging task the author has started out by seeking guidance, inspiration and support in scientific works with huge relevance for understanding the phenomenon of carsharing, such as structuralism, evolutionary economic geography, the sharing economy, business models and theories on innovation.

Cohen and Kietzmann (2014) argue that carsharing is interesting in two ways particularly; because of its new way of organizing businesses and because of its environmental impacts. This master thesis will narrow down its scope by discussing a new way of organizing businesses. The fascinating new way of organizing businesses in the sharing economy, was that it integrated the digital worlds with physical worlds – in new organizational configurations. Cohen and Kietzmann, (2014, p. 281) argue that businesses in the private sector have created these new organizational methods; business models, to correct market failure in the private and public mobility sector. A shared mobility has emerged with its own world of typologies. Due to the boom of carsharing in Oslo and the fact that transportation in general is in a phase of great transition, this has huge actuality and great relevance.

To understand the transformation of the sharing economy from its origin, the author will argue that it is vital to analyze carsharing through four types of economies, which have an effect on each other; the political economy, the capitalist economy, the solidarity economy and the sharing economy. This has contributed to the author's identification of three sharing

functions. The author will argue that the sharing economy is simultaneously a reproduction and contests these three former economies, creating its own path. The sharing economy seems to happen at the convergence of these three types of economies: The regulated political economy, the commodified capitalist economy and the socialized solidarity economy. All these three types of economies has contributed to the functions and mechanisms embodied in the sharing economy. Richardson (2016) emphasizes economic and social production. She (2016) argue that the narrative of the sharing economy presents what she calls an interesting *paradox*: Commercialization or economic production (the capitalist mode of production), battles against a more alternative and socially transformative pathway. This battle have become a highly potent and integral part of debating the sharing economy.

What is new and has started to emerge is the talk of integrating multiple mobility into one platform. This makes it interesting to view carsharing also as a system within a greater system of socio-technical systems of transportation change (Geels, 2004). Although it is not the main task of this master thesis to make a socio-technical system account of the sharing economy, particularly carsharing, this will nevertheless be refelected upon in the conclusion. The purpose and intention of this master thesis is somewhat different. It seeks to expose hidden functions and mechanisms of the sharing economy.

1.2 The master thesis purpose and intention

In this master thesis the author would like to add to existing typologies on the sharing economy and make her own clarifications on the notion of a sharing economy. The author argues that carsharing is affected by other economic spheres, such as the political economy, the capitalist economy and the solidarity economy. Within these frameworks, the organizational attributes of the sharing economy reshapes and reconfigures itself. The author therefore claims that carsharing's economic features are rooted in and coevolve with the three other economies; hence it is regulated as the political economy, commodified as the capitalist economy and socialized as the solidarity economy. The author will utilize this view to add more theory to the existing typology of the sharing economy. Rooted in these old frameworks, the sharing economy can 'unfold' its new ways of organizing and 'transform' (Schumpeter, 1943; Geels, 20??). The author will draw on Giddens (1984) structuralism and argue that the sharing economy is embedded in what Giddens (1984) calls a 'regulatory structure', which the author utilize to create her own claims: The sharing economy is governed by politically

imposed rules, capitalist rules and social rules; hence it is regulated, commodified and socialized. This view is supported by Giddens (1984). While this is the purpose and intention of the master thesis, the background of the research questions are mostly embedded in interdisciplinary debates of the sharing economy and business models, in economic geography and in the field of innovation.

1.3 The background of the research questions

Cohen and Kietzmann (2014) noted that carsharing companies' new ways of organizing are particularly fascinating. Lam (2005), argues that organizational innovation, should be paid more attention than currently is the case. Lam (2005), North (1995; Edquist, 2005) and Schumpeter (1943) have emphasized organizational innovation, a core topic within innovation studies, that should be scrutinized more deeply. Freeman and Perez (1988; Geels and Schot, 2007, p. 402) argue that there are four types of innovation that organizational innovation can be embedded in: Incremental, radical, systems and techno-economic paradigms. It is the entrepreneurial function to combine these innovations in new and ground breaking ways (Schumpeter, 1934, p. 66; Geels, 2002). Entrepreneurial activities are identified by Schumpeter as the most important actors or agents in perusing organizational innovations. Schumpeter also saw the outfacing of old routines or practices in organizations by new ones, was 'the essential facts about capitalism'; creative destruction (Caballero, 2017, p. 1). Capitalism, according to Schumpeter is therefore driven by innovations, and not the other way around. Creative destruction plays a vital role in the emergence of new ways of entrepreneurial organization of businesses. Entrepreneurial activity has to fight against business-as-usual or resistance to change; inertia (Schumpeter; Fagerberg, 2005, p. 6) and evolves in the dominant mode of production; capitalism.

1.4 The research questions

This master thesis will try to shed some new light on carsharing companies' ways of organizing their businesses, analyze the typology and discuss the notion of the sharing economy. The discussion will start out by analyzing the entrepreneurial origin of each firm, followed by their business ideas and the role of the ICT-revolution, digital networks and smart phones. Carsharing companies' organizations, in this master thesis will be discussed at three

levels; its business model, as a sharing economy and its positioning in the capitalist market. In the conclusion; the structural features, the notion of the sharing economy and its typology will be discussed. To achieve these challenging goals the author has chosen following six questions to scrutinize. The first three are empirical:

1. *How are the four companies in these four cases organized?*
 - The author will identify similarities and differences of organization in the four cases. This might separate the different firms into distinguishable business models as part of a sharing economy, which compete in the capitalist market.
2. *How do the four carsharing companies position themselves in the capitalist market?*
 - This part of the empirie will draw on relevant sources on innovation, as well as evolutionary economic geography – to scrutinize how the four cases fight for market shares, positions and consumers, and whom they recognize as their most fierce competitors in this market.
3. *How does induced ICT-technologies have impact on the four carsharing companies business goals?*
 - The author will throughout the empirical section explain how the carsharing companies use induced (from previous incremental and radical innovations) to reach their business goals. This question will be reflected upon in the conclusion.

The three empirical questions will be problematized in the empirical section. Some of the empirical data material is used as a foundation to create an answer to the following three theoretical questions:

4. *What structural forces (hidden mechanisms and functions) influence the organization models of the four cases of carsharing?*
 - Based on Giddens's (1984) and Hubbard's (2005) understanding of the term structuralism, the author will make a structural account of two core theoretical findings, three sharing functions, and two mechanisms. These contributions are supported by empirical findings of this master thesis.
5. *What notion does the author claim for the sharing economy, particularly carsharing?*

- This question will be discussed in the conclusion, and the suggested notion will be based on the theoretical and empirical data material. The definition/characterization can be seen as a tool to reach that final point (conclusion).
6. *What business typologies does this suggest for the organization of the sharing economy landscape?*
- The author will try to add to existing typologies on the sharing economy and shared mobility's business models, by adding combinatory functions, a visual model and scientific analysis of this theoretical analysis. The author uses existing theory and empirical data to problematize the typology of the sharing economy, specifically carsharing. In the next question the structural approach will be brought up.

The first two empirical questions will be discussed in the empirical section, and briefly summarized in the conclusion as empirical findings. The third empirical question runs through most of the empirical findings and will be analyzed in the conclusion. The three theoretical questions will be analyzed in the conclusion as theoretical extensions of existing theory. All questions will thus be reflected upon in the conclusion, by tying the theoretical analysis and empirical findings to the core methodology; a case comparison.

1.5 Narrowing down the scope

The research questions have suggested three core questions to problematize in the empirical analysis and a last question to discuss in the conclusion. The other questions in the empirical section will serve as vital support to better understand the four core questions. Although some may argue that carsharing does not bring anything new to the table, these arguments are not fully legitimate. The innovative aspect of carsharing does not lie in its products, because they are results of previous technological revolutions; they rather present a new type of organizing its business – through connecting the physical world with the digital world in their organization – as a sharing economy. This new way of organizing is addressed by suggesting three new sharing functions and two mechanisms. To engage in a discussion on new ways of organizing carsharing business, the author bases her master thesis on corporate interviews with informants from four carsharing companies, conducted in 2016-2017. The author has chosen Oslo as her geographical area, because we have recently experienced a quite

significant boom of carsharing in this urban area, which makes this geographical location particularly interesting, and because all the cases are in geographic proximity to the author, which makes it more practical: This has eased the process of collecting the empirical data. Apart from this, the author has not made any restrictions on who to interview within the companies, but the fact that all the companies were quite busy, limited my access to informants. Some carsharing companies were also more eager to join in on the corporate interviews, whilst others were not – for their own legitimate reasons. From the four cases, the author was able to conduct interviews with seven interviewees. Since all the companies were quite small in number of employees this also limited the number of informants.

1.6 Structure

In part two; theory, the author presents the core theoretical perspectives she will apply in the empirical analysis – the bird’s-eye perspectives (systems and structures). This section will discuss the sharing economy, business models, four economic perspectives and four types of innovations. The various theoretical perspectives represent a joint systemic key that might shed new light on the phenomenon of carsharing. After addressing these theoretical perspectives, the methodological section will be discussed. In this section the methodological toolkit will be introduced: The structural approach, visualizations, case studies, three types of interviews, the scientist’s critical reflexivity and positionality, and finally reliability and validity. The methodological choice presented by the author will tie together core methodological terms of human geography, which will support the master thesis core concept and methodological approach; the bird’s-eye perspective and the frog’s-eye perspective. The fourth part; empirie, will move towards a frog’s-eye perspective (informants) with results of this master assignments’ corporate interviews. It will present and analyze the empirical data material from the seven informants of the four cases.

A short summary may present what is empirically interesting with the four cases: Case A is interesting because it has recently experienced massive growth in a short time by growing organically – and it is a relatively small entrepreneurial firm. Case B is interesting because it is a more non-profit cooperative, where the members are made part owners, and revenue goes back to the members in the form of better services and goods. The members are also integrated in their organization model as board members. Case C represents the case with the strongest financial forces at its back, since it is an organization within a global company –

they therefore have a high focus on technology. Case D is the smallest entrepreneurial firm. They are small but think big. They have been recognized internationally for their green profile and wish to integrate multiple mobility on one platform. Taken together; the various theoretical perspectives and the methodological choice, will be fused in the empirical explorations through discussions and visualizations that, hopefully, will clarify and bring further understanding to the complex nature of carsharing a sharing economy.

In the conclusion, part five: The author will return to the research questions and make her own interpretations of the empirical data material. The author will also bring up the notion of the sharing economy again and discuss and clarify what a sharing economy is really all about – its essence or nature. Finally; the author will represent her visual forecasting of a sharing economy, elaborated from Nenseth (et al., 2012, p. III).

This master thesis basically amounts to a curious and bold *intention* of trying to understand the complex nature of a *sharing* economy, particularly carsharing; from a bird's-eye perspective and a frog's-eye perspective. Let's start this exciting and challenging journey by highlighting a joint economic perspective that may shed some new lights on the sharing economy.

2 *Theory: From three economic spheres to four types of innovation*

2.1 Three economic spheres and the sharing economy

The joint evolutionary economic overview consists of the four economies. It moves from a ruled based political economy, to the commodified capitalist economy, via the more socialized solidarity economy to the sharing economy; which the author suggests have all these attributes: It is regulated, commodified and socialized in various ways or configurations. By assuming this the author has suggested that she would like to contribute to the existing typologies of the sharing economy, by adding these (sharing) functions. To achieve this the author will accentuate these functions by using terms from evolutionary economic geography, particularly generalized Darwinism, by anchoring her theoretical analyses in notions such as

variety, selection, continuance and mutations. The first economy that these terms will be applied on is the regulated political economy, which is rooted in conceptual theories on regulation; which makes it a rule based political economy.

2.1.1 The regulated political sphere

The idea of a regulated political sphere is inspired by regulation theory and evolutionary economic geography. Since the French term for ‘regulation’ had a slightly different meaning when translated to English, the proper way of naming regulation in English should be ‘political regulation’ this fits with the authors idea of a regulated political sphere. The broad regulation approach can be defined as following:

The RA is a more or less distinctive orientation in evolutionary and institutional economics that explores the interconnections between the institutional forms and dynamic regularities of capitalist economics (Jessop, 2006, p. 3).

Regulationists also stress the complementary functions of other mechanisms in structuring, facilitating and guiding capital accumulation, such as mechanisms and functions within institutional theory and in the political economy. Within the seven schools of RA, the Parisian School has become the most dominant (Jessop, 2006, p. 5). Although the seven schools of RA present a highly diverse and comprehensive view on the dynamics of capitalism and its regularities, they according to Jessop (2006) have four distinctive goals, which is to:

- (1) describe the institutions and practices of capitalism;
- (2) explain the various crisis tendencies of modern capitalism [...];
- (3) analyse different stages [...] of capitalism and compare accumulation regimes and modes of regulation in a given period of capitalist development; and
- (4) examine the social embedding and social regularization of economic institution and conduct (Jessop, 2006, pp. 14-15).

Regulation theory is however a neo-Marxist branch of the debates on the political economy (Castree et al., 2013e) and its main argument is that there are regulations that possess the ability of containing capitalism’s forces within reasonable frames by creating regulatory practices of communication that constrains its most undesirable behavior or ‘boom-and-bust’ and enables its positive behavior. Regulation theory is however embedded in the notion of regulations. Regulations can be defined as

[a] mechanism designed to control relations between or the behavior of specific institutions, groups of institutions, or sections of a society. [...] More generally, national, regional, or local government create and enforce regulations. 'Regulatory capture' occurs where institutions or social groups whose behavior is supposedly being regulated by the state [...], define the latter's agenda (Castree et al., 2013d).

The idea of a regulated political sphere that can be explained or defined by its ability to constrain and enable capitalist forces by institutions, that provide durable and more stable frameworks for human conduct. Institutions can according to Hodgson (2006, p. 2) be defined as “systems of established and prevalent social rules that structure social interactions”, such as e.g. language, money, laws, firms and other organizations. Institutions offers a nested set of conventions and rules (Hodgson, 2006, p. 2). Hodgson (2006) define a rule as a

socially transmitted and customary normative customary normative injunction or immantly normative disposition, that in circumstances X do Y [however] if the rule is scrutinized or contested, then normative issues will emerge. [...] Rules include norms of behavior and social conventions as well as legal rules (Hodgson, 2006, p. 3).

This implies two crucial facts that rules are hard to change, but they are not absolute. They may be changed or improved when contested or found unjust by politicians, citizens or companies. Rules may however function in two ways. They may be constraining as well as enabling:

Rules are not just *constraining* (making some actions more legitimate than others), but also *enabling* (creating convergence of actions, predictability, trust, reliability). (Geels and Schot, 2007, p. 403).

This enhances citizens', businesses and politicians' positive behavior and constrains negative behavior. Nordic countries has evolved through careful selection and variety processes – to form a highly complex justice system of rules, laws and norms that enables the society to work functionally, as well as it protects core democratic values such as; tolerance, equality, mutual respect and freedom. This may have contributed to and enabled the Scandinavian democracies to be particularly peaceful. Peaceful and stable political institutions are good for business, innovations, as well as for citizens. The rules, laws and norms they are based on is also thoroughly discussed in institutional theory, which influenced regulation theory. Scott (1995; Geels and Schot, 2007, pp. 402-403) divides the rules in liberal democracies' political institutions into three categories: “regulative, normative, and cognitive”:

Examples of *regulative* rules are regulations, standards, laws. Examples of *normative* rules are role relationships, values and behavioral norms. Examples of *cognitive* rules are belief systems, innovation agendas, problem definitions, guiding principles, search heuristics. (Scott (1995; Geels and Schot 2007, pp. 402-403).

These various regulations should anchor citizens', politicians' and companies' political, social, cultural and economic behavior in wider systems, structure or network that are just and supports and evolves core values and rights of the liberal democracy. This view is more thoroughly discussed in structuration theory. Giddens (1984; Geels and Schot, 2007, p. 403) express that various actors; such as individuals, companies or organizations are embedded in specific 'regulatory structures and social networks' when they interfere or interact with the political economy. These 'regulatory structures and social networks' are established to reproduce or enforce positive behavior and practices by institutions upon their citizens. The term institutions however have a long history and can be dated back to 1725 (Hodgson 2006: 1). Since institutions as a notion is quite extensive and there still are huge disputes on its scientific term, this master thesis will hence not analyze it. It will not do justice to its vast, complex and functional appliance made by scientists. Institutions in the political economy may however be more endogenous or more exogenous.

Some scholars envisage institutions as *endogenous and evolving beliefs* (about the behavior of others) that are embodied in individual mental models. This vision is in clear contrast to the other family of works, which views institutions as *exogenous and binding rules* that constrain individual actions (Brousseau and Garrouste and Raynaud, 2011, p. 3).

Institutions can therefore act as endogenous frameworks in the way they have a capacity to evolve belief systems through institutional reforms and change, just as well as they may act exogeneous frameworks with binding rules which constrains the individuals (Brousseau and Garrouste and Raynaud, 2011, p. 4). Boschma and Martin (2010, p. 4) however argues that institutions can take part, and are vital actors in evolutionary processes in the view of evolutionary economic geography. This implies that while some institutions possess the ability to adjust and change, others may be characterized by being more resistant to change; inertia, than autonomous individuals or small and flexible entrepreneurial firms or companies. This affects the institutions in the political economies ability to change and adapt and how they interact with individuals and companies; they are stable collaborators. Political institutions core task is to enable the continuance of democratic values and rules, without compromising its potential endogenous characters. MacKinnon (et al., 2009, p. 135) however argues that there has been little interest in *how* institutions or political spheres, of power

influence evolutionary economic processes, this view is supported by Tylecote (1994). Mackinnon (2009) argues that variety and selection may enhance political reforms and new belief system, continuance may however reassure that regulations that works will be consistent or faced with only incremental changes. Mutations of institutional rules are however rare and should be investigated more thoroughly. Political institution rather evolves through democratic processes through voter mechanism, social movements and pressure groups and political lobbying. The voters select among the variety of politicians they may choose among; the population or selection environment or put pressure on carefully selected politicians. Companies are however actors that are subjected to ‘other games’. They exist within the frameworks or the capitalistic economy which are governed by ‘capitalist rules’. The ‘capitalist rules’ applied by commodifying capitalist enterprises will be discussed in the next theoretical section. In this section the author wishes to accentuate core attributes that colorize the complex nature of commodifying capitalist enterprises, by embedding her theoretical discussions in the field of evolutionary economic geography, rather than neo-classical thoughts.

2.1.2 The commodified capitalist sphere

The idea of a commodified capitalist sphere is embedded in thoughts of the capitalist economy and evolutionary economic geography. In the capitalist economy of commodified services or goods, those who are ‘winners’ and those who are ‘losers’ may change rapidly and the players’ losses may be ‘catastrophically’ in terms of personal economic resources. The competitive situation of ‘create and destroy’ may influence or saturate the commodified capitalist economy (Essletzbichler and Rigby 2010, pp. 48-49). In the unpredictable forces of the capitalist economy services and goods are commodified and given a value -- through this process they can be exchanged for a price. In the capitalist economy enterprises, the fight for market shares is constant. The commodifying businesses are ambitiously set at expanding their businesses or reach a critical mass of consumers, which may turn their services or goods into a profitable business. But, as Mensch’s analysis (1979; Tylecote, 1992, p. 15) expresses the capitalist actors are not just motivated by profit or prosperity, they also seek adventure. Schumpeter however argue that the capitalist economy is not driven by profit, it is driven by innovations. In this context it is the innovations that drives the capitalist economy through creative destruction (Schumpeter 1943). Schumpeter (1934, p. 66; Geels 2002) argues that “evolution is a process of unfolding, creating ‘new combinations’”. This is at the very essence

or nature of innovation. Freeman and Perez (1988; Geels and Schot, 2007, p. 402) argues that there are four categories of innovations: “[i]ncremental, radical, system, [and] techno-economic paradigm”. These innovations enable the commodifying capitalist enterprises to hunt for profitable treasures and adventures, such as long-term economic growth. In the new combinatory process “[n]ew technologies are initially developed within old frameworks” (Freeman and Perez, 1988; Geels, 2002, p. 1261). Original frames may however be constraining as well as facilitating to its commodifying capitalist actors. The actors of the companies would like to succeed and gain prosperity by performing their ‘craft’ through competing. A fragment of Schumpeter’s conceptual theories from the first theoretical analysis says that it is the

competition from the new commodity, the new technology, the new source of supply, the new organization, [...] [that drives] cost and quality advantage and [...] strikes not at the margins of the profits and the outputs of the existing firms [...] but at] their foundations and their very lives (Schumpeter, 1943: 84; Fagerberg, 2003, p. 130).

Innovations in the capitalist economy however distinguishes it selves from innovations in the political economy by being more unstable and possess other attributes such as flexibility that enables them to adapt, adjust and change – or mutate more rapidly (Boschma and Martin, 2010). Commodifying companies in the capitalist economy however compensate these ‘weaknesses’ by establishing practices and routines that are reproduced, such as in the political economy to create more stability that enables long-term economic growth (Giddens Giddens (1984; Geels and Schot, 2007, p. 403). The companies’ human resources of knowledge and creativity’s may however transform from within or self-organize through its workers and puts the evolutionary economic processes in a constant state of innovation, movement and change, which adapts to rapid market shifts.

The innovative firm can [however be characterized by the ability to] transfer and reshape its existing productive resources to take advantage of new market opportunities (Lazonick, 2005, p. 32).

These evolutionary economic processes of the firm in the commodifying capitalist economy are however truly geographical. Their development of creativity and knowledge is shaped by real contexts, anchored in genuine history, embedded in true places or situated in real regions and their behavior redeems it selves constantly. This also anchors their economic behavior in history. Regions such as the Oslo urban area is a ‘complex environments’ of selection and variety where creation and destructions of commodifying capitalist companies emerge or

withers (Essletzbichler and Rigby, 2010, p. 55). They may compete at different geographical scales or just operate regional (Essletzbichler and Rigby, 2010, p. 55). MacKinnon (et al 2009, p. 133; Nelson and Winter, 1982) argues that regions with successful companies have better abilities to learn from mistakes, such as outfacing ‘fossiled’ routines, and by engaging in heterogenous transformation by co-positioning their businesses within a favorable innovative environment. However, firms may also find it hard to change or adapt:

[M]ajor source of resistance to change arises from the normative embeddedness of an organization within its institutional context. Organizations are socially defined and operate within a web of values, norms, and beliefs and taken-for-granted assumptions that they represent values, interests, and cognitive schemas of organizational and institutional actors which are hard to change (Hinings et al., 1996; Lam, 2005, p. 134).

Essletzbichler and Rigby (2010, p. 46) however argues that for selection processes to work functionally it requires elements of continuance or resistance to change; inertia. Through self-organization structure or order may emerge from agents that socially interacts (Essletzbichler and Rigby (2010, p. 47), e.g. in creating commodifying goods and services. If change and adaption by these agents is facilitated without compromising continuance; evolutionary economics discuss these changes as *dynamic* forces that evolve through *irreversible processes of change* in *exogenous* systems, which distinguish it selves from the neo-classical mindsets that claims that economic processes are endogenous (Boschma and Martin, 2010, p. 5).

Witt (Boschma and Martin, 2010, p. 5) however argues that it is the totality of its *creative capacity* and *functions* possessed by its agents or actors; such as political institutions, businesses or individuals, which drives economic evolution to change and adaption. This is possible because knowledge and creativity constantly evolves, adjusts and adapt to changing contexts (Fine, 2000; Boschma and Martin, 2010, p. 5). It has a restless and dynamic character. This expresses that the commodifying processes of the capitalist economy’s companies are more adjustable than the political institutions, but that they at the same time are influenced by various actors, such as political institution’s rules and by creative and knowledgeable individuals. Edquist (2005) argues that

[t]he behavior of organizations is also shaped by institutions – such as laws, rules, norms and routines – that constitute incentives and obstacles for innovation. These organizations and institutions are components of systems for the creation and commercialization of knowledge (Edquist, 2005, p. 182).

Edquist (2005) thereby situate commodifying capitalist enterprises in a wider systemic context of ‘commercialization of knowledge’; the core of ability of a well-functioning

innovative and commodifying capitalist economy (Schumpeter, 1943, p. 84; Fagerberg, 2003, p. 130). Contemporary entrepreneurs however benefit from commercialization of knowledge and ideas created by the *patents of the inventor* or flourishing ideas in the milieu of the contemporary *avantgarde*, the *zeitgeist* and original ideas from *accumulated knowledge*, which has not yet seen its fully elaborated potential. These original ideas and knowledge captivate the entrepreneurs, whom seeks to develop these original ideas and knowledge into innovation to gain profit.

With the ICT-revolution a whole new range of profitable digital services has created ‘a technological structure’ a basin of possibilities commercially of which new businesses are tapping into – a digital or information economy. By the views of evolutionary economic geography these processes are truly exogenous. Schumpeter opens up the possibility of exogenous evolutionary economic processes (Schumpeter 1970; Bernard et al., 2013), and therefore goes counter with neoclassical thoughts. In this view carsharing are open exogenous systems, and the different carsharing companies evolve through competition or *warfare* in *non-equilibrium* processes:

there is in fact no determinate equilibrium at all and the possibility presents itself that there may be *an endless sequence of moves and counter-moves*, an indefinite state of *warfare* between firms (Schumpeter 1970; Bernard et al., 2013, p. 6).

Individuals may however also influence this warfare or competition through creation and knowledge necessary to commodify services and goods (Weick, 1979, 1995; Walsh, 1996; Lam, 2005, p. 123). This may influence the commodifying process through transforming knowledge and creativity into real actions. Creativity and knowledge is however, according to evolutionary economic geography, core attributes of innovative capitalist enterprises, such as by entrepreneurial activities and potential technological change.

Processes of evolutionary economic change is typically based on the view of *bounded rationality*, and rejects the neo-classical beliefs’ in “full information and perfect rationality” (Rigby and Essletzbitchler, 2010, p. 44). Evolutionary economic processes, inspired by complexity theories, defines these processes as ‘far-from equilibrium’ dynamic processes that evolve in exogeneous systems (Boschma and Martin, 2010, p. 9). Neo-classical thoughts are however widely accepted and deeply influence the sphere of the commodified capitalist economy. MacKinnon (et al., 2009, p. 131) however argues that evolutionary economic processes contains a great focus on novelties, driven by creativity, knowledge and innovation that are topics that evolutionary economic geographers wants to shed light on. This would

help broaden the perspective of complex processes of economic growth, economic restructuring and adaption that would add crucial knowledge to the neo-classical stance's view on the capitalist economy as equilibrium processes. And; of human conduct which they assume possess the ability of perfect rationality. This implies that their behavior can be calculated and are fully predictable, and so can competition in this view.

The commodifying capitalist enterprises are situated in these complex processes, which are discussed in evolutionary economic geography. This author however bases her view on the commodifying capitalist economy on the view of evolutionary economy that originates in the thoughts of economic processes as non-equilibrium trajectories; complexity theories. These trajectories are influenced by human actors that have *bounded rationality* which; through creativity and knowledge, may create commodified goods and services for their companies that are highly competitive and novel (or not). These processes can thus be influenced by autonomous individuals that puts pressure on their commodities and the (social) organizations of the firms or as consumers; through market behaviors. Lazonick (2005) situates a commodifying process, based on evolutionary economic geography, in three core attributes or abilities of the innovative firm.

Firms *strategize* when they choose the products markets in which they want to compete and the technologies with which they hope to be competitive. Firms *finance* when they make investments to transform technologies and access markets that can only be expected to generate revenues sometimes in the future, Firms *organize* when they combine resources in the attempt to transform them into saleable products. (Lazonick, 2005, p. 30).

Herstad (2017) argues that firms may have different innovation strategies and distinguishes between three types of decisions made by firms:

[1] To engage in innovation activities, or stay passive

[2] To contain innovation activities within the boundaries of the firm, or involve partners

[3] To collaborate only in a limited number of (well-known) business contexts, or establish geographically dispersed collaboration ties (Herstad, 2017, pp. 3-5)

Companies are however also influenced by wider socio-economic systems and the political economy through economic policies that underpin commodifying processes of the capitalist enterprises' organizations according to Freeman (2002):

Organizations are "embedded in a much wider socio-economic system in which political and cultural influences as well as economic policies help to determine the scale, direction and relative success of all innovative activities (Freeman, 2002, p. 195; Edquist, 2005, p. 183).

From the wider socio-economic system and back to the more intimate individual scale. Until now the socialized character of the sharing economy has been left untouched. The author will therefore close the chapter on the commodifying capitalist enterprises and move on to the next type of economy; that may elaborate on the sharing economies social character. The next economy that will be discussed is also situated in the big picture of social and economic systems as well as it is affected by economic policies and rules: It is however a more ‘caring and sharing’ non-profit type of economy based on social production and the tragedy of the commons.

2.1.3 The socialized solidarity sphere

The social views on the society based on the solidarity economy, can be understood as an economic view that social phenomenon, such a social ties, social interaction and social relationships – are expressions of human conduct that can be embedded in greater social structures or social organizations (Giddens, 1984; Geels, 2010) through social production. Social production enhances equality and fairness in distribution of goods and services, while economic production based on capitalism enhances inequality in distribution of goods and services – that leads to geographic unevenness. The phenomena of social production form the base for so-called cooperatives, inclusive community approaches, social production and social economies. Historically selection processes of such social phenomena have led to a myriad of faceted social networks and functions – a move towards complexities (MacNeill and MacNeill, 2003). Socialized sharing between individuals is however embedded in ‘knowledge structures’. They

develop mental models, belief systems, knowledge structures that they use to perceive, construct, and make sense of their worlds and to make decisions on what actions to take (Weick, 1979, 1995; Walsh, 1996; Lam, 2005, p. 123).

Altogether these phenomena have become highly differentiated, specialized and organized in the solidarity economy and shape its economic activities, behavior and practices as – creativity and knowledge are merged in complex social structures. The idea of sharing based on these sociological phenomena, which are core pillars of the solidarity economy – shapes socialized sharing. But it is also based on another tale or allegory, which makes it a socialized sharing; ‘the tragedy of the commons’. It is stated as follows:

An allegory or model of how unfettered use of a resource or good by individuals leads inexorably to over-exploitation, degradation, and/or pollution. The idea is closely associated with Garrett Hardin, whose widely cited paper employed the example of pastoralists. Assuming that the pasture was a commons, i.e. land not owned by individuals but collectively, Hardin reasoned that there would be no means of preventing each individual pastoralist from increasing the size of their herd. The gains of so doing would accrue to the individual, but the costs—in this case the use of pasture—would be shared by all (Castree and Kitchin and Rogers et al., 2013b).

Castree (2013b) translates this tale of common sense to our time – we should not exploit things that we all share or find valuable; resources or goods we all rely on. This allegory simply notes that a common is: “A physical space or natural resource that provides materials, goods, or services that benefit most or all members of a community or the wider public” (Castree and Kitchin and Rogers, 2013a). Benkler (2006b) explains the commons as following: It is “a particular institutional form of structuring the rights to access, use, and control resources” (2006b, p. 60). A fleet of cars can therefore in some instances be regarded as a common, if the management has granted the users attributes of being part owners in their businesses. The solidarity economy therefore applies to a more managerial aspect in administrating the commons for its parts or shares. The view on resources as belonging to our commons is a basic notion in the solidarity economy, and it particularly addresses resources we all share, such as e.g. a forest, a lake or the ocean or a car fleet. While the political economy and the capitalist economy are based on political production and economic production, the solidarity economy is based on social production. In 2014 Schor argued that from a progressive social idea – the sharing economy have however evolved into a more commercial enterprise – a move away from social production. But at the time when sharing actually was a progressive social idea and still within the existing solidarity economy, Benkler’s (2006c) ideas on social production has relevance:

It is feasibility of producing information knowledge, and culture through social, rather than market and proprietary relations – through cooperative peer production and coordination individual action – that creates the opportunities for greater autonomous action, a more critical culture, a more discursively engaged and better informed republic, and perhaps a more equitable global community (Benkler, 2006c, p. 92).

Benkler (2006b, p. 60) calls this coordination or collaborative human action; ‘commons-based peer production’. Although this social progressive constellation of thought still is apparent in the solidarity economy, the sharing economy has moved away from this origin, and may today be described as a constellation of political rules, capitalist rules – but nevertheless also

social features: A reminiscence of its progressive social origin, that appears particularly in cooperatives and inclusive community approaches, such as one of the cases in this master thesis. The social element in the solidarity economy are based on four aspects:

First; the management collaborate with users, such as engaging them in their organizations boards and e.g. make them part owners. Second; it grows organically through social relationships or ‘the word of mouth’: Third; the users interact directly socially. Fourth; the resources are allocated through an alignment with the users or members – which benefits both the management and the users in terms of lower costs and improves services and goods. Not all these elements have to be apparent to classify it as a sharing economy. But having these socialized features makes the solidarity economy a social production which are based on social rules and structures rather than politically or capitalist imposed rules. Many types of sharing economies share common socialized functions with the solidarity economy.

While having discussed the regulated political economy, the commodified capitalist economy and the socialized solidarity economy, the author will now turn her attention towards the sharing economy – a regulated, commodified and socialized sharing model.

2.1.4 The combinatory sharing economy

In this master thesis the author has argue that the sharing economy is embedded in a ‘regulatory structure’. There are politically imposed rules, capitalist rules and social rules embedded in three overlapping spheres; the regulated political sphere, the commodified capitalist sphere and socialized solidarity sphere. These spheres shape the combinatory characteristics and capacity of the sharing economy, the author claims.

The three functions; socialized, regulated and commodified overlap rooted in three distinguishable economic spheres; the solidarity economy, the capitalist economy and the political economy – to form a sharing economy. The functions suggested by the author is created to build upon the existing typologies, but add complexities to how they work through three core functions; regulated sharing, socialized sharing and regulated sharing. The three functions are arranged together in order in the empirical section’s conclusions visualizations of the landscape of the sharing economy to express the configurations of functions that are suitable for each case. The author however suggests that to be classified as a sharing economy some kind of socialized sharing is required. This requirement is based on Benkler’s (2006c) conceptual theories of *social production* and Castree’s and Kitchin’s and Rogers’ interpretation of the tragedy of the commons, and the four aspects of the solidarity economy,

which the sharing economy in many ways has originated from – the progressive social elements. The sharing economy in this master thesis, or shared mobility will be embedded in theory on innovation. Freeman and Perez (1988; Geels and Schot, 2007, p. 402) noted that there were four categories of innovations: “[i]ncremental, radical, system, [and] techno-economic paradigm”, (these will be explained in the last theoretical section). Innovations in the sharing economy is affected by all these types of innovations: From previous radical innovations, to incremental adjustments and systems – that coexists under a particular techno-economic paradigm. Innovations can however be regarded as ‘new combination’s that arise from evolutionary economic processes (Schumpeter, 1934, p. 66; Geels, 2002). This is facilitated by actors influencing each other and the sharing functions through evolutionary processes of variety, selection, continuance and mutation. These actors and functions, as well as the core existing typologies are also affected by external pressures, such as financial control, strategies and organization, as well as greater macroeconomic patterns or the regional business environments that assures a possible variety of workers to choose among, companies that compete, and markets of consumers to fight for. Routines and practices must however be established and consistent to ensure long term economic growth in the sharing economy – or disrupted by creativity and knowledge to create new functions. External pressures may however cause functions and typologies to mutate by putting pressures on the actors or their consumer markets in the four overlapping economies. This will be addressed in the empirical section. The rules the author apply are again embedded in a deep and radical change of the technological structures in which the sharing economies organization models are anchored in – an information economy. The economic production, the social production and the political production adaptations are made to facilitate radical changes in organization – organizational innovation. The changes and adaptations of these organizations are enabled by the Internet or digital networks. To understand the context of the information economy and the radical changes in organizational configurations, the author draws upon Giddens (1984; Geels, 2010, p. 499) and consider actors in the sharing economy as “knowledgeable agents who actively draw upon rules in concrete interactions”, whether they are politically imposed rules, capitalist rules or social rules.

Structuralism perceive actors as part of social collectives that share particular belief systems, symbolic sets and cultural categories that provide meaning and a sense of direction. These ‘deep structures’ are therefore the causal agents, operating ‘behind the backs’ of individual actors and defining what is desirable, acceptable and legitimate (Geels, 2010, p. 499).

By the view of Giddens (1984) structuralism’s ‘rules and resources’; human behavior on the front stage are practices and action that are structured in the economic, social or political activities they engage in – these activities are operated by structures at backstage or in the ‘deep structures’ – and makes the play run smoothly (Geels, 2004, p. 899). All together they shape a social system that political actors, individual actors and business actors must play a role in, intentionally (or not). Giddens (1984, p. 2) argues that it is not the actors in themselves as individuals, but the actor’s knowledgeable *social practices* that shape ‘regulatory structures’ of ‘rules and resources’ and make them become agents of change:

The basic domain of study of social sciences, according to the theory of structuration, is neither the experience of the individual actor, nor the existence of any form of societal totality, but social practices ordered across space and time. Human social activities, like some self-reproducing items in nature, are recursive. [...] It is the specifically reflexive form of the knowledgeability of human agents that is most deeply involved in the recursive ordering of social practices (1984, pp. 2-3).

Particularly active and influential actors are agents of change by turning their creativity and knowledge into actions while the maneuver through ‘regulatory structures’ of social rules, capitalist rules and rules imposed by political institutions – and social practices therefore evolve or change.

Table 1: A joint economic overview of three spheres and the sharing economy

<i>Economy</i>	<i>Production mode</i>	<i>Agents/actors</i>	<i>Embeddedness</i>	<i>Growth</i>	<i>Rules and practices</i>	<i>Sharing</i>
Political sphere	Political production	Politicians, social pressure groups, voters and political lobbyists	Democratic processes	Political evolution	Politically imposed	Regulated
Capitalist sphere	The capitalist mode of production	Businesses, entrepreneurs, investors, multinational companies	Competition, innovation	Economic evolution	Capitalist	Commodified
Solidarity sphere	Social production	Individuals, cooperatives, communities, social and environmental pressure groups	Social practices	Social evolution	Social	Socialized
The sharing economy	Combinatory	Combinatory	Combinatory	Combinatory	Combinatory	Combinatory

By taking part in these social structures they possess the abilities to influence change, adaption and evolution of the functions of society they engage in, such as sharing. Rules, commodities and social functions *interact* or are interdependent in the sharing economy and shape highly complex functions, which different actors engage in (or not). This affects their abilities to evolve. The various actors in this typology; such as individuals, political institutions and companies, has been addressed above and are coupled together through collaborations (business models) – in which they coevolve and reconstruct. The author suggests that this makes the sharing economy a socialized, regulated and commodified type of sharing economy embedded in politically imposed rules, capitalist rules and socialized rules – a ‘regulatory structure’ (Giddens, 1984). While regulatory structures is something outside its actors, the actors with ‘creativity and knowledge’ engage in reproducing and reshaping regulatory structures. When they contest rules they can change the regulatory structures, when they follow the rules they confirm the regulatory structures and add to its continuance. This happens through the actors’ social practices and rule interpreting and transformative behavior embodied in ‘creativity and knowledge’. Actors that confirm rules, remain actors, while actors that possess the power to transform the regulatory structures are agents of change. Different actors possess different abilities of transformation, adaption or change, this is discussed in evolutionary economic geography. Political institutions evolve and are stable collaborators, businesses are more unstable and reluctant to mutate. Individuals might be highly flexible and able to change (or not). All these actors must fight against ‘business-as-usual’ or inertia; resistance to change to transform according to Schumpeter (1934, p. 66; Geels 2002).

However; the theoretical elaborations of the political economy, the capitalist economy, the solidarity economy should however be enough to give the reader a functional view of how the ideas on regulated, commodified and socialized sharing has originated and together paint a clearer picture of the sharing economy it selves, embedded in greater structures. This is what makes this master thesis a structural comparison of four cases.

The author will now turn to the debates on the sharing economy in recent debates of interpretive communities, which will work as a base for the visualizations of a sharing economy typology in the empirical part.

2.2 The interpretive communities debate on the sharing economy and carsharing

Schor (2014, pp. 8-9) argues that the sharing economy has moved from ‘a progressive, social transformative idea’ in its earlier years to be more dominated by for-profit enterprises, as external investments and venture capitalists has entered the domain of the sharing economy. Schor (2014, p. 10) however claims a potential social movement still can be encouraged, through an inclusive community approach and organization of users. This view is partly supported by Richardson’s (2015) current analysis of the sharing economy. She (2015, p. 121) however eloquently claims that the sharing economy most of all represents an evident *paradox* by both *creating* economic activities, as well as it at the same time *deconstructs* dominant capitalist practices.

[The sharing economy] constitutes an apparent paradox framed as both part of the capitalist economy and as an alternative. [It is] a space for both opportunity and critique. [...]. It has the potential to both shake up and further entrench ‘business-as-usual’ through the ongoing reconfiguration of a divergent range of (economic) activities (Richardson, 2015, p. 121).

In this space of ‘opportunity and critique’, and as an alternative and as simultaneously confirming practices of ‘business-as-usual’ – lies the core challenges of the sharing economy. The carsharing companies might just reconfigure ‘old’ organizational ways or create new possibilities of arranging their activities and functions. New ways of organizing their activities and functions; through interdependencies between technology and sharing, are however constrained by the existing capitalistic frameworks that hinders its potential alternative pathways (Richardson, 2015, p. 121). The sharing economy, such as the system of carsharing, is therefore enabling change and is simultaneously reluctant to follow ‘old’ pathways. It is therefore enabling alternative pathways and at the same time being contested by existing neo-liberal practices (Morozov, 2013; Richardson, 2015, p. 121). It is defined as follows:

The sharing economy refers to forms of exchange facilitated through online platforms, encompassing a diversity of for-profit and non-profit activities that all broadly aim to access to under-utilized resources through what is termed ‘sharing’ (Richardson, 2015, p. 121).

This suggests that the sharing economy exists at a convergence of for-profit and non-profit, which underpins both its activities and functions in social practices, as well as in a capitalist practice of sharing. Sharing has however been a common social practice offline long before the sharing economy was established. The view that sharing existed long before the ICT

revolution and the subsequent sharing economy is acknowledged by Schor (2014) and Frenken (2017):

Offline, sharing has always been common among family, friends and neighbors. These are the trusted people due to emotional bonding and past interaction (Benkler, 2004; Belk, 2009). [...] Lending or renting out goods to strangers was uncommon due to lack of information about the trustworthiness of a stranger. The key change with the advent of Internet platforms holds that people start to engage in “stranger sharing” (Schor, 2014; Frenken, 2017, p. 5).

Historically, it was not until the ICT revolution, advances in Internet solutions and digital networks, that the virtual markets, which facilitates the sharing economy was established. This made sharing with strangers based on trust possible (Schor, 2014; Frenken, 2017, p. 5). Sharing digitally through virtual markets open up the possibilities; for users, of taking part of greater systems or networks than themselves through personal computers, and more recently other digital devices such as tablets and particularly advances in smart phone technologies. This also created possibilities for the consumers and the organization models of the carsharing company’s platforms: New configurations of organization as well as consumption patterns may appear. The digital nature of the carsharing system open up the possibilities of new ways of organizing carsharing companies – that may change existing organizational practices or frameworks in the capitalist economy (Richardson, 2015, p. 121) – as well as it may increase consumption. The consumption may increase not just because the users save money on one expense item, that makes them, (more likely), to increase their consumption on other posts – it also creates new economic activities. This problem is discussed by Schor (2014):

The platforms are creating new markets that expand the volume of commerce and boost purchasing power. The larger, for-profit companies are claiming to generate substantial business and income for their providers. If so, they are likely creating economic activity that would not have existed otherwise – more travel, more private automobile rides – and not just shifting purchasing from one type of provider to another (2014, p. 7).

According to Frenken (2017) sharing can be understood as “consumers granting each other temporary access to their under-utilized physical assets (“idle capacity”), possibly for money” (Frenken, 2017, p. 5). This definition does not define how it is organized, where this sharing takes place or what type of exchange or sharing it relies on, but he adds that in our economy sharing is regarded as an economic activity that plays it selves out at virtual markets that functions as an intermediary (Frenken, 2017, p. 5 and 6). Frenken refers to Belk (2007; Frenken, 2017, p. 5) and argues that the recent growth of the sharing economy is limited to online platforms. The platforms ‘digital dimension’ that characterize distribution of goods and

services in the system of carsharing, also suggests that it creates possibilities of being integrated at multiple geographical scales. This shape complex interdependencies at multiple scales embedded in both virtual as well as at physical practices – as well as it has diversified, encompassed or reconfigured the ways of which businesses are organized in the carsharing economy. This move towards complexities is supported by MacNeill and MacNeill (2003), Richardson (2015, p. 122) and Cockayne (2016, p. 76) – the sharing economy’s performance and narrative is highly diverse and differentiated. In this context Richardson (2015, p. 122), suggests that the label ‘sharing’ contributes to a narrative of differentiation and of complexity of meaning: Its message is a message of ambiguity. Sharing sounds promising, but does it act out its responsibilities and fulfil its expectations? Richardson (2015) discuss these issues.

At issue is what the label ‘sharing’ does. On the one hand, such labelling operates as an opportunity in the promise of the sharing economy as an antidote. It performs a narrative of collaboration and community in order to reject stories of the economy as engendering isolation and separation. On the other hand, the label opens a space for critique as the sharing economy fails to act out its role. Whilst articulated through the rhetoric of sharing, this vocabulary might be framed as masking new forms of inequality and polarizations of ownerships (2015, p. 122).

This suggests that by utilizing the label ‘sharing’ businesses might exploit the power of this rhetoric, and by doing so legitimize the continuance of ‘old’ patterns of isolation, polarization and inequality of neoliberalism (Richardson, 2015, p. 122). These patterns are being reframed and reproduced under the label of a ‘sharing’ economy – but the label also creates possibilities of alternative pathways, an opportunity that should be seized and acted upon – hence it might also bring something new to the table. These expectations and responsibilities should not be taken too lightly.

Cockayne (2016, p. 74) however claims that the narrative or rhetoric’s of the sharing economy are part of neoliberalism’s practices – they have become integrated into the sharing economy. Cockayne (2016) supports Richardson’s analysis. He expresses his ambivalence and ambiguity and argues that the *contradiction* between the more socially narrative of ‘sharing’ and its typical neoliberal practices can be productive in scientific discourses on the sharing economy. He thus argues that close attention must be payed similarities and differences, which may distinguish the various companies that is under the tab ‘sharing economy’ (Cockayne, 2016, p. 73): What is actually sharing and what is not? The term has been attached to a wide range of digital platforms ranging from Uber, Lyft, AirBnb, to Couchsurfing, Craigslist and Freecycle, as well as to Taskrabbit, Yelp and eBay, and finally in

this master assignment; carsharing companies such as Nabobil, Bilkollektivet, Hertz and Move About. All these digital platforms may however not be labeled as a sharing economy, but they are still floating on the same positive rhetoric of ‘sharing’. This master thesis will however not aim at distinguishing all these various digital platforms, but target her analysis on the differences and similarities of her four cases. The diverse digital platforms do have various attributes; but the fact is that they through user ratings and reviews

manufacture trust between otherwise unknown users, in the absence of the possibility for face-to-face transactions – [this is] often described as essential to economic interactions (Bathelt and Turi, 2011; Storper and Venables, 2004; Cockayne, 2016, p. 78).

Cockayne (2016, p. 76) though argued that he had interviewed forty-five informants in San Francisco digital media sector, and found that the reality of the narrative presented on the sharing economy, was far more “complex, but not hegemonic, totalizing, or wholesale”. His interviewees attached various attributes to their companies, such as altruism, community, trusting, breaking social barriers, togetherness, traditionalism and network building, but they usually downplayed the economic element (Cockayne, 2016, pp. 76-80). They also distinguished between transactional and non-transactional, where the former was addressed more positive connotations to. Benkler (2004, 2006; Cockayne, 2016, p. 75) thus claims that there has been as *shift* in viewing the sharing economy through the inclusive community approach of “altruistic, pro-social, and non-reciprocal” put forward by him selves, to capitalist practices, investments and ownership.

Sharing describes both a form of digital production and inclusion in an online ‘community’ (Grabher and Ibert, 2014; Leyshon, 2007), yet still connected linguistically with Benkler’s [...] associations of the sharing discourse that directly appropriates forms of behavior online as co-dependant, therapeutic, and confessional (John, 2013). Social media therefore intimately connects sharing with exchange, transaction, and economic production, but also use the term to promise [...] new forms of digital belonging and inclusion (Cockayne, 2016, p. 75).

Although the sharing economy today seems to happen at the convergence of economic production and more alternative pathways, that suggests more utopian outcomes (Cockayne, 2016, pp. 79-80), such as e.g. the village metaphor suggests. Frenken (2017, p. 3) argues that it is the regulatory structure jointly shaped by users, companies and governments at local, national and transnational geographical scales that will shape both carsharing’s environmental impacts and sosio-economic structure. Frenken’s (2017) claims that there are *three scenarios* for the sharing economy. The three scenarios are as following from first scenario;

[1] a platform-capitalistic future of seamless consumption cumulating into monopolistic super-platforms,

[2] a platform-redistributive future where governments shift taxes from platform labour and usage of goods to platform capital and ownership of goods, and

[3] a platform-cooperativist future led by citizens owning and governing online sharing platforms (2017, p. 3).

The author has integrated Frenken's three scenarios, with what she suggests may be expressed as three functions of sharing: socialized, regulated or commodifying. This suggests following arguments: If the characteristics of the different carsharing systems evolves in such a favorable manner through complementing with the political sphere of regulations and norms, their economic growth potential might synchronically be beneficial for each other, and collectively they may shape a collaborative consumption pattern *regulated* by national governments (Frenken, 2017, p. 3). If capitalism takes over we might see a more *commodified* sharing economy which may take shape of super-platforms and monopoly with few actors dominating the game (Frenken, 2017, p. 3). If the users, members or customers gain more influence we might see clearer patterns of *socialized* sharing in forms of cooperatives with democratic values and rights embodied in their organization model (Frenken, 2017, p. 3). The author will build upon these three scenarios in the theoretical and empirical part and suggests a typology for the sharing economy that builds upon both Frenken's scenarios and other relevant and existing scientific works from interpretative communities on the sharing economy and carsharing – and their business models.

Böker and Meelen (2016, p. 15) however argue that to influence the impact on the environment two changes must be made: The system of carsharing has to be changed and its embodied consumer patterns. This will decide the environmental aftermaths of the system of carsharing. Schor (2014) is however critical to these kinds of arguments. She argues; “despite the widespread belief that the sector helps to reduce carbon emissions, there are almost no comprehensive studies of its impact”. She further claims that: “For the majority, carsharing, by expanding access to cars, increased emissions” (Martin and Shahan, 2010; Schor, 2014). By having discussed the narrative of the sharing economy, that is embedded in social, economic and regulatory practices, the author will now discuss more thoroughly what she understands as socialized, regulated and commodified (sharing) – by attaching these functions (or rules) to three types of economies; the political economy, the capitalist economy, the solidarity economy, and at last the sharing economy it selves. They are all presented in a joint economic perspective.

2.3 Business models in the sharing economy

They argue that business models of the sharing economy present a typical collaborative consumption (Cohen and Kietzmann, 2014, p. 279). The author suggests that by being collaborative resources are allocated and distributed in collaborative ways through alignments between businesses and users. Cohen and Kietzmann, (2014, p. 280), claims that these business models are particularly exiting in two ways: As organizations and as having the potential for more environmental allocation and alignments of goods and services. While the former claim is legitimate the second claim needs more elaboration than this brief master thesis can offer, since this master thesis focus mainly on organizational innovation: The ways of which different sharing economy types are organized to enhance innovative routines and practices through evolution of creativity and knowledge. Cohen and Kietzmann, (2014, p. 279), thus discuss how agency theory can be used as a toolkit to explain organizational behavior. Knight (1921; Cohen and Kietzmann, 2014, pp. 280-281), argue that it is the entrepreneurs (in possible conflicts) with investors that “bear the risks of organization and failure as an agent for the consumer”. In this context; Cohen and Kietzmann, (2014, p. 281), claims that the private sector has established business models because of market failure in the private as well as the public sector.

Schor (2014, p. 2) argues that the goods and services shared or exchanged in the sharing economy can be distinguished into four basic categories of platforms based on: “recirculation of goods, increased utilization of durable assets, exchange of services, and sharing of productive assets”. The four cases in this master thesis fall under category one and two. First; recirculation of goods, conducted by firms such as Craigslist, and eBay, started up in the mid-1990s. Hertz Bilpool, Bilkollektivet and Move About fall under this category. Schor (2014, p. 2) claims that it was the new types of software that reduced transaction costs – this boosted of their businesses and made recirculation of goods mainstream consumer practices today. Second; increased utilization of durable assets – these platforms business ideas were based on utilizing capacity not used to its fully potentials, such as e.g. companies as Nabobil, Relay Rides, Zimride, Uber, UberX, Lyft and Divvy Bikes or Airbnb (note: not all of which are typically legitimate *sharing* economies). Third; exchange of services platforms is originally based on the business ideas of time banking in the US, which was non-profit, community based that provided income for the unemployed. Companies such as Task Rabbit and Zaarly are types of such platforms. Fourth; sharing of productive assets or space was supposed to enable production rather than enhance consumption, such as hackerspaces,

which provided spaces, tools and communal offices for co-working (Schor, 2014, pp. 2-3).

According to Schor (2014, p. 4) these various types of sharing economies can be characterized in two ways; by their market orientation; non-profit versus profit, and by their market structure; peer-to-peer (P2P) or customer-to-customer (C2C) and business-to-peer (B2P) or business-to-customer (B2C) and government-to-peer (G2P). The market structures or business models have different characteristics: P2P, seeks to earn money by increased transaction numbers, B2P seeks to “maximize revenue per transaction” and G2P, seeks to exchange through democratic processes, not all of which include political institutions, but have a governmental organization. P2P tries to allocate and distribute resources for producers and consumers by lowering costs, some also seek to avoid middlemen or intermediators (Schor, 2014, p. 5). The situation is however a bit more complex than this, because B2B can also include cooperatives (C2P) and G2P may also include political institutions, such as e.g. blood giving practices. She (2014, p. 4) also argues that venture capitalist has the potential to change “the dynamics of sharing enterprises”, by putting pressure on the actors, their business models and their sharing functions – through financial control and innovation strategies.

That said, the business models of the sharing economy is presented, in the following theoretical section four types of innovation will be discussed and finally the system of carsharing.

2.4 Four types of innovations: Incremental and radical, system and techno-economic paradigm

According to Freeman and Perez there are four categories of innovations: “[i]ncremental, radical, system, [and] techno-economic paradigm” (1988; Geels and Schot, 2007, p. 402). In this master thesis all these innovations will be briefly addressed. Schumpeter discusses radical and incremental innovations, Edquist analyze systems of innovations and finally; Perez elaborates on the notion of techno-economic paradigms. These distinguishable types of innovations will be discussed while moving from incremental and radical innovations to techno-economic paradigms, and applied in this master thesis empirical parts. Let’s start with incremental and radical innovations.

2.4.1 Incremental and radical innovations

Schumpeter discuss cycles of innovations in which incremental and radical innovations drove processes of creative destruction, which resulted in upswings and downswings in the macroeconomy. Incremental and radical innovation can be defined as following:

A radical or disruptive innovation is an innovation that has a significant impact on a market and on the economic activity of firms in that market. This concept focuses on the impact of innovations as opposed to their novelty. The innovation could, for example, change the structure of the market, create new markets or render existing products obsolete.

Incremental innovation concerns an existing product, service, process, organization or method whose performance has been significantly enhanced or upgraded. This can take two forms: For example, a simple product may be improved (in terms of improved performance or lower cost) through use of higher performance components or materials, or a complex product comprising a number of integrated technical subsystems may be improved by partial changes to one of the subsystems (Innovation Policy Platform 2017).

Schumpeter (1942; MIT Economics, 2017, p. 1), saw the process of creative destruction as *the essential fact about capitalism* made by incremental and radical innovations. This concept analyses how incremental and radical innovation mechanisms inevitably results in new innovations being *created*, which replace or *destruct* the outdated ones (Caballero, 2017, 2017, p. 1). By defining this process of creative destruction and entrepreneurial activity as open exogenous evolutionary processes, Schumpeter takes one step further away from neoclassical thoughts, who defined these processes as endogenous. The question of empirically proving the potential existence of these promising conceptual theories on long waves, driven by creative destruction, through empirical data, was however not possible, until recent advances in statistical methodology, and new and comprehensive available empirical data material (Metz, 2011). Schumpeter's innovation cycles driven by innovation built upon Kondratiev's conceptual theories on long waves, but added crucial conceptual explanations to the debate of K-waves and innovation activity. He basically brought Kondratiev's ideas on innovation and invention; as the driving force of long waves, to another level conceptually. Schumpeter's analysis was therefore, inspired by Kondratiev, and was aimed at configuring cyclical patterns in innovation activity that was driven by incremental and radical innovations; through processes of creative destruction.

Along with Kondratiev's arguments, Schumpeter claimed that during the maturity and

frenzy part in each downswing, several radical innovations were created in innovation clusters, which eventually would again boost of a new upswing. Schumpeter, however, had no explanation for these occurrences. It was not until Mensch's analysis (1979; Tylecote 1992) a valid explanation was suggested.

[D]epressions make entrepreneurs more *adventurous*: 'the prospect of executing' concentrates the mind wonderfully and they become ready to *take a chance on new ideas*: [T]here is therefore a *bunching of radical innovations in the depression*, which launches the [next] upswing (Mensch, 1979; Tylecote, 1992, p. 15).

This explains why there are upswings and downswings in the macro economy. In each upswings entrepreneurs, however, seem to become lazier as they are faced with periods of perpetual economic growth, prosperity and profit. Perez (2010, p. 186) and Fagerberg (2003, p. 131) however argues that Schumpeter "strongly distinguished *innovation*, seen as the commercial introduction of a new product or a 'new combination' -- from *invention*"; which according to Schumpeter (Fagerberg, 2005, p. 4) is "an idea for a new product or process". Schumpeter (Fagerberg, 2005, p. 4) however argues that there are five types of innovations: "[N]ew products, new methods of productions, new sources of supply, the exploitation of new markets, and new ways to organize business". This master thesis will focus on new ways of organizing businesses. Kline and Rosenberg (1986; Fagerberg, 2005) however argues that these innovation types; from the starting point as an invention, goes through a myriad of faceted modifications and changes before it becomes an innovation, and even as an innovation crucial changes may be made through its commercial processes; a process of magnitudes of *interrelated* innovations being tested.

[I]t is a serious mistake to treat an innovation as if it were a well-defined, homogenous thing that could be identified as entering the economy at a precise date – or becoming available at a precise time [...] The fact is that most innovations go through drastic changes in their lifetimes -- changes that may, and often do, totally transform their economic significance. The subsequent improvements in an invention after its first introduction may be vastly more important, economically, than the initial availability of the invention in its original form (Kline and Rosenberg, 1986, 283; Fagerberg, 2005, p. 5).

It was however the entrepreneurship motivated by downswings and depressions in the economy; and their livelihoods and prosperity threatened; and their future profit, adventure and rivalry that motivates them to "take advantages of technological progress" (Schumpeter, 1947, p. 265), that is embedded in incremental and radical innovations. Schumpeter however argues "that an entrepreneur is the man who gets things done and not necessarily the man who

invents". Since Schumpeter defines innovation as a 'new combination' conducted by entrepreneurial activity; as the focal point of cycles of innovation cycles, it is this 'combinatory' that Schumpeter calls 'the entrepreneurial function' in innovation cycles (Fagerberg, 2003, p. 130; Schumpeter, 1934, p. 65). Fagerberg argues further that these innovation processes are social activities or functions (but also political), which are inherently competitive, commercial and takes place in the world of the economy – while inventions can basically happen anywhere (Fagerberg, 2003, p. 131). The entrepreneurs however have to fight against *societal inertia*; 'resistance to new ways', or often referred to as 'business as usual' (Schumpeter; Fagerberg, 2005, p. 6). Schumpeter himself argues that rather than 'business as usual', "entrepreneurship [...] consists of doing things that are not generally done in the ordinary course of business routine" (Schumpeter, 1947, p. 259).

During Schumpeter's productive period 1900s-1950, he also had other sources of inspiration. Although Schumpeter greatly admired neoclassical economy, his work in many ways simultaneously represented a *paradoxical break* with neo-classical economist's mindsets (Allen, 1991; Freeman and Louca, 2001; Fagerberg, 2003, p. 129). Schumpeter's works can nevertheless be linked to the two camps of approaches to the field of economy he was introduced to as a student in Vienna at the turn of the century: The German historical school of Marxism and the emerging neoclassical camp which he was inspired by; the latter of which he was greatly impressed by but strongly counteracted with (Fagerberg, 2003, p. 128). Schumpeter's paradoxical break with neoclassical thoughts consisted mainly in his rejection of one of the main concepts in neoclassical thoughts at that time: The vision of the economy as an equilibrium process (Swedberg, 1989, p. XII; Fagerberg 2003, p. 128). According to Fagerberg (2003, p. 129), Schumpeter's conceptual theories was basically aimed at developing an evolutionary economic theory, which would have distinguished itself from the static equilibrium concept of Walras and his followers in the neoclassical school. By separating himself from the emerging thoughts of neoclassicism, Schumpeter developed his own theories on how economy is driven and disrupted by processes of innovation: The concept of *creative destruction*. This concept of creative destruction includes radical innovations as well as incremental innovations. While radical innovations may originate in one national context, they will eventually diffuse globally, incremental innovations start to take over when the goal is to expand market shares (Bernard et al., 2013, p. 7). Radical innovations start of new upswings in the macro economy, such as cycles of innovations. Schumpeter identifies as or makes a distinction between five innovation cycles (Bernard et al., 2013):

- [1.] The water-powered mechanization of industry in the 18th and early 19th centuries.
- [2.] The steam-powered mechanization of industry and transport in the middle of the 19th century (railways, steam engines, machine tools.
- [3.] The electrification of industry, transport, and homes at the end of the 19th century.
- [4.] Motorization of industrial production, transport, civil economy, and war machinery (from [approximately] 1914 onward).
- [5.] Computerization and information technology from the 1960s and 1970s onward (Bernard et al., 2013, p. 7):
- 6. Nano- and biotechnologies (Korotayev et al., 2011, p. 1280).

This systemic output of these cycles of innovations was basically made possible because of the suggested evolutionary character of the economy and its spatial embeddedness. It was these theories in this section that deeply inspired the conceptual theories of Perez and Edquist.

2.4.2 System

Edquist (2005) defines systems of innovation (SI) as

the determinants of innovation processes = all important economic, social, political, organizational, institutional, and other factors that influence the development, diffusion and use of innovations (2005, p. 182)

Edquist was also interested in big picture perspective on innovations, by suggesting a system of innovation. His theories consisted of seven core terms. First; he saw innovations basically as product innovations or process innovations; both goods and services. Second; the system of innovation was however more general: All relevant social, cultural, political, organizational and institutional factors that would influence the system. Third; as in the conceptual theories on system, a system of innovations has its constituents: These are their components and the interdependencies between them. Fourth; Edquist (2005, p. 182) argues that there seems to be great agreement scientifically that the most important components of an SI are the *institutions* and *organizations*, and the relationships among them. North (1995; Edquist 2005) defines these components as:

Organizations = formal structures that are consciously created and have an explicit purpose. They are players or actors.

Institutions = set of common habits, norms, routines, established practices, rules or laws that regulate the relations and interactions between individuals, groups, and organizations.

They are the rules of the game (North, 1995, p. 5; Edquist, (2005, p. 182)

But fifth and sixth; systems have targets, and a system of innovation should most of all be able to diffuse and facilitate use of innovations. At last, Edquist explains what activities is in terms of a system of innovation: They should be targeted on using innovations, diffuse and they develop them (Edquist, 2005, p. 182). The main purpose or *function* of a SI is however to pursue, achieve, develop and diffuse innovation processes according to Edquist (2005, p. 182). Edquist's conceptual theories was however akin to Perez conceptual theories, but she based her ideas on Kondratiev and Schumpeter, and built upon most of their concepts and thoughts.

2.4.3 Techno-economic paradigm

Perez however argued that her concept of the great surges of development was a clear break with Kondratiev and Schumpeter – since K-waves a continuous flow. Her great surges of development would increase as an S-curve and then break. Before this a new 'big bang' of radical innovations would spark of a new S-curve, just before the existing one had crumbled. Since one curve replaced the other constantly, they would appear statistically as logistical waves that flowed smoothly – but the real innovation activity behind these smooth logistical K-waves was actually discontinuous S-curves. Therefore, Perez broke with Kondratiev and Schumpeter's conceptual theories on long waves. Perez (2010) summarizes the concept of techno-economic paradigms as

the most successful and profitable practices in terms of choice of inputs, methods and technologies, and in terms of organizational structures, business models and strategies (2010, p. 194).

She explained her conceptual terms that backed up her theories on great surges of development and techno-economic paradigms:

1. The technological trajectories [or path-dependence] of individual products grouped in
2. technological systems that are in turn grouped in technological revolutions; the systemic trajectories overlap generating externalities and market for each other, thus influencing the direction of further innovation.

3. Technological revolutions are clusters of interrelated technology systems that only merit the term 'revolution' because their impact extends far beyond the boundaries of the new industries they introduce. The transformations eventually encompass the whole economy [...].
4. The process of diffusion of these massive changes and their economic and social effect constitutes a great surge of development.
5. The vehicle of that wide-ranging change of direction in innovation is the techno-economic paradigm [...]. It indicates the optimal, most effective and most profitable way of making use of the new innovative potential (2010, p. 200).

Perez opponents, however, argued that her conceptual theories were oversimplified (Tylecote, 1992). Tylecote (1992, pp. 18-24), has therefore suggested several attempts of modifying, but still supporting Perez's conceptual theories. Perez has been one of the leading ladies of creating conceptual theories on how systems of innovation functions by developing what she calls a techno-economic paradigm that evolves through great surges of development.

While Schumpeter's conceptual theories (1911, 1939; Perez, 2010, p. 185) states that social and institutional change happens *outside* the main domains of the economy, and the therefore goes counter with Perez's (2010) conceptual theories. In her theories economic change, technological change and institutional (and social) change are *interrelated* (Perez, 2002, p. 156). Brousseau (et al., 2011, p. 4), however argue that institutions may act as exogenous frameworks characterized by reforms and institutional change, with a fundamental ability to transform through an *evolutionary process* of developing *new belief systems*, just as well as they may act as closed or endogenous frameworks, which *constrains* processes of evolutionary changes. *Changing institutions* and *cognitive belief systems* are however regarded as the greatest *hinder* to major systemic changes (Geels, 2016). How these institutions and belief systems can be changed does not seem to be Perez focal point. Perez (2002, 2010) conceptual theories are on systems of innovations and she does not emphasize on the individual human beings as agents of change. In Karnøe and Garud's (2012, pp. 733-752) essay on path-creation in Danish wind turbine clusters, they however argue that it was a set of simultaneous incidences, executed and started by individuals with technical interest, expertise or education, and their freedom and capacity for experimenting with wind turbines that sparked off the path-creation of the Danish wind turbine cluster industry. This ultimately led to Danish wind turbine cluster becoming dominant in their global market in their expertise and production of wind turbines, – and exploiting their position of being a *first mover* in the global market. Technological change, according to their view, is therefore an interrelated process of co-evolution through invention and innovation which includes institutions,

capitalist enterprises *and* individual agents of change. Karnøe's and Garud's (2012) does however not explain how this path-creation and technological change could happen in this Danish societal context but rather root their arguments and explanations in network and territorial embeddedness of coevolution end heterogenous actors (Hess 2006). But this essay states that individuals can also be a recognizable and prominent agent in the interrelated processes of major systemic change. Thus, in this process *power* also seems to play a crucial role. Although Perez (2010), mentions the word power in her essay she does not find a solution on how to *fit* this notion in her conceptual theories on systems of innovations. Tylecote (1992, p. 21) however argue that what is at stake in processes of major societal change is: "...above all, [...] *power*". He claims that, in processes of switching from one techno-economic paradigm to another, there are always actors in a system of innovation and society who wants to hold on to their *status que*, particularly they who have their political power, economic prosperity, social positions and privileges questioned. The novel techno-economic paradigm offers incumbent new belief systems, and prominent rules and norms which goes hand-in-hand with the major systemic changes.

But, there are also actors who will gain and benefit from major systemic changes. They favor the new common sense and might even be the pioneers of the novel techno-economic paradigm. Their common sense, might imply there is a common goal – or uniformity – a new direction is chosen that choke off technological advancements or experiments which does not fit with this new techno-economic paradigm and their new power elites (Sabel and Zeitlin, 1985). This novel power elites are in the forefront of inducing technological change into their society, locally as well as globally. In Perez's perspective (2002) *major systemic changes* is an *evolutionary process* of adaption, assimilation and diffusion of new innovation capabilities and learning possibilities. Major changes can only happen through an *interplay* or *mutual relationship* between *agents of change* within institutions, economy and technology. Agents of change are carrier of both *explicit* and *tacit knowledge*, and their coming together or *interrelatedness* decides the *path-dependence* of technological change *collectively* (Perez, 2010, p. 186).

This idea of interrelatedness is inspired by Schumpeter's conceptual theories on clusters of innovation (Schumpeter, 1939; Perez, 2010, p. 188). Enos (1962; Perez, 2010) are also inspired by Schumpeter's conceptual theories on radical innovation and incremental innovations, although she analyzes these ideas from a perspective of the trajectory or paradigm; a conceptual theory of interrelated processes of technological change embedded in *systems of innovations*:

The notions of *trajectory* or *paradigm* highlight the importance of *incremental innovations* in the growth path following each *radical innovation*. Though it is true that major innovations have a central role in determining new investment and economic growth, *expansion* depends on incremental innovation [...]. (Enos, 1962; Perez, 2010, p. 187).

Although Perez (2010, pp. 152-153), is inspired by, and accept many of Schumpeter's and Kondratiev's core conceptual theories, (such as theories on clusters of innovation, radical and incremental innovations and creative destruction), the surge is not a continuous curve. The great surges are Perez (2002, pp. 152-153) *visual concept of systems or innovations*, explained by her six core theoretical conceptualized notions. In this view, the visual shape of the surge is *not continuous* as Schumpeter and Kondratieff, and their followers suggested, but breaks for each new technological revolution and *a new incumbent* techno-economic paradigm replaces the dominant position of the *previous* and *outdated* techno-economic paradigm. Mathews (2013, p. 14) explains the core of this continuous process of technological change as follows: "While one technology surge is going through its deployment phase, a new one is being generated, so that there are successive logistic waves". Perez concept of the great surges of development and techno-economic paradigm shifts is however a two-dimensional concept and presented as a still picture or snap-shot of a visual theoretical concept, it could be made into a three-dimensional animation. Perez (2010) relates the concept of the great surges of development and techno-economic paradigm shifts to reoccurring incidents of violent societal upheavals. When one techno-economic paradigm is about to be replaced by a new, the system of innovations and global world economy turns into frenzy, turbulence or instability – a rivalry between two systems of innovation and counteracting 'common senses' plays out. This instability is a phase a system enters before it reorients it selves and takes a new shape, as mentioned in the first theoretical part. Times of system instability can therefore be characterized by times of *great upheavals* or *times of refractions*. Korotayev (et al., 2011, p. 1280), suggests that we are in middle of such times of societal upheaval now, because the fifth surge of information technologies is about to be replaced by a sixth surge of nano- and biotechnologies. This systemic context may cause great political, economic and social unrest, but also create great *spaces of opportunities* for new technological styles and a new techno-economic paradigm to emerge: A process of interrelated change and creative destruction.

The appearance of such great upheavals embedded in technical, institutional, economic and organizational shifts, therefore cause violent *opportunities* for new systems of innovations to emerge, as well as vast *turbulence* and unrest in contemporary societal systems

(Kondratiev, 1979; Perez, 2010; Mathews, 2013, p. 13). Freeman and Perez (Mathews, 2013), however argues that the novel TEP, have three criteria's:

1. [C]hanges in cost structure, with the emerging technological regime enjoying strong and increasing cost advantages;
2. [E]xpanded perception of opportunity spaces, creating multiple entrepreneurial opportunities for the application of the emergent bundle of technologies; and
3. [N]ew organizational models, where the new is better fitted to the emergent technologies and generates massive gains in terms of efficiency [...] (Mathews, 2013, p. 14).

Each dominant novel techno-economic paradigm has however three types of new and interrelated core industries (Perez, 2010, p. 191): These are; 1. *Motive branches* which adds cheap inputs to the innovation systems, such as e.g. oil, cheap steel or water power; 2. *Carrier branches*; the paradigmatic products of the technological revolutions, such as e.g. computers, software, smart phones and automobiles; and at last 3. The new and dominant *infrastructures*, e.g. internet, roads and electricity. Perez (2010), however adds a fourth category of core industries; 4. *Induced branches*; a set of other industries that are prominent in the new technological revolution, but has existed in previous surges, e.g. automobile, internet, software, smart phones, electricity and oil. The core industries as well as smaller entrepreneurial enterprises is hugely affected by the new common sense that arrives with the fresh wind of the novel techno-economic paradigm's technological revolution.

The author will now close the 'chapter' on Perez conceptual theory on techno-economic paradigms and move on to a summarize of these four types on innovations and apply these to the system of carsharing.

2.5 Applying four types of innovation on the system of carsharing

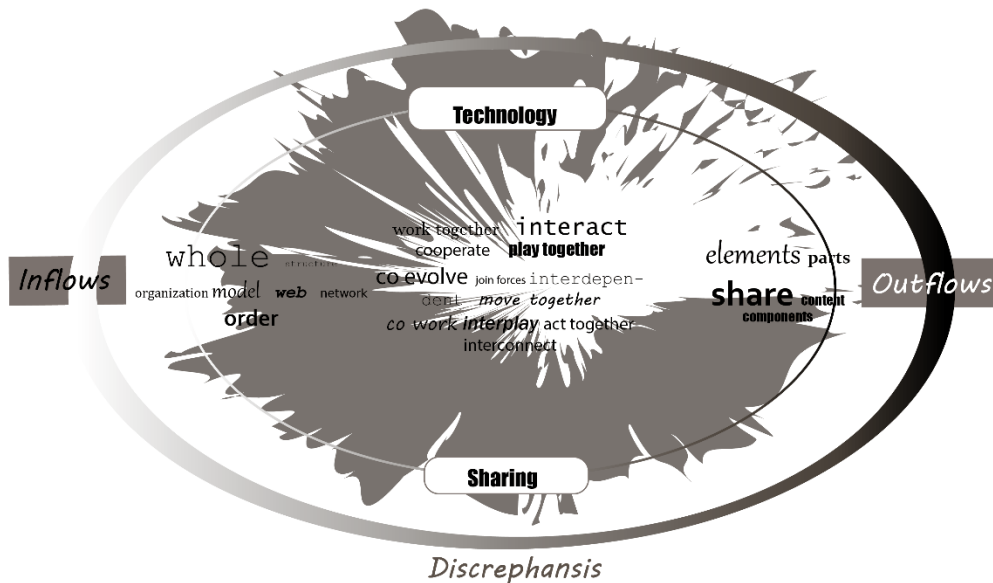
Not all types of entrepreneurial companies apply only incremental and radical innovations. Many companies apply what Perez (2010) called induced branches, or induced technologies, such as the personal computer, smartphones and digital network, they may nevertheless be highly technological within these branches. Entrepreneurial companies may also apply induced technologies and other new innovations, such as organizational innovations. This will be brought up in the empirical section for analysis. Edquist's system innovation can also be used to address organizational attributes of carsharing. But, what is a system of carsharing?

The author will try to answer this question by applying Edquist's (2005), Meadow's (1999) and Geels' (2004) conceptual thoughts on systems to carsharing.

First; the carsharing system has two *constituents*; various *components* that are *interdependent*, such as employees in the carsharing company, the carsharing companies, carsharers and cars, or the car industry. They are organized together through practices of coordination of technologies and sharing that together can be described as a whole (Ingelstam 2002: 19; Edquist 2005: 187). Second; the system of carsharing has a *purpose* such as to innovate through creative destruction, to facilitate sharing, to create functional services, to learn through creativity and knowledge, to increase its markets shares and reach a critical mass that makes it profitable or sustainable economically in the long run – it should thus diffuse innovations, become economically sustainable and facilitate sharing (Ingelstam 2002, p. 19; Edquist, 2005, p. 187). Third; the system of carsharing has its *boundaries* – it may have limits to innovate, grow its markets shares or the functionality of its services, just as well as limits on how well it can facilitate different types of sharing socially, economically as well as regulatory (Ingelstam, 2002, p. 19; Edquist, 2005, p. 187). But technology, employees' creativity and knowledge, routines and practices may also make use of innovations, grow economically and create new types of improved sharing and diffuse technologies. The *constraining* and *enabling* attributes of the carsharing system as a whole; that comes from its constituents, its purpose and intention, and its boundaries, may affect its organizational model or business model. It affects its abilities to adapt and change or its potential inertia; 'resistance to new ways', or often referred to as 'business as usual' (Schumpeter; Fagerberg, 2005, p. 6). Carsharing companies may have 'fossiled' routines and practices or adaptive abilities. The system of carsharing a whole; its constituents, its intentions and its boundaries separates the system of carsharing, and the organization models within this system from the rest of the world; its abilities to grow and influence are not unlimited (Ingelstam, 2002, p. 19; Edquist, 2005, p. 187). Its separation to the rest of the world may however be influenced by external pressures that flows into the system of carsharing.

Inflows and outflows: To add to Ingelstam's (2002, p. 19; Edquist, 2005, p. 187) definition, Meadows (1999, p. 4) suggests that there are discrepancies between inflows and outflows; the outer ellipse of the visual representation. The author has added technology and sharing to the visual model of Meadows (1999, p. 4) to make it more applicable for carsharing and added more explaining words, that situates the visual representation in the notions on systems discussed by Edquist, Ingelstam and Meadows. While inflows in this system may e.g. be knowledge and creativity, new technologies, new employees, financial capital, more cars

or new customers, outflows may e.g. be profit, experience, competitive advantages, market shares, improved services or new types of sharing, or economical losses.



Visualizing theory 1: The system of carsharing

Meadows (1999) argues that the discrepancy between inflows and outflows or unwanted outflows (systemic output), can be influenced by changing the *goals* or more fundamentally as Ingelstam's (2002, p. 19; Edquist, 2005, p. 187) definitions suggests; the purpose of the system. This may affect technologies, sharing functions, economic sustainability through interaction, interdependencies, coevolution and cooperation that glues together the system of carsharing as a whole, and makes it work. What Meadows (1999, p. 4) explains as the 'state of the system' can however change by disrupting its purpose or its goals: This may affect its potential success technologically, economically, as well as socially and lead to a positive path-dependency (or not). There are however *constraining* and *enabling* attributes of the carsharing system, which above was discussed as the abilities to adapt and change contra inertia – regulatory structures may both enable or constrain its behavior's technology and sharing functions. This brings us to the outer ellipse.

The outer ellipse connects technologies and sharing, that are both physical and virtual – they are the core activities of carsharing, and they also move together or interact. They are physical because cars, hardware and smart phones are, and so are carsharers, or other technological devices (tablets, PC), but they are also virtual because sharing is not always

direct, but happens through virtual markets. It is virtual because digital technologies facilitate networks that are virtual. This brings us to the inner ellipse of order and elements that fuse the physical and the virtual worlds.

The inner ellipse suggests that order and structure are independent on their elements and vice versa. From the inner ellipse to the outer, the author has also changed her focus from abstract notions on how systems work, to its embeddedness or concretizations – or from a system notion to a system of carsharing notion. The ellipse as a shape and the change from white to gray to black suggests some dynamics or interdependencies. Technology interact with the sharing functions, as well as inflows and outflows have influence on each other. It also suggests that the quality of their technologies and sharing functions may influence outflows – there are interdependencies. Distinguished in two couples; there are technology and sharing dynamics, as well as there are inflows and outflows dynamics.

The irregularities of the inner shape (that resembles a flower), suggests that carsharing boundaries might change – it may grow, be replaced or simply diminish, as well as it can adjust to changing contextual situations.

Therefore, the interdependencies between the components of technologies and sharing are at the core of understanding this system. Without these constituents, it would not be a sharing economy; in the view of this master thesis. Technology and sharing are the main activities in a sharing economy, particularly the cases of carsharing in this master assignment – it connects the digital and the virtual world.

The visual representation of the system of carsharing is an attempt to integrate the system thinkers view and apply it to carsharing. In a system of carsharing, the author has therefore suggested that the two core functions of sharing and technology are crucial for the system to work together as a system of carsharing. The core essence of this system is to create technological applicable services that may diffuse in its system of carsharing and facilitate sharing. While having presented the conceptual and rather abstract theories and visual representation of the system of carsharing – the author has tried to broaden the approach to the notions of carsharing as a system.

This visual representation represents the whole system of carsharing, from car industry, to the companies, distribution of goods and services and the carsharers: The whole system – a sectoral system. Malerba (2002; Geels, 2004, pp. 898-899) suggests that sectoral systems should consist of products (e.g. cars for sharing), agents (political institutions, carsharers and firms), knowledge and learning processes (discussed in the economic overview) and basic technologies (such as technologies of digital services, digital markets,

digital networks and smart phones). But it is also possible to paint on a larger canvas.

Geels (2004) argues for considering the system of carsharing; as a sectoral system, as belonging to a greater socio-technical system: The whole transportation system – with multiple mobilities integrated into one big picture. By this view the system of carsharing is hence an integral part of “sociotechnical configuration in personal transportation” (Geels, 2002, p. 1258) explained as following by accentuate on the car in this system: First; heterogenous parts create stable social and technical configurations. Second; the parts are connected through social groups that create or reproduce these configurations. Third; road and car regulations can be administrated by national laws and taxes. Fourth; “[c]ultural and symbolic meanings of cars are produced in the interaction between users, media and societal groups” (Geels, 2002, p. 1259). Fifth; patterns of mobility and practices are embedded in the car owner’s everyday usage of their cars or carsharers that share their cars. Sixth; strategies are created through interdependencies between car manufacturers and suppliers. Seventh; designers and engineers possess knowledge embodied in cars – but the cars are produced by car manufacturers. Eighth; all these activities are interdependent and organized as an alignment that are coordinated (Geels, 2002, p. 1259). This short summary situates the carsharing activities and practices in the big picture of social and technical transitions in the transportation sector and argues from a shift of viewing automobility or carsharing sectorally to a more comprehensive socio-technical system. The master thesis will however not elaborate further on these conceptual theories, but use them to integrate carsharing into a wider and bigger perspective of transitions – of which the transportation system hopefully will become more sustainable – gradually or step by step.

The last innovation type; the techno-economic paradigm is however the greatest system or context of which our whole society exists within. This master thesis will not elaborate more on techno-economic paradigm, but just add that different stages of the great surges gives different possibilities for entrepreneurial firms. That said, let’s turn our curiosity to the toolkit of this master thesis; the methodology.

3 *A mixed methodology – from a bird’s-eye perspective (systems and structures) to a frog’s-eye perspective (informants)*

3.1 A structural approach

The title of this master thesis and the opening of the theoretical section, implies that the author has taken a structural approach to her case comparison. This structural approach particularly leans on Giddens’ (1984) structural theories. In the opening of this methodological section the author will briefly explain what a structural theory is understood as in human geography and what concepts it is embedded in. Structural theories in human geography stems from a dispute or mismatch of ideas elaborated by a people-centered geography constructed by both humanistic and behavioral geography in the 1970s. Since humanistic geography based their research on qualitative methodology and behavioral geography on quantitative methodology cooperation between the two camps was rare according to Hubbard (et al., 2002, pp. 41-42). The emphasis on human agency however failed to recognize the material or structural context of which human action was situated in according to structuralisms (Hubbard, et al., 2002, p. 42). This scientific weakness nurtured the rise of an interdisciplinary approach in structuralism. Structuralism basically scrutinized the relationships in a society or how the people’s human constructed frameworks of the society affected human behavior. What relationships was it that tied people together in systems of interdependencies? It was “the rules and logics of [the] social structures” that became the key to understanding how a society worked (Hubbard, et al., 2002, p. 42). Kitchin and Tate (2002; Hubbard, et al., 2002, p. 42) argue that “structuralism proposes an approach to science that explores the relations that exist between observable things and the ‘hidden’ structures”. Structuralisms seeks to unravel the depths and hidden facts about our society, by drawing on theory from multiple scientific fields. Humanistic geography and behavioral geography both pay attention to the human creativity and intentionality that shapes these complex processes, but the structuralists claim that both these stances undermined the *real* structures behind human activities (Hubbard, et al., 2002, p. 42). The structuralist’s approach to complex societal processes by scrutinizing mechanisms and systemic drivers that are hidden behind ‘taken-for-granted’ assumptions of

how the society works, are more important than ever as our societies becomes more differentiated, complex and interconnected globally.

Structuralism argues that the key to understanding a social system is to expose the structural relationships of its parts and to explore the way these parts are related by regulative mechanisms (Hubbard, et a., 2002, p. 43).

To summarize the ideas of structuralism, this theory simply states that a structure is more than a simple summarization of its parts (Lévi-Strauss, 1967, pp. 128-160). In structuralism comprehension of relationships are emphasized at the expense of pure description of the simplicity and observable nature of its parts. Structures may however be scrutinized by emphasizing on specific societal functions, such as by visualizing or arranging these functions in models or tables.

However; although visualization of theory and empiri may be functional as well as useful, they cannot be the core in this master thesis, science human geography mainly is a field of scientific written analysis. The visualizations are therefore made to support methodology, theory and empiri and facilitate the understandings of interdependencies in this brief master assignment. They will be accompanied by more thoroughly written discussions of ideas and concepts and various references form ongoing debates in interpretive communities on carsharing. The next methodological section will move on towards the case comparison.

3.2 Towards a frog's-eye perspective – case comparison

A case study can be defined as “an intensive study of a single unit for the purpose of understanding a larger class of (similar) units” (Baxter, 2010, p. 81). Baxter (2010, p. 81) argues that a case study can include more than one case of the phenomenon for an in-depth comparison that includes the variety of contextual differences, relationships among the phenomenon and variety of perspectives on the unit of scrutiny. Comparative case studies originate from case studies – a in-depth study of one unit, but adds more cases. Comparative case studies therefore benefit from the advantages of both case studies and quantitative studies. By thriving in the space in-between these two methodologies, case comparison plays it selves out by being partly generalizable and partly by being an in-depth study.

But, the most important question to ask yourself in a case study is: “What is this case a case of?” (Flyvbjerg, 1998, p. 8; Bradshaw and Stratford, 2010, p. 72), this is also true in a case comparison. To shed light on this core question, the author will apply several relevant

perspectives to emphasize the phenomena accentuated – to sort out what the phenomenon in question; carsharing, really is about. This methodological section will focus on the participants which makes up the cases: The CEOs and management in the carsharing companies and the carsharers. These participants or informants are the elements of which taken together will shed light on the relationships between the four cases of carsharing in the city region of Oslo, just as well as their interdependencies.

It is however important to note that a case study is not necessarily equivalent to either qualitative research nor comparative case studies (Baxter, 2010, p. 82). Comparative case studies are extensive and intensive (Bradshaw and Stratford, 2010, p. 71). Extensive research usually studies a broader population of the phenomenon in question, and is therefore considered as *more fit* to find *generalized patterns* among the group of informants within the phenomenon. Intensive research goes more deeply into the relationships of the phenomena in question; in this case the corporates and the carsharers, and their acts and behavior within the context they are located. By doing this the author has sought to find *commonness* among the cases and possible *representativeness* of the phenomenon in question (Bradshaw and Stratford, 2010, p. 71). The methodological choice in this master thesis is however in-between extensive and intensive research, since it is a comparison. As it is a comparison of cases it may benefit from both extensive and intensive research – it is a profitable middle way.

Nevertheless; comparative case studies, raise questions of whether the chosen cases have possibilities of *transferability* and *generalizability* or not (Baxter, 2010, p. 82). According to Baxter (2010, p. 89); “multiple case studies are generally not approached with the purpose of establishing statistical generalizability”. Thus, Baxter (2010, p. 94) argues that even though statistical generalizability might not be possible in comparison of multiple cases, *analytical (theoretical) generalizability* however is. This may be achieved in two ways: (1) by carefully selecting relevant cases of the phenomenon in question and (2) by “creating theory that is neither too abstract nor too case-specific”. By adding more cases in a comparison, the possibilities of both transferability and (analytical) generalizability however increases. Although a multiple case study in most instances may not be transferable or generalizable; through the research process the author should reflect thoroughly on these crucial issues. Case studies that are conducted at one time – are however usually relevant only for a brief period according to Baxter (2010, p. 91). Baxter (2010) however argues

[c]omparative studies tend to share many of the same advantages as longitudinal studies that there are opportunities to generate and modify concepts and theory so that they explain commonalities across cases despite contingencies or context (2010, p. 92).

The question which remains open is whether this master thesis, will be able to test theory – or expand theory (Baxter, 2010, p. 88). These are the core goals within case comparisons, which any researcher should try to stretch themselves towards (Baxter, 2010, p. 88).

It will however be to understand the balance or imbalance between the researcher and the informants in terms of power that utter it selves through the research's interview sessions – that affects the frog's-eye perspective expressed by the informants of each case. Next methodological section will therefore discuss the intriguing three interview types available to the human geographer – that may have great influence on the quality on the collection of data material from each case. This represents a further move towards a frog's-eye perspective

3.3 To approach the frog's-eye – the structured, the semi-structured and the unstructured interview

To approach an explanation of these three interview types the author will first discuss why qualitative interviews are of such importance methodologically. Patton (2002, p. 340) argues; “[w]e interview people to find out from them those things we cannot directly observe”, he further adds “[w]e cannot observe feelings, thoughts, and intentions” (Patton, 2002, p. 341). In line with these arguments, Patton (2002, p. 341) also claims that one of the main intentions with interviewing is to understand another person, because the researcher look upon their perspectives as valuable, *insightful* as well as knowable, and their views must be clarified to the readers – if the purpose of it all is to *enlighten us*. To interview is however a process of *learning* of which the researcher should have a true felt curiosity in human beings, Patton (2002, p. 341) expresses. This process of learning may demand that the interviewer is in some sort of control of the situation, although this may certainly not always be the case for first time interviewers. Control may however enhance the quality of the interview process and the order of the data material collected through the interview sessions (Patton, 2002, p. 341). An *interview* can however be defined as

a face-to-face verbal interchange in which one person, the interviewer, attempts to elicit information or expressions of opinion or belief from another person or persons (Maccoby and Maccoby, 1954, p. 499; Dunn, 2010, p. 101).

The title suggests that there are three types of interviews; *structured interviews*, *semi-structured interviews* and *unstructured interviews*. The three types of interviewing can according to Dunn (2010, p. 102) be “placed along a continuum, with the structured interview

on one and the unstructured interview at the other”. Dunn’s divisions build upon Patton’s methodological theories. Patton (2002, p. 342) however name them differently, such as “the standardized open-ended interview”, “the general interview guide approach” and “the informal conversational interview”. This master thesis will rely on theory on the two first mentioned of these types. The author will however also discuss unstructured interviews in this methodological section for the sake of comparison and to elucidate the differences between the three interview types. Along what Dunn (2010) explains as a continuum, you will find that the structured interview is stricter, more formal and particularly question-based (Dunn, 2010, p. 109). In the structured interviews the researcher pays particular attention to how the questions are posed – down to specific details (Patton, 2002, p. 344). The focus on *details* and order is applied, if the interviewer has a preference of confronting informants with the *same stimuli*, in the same way and if he/her would like them to be asked the same questions (Patton, 2002, p. 344). Structured interviews are typically *time efficient* and *well structured*. These are valuable attributes if one wants to make a case comparison.

Different choice of interview types thus fulfills different intentions, functions and tasks in the data collection process. While the structured interview particularly allows for order, the unstructured interview allows for improvisation and flexibility. The semi-structured interview may however gain from both of the other two interview types and is therefore in-between order and improvisation (Patton 2002). In this master thesis, the author has particularly chosen the semi-structured and structured corporate interview. The semi-structured interview; may as mentioned, be placed in the middle of the continuum. It may also be fully questioned, as the structured, but it also allows for scientific improvisation and sensitivity, if e.g. the informant express feelings, opinions or thoughts of particular interest to the research project. This type of interview is usually based on an interview guide, which allows for changes and adaption during the interview session, this is not the case with structured interviews (Patton 2002).

The structured interviews are however orderly, which may allow for assistants to conduct the interviews, it may also be an advantage to keep things strict if the data collection process is massive in relation to time required to conduct the interviews or if there are many informants (Patton, 2002). If the scientist would like to keep order in the data collection process or material, but still allow for improvisations and scientific sensitivity in the interview situation, a semi-structured interview is a good choice. This will allow for more flexibility than the structured interview, but still regain some valuable efficiency and structure that may be fruitful in e.g. case comparison. This may be conducted by having prepared questions or

topics in a guide. This ensures that all informants may be confronted with similar subject areas and it is also time effective, systematic and more ordered than the unstructured conversational interview (Patton, 2002, p. 343). This interview type does not suggest that the interviewer should bring up new topics, but rather stick to business (Patton, 2002, p. 344).

Dunn (2010, p. 111) eloquently express the core differences between the three types: “Rather than being question-focused like structured interview or content-focused as in a semi-structured format, the unstructured interview is informant-focused.” In line with this view unstructured interviews are the most informal, in-depth and improvisational forms of interviews. This gives the interviewer diverse flexibility according to Patton (2002, p. 342); since no questions usually is proposed in advance, only e.g. themes. Each person interviewed are different and the external contexts may also vary, this type of interview may give the most varied, complex and rich data material, but because of this it may also be a challenge to the interviewer to arrange the results afterwards empirically (Patton, 2002, p. 342). This may be particularly challenging with many informants, large data material collected, due to long duration of the interview, or when the task is to compare cases. The main strength of this format lies particularly in its spontaneity, flexibility and responsiveness towards its informant Patton (2002, p. 343) claims. It allows for the interviewer to fit into the informants’ worlds and adjust to their various context, stimuli, and the informant’s lives, milieus and contexts – *in situ*. This is often appreciated in ethnography. The structured interview would however be necessary if the goal is to use the exact instrument for evaluation afterwards, efficiency, high focus and ease the task of “making responses easy to find and compare” – such as in a case comparison (Patton, 2002, p. 346). The semi-structured format utilized in the corporate interviews will rely on a “complex and uneven power relationship involved in which information, flows mostly one way: [F]rom the informant to the interviewer” (McKay, 2002; Stacy, 1988; Dunn, 2010, p. 115). The author’s strategy has, in the interviews been to look upon the informant as “as a ‘Goddess’ of information and insight “(Dunn, 2010, p. 115). This respect for the informant’s opinions, thoughts and feelings shared have been the core motivation in the interview process, and has made it captivating and inspiring to be an interviewer. This opinion, the researcher applies by following a mostly *professional*, but also *creative strategy* in the formal corporate interviews (Dunn, 2010, pp. 114-115). These strategies have been sought achieved without compromising or being aloof from the informants or having the head in the clouds (Dunn, 2010, p. 114). In other words, the interviewer has also sought to apply Dunn’s (2010, p. 105) practical advices to an interview setting, that basically amounts into understanding ‘common sense’ or everyday politeness,

clarity and *attention* when interacting with new human beings with valuable insights into carsharing that has greatly contributed to the fulfillment of the author's research project. By having said this, an important scenography of the corporate interview has been introduced. The structured/semi-structured interview type has therefore focused more on the asymmetrical relation between the interviewer and the corporate, a relation of which the various characteristics of power intervenes, which will be discussed below.

3.4 The frog's-eye: The corporate interviews – interviewing upwards

The corporate interviews presents an opportunity to draw the contours of the organization models in the carsharing economy from a frog's-eye perspective (informants). Smith (2005) discuss the notion of power in corporate interviews by discussing various theoretical sources on the subject. Discussions of corporate interviews and power bring new insights into firm innovation. Schoenberger (1991, p. 180) argues that the corporate interview is of great importance in periods of violent upheavals; seen in our contemporary global society. In these periods, the need to understand firm behavior that may contribute to a more thoroughly understanding of the mechanisms and drivers of economic growth that is enhanced by new technologies, is crucial. Hence, it might make it possible to seize spaces of possibilities and opportunities revealed by new innovations, new technology and entrepreneurial activity (Perez 2010).

This author however argues that it is not enough to understand firm behavior to seize spaces of opportunities created by the big bang of the novel techno-economic paradigm: The firm must be analysed in a system manner – to understand the complexities of its future behavior and possible prosperity. A new techno-economic paradigm would most likely create new constellations of power. Those privileged or in control of resources in the previous techno-economic paradigm might however suddenly find out that the wind has changed and those previously in less powerful positions arise and becomes the new entrepreneurs – agents of change – with considerable possibilities of influencing societal transition and change as the new constellations of power emerge. The comparative case studies in this master thesis however have two groups of participants; group one; the management, and group two; the carsharers. The class of phenomenon the interview of the corporates would like to shed light on are the organization models of the carsharing companies – and how this class of phenomena have commonalities within the cases and among the cases, just as well as they

may vary. What are the relationships among the separate phenomenon, and what are these relations to the social structures or systems? The intention of this methodological analysis is thus to discuss the organization models from the corporate perspective, and then look upon the greater social structures or systems of which interconnects the phenomenon in question. To discuss this approach, the type of interviews chosen; the corporate interview and constellations of (new) power, must be scrutinized. An interview is however an unpredictable situation, that may include various types of social relations between the researcher and the informant – a relation of which power may interfere with. Dowling (2010, p. 32) argues that these social relationships may be equal (reciprocal), or asymmetrical; a situation where either the researcher or the informant have an upper hand in the situation.

As the author interviewed CEO and management through the corporate interviews, she often found her selves in the situation of having to interview ‘upwards’. Smith (2005) discuss the difference of interviewing ‘upwards’ or ‘downwards’, by referring to a conversation with a colleague on the topic. She was studying ‘up’ and he was studying ‘down’ – in their dialogue they compared the two different challenges. In both cases power played a prominent role; but it played its elves out quite differently in the two cases of interviews, as the character of their relation to their informants was asymmetrical in different ways. This methodological section will however accentuate the challenges of interviewing ‘upwards’ and its related power.

Desmond (2004, p. 643; Smith, 2005, p. 262), was among those who suggested that studying ‘up’ was in stark contrast to studying informants in a position of less power than him selves. He used the term ‘elite’ to discuss the group of informants in higher positions. England, 2002, p. 200; Smith, 2005, p. 644) argued that the ‘elites’ had other ways of formulating problems and issues than those less powerful.

Smith (2005, p. 644) agree that the two groups should be addressed in different manners and by posing different questions, but she however argues that there is a need for understanding the “hybrid and multifaceted nature of power”. To call a group of informants ‘elites’ rely on what she calls a “structural notion of power”. She states that in real-life these ‘elites’ are detect, and the one-size-fits-all does not apply. Studying ‘upwards’ does not necessarily mean, that the group in question are ‘elites’, even though they may be regarded as more powerful than the researcher in question. This structural view on power however argues that “particular individuals and organizations ‘possess’ power, which they can use to achieve certain outcomes, whilst others are ‘powerless’” (Allen, 1997, p. 60; Smith, 2005, p. 645).

The Marxist view on power look upon these issues quite differently. They argue that

power is inclined with certain institutions or groups within a society, whose are more privileged and owns the means of production. The post structural view is however that power cannot be possessed, it “is exercised but not appropriated” (Smith, 2005, p. 645). Others argue that power is “diffuse and mobile” – and therefore difficult comprehend deeply (Smith, 2005, p. 645). Others again argues that it is only the effects of power that are visible, such as “seduction, coercion, manipulation, dominance and authority” (Smith, 2005, p. 645). She (2005, p. 645) further argues that she is critical to all those researchers that believes it is possible to identify a more powerful group, from those less powerful, and therefore argues for; as mentioned, for a more a more “hybrid and multifaceted [explanation of the] nature of power”. Smith (2005) is also skeptical towards assuming that powerful people will apply their power in the interview session (Smith, 2005, p. 645). Woods (1998, p. 2101; Smith 2005, p. 645) argues that the term ‘elites’ should be re-examined and handled more carefully, an argument which Smith (2005) agree on. She (2005, p. 645) elaborates on this view: “I do not believe that it is possible to clearly segregate people into dualistic categories of ‘elite’ and ‘non-elite’ [...]; no-one is removed from the effects of power (2005, p. 645).

Smith (2005, p. 647) refers to feminist researcher when she calls it to ‘unpack’ power relations; a useful metaphor for a female researcher in a mostly male dominated corporate milieu. This strategy is often used to sort out the complexity of power relations between the researcher and the informant. This ‘unpacking’ is necessary to get a grasp of the *greater societal power structures* of which both the researcher and the corporates plays a role in – a positionality which may vary from one social interaction to another and form multiple and various notions of power in a society.

Smith (2005, p. 651) concludes that she is skeptical that structures of power exists at all – or is made tangible to people. She also notes that there is a *scale difference*. Power in one position does not necessarily relate to possessing power in another arena, such as the intimate scale of the interview space (Smith, 2005, p. 652).

However, in the next methodological section; in the ethnographic interview, the researcher found herself in a quite different interview situation: A situation of various spaces of different stimuli – one which may vary from informant to informant and from site to site: A possibility of scrutinizing the informants on their own playground a more informal and unstructured interview session by participating in their own environment. This may empower less powerful informants as well as it may add power to resourceful informants, since the informants was my guides to the world of carsharing. This attitude is a stance in the ethnographic interview and in participant observation; the anthropological way of doing

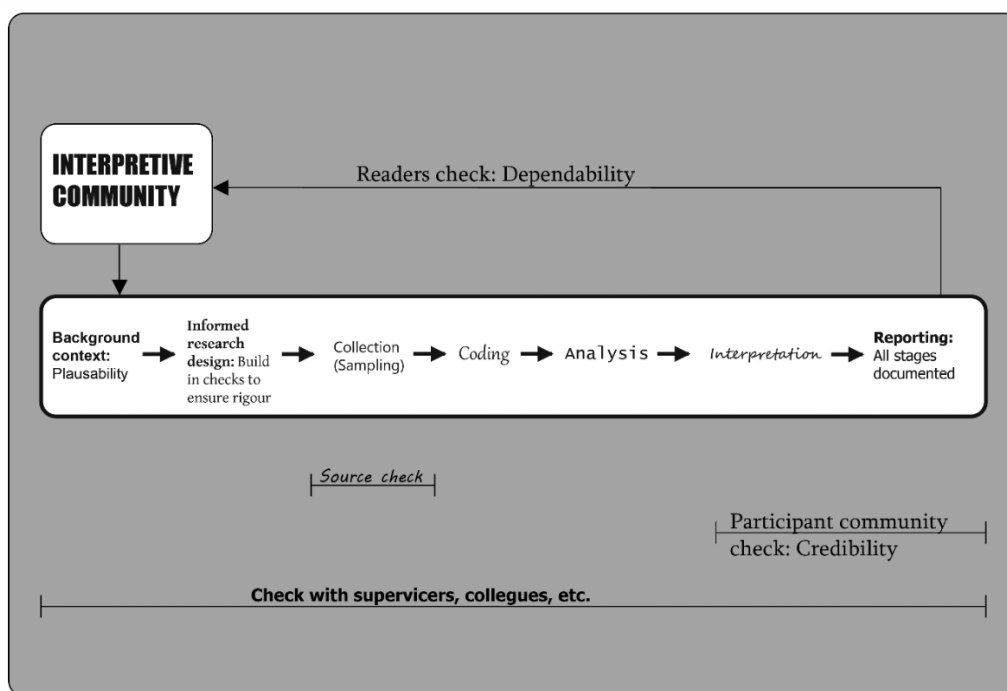
interviews; that apply other rules. This anthropological route has been followed without compromising core geographical notions such as e.g. spatial embeddedness, site, scale and place. To explore the fusion of human geography and ethnography the author will now analyze these new opportunities by diving ethnographically into the experiences of carsharers worlds (Dunn, 2007), to avoid superficialities that the typically economical geography approach has been criticized for (classical corporate interviews). This opportunity is a great methodological possibility to find your selves in exploring new depths and gain valuable insights into the nature of carsharing.

3.5 On the relationships of critical reflexivity and positionality, and of subjectivity and power – the researcher as part of greater social structures and interpretive communities

Coffey (1991; Kusenbach, 2003) was among the first to argue that there had been a *fundamental shift* in how the researcher positioned him selves or her selves among their scientific explorations and endeavors. England (1994; Dowling, 2010, p. 31) called this new concept; *critical reflexivity*. According to this concept the scientist had to scrutinize their own role in their works and their position in relation to their informants. A new role of the scientist had emerged; that of the humble, self-critical, open and curious scientist as part of greater social structures – the science of which the scientist made their selves a field of study, as part of the scientific process. This implied several crucial things. Among the first issues was that the scientist had to analyze their role in a social context, secondly; the scientist had to reflect upon their own thoughts and ideas in the whole research process – tear them apart and pull them together again in new ways – a constant process of reflecting and creativity. Emerson (2001; Kusenbach, 2003) argued that this reflexive turn had brought new considerations and reflections on the researcher's positionality and their scientific sensitivity.

Watson and Till (2010) pointed out that scientists however had a great responsibility in taking ethical choices, a power to influence – in many ways; political actions that would have political aftermaths. This view is supported by Staeheli and Mitchell (2005). Watson and Till (2010) however argued that it was mainly these individual choices that effected the research results and their potential political aftermaths and not their positionality. They however added that the scientist was part of ongoing debates that shaped their individual

choices. Bradshaw and Stratford (2010, p. 69) call the place of these ongoing debates for *interpretive communities*; the discipline's debate milieus, that shape *what* and *who* we bring into the research process (Bradshaw and Stratford, 2010, p. 69). These interpretive communities form how we question our problems, what theories or empiri we analyze, the themes we choose – and the background information and material we bring into the research process. This has huge effects on the research design. These interpretive communities offer guidance on how to structure and reflect upon our process to ensure *dependability* and *rigour*; such as the *hermeneutic circle* (Bradshaw and Stratford, 2010).



Visualizing theory 2: The Hermeneutic Circle (Bradshaw and Stratford, 2010, p. 78)

This ensures that our critical reflexivity is productive. The critical reflexivity is however related to scientist's positionality and their being part of social relations. Since the researcher was part of social relations, Dowling (2010, p. 35) argued that this has opened up the possibilities of inviting *subjectivity* into qualitative research methods. This subjectivity has entered the qualitative methodology because the researcher is positioned in social structures and form social relations and as they *interact* with other people. In this interaction, we as scientists relate to people based on our knowledge – and knowledge is forceful. This may put the scientists in a position of power, which should be handled wisely. Power and subjectivity may however be a natural part of qualitative methods, but should be reflected upon – and be treated with caution. The idea that the scientist had a social position worth to reflect upon in

their scientific works resulted in so-called reflexivity journals in ethnographic fieldworks; notes of self-critical, positional comments and reflections; being integrated into ethnographic methods and becoming a fundamental part of the ethnographer's fieldwork (Østbø Haugen, 2017). The researcher however must rely on their own scientific integrity and honesty, scientific precision, creativity (Dowling, 2010, p. 33) – and their sense of justice and responsibility, to write science that have relevance in terms of actuality, appliance, and centrality, that can enhance learning and at the same time solve their duties (Staeheli and Mitchell, 2005). They also have to know that scientific processes are part of greater social and political structures and processes. This influence *why* we choose a particular theme, *how* we solve the task, our audience (for *whom* we write for) and the possible societal gains of our research (Staeheli and Mitchell, 2005). These processes are truly socially and politically conditioned or structured and *embedded* in interpretive communities or interdisciplinary debates that has mesmerized our scientific curiosity (Staeheli and Mitchell 2005, Dowling 2010, p. 37). After having presented the whole methodological section the author will now apply the theory and methodology to her empirical data material's analysis.

3.6 On validity, reliability and transferability

In social sciences the researcher has an ethical responsibility to reassure that the research process is saturated with accuracy and made as verified as possible (Kvale, 1997; Sønstabø Thorkildsen, 2007). To reassure that these measurements are satisfactory in her scientific work the author has uses *the hermeneutic circle* as a guidance throughout the research process and her *critical reflexivity* (Bradshaw and Stratford, 2010, p. 78). This has been applied to all three measurements of well conducted scientific work in social sciences, suggested next.

3.6.1 Validity: The relevance of the scientific work

Validity can be defined as “[t]he truthfulness or accuracy of data compared with acceptable criteria” (Hay, 2010, p. 391). According to Vollmer (1992; Mytting Hagemoen, 2005, p. 23), validity asks questions on how the methods applied investigates what it is supposed to. The case chosen, the informants selected, the theoretical terms highlighted and the questions problematized has to add to the research projects relevance and accuracy (Mytting Hagemoen, 2005, p. 23). The validity of a scientific study can be measured by evaluating the scientific

choices made in the master thesis – do they add to the actuality of the phenomenon emphasized or are they off track? To reassure herself that these fundamental aspects are taken care of in her scientific work the author has followed the hermeneutic circle, throughout the research process: Everything has been scrutinized. The aspects of validity in this master thesis has also been covered by utilizing the critical reflexivity of the researcher (Coffey, 1991; Kusenbach, 2003, England, 1994; Dowling, 2010, p. 31, Emerson, 2001; Kusenbach, 2003), this was discussed in the previous empirical section. This is supported by Thagaard, 1998; Mytting Hagemoen, 2005, p. 23). Kvale, 1997; Mytting Hagemoen, 2005, p. 23) argues that validity can be applied throughout the theoretical investigations, the interview sessions, in transcribing the interviews and in the empirical analysis. To ensure the measurements of validity the researcher has to pay close attention and be highly conscious of this criteria throughout the research process: All scientific choices and scientific sensitivity has to add to the relevance, actuality and accuracy of the research. Kvale, (1997; Mytting Hagemoen, 2005, p. 23) also explains that bringing up additional questions to the informants at a later stage in the research process or have a second meeting may clarify misunderstandings, the researcher in this master thesis did however not have the opportunity to add more questions or to meet the informants a second time, because they were overloaded with works. This view is supported by Holter (1996, Mytting Hagemoen, 2005, p. 23).

3.6.2 Reliability: Interpretations embedded in interpretive communities' debates

Reliability can be understood as the

[e]xtent to which a method of data collection yields consistent and reproducible result when used in similar circumstances by different researchers or at different times (Hay, 2010, p. 386).

Reliability asks about the interpretations made in the scientific work – are they thoroughly embedded in relevant sources of interpretative communities' debates? (Foss, 1998, Mytting Hagemoen, 2005, p. 23). The evaluation of the reliability of a research process can also be enhanced by applying critical reflexivity and the hermeneutic circle in the research process – what are the relationships to the informants and how was the conditions for the master thesis? (Thagaard, 1998; Mytting Hagemoen, 2005, p. 23). I will argue that reliability in this research project was emphasized by choosing a case comparison and adding a thoroughly and extensive theoretical discussions in this master thesis, and back up these theories with relying mostly on the first-hand sources in the empirical part: The author has payed close attention to

different theoretical perspectives, empirical sources through a clearly defined methodology. Thagaard (2002, p. 180; Sønstabø Thorkildsen, 2007, p. 20), argue that the “researcher has to specify how she or he has achieved the understandings the project has results in”. This has been sought achieved in this master thesis by reminding the reader of the theoretical perspective that supports her empirical and theoretical findings in her conclusion.

3.6.3 Transferability: Does the master thesis extend theory?

Transferability is the “[e]xtent to which the results of a study might apply to contexts other than that of the research study” (Hay, 2010, p. 390). Validity and reliability are used as measurements to determine the accuracy and potential transferability of the empirical findings and theoretical discussions amplified. Is the scientific work embedded in validity and reliability, is it transferable, and will it add to existing theories? This is the core goal, which the researcher set out to achieve (Baxter, 2010, p. 88). If the process of interviewing and analysis and the cases points in the same direction, the potential transferability increases (Mytting Hagemoen, 2005, p. 24). This type of accuracy is sought safeguarded by thoroughly discussing the methodology applied, scrutinizing the theoretical analysis made, and highlighting the similarities and differences of the empirical findings of the four cases in this master thesis comparison. Johannessen and Tufte (2002, Mytting Hagemoen, 2005, p. 24) argues that transferability can be measured by how accurate the research process has been conducted and how the empirical findings and theoretical clarifications can be applied to other context: Has the researcher succeeded in this process? Does the overall results and knowledge contribute to further theoretical investigations? (Geertz, 1973, Mytting Hagemoen, 2005, p. 24). These are questions and concerns that researchers has to reflect upon.

4 Empirical analysis: The frog's-eye perspective

4.1 Analyzing the empirical data material

The frog's eye perspective represents the carsharing company's employees own view on their carsharing company, how it is organized and carsharing itself. This is a structural case comparison of four cases of carsharing in Oslo, Norway – in-between intensive and extensive methodology, as mentioned in the methodological section. To give order to this analysis, the discussions are structured in the same way the interview sessions were conducted; as being in-between a more question based structured interview and a more content based semi-structured interview (Dunn, 2010).

Table 2: Overview of the informants

Case	Informant	Random name	Sex	Education	Experience
A	1	Peter	Male	Master	The sharing economy
B	2	Hans	Male	None	Organization and administration
B	3	Linda	Female	Hovedfag (equivalent to master)	Transportation
B	4	Kjetil	Male	Hovedfag	Aid
C	5	Haakon	Male	Bachelor	Car rental
C	6	Egil	Male	Master	Car rental
D	7	Christopher	Male	Master	Car rental

The reader should note this: The answers to each questions posed are as close to the informant's own words as possible. This is to emphasize authenticity and autonomy of the informants and be true to the first-hand information in the empirical data material. The author will follow the chronology of the questions posed. The informants are given random names, for anaonymization. Peter represents case A, Hans, Linda and Kjetil; case B, Haakon and Egil represent case C and finally Christopher; case D. With this noted, the first topic of questions

from the first-hand sources can be presented. This empirical discussion will start out with the context of the four cases, the Oslo urban area and then move towards the origin of the four companies, their business ideas, the ICT-revolution, digital networks and smart phones, and further move towards how the different companies in this case comparison are organized, and then finally discuss the three core categories of sharing: Socialized, regulated and commodified sharing, suggested by the author herself. This case comparison is embedded geographically in the Oslo urban area.

4.1.1 The entrepreneurial potentials of the Oslo urban area

In this empirical paragraph the author will apply the theory in this master thesis on the context of the four cases of comparison; the Oslo urban area. The Norwegian Oslo urban area is a geographical context which allows for innovation to take place. Oslo urban area is ranked 39th at the global “Innovation Cities Index 2016-2017” (Innovation Cities, 2017). The first cities on this index are London, New York and Tokyo, in that order. Stockholm is ranked 31th and Copenhagen 33th, Helsinki is ranked 49th. These figures indicate how productive the innovation environment for entrepreneurs are.

Schumpeter argued that it is the entrepreneur that possesses the ability of making new combinations of existing innovations. In these combinatory processes ‘old’ and ‘new’ innovations interplay to ensure that both experience and knowledge are combined with fresh new ideas, this was discussed by Perez (2010) in the theoretical section: Previous innovations are usually applied in a combination with ‘new’ incremental or radical innovations. However; Schumpeter’s concept of creative destruction explains how new innovations face out old ones and thereby drive or create economic growth. According to Schumpeter it is the entrepreneurial enterprises that ensure that both what Perez (2010) called induced branches (previous paradigm’s innovations) and new innovations are exploited. In Norway, most support financially goes to entrepreneurial businesses that are situated in the capital of Norway; Oslo. This suggests that in the Norwegian context the Oslo region is where these new combinatory processes take place through entrepreneurial businesses. These new businesses however has to relate to the hegemonic mode of production in our contemporary society; capitalism. In the theoretical part on the commodifying capitalist economy, the author tied the processes of capitalism to evolutionary economic geography, with terms such as

variety, selection, continuance and mutations. In line with this stance the Oslo urban area can be regarded as a selection environment that enables entrepreneurial businesses to emerge. The Oslo urban area is however not just a selection environment for employees, businesses and consumers, but also contributes with a market or variety of consumers to fight for and businesses that compete as mentioned in the theoretical section. It also contains the political institutions that regulates their businesses, to ensure that the competition is fair and that the consumers have their rights protected. This was discussed in the theoretical section on the regulated political economy. The entrepreneurial businesses in Oslo also exist in real time, in a genuine region and through social interaction, social ties and social relationships that allows the entrepreneurial businesses to be embedded geographical in proximity and exploit the social production that the Oslo urban area allows for. This enables entrepreneurial businesses to be socialized and take advantage of the organic growth that these social attributes enable. They may grow economically by exploiting the variety of ‘word of mouth’ which an urban area allows for. Even though a place, such as the Oslo urban area, may enable entrepreneurial businesses to grow it might also be constraining. The Oslo urban area is growing rapidly, but Oslo is a small capital compared to global metropolises, such as London, New York and Tokyo – they have larger consumer markets and variety of workers. Compared to these global cities, the market is therefore restrained, in terms of variety and selection processes which it allows for and is therefore different in terms of competitiveness: Not all new entrepreneurial businesses will succeed. Statistics Norway (2017) confirms the relatively high number of entrepreneurs in the Oslo urban area, and the field in which they start their businesses within: “There were over 61 000 entrepreneurs in 2015. [...] Over half of the entrepreneurs were in the 25-44 age group and had an upper secondary education” (Statistics Norway, 2016). Of these 61 000 entrepreneurs 1594 works in the “transportation and storage” sector according to Statistics Norway (2015), and 91.8 per cent of these entrepreneurs are men. The carsharing business is therefore highly male dominated (Statistics Norway, 2015), and concentrated in urban areas of Norway. According to Mytting Hagemoen (2005, p. 51; STEP, 2003) the greatest share of funding for entrepreneurial businesses and their innovations goes to the Oslo region, this is still the case. It is therefore a huge advantage for entrepreneurial businesses, such as carsharing, to be situated in the Oslo urban area. She also argues that this region in Norway has a more dynamical network environment (Mytting Hagemoen 2005, p. 51). Although the Oslo urban area is one of the most rapidly growing regions in Europe, this trend has recently seem to slow down. However in January 2016 SSB (2016) stated that “[n]ear 81 per cent of the population of Norway lives in urban settlements” and urban areas are growing

particularly the Oslo urban area. The density of the population in Norway enables carsharing to be more functional and economically sustainable, because although Norway only has 5 258 317 inhabitants, 4 229 849 of these inhabitants actually live in urban areas (SSB, 2017). The table from SSB (2016) below shows this trend in Oslo compared to the trend of other urban areas in Norway. Oslo is growing more rapidly, next, Drammen, and third Trondheim (Statistics Norway, 2016). Since Oslo is the largest urban settlement, it also has the largest markets of consumers and selection environment as well as variety of workers to recruit.

Table 3: Urban settlements in Norway (Statistics Norway, 2016)

<i>Population and Area. Urban Settlements.</i>			
	Population	Change	Change in per cent
	2016	2015-2016	2015-2016
Residents in urban settlements	4 229 849	57 045	1.4
Residents in rural settlements	968 576	-5 236	-0.5
Residents in the five largest urban settlements			
Oslo [region]	975 744	17 366	1.8
Bergen	252 772	2 352	0.9
Stavanger/Sandnes	213 313	2 439	1.2
Trondheim	177 617	2 549	1.5
Drammen	115 137	1 603	1.4

The regulated political economy, the socialized solidarity economy and the commodified capitalist economy are geographically embedded in the urban context of Oslo. It is in this context that the carsharing companies emerge. These economic spheres inspire the sharing that the four carsharing companies are embedded in. It is in this urban and structural hotbed that the original form of each firm in this case comparison relate to, interplays with and is enabled to flourish.

4.1.2 What is the origin of each company of carsharing in each case?

In this empirical section the author will address the empirical findings that explain how the four carsharing companies started their businesses. It starts out with case A:

Peter (2016) was hired with the founding of the firm in September 2015. He took the leading role when the early entrepreneurs had fulfilled their tasks in the newly born carsharing company and moved on to other challenges. The first company was launched 8th of September

2015, but the early origin of the planning started in March 2015. Peter (2016) explained how a group of entrepreneurs and an investor participated in the planning processes of their firm. As soon as the firm was established a CEO took over where the entrepreneurs had left the project, to ensure that the daily routines, administration and practices ran smoothly. Peter (2016) basically argues that their carsharing company is an entrepreneurial firm, which was a result of entrepreneurs and an investor's entrepreneurial activities and plans, that amounted in their quite recently established firm. Schumpeter (Fagerberg, 2003, p. 130; Schumpeter, 1934, p. 65) discusses the entrepreneurial function in the theoretical sections – to make new combinations of existing elements as the 'craft' of the entrepreneur. This spirit is evident in most of the cases in this master thesis. Peter (2016) further argues: "We are dependent on the organic 'word of mouth', that is why we need to have good services and happy customers. To achieve this, we need to listen to feedback (Case A, informant; Peter 2016). This suggests that case A is a typical case of close user contact, which uses evolving super users to guide their way in the capitalistic market. Super users are basically users which are given particular attention and nurturing, which set the standard of how they should run their business for their customers. He also adds that when something goes wrong their service has to work too – people have to see that the insurance works. The carsharing company of case B is the oldest carsharing company in Norway, it has been operating for about 20 years (informant Kjetil, case B, 2016). Hans (2016) in case B argues; our model originates from Germany and Switzerland. The company in case B was founded in 1995 by enthusiasts and people engaged in the environmental movement – who also took the entrepreneurial initiative to start up the carsharing company. As was the case with company A, a CEO also took over the daily management and administration when the early entrepreneurs and environmental enthusiasts had completed their work.

1999 was the year to clean up the untidy financial situation and the ongoing conflicts. They needed a new model and they therefore searched for a person with managerial skills. After 17-18 years we have a group of 11 employees and we are a completely other business today, that in the early and more challenging days! (Case A, informant; Hans, 2016).

Hans (2016) argues that their company is a self-sufficient and self-instructive system; a learning-by-doing-system, with the following intentions: "Our main intention is to run an economic, user-friendly and environmental service" (Case B, informant; Hans 2016). Hans (2016) argued that their firm started out as an entrepreneurial firm with great enthusiasm. Hans (2016) also argues that their business today has become economically sustainable. They primarily seek balance in their budgets and are more non-profit than the other cases, since it

is a cooperative. Linda (2016) also in case B, adds to Hans' elaborations, and describes how a cooperative seeks to integrate its members in its organization model:

We are encouraged to take part in the board community. It was an opportunity to follow the carsharing company's urgent issues such as strategic tasks, administration, economy, budget and statutes (Case B, informant; Linda, 2016).

This is however not that important in the next case, case C. Haakon in case C, argues that their business is an extension of their mother firms' car rental services and goods, but first elaborates from the firms origin: Haakon (2017) explains how they bought up their precursor and it became another branch or niche of their global firm in 2011. He argues that they re-baptized the firm to [company, case C] and did some profound changes, such as technologies in the cars, booking solutions, booking pages, homepage and establishing a member register. "We shaped the business from scratch so to say. Everything was new" (Case C, informant; Haakon 2017). The company of case C is an organization within a larger global firm; an international car rental business.

Table 4: Facts on the four carsharing companies

<i>Cases</i>	<i>Year est.</i>	<i>Initiative takers</i>	<i>Site</i>	<i>Users</i>	<i>Cars</i>	<i>Goal</i>
Case A	2015	Entrepreneur group and investor	Oslo		Under-utilized assets, mixed type of cars	Dominant market position
Case B	1995	Entrepreneurs and environmentalists	Oslo	6800	Carpool with mixed types of cars	Economic sustainability and user-friendliness
Case C	2011	Norwegian branch of global company invited to take over precursor	Oslo		Carpool with mixed types of cars	Maximum profit
Case D	2008	Entrepreneur group with green profile	Oslo		Carpool with only electric cars	Run multiple mobility platform

This company is therefore more run as a car rental than a sharing economy model compared to the other companies in this case comparison. Haakon (2017) confirms this view and elaborates on his experience with car rental:

My work experience is basically from car rental. In this business it is crucial to know how to organize the car fleet and absorb new technologies, as well as to run the business more efficiently (Case C, informant; Haakon, 2017).

Haakon (2017) expresses how important it is to know how to administrate and organize the car fleet, as well as know the technologies and run the business with efficiency. Since they are part of a global car rental firm they have finances at their back. Taken together; Haakon (2017) explains that their firm distinguishes itself from the other cases in this master thesis, by not having an entrepreneurial origin: The Norwegian branch of their global company was invited to buy and take over their precursor. It did not start out as an entrepreneurial firm, such as all the other firms in this case comparison.

Case D have an entrepreneurial origin. Christopher (2017) in case D explains:

Our firm originates from X, the first electric cars produced in Norway. They were about to launch a carsharing scheme called X1, to make people buy their cars, but they didn't want to proceed with the concept (Case D, informant; Christopher, 2017).

One of our owners was part of starting up this entrepreneurial firm – he was a director in Think. He separated the concept from X in 2007 and brought it out in the open. Christopher (2017) also elaborates on how their firm had an entrepreneurial origin: A small group of entrepreneurs and one which also was an investor planned the project before they “had the first cars rolling on the streets in 2008” (Case D, informant; Christopher 2017). He argues that their firm is typically a small entrepreneurial firm with big visions and ideas, where all the employees are tightly tied in executing the business ideas:

We have a CEO, then there is me; I am the operations manager, and we also have a colleague that deals with support. When you are so small – all employees participate in all tasks in the firm” (Case D, informant; Christopher 2017).

Christopher (2017) typically describes his company as a small entrepreneurial firm which struggles with their finances, but have been recognized for their efforts within sustainability and of having big transformative ideas. As Schumpeter (Fagerberg, 2003, p. 130; Schumpeter, 1934, p. 65) argued the ability of putting existing ideas together in new and unexpected ways that may be transformative is a typical attribute of small entrepreneurial firms. These transformative ideas will be discussed more closely at the end of the next empirical section.

4.1.3 How has the ICT-revolution changed the premises for carsharing?

In this empirical section the author will present the empirical data material on how the ICT-revolution has changed the premises for carsharing. Bernard refers to Schumpeter and has named the ICT-revolution the “Computerization and information technology” cycle (Bernard

et al., 2013, p. 7). Carsharing relies on a whole range of incremental adjustments innovations and previous radical innovations to work functionally. Perez (2010, p. 191) however argue that innovations in a techno-economic regime may rely on *induced branches* industries that are vital to the ICT-revolution, but has existed in previous surges, e.g. the automobile, road infrastructure, Internet, telephones, electricity and oil, some might have been radical innovations when they originated – but have been around for a long time. Taken together; these arguments support the critics of the carsharing companies arguments – that they do not bring anything radical new to the table, only adjustments of previous innovations (Informant Peter, case A, 2016). Let's go through the corporate informants arguments – and see how their arguments fit into this space of criticism. Peter (2016) in case A argues

what the technology does today is to even out the competition situation. Previously you needed a gigantic marketing budget, or have a media house behind you, to reach the masses, but with the technology today one person can reach the masses. I can share my car at [company, case A]'s webpage today and every Norwegian citizen can visit the webpage and see it for free. [...]. This was not possible for 20 years ago. [...] This is new. The competition situation is not so much dominated by few actors – everyone is a part of the competition picture. The technology has been there before, but the data capacity is much stronger (Case A, informant; Peter, 2016).

The information economy discussed in the theoretical section and the technological structure of which the ICT revolution has brought fourth, still seems to create opportunities for businesses to tap into, which they seek to transform into profitable businesses. The role of the ICT-revolutions contributions to carsharing businesses is supported by Hans in case B (2016):

It is hard to imagine carsharing without the computer tools we have today. They are comprehensive. Our whole business is based on well-functioning ICT-solutions: From booking base, to invoices, and everything in-between; identification of users, access to cars, mileage measuring and price calculations etc. It happens automatically and is based on a chain of digital services that communicate through Internet. [...]. As more things get automatized, as more we are prepared to compete with the larger firms (Case B, informant; Hans, 2016).

Hans (2016) emphasize the importance of user-friendliness and smart economic solutions, the craft and economic consciousness must be combined. “We need to understand our systems to operate them” (Case B, informant; Hans 2016). Hans (2016) also underpin the importance of induced industries such as the Internet as a infrastructure that makes carsharing work technologically, functionally and automatically, which improves communication, ‘smart solutions and service’ – this enables them to compete with larger firms. The latter argument

was supported by informant Peter (2016) in case A. Linda (2016) also from case B explained how their technological abilities has evolved: “When [company, case B] started up in 1995 we had to make telephone calls to order the cars – it was very cumbersome”. Informant Kjetil also from case B, supports the view that ICT-solutions has made carsharing more functional

After a while we got our own customized Internet booking solution. It made it easier to share cars and develop the company further. It was a solution we utilized for many years. We have changed solutions along the way, and the technological innovations that has emerged at first as an Internet based booking to a terminal based car fleet, has enabled us to grow and expand our business (Case B, informant; Kjetil, 2016).

Informant Kjetil also bring up another aspect of the evolution of the technology of carsharing companies; creative destruction, it seemed as though ‘fossiled’ technologies was faced out by new adjustment innovations – a move from analog to digitalized services and atomization. Informant Haakon (2017) in case C, supports these views: “The car is rentable in it selves with the aid of customers, without assistance, but through smart phones. New and smarter ways of doing things has appeared”. Christopher (2017) in case D narrows it down to the core:

That revolution has been necessary to facilitate carsharing. Basically, it is all about automatization of things. Call it automatized car rental. It becomes more accessible for people, compared to face-to-face contact over a counter (Case D, informant; Christopher, 2017).

The services has become more digitalized in networks.

4.1.4 What role does digital networks play in carsharing?

In this empirical section the author will address issues related to how digital networks influence carsharing companies’ services. It all starts with the Internet. Research on the Internet goes back as far as to the 1960s, but the Internet was first commercialized in the mid-1990s. As mentioned in the introduction of this master thesis, carsharing organizations are particularly interesting in the way they have the capacity to bring together the physical worlds and the digital worlds. This empirical section will therefore pay attention to these claims. Peter (2016) in case A, rather elaborated on their business potentials and ideas, because of this his elaborations are left out of this section. Hans (2016) in case B however elaborates on the digital element:

In Europe up until today each carsharing company has had their own booking platform. The development however might lead to booking platforms that handles multiple mobility solutions. This development will arrive in Norway too and we are trying to position ourselves in this future context. The key is to have a good flow between digital and manual systems (Case B, informant; Hans, 2016).

This supports the view on informant Christopher in case D and Geels (2004) analysis of the transportation sector as a transformative socio-technical system. Linda (2017) also in case B express her frustrations of what happens when the digital world and the physical worlds do not function smoothly:

We have a car fleet. They who produce the cars offers new technologies. Car owners can afford more expensive cars because they can rent out their car. Not many companies have car fleets. It is difficult to keep order and integrate the whole car fleet. We struggle in finding good programs and encounter many problems (Case B, informant; Linda, 2016).

Linda (2017) also explains that their company has chosen to bring external suppliers and rely on their services as an innovation strategy instead of in-house innovations (Herstad, 2017). Kjetil (2017) in case B, describes how their businesses has moved from being more analog (key boxes to open the cars) and physical to digital (ICT-solutions): “The Internet based sharing and the terminal based fleet were two crucial steps for us. Both factors made it easier and more efficient to share cars”. Kjetil (2016) argues that the Internet was the key to solve many of their previous challenges and become more functional, easy and efficient as a carsharing company. Haakon (2017) from case C describes how everything is ‘hooked up’:

You have the car that is hooked up, and then you have the webpage that are both an administration portal and a user portal – in the middle you have the app that makes sharing easier for the customer. Everything is hooked up: From the technology in the cars to the carsharing’s digital services (Case C, informant; Haakon, 2017).

Egil (2017), also from case C adds to his elaborations:

It is a very high degree of efficiency – it is the core topic that influences everything. We can exploit our cars better than 10 years ago. This automatization makes it possible for us to at all time know where our cars is and who drives them. This is a societal advantage – it leads to fewer cars on the roads. And then there is a whole world that has been changed within reporting, invoice a robotization that clearly progresses (Case C, informant; Egil, 2017).

His arguments supports Cohen and Kietzman’s (2017) claims that carsharing may have environmental impacts. This is however questioned by Schor (2014), she argued that carsharing can in fact increase economic activities, and that there are no studies that support

their view. Böcker and Meelen (2016) however argues that consumption patterns have to be changes if sustainability is the goal. Hans (2016) in case B explains how they have faced out older ICT-solutions through creative destruction and how this processes seems to gain velocity. They have switched ICT-solutions supplier several times. Today this process of outfacing older technologies seems to happen more rapidly:

Today we have a shorter perspective, since the evolution is happening quite rapidly, such as smart telephones to open the cars, maneuvering and communicating with other cars [this is the new] – all factors that will facilitate accessibility. We need to be in touch with this evolution within car electronics and change our systems along with these transformations (Case B, informant; Hans, 2016).

Linda (2016) in case B argues that digital networks enables “small firms collaborate with the big firms, such as Google, as well as the car producers”. Kjetil (2016) claims that their supplier markets nationally is to limited, they therefore have to search for external suppliers on digital services internationally. He also adds that the development in this sector oftenly happens in collaboration with carsharing companies. Haakon (2017) in case C, claims that the development in this field are a result of the wish to simplify things, for the users as well as the carsharing company:

The evolution happens through a mixture of possibilities discovered, such as new technologies in smart phones, apps, and microelectronics in the cars – the motivation is to simplify things; making the carsharing process easier and more user-friendly (Case C, informant; Haakon, 2017).

This supports Hans’ (2016) arguments. Egil (2017) from case C, argues that their innovations are in-house: “We have a Nordic organization that programs our solutions – some solutions are both on the market”. This was argued by Herstad (2017) as an innovation strategy; a decision to keep the innovation in-house “basically, it is our own innovations that have affected our business in the last 10 years”. Christopher (2017) from case D also argues that their innovation happens in-house, but that they in the beginning had an external supplier:

Until recently; we had an external supplier of our booking systems. We bought this company along with their ICT-rights to this booking system – which we would like to develop further. Therefore, in the future all innovations will happen in-house. We want to create a platform other can connect to – such as public transport – seen from outside it will be presented as a joint porta (Case D, informant; Christopher, 2017).

Peter (2016) in case A, elaborates on the physical world that also needs to have concern for when everything is becoming digitalized and automatized:

User contact is crucial for us. We need to learn from our users. We look upon users as potential ambassadors. We need tighter bounds with our users. We rely on trusted sources for feedback, such as super-users. We have great trust in these sources. We have over 50.000 users (late December 2016, 90.000 mid October 2017) – only because of organic growth (Case A, informant; Peter, 2016).

Hans (2016) in case B, brings us back to the actors that have great influence on the cutting-edge of innovation and technology within carsharing: “

Tesla is highly competitive on the field. The view that we are in a transition to more self-driving cars, is highly recognized. This will lead to a revolution in terms of car ownership. It will be cheaper to use self-driving cars that will include more passengers than to own a private car.[...]. The big companies will try to position themselves and gain control. We must relate to this potential future context and secure our customers (Case B, informant; Hans, 2016).

This implies that case B, recognize other agents of change to be more cutting-edge; agents of change, have the capacity to transform the transportation system, by transforming its ‘regulatory structures’ (Giddens 1984). Linda (2016) argue that it is the users that are the agents of change: Linda argues that it is user support and consumer paterrens that decides new technologies future success.

If an idea or new technology is supported by the users (or not) will decide its success. And then again; the big companies; such as Microsoft, the car industry, Apple and Google – have great power (Case B, informant Linda, 2016).

Kjetil (2016, also case B see two possibilities: Preexisting schemes may influence new developments, by improving already existing tools or entrepreneurial may seize opportunities that new technologies offer. The latter orientation, has facilitated carsharing schemes, such as Nabobil, but the former perspective represents Case B’s company. Egil (2017) in case C support parts of Linda’s view:

It is basically our customers that can influence this development – we have a tight contact with our customers. From private persons in the carpool, to big international companies – they influence the products we evolve. We test our products on some selected customers, to see if they fit into the market. But it is important for you to understand that I talk for our whole business (including car rental), not just a niche product [our carpool] (Case C, informant; Egil, 2017).

This view considers automobility; such as car rental and carsharing jointly in a sector, as mentioned by Malerba in the theoretical section (Malerba 2002; Geels, 2004, pp. 898-899).

Christopher (2017) in case D, argues that they are cutting-edge but that they have struggled with financing their innovative ideas:

We have been ahead of our time for quite a while – it is however first now we offer what is called ‘mobility on demand’. Maybe we are not able to utilize the market as good as we would like to. We lack marketing resources and resources to develop our ICT-solutions -- which happens rapidly. We have the ideas, but we do not have the money yet – to put everything out alive. We have the ideas, competence and capacity – but lack the capital to realize it (Case D, informant; Christopher, 2017).

Mobility on demand is typical of carsharing, instead of owning a car – the transportation system becomes demand oriented – use when needed (Botsman and Rogers, 2010; Münzel et al., 2017a, p. 3). Those who can influence this innovation must be collaborators, competitors and ourselves Christopher (2017) argues. Christopher (2017) therefore supports Lazonick (2005, p. 30) view that innovative firms have to organize, strategize – but also finance their activities to reach their fully innovative capacity and tie the digital and the physical worlds together in transformative ways.

4.1.5 What part does smartphones play in carsharing?

In this empirical section the author will highlight the importance of smartphone technology in each carsharing company. It starts with the telephone that was invented in 1876, as a radical innovation, and has then gone through several crucial faceted steps of incremental innovations. In the 2010s the smart phone; a personal computer, was introduced to the commercial market. It allows for functions that previously was only available at personal computers; it is a hand held personal computer. The computer is however a radical innovation from the 1970s; ICT-revolution, that has gone through a myriad of steps (incremental innovations) before the smartphone was on the markets in 2010s. The difference between radical and incremental innovations was discussed in the theoretical section on four different types of innovations. The next technological revolution may however bring its own ‘common sense’ and its own incremental and radical innovations, accompanied with a new techno-economic paradigm (Perez, 2010). However, Peter (2016) confirm that they are highly relevant the smartphone are for their company, since it’s basically app-based. Hans (2016) has another opinion and attitude towards smart phones:

It is possible to use our services without a smart telephone, but to exploit our systems fully, you need a smart phone. Many people are fascinated by the smart telephone, although other

solutions may be easier. That is why we facilitate for smart telephone usage – we cannot go around this technical device. An ID-card is e.g. simpler than use of smart phone.

Linda (2016) from the same case has yet another opinion that supports Peter's (2016) view:

Smartphones are our core unit. But I believe the ICT-solutions in the car will become more important. This will set the premises for what is possible. In this development I think the largest companies will be particularly influential.

Kjetil (2016) claims that their company has chosen a web solutions that also works as an app: "The most important thing is that the ICT-solutions works". Haakon (2017) situates Norway far ahead of the world in this type of technology and he argues that the only limit for the smart phone is how far its functionality and technological features can reach:

Today you really just need your app on your smart telephone to use our carsharing services. In addition to that we have a smart card or member card. You may use both your smart phone or your member card to unlock the car. In this field we are way ahead.

Egil (2017) supports Haakon's (2017) view on the importance of the smartphone for their services: "The smart phone has given us enormous possibilities, particularly for booking and operating our systems. I think the personal PC will soon be off the market". Christopher (2017) supports Haakon's (2017) and Egil's (2017) view on the role of the smartphone:

It is apps that our carsharing solution is based on mainly. When you would like to unlock the car, and order you use your smartphone. We are completely dependent on offering things via apps – or else we will be outdistanced.

It seems as though the smartphone has become the dominant device to utilize the digital services offered by the carsharing company, though two of the informants in case B was a bit skeptical on this trend – they argued that other technological solutions might works just as well. Christopher (2017) expressed his concerns on their digital services being outdistanced if they do not use this device, since it has gained such popularity. Hans (2016) and Kjetil (2016) was a bit skeptical. The informants favored app-based services available on smartphones (case A, case D) as well as smart cards and personal computers at home and smart phones combined (case C and case B).

The ICT-revolution, the digital networks and the smartphones has however contributed to more functional and user friendly digital services in the carsharing system and facilitated its organization models, as things has become more automatized. The urban density of the Oslo urban area has however contributed with consumers to fight for, companies that

are competing and educated employees – since carsharing is not just embedded in a digital structure, discussed in the theoretical section – but they are also geographically embedded in the Oslo region. In the next section the author will discuss three idiosyncratic ways of which colorize carsharing’s organizational innovation.

4.1.6 How are the four companies of each case organized?

In this empirical section the author will address three issues related to the four carsharing companies different ways of organizing their businesses: Business models, carsharing as a sharing economy and economic sustainability – their arrangements in the capitalist market.

“Firms *organize* when they combine resources in the attempt to transform them into saleable products” (Lazonick, 2005, p. 30), as discussed in the theoretical section. This is supported by Schumpeter’s conceptual theories on innovation; particularly the new organizational innovations (1943, p. 84; Fagerberg, 2003, p. 130). Perez (2010; Mathews 2013) argues that “new organizational models, [emerge] where the new is better fitted to the emergent technologies and generates massive gains in terms of efficiency” (Mathews, 2013, p. 14). Carsharing presents a more efficient way of distribution and utilizing of assets through its administrative, organizational and collaborative practices. Although carsharing mostly rely on what Perez (2010) called induced branches it imply that carsharing organized as a system mostly rely on previous radical innovations as well as incremental (particularly the ICT-revolution). Their concepts, ideas and ways of organizing their businesses may however be innovative: The joint systemic organizational output of carsharing businesses – might bring something new to the table. Edquist (2005) argue that organizations are one of two core components in a system – that is necessary to understand system behavior (the second component are institutions as mentioned in the theoretical section). Organizations are therefore a fundamental part of understanding how a system of carsharing work functionally as parts of greater systems; socio-technical systems (Geels, 2002, p. 1258). In this empirical section the author will narrow down the scope by accentuating three distinguishable claims on how carsharing companies may organize their businesses:

1. They are organized as different business models
2. They are organized as a sharing economy
3. They are organized differently in the capitalist market

To clarify these claims the author will address these the four cases of organization in this comparison., by from business models to their position in the capitalist market.

4.1.6.1 What are the business models behind each case?

In this empirical section the author will compare the similarities and differences of the four carsharing companies different business models in this case comparison. This section on business models starts with case A: Peter (2016) expresses his belief in their business ideas. There are 2.5 million of cars in Norway that are under-utilized – and he argues that similar concepts have worked in many European countries. He argues:

The strength in the way we are sharing cars is that we do not own anything, we just exploit the existing car park. We are a platform in the middle that connects those who need a car with those who wants to rent out a car. Therefore, everyone is a possible customer. Our main goal is however to reduce the number of cars at the roads. If people starts to share their cars in a smarter way, we do not need 2.5 million cars. Surveys shows that private cars are unused 95% of a day. In a perfect world based on carsharing 24-hours a day it would have been enough with 225.000 cars. Do we believe that this is possible? Off course not, but it is realistic to reduce the number of cars with many hundred thousand. Maybe 2.2 million cars are enough? (Case A, informant; Peter, 2016).

These elaborations supports Botsman and Rogers (2010; Münzel et al., 2017a, p. 3) claims of what is the key to carsharing: The use of under-utilized goods, and replacing ownership by temporary on-demand access. Their company look upon their customers as ambassadors of their company that will ensure organic growth by the ‘word of mouth’. Organic growth was in the theoretical section discussed as being goverened by social rules. Their goal is to expand rapidly through offering good services and utilize feedback. Having tight contact with the users was described in the theoretical part as being more social. This company is a relatively small peer-to-peer entrepreneurial firm that has experienced rapid growth in short time. Frenken (2017) argue that companies that are enable to utilizing the existing private car fleet capacity that are under-utilized in advance, may of this reason be able to scale up their business quite rapid. They aim at expanding their market shares continually, by being competitive, and bring revenue back to its investors, which makes them particularly commodified, which was discussed in the theoretical section. They are the only firm in which their customers actually interact socially, if only for a brief moment – a reminiscent socialized

element according to theory on the solidarity economy and Benkler's (2006c) ideas on social production. Peter (2016) adds to his business ideas, the following:

It is crucial for us to reach a critical mass of users. We are a peer-to-peer sharing model and we need to assure that we constantly have accessible cars. The first new potential customers do is to check if there are available cars in their neighborhood, independent of if they want to rent or rent out their car, or if they are interested or not – they are just checking out the possibilities. If we do not have cars in their neighborhood we lose their trust instantly. Trust is the most crucial factor in our business (Case A, informant; Peter, 2016).

This view is supported by Schor and Frenken's (2017) arguments on stranger sharing, as being a new element in the organization of the sharing economy and the importance of reliability. This is the only case in this case comparison which rely on peer-to-peer stranger sharing, the others rely on having their own car fleet and offering roundtrips.

Hans in case B (2016) argues: As a business model they offer roundtrips and their business are aimed at collaboration and common goals of which their members are part owners and are encouraged to join in on its cooperative. They are also dependent on organic growth to keep being economic sustainable and offer high quality services – organic growth was in the theoretical part discussed as being typically socialized.

We are a non-profit organization; a cooperative, we operate on our members bill and risk – our members control our business through a part owner meeting and an election of a board that is the highest authority within our organization. This model fits our business. We try to run our business rationally. Most people can afford our services, compared to our competitors. We run a professional organization and service – our wrapping is the same as what you get (Case B, informant Hans, 2016).

Integration of the members in their organization models and making them part-owners makes this company particularly socialized compared to the other cases in this case comparison. They aim at steady growth, to rapid growth would be difficult to administrate Hans (2016) argues, but they struggle with finding good ICT-solutions for their firm. This implies that this company is not as technologically advanced as the other three cases. Economic sustainability also makes them commodified. They offer roundtrips. Their ideal is OBOS – a Norwegian cooperative within the residential sector.

A cooperative is an interesting model in developing the economy in other directions than just profit. It is a way to distribute goods and services and create demand, which not necessarily are profitable. To survive we become creative, renew our selves and adjust – against all odds we create values in the shape of good services and appearance at the right places (Case B, informant; Hans, 2016).

This confirms that case B is a case of cooperation with more non-profit motives than the other three cases. Johnstad (1998, p. 58) argue that businesses organized as a cooperative implies collaboration – or to work together at different stages of product or service development, it may include many actors at different stages, that unite on a joint economic goal. Since their members are also part owners, their car fleet may be regarded as a jointly owned ‘commons’, a resource of great interest to be shared, accessed, utilized and controlled in cooperation (Castree and Kitchin and Rogers, 2013a, Benkler, 2006b). This carsharing company administrate, allocate and organize its resources in alignments with its part-owners, which makes it as mentioned in the theoretical part, more socialized. Case B is the only non-profit cooperative in this case comparison.

Case C is however the only franchise in this case comparison and has evolved from cars rental premises, this makes it particularly commodified. Egil in case C (2017), argues that he cannot see the difference of car rental and carsharing. By expressing this, their carsharing company are in many ways an extension and built upon the same principles as their car rental unit – to bring revenue to their global firm in the future:

To me carsharing equals car rental, and car rental has been facilitated in 49 years already in Norway. A car rented out is used 80% of the day and – it is shared by people (Case C, informant; Haakon 2017).

This view problematize the notion of sharing it selves, which will be brought up in the conclusion. The company in case C however has a global company to support their businesses, whether or not it can be classified as car rental or under the sharing economy umbrella will be clarified under the section on organization models in this empirical section. Their global company possess abilities to what finance their activities, by investing in new technologies for the company, which may bring revenue back to its global firm in the future. Lazonick (2005, p. 30) argued that financing is one of three vital activities of an innovative firm. They argue for the importance of being in touch with the market and being locally adjusted as well as offer highly technological services – these are commodifying abilities, discussed in the theoretical section. As a business-to-customer (B2C) carsharing model they have aimed at offering roundtrips to a consumer market and they most of all seek future profits, but have not had success yet. They argue that regulatory structures for carsharing should be stronger and more prominent, such as politically imposed rules, also discussed in the theoretical section (Giddens 1984). Since their main goal is to bring revenue back to its global company in the future, it makes this company particularly commodified, which was

discussed in the theory. They favor future stronger regulatory processes over more socialized abilities, but nevertheless argues that they have daily contact with their users to improve their services and goods. They are therefore the least socialized company of the four companies in this case comparison. The next company is also commodified, but they have a greener profile, the greenest profile of all the four cases.

Christopher in case D (2017), expresses that they are a small entrepreneurial firm with big ideas. The business idea behind company, case D is not just carsharing. Christopher argue;

we are about to develop a more comprehensive mobility solution, our systems should find the best possible way of transportation from A to B. It might be walking, it might be el-bicycle, el-car or buss (Case D, informant; Christopher 2017).

Multiple mobilities should become integrated in the future, Christopher (2017) argues, and they want to participate in solving these challenges. They have many times been recognized for their ambitions of being sustainable, such as e.g. offering el-cars only and their efforts to integrate multiple mobilities. They offer round trips and aim mostly at the business market, but struggle with financing their big ideas. Their investors both constrain and enable their activities through financing or withdrawing financial capital. Although they innovate strategically and organize their operations, they have issues with their financing, which was discussed by Lazonick (2005, p. 30) as one of three key activities for an innovative firm. They are also a B2C business model. They also rely on organic growth and aim at the business market mostly, this is as discussed in the theoretical section a socialized element. They seek increased market shares, adventures, competitive advantage and revenue to its investors, which makes them more commodified, than socialized. The view of regarding carsharing as being a part of multiple mobility, however supports Geels' (2004) perspective on carsharing as part of a greater socio-technical system in transformation, which is particularly innovative and transformative in its concept. This concept or business idea shows how an innovative firm can reconfigure its productive resources and combine them in new ways to take advantages of future market possibilities (Lazonick, 2005, p. 32). This is what Schumpeter called the 'entrepreneurial function' – to make new combinations and resist business-as-usual (Fagerberg, 2003, p. 130; Schumpeter, 1934, p. 65). Case D might therefore have the most innovative business ideas of the four cases in this case comparison. Taken together, the business ideas of the four companies in this summary, gives following core business ideas for the four firms:

Table 5: Four different business models

<i>Case</i>	<i>Business models</i>
A	To offer good services that enhances organic growth through feedback with customers, take advantage of under-utilized assets, and make their customers their ambassadors.
B	To offer qualitative services and goods that enhances organic growth and leads revenue back to their members in form of better goods, services and user friendliness, an non-profit organization in which their members are part-owners and may participants in.
C	To offer goods and services that are locally adjusted and in contact with the market through offering the highest level of technology – as an extension of their car rental mother firm.
D	To offer sustainable services and goods, such as only electric cars, to the business market and finally build a platform for multiple mobility, embedded in innovative ideas; green profile.

That said; to discuss how the different business models are organized in this case comparison the author have particularly sought to accentuated economic sustainability, how their business model or their organization evolve and how each case distinguishes it selves from another, since this is should be more emphasized in literature on business models, the author notes. Let's start out with how the different carsharing companies perceive themselves as economic sustainable businesses (or not).

Peter in case A, expresses how important it is for his company to reach a critical mass of consumer to secure economic sustainability and hopefully dominance in the carsharing market, to do this he argues:

We charge 20% of the income [...]. Those who rent out their car will keep 75% of the money in payment. We lose money in the start to build out our offer and stimulate demand. We must go into this project with our own assets. We need enough rented out cars to cover our expenses. We need to reach a critical mass.

Since the author interviewed Peter (2016) his carsharing company has achieved massive growth in consumers attached to their company, as a peer-to-peer company, they are dependent on and have the ability of scaling up their business in short time since they only charge 20% of the income and exploit the existing private car fleet (Frenken, 2017). The 20/75 split of the income makes the mechanism of allocation particularly evident in this business type of business model. The split of income gives the customers a motivation for sticking to their business, since it's profitable. This business model also allows for what Schor (2014) calls stranger sharing. This is the only of the four cases were their customers actually interact socially and they nurture their 'super-users' from which they gain valuable

information on how to improve their business. They have set their ambitions high; they seek not only economic sustainability, but dominant market position in the carsharing market.

The next case has a completely different business model, they are a non-profit cooperative that “operate on the members bill and risk”, Hans (2016) in case B argues. He further notes that it is the members that control their business through participation in the board of the cooperative. This board has the highest authority in their business and the CEO has to answer to the board. Their members are also part owners in their business. Hans (2016) present their company as affordable compared to their competitors. He elaborates on the services and products their offer and their non-profit structure:

We run a professional organization and service – our wrapping is the same as what you get. A cooperative is an interesting model in developing the economy in other directions than just profit. It is a way to distribute goods and services and create demand, which not necessarily are profitable. To survive we become creative, renew our selves and adjust – against all odds we create values in the shape of good services and appearance at the right places (Case B, informant; Hans, 2016).

This confirms the authors’ claims that case B, as a more progressive social business models allocate or redistribute their resources through alignment with their members, to ensure economic sustainability. The progressive or alternative social aspect of the sharing economy was discussed by Richardson (2015) and mentioned in the socialized solidarity economy. At a managerial level case B is therefore the most socially progressive business model, although their carsharing model does not involve member’s social interaction, such as case A does. Linda (2016) also from case B, confirms their economic sustainability: “We have a big market share in a market that is growing”. The next informant from case B; Kjetil (2016), argues that their equity comes from their members, as they have bought their part in their cooperative. He notes:

We price the carsharing not to get profit, but to secure our operations and the continuance of our concept. Instead of profit to our part owners we give them affordable transport solutions. Our surplus goes back to our members in form of cheaper services or reducing the inflation.

Haakon (2017) in case C, explains that carsharing is a new phenomenon in Norway (except from case B). He elaborates on the potential profits in the carsharing market in Oslo:

The margins are small. It is only [company, case B] that has achieved balance in their budget [in late May 2017]. The market is growing, but we need investments, that is why we have not

established a holding company yet. We need [our global company] in our back.

They are a business-to-business (roundtrip) business model, but as a franchise with quite a small car fleet they has to rely on their global mother firm in the car rental business to finance their activities. Financing activities was discussed by Lam (??) as one of three core activities of an innovative firm, to ensure future economic growth. This company is not yet economic sustainable. The next informant in this case; Egil (2017) argues that their motivations for running their business is still “potential profits or a way to earn money”. They only have 200 cars in their carpool. Profit as a motivation was discussed in the commodifying capitalist economy in the theoretical part. Their core goal is therefore economic sustainability in the future and revenue to their global firm.

The last case; D, and informant Christopher (2017) argues that they have gone through a process of which the investors advised them to reduce the number of employees and get better financing. Case D’s company is also a business-to-customer (roundtrip) business models, their goal is therefore economic sustainability at first, but they have set they targets high: To create a platform for multiple mobilities. Case D represents one of the smallest companies. Although, they are commodified – their profile is green and they have been recognized internationally and represent sustainability and innovative ideas, they are as case A organized as a holding company. Since all the companies ambitions economically has been presented, the author will now move on to how their business models evolve organizationally.

Peter (2016) in case A argues that it is when they grow their organization model change:

Then we have two choices; the first option is to patch on our existing services and get more capacity, such as hire a new person. The other option is to go to the core of the problem”.[...] To stop fires or go to the core of the problem develops our organization model and expands our business with more workers. [...]. Our ways of solving problems develops innovations as well as our organization model.

This implies that the business model adapts to changing markets context. Adaption was discussed in generalized Darwinism approach to the commodified capitalist economy.

Case B, Hans (2016) argues that their company has gone from a holding company to a non-cooperative business model in 2011. They have therefore evolved from being based on profitability to improved social aspects. Linda (2016), also in case B, argues that local enthusiasts may affect their business models evolution, she argues that most of these projects by these enthusiasts are made to secure proximity to carpools. In this case individuals or

members may act as agents of change that can affect their companies' organizational innovation. Individuals' impact on innovation processes was discussed in Garud and Karnøe's (2017) essay. She however argues that "in the future the collaboration with other mobility solutions will become more fundamental", they have also agreed to "establish a subsidiary – a way to test out other concepts" and evolve their organization. Kjetil (2016), also in case B supports Peter's (2016) arguments, as they grow new cars, new functions and a larger administration has been added. While their business model is quite solid, growth causes evolution.

Haakon (2017) in case C argues that their evolution relies on collaboration with their global firms' branches in the Nordic countries, their evolution is therefore more a result of their legal form, as a franchise in a large global company. Egil (2017), also in case C, argues that the biggest change was the smart phone – he further argues that this 'revolution' has just started. The telephone which started out as a radical innovation has been merged with the computer through phases of incremental innovations, to become 'smart'.

Christopher (2017) in case D supports Peter's (2016) and Kjetil's (2016) arguments. The biggest change to their organization models are caused by economic growth. This supports the author's empirical findings in the 'positioning in the capitalist market' – commercial aspects seem to become more dominant. Case B is however a contradiction to these findings: As they have experienced growth they have gone from a profit to a non-profit cooperative. In the next part on business models the author will pay more attention to the characteristics that separates the four cases from each other.

Peter (2016) in case A argues that they are a real sharing economy, since they do not own but exploit the existing private car fleet (Frenken, 2017). This is the only case of peer-to-peer business model in this case comparison. Hans (2016) claims that they are the only user-controlled business model, otherwise he argues that they are not that different from the other carsharing companies: "We appeal to you as a member and a part owner. Our cars are dedicated to our members". Linda (2016) argues that case B separates itself from case C; they do not own the cars, they run as a car rental firm, this is supported by Haakon (2017) and Egil (2017) in case C. They have a lower entrance fee than case B, since they only have a deposit and case B's members are part owners and pay a higher share. Kjetil (2016) argues that all the other companies are more commercial than case B. This was discussed by Richardson (2017) as the paradox of the sharing economy; social progressive ideas versus commercialization or capitalist mode of production (mentioned in the theoretical section on the sharing economy). While case B are basically based on allocating their resources the other

companies seek surplus. This was discussed by Schumpeter (??) as one of the major motivations for entrepreneurs in the capitalist market. Haakon (2017) they have more business customers than case B, which offers carsharing to “private persons, cooperatives, co-ownerships and some companies”. He further argues that “all three facilitate so-called round trips: The cars have regular parking lots and they must be returned to the same spot” case D is however a ‘mixture’. Case C does all service, case D is quite similar to us and case B] leaves more responsibility up to the members. Haakon (2017) claims that they have the newest car fleet, and case D is specialized in electric cars – green profile. Christopher (2017) notes that case C is a branch of a global firm – they have a big organization above them, and that they have mostly focused on business customers. Taken together, the informants information on their organization models, gives following facts for comparison.

Table 6: Summary of the four cases

<i>Case</i>	<i>Legal form</i>	<i>Business model</i>	<i>Owners</i>	<i>User types</i>	<i>User integration</i>	<i>Technology</i>
A	Holding company	P2P	Investors	Customers	Super users	In-house
B	Cooperative	Non-profit Cooperative	Member as part-owners	Members	User- controlled	External supplier
C	Franchise	B2B (roundtrip)	Global company	Members/ customers	Daily feedback, user surveys once a year	In-house
D	Holding company	B2B (roundtrip)	Investors/ entrepreneurs	Customers	Close feedback	In-house

Cohen and Kietzmann (2014, pp. 283-287) analyzes four types of carsharing: B2C (point to point), B2C (roundtrips), non-profit cooperatives and P2P business models. Case A in this master thesis is P2P aimed at the public market. Case B is a non-profit cooperative for the public market and residential cooperatives mostly. Case C offers roundtrips carsharing to the public market through its B2C business model. Case D is thus a B2C company that offers roundtrips with only electric cars, mainly for business customers, but they aim at the public market too (80 business market and 20 public market (Christopher, 2017)). The other companies have a mix of different car types from vans, to regular gasoline cars, to electric and hybrid cars. In Cohen and Kietzmann, (2014, p. 284) view Case D About might be the most sustainable, but case B is the most non-profit and socialized business or cooperative in its organization. Case A is however not socialized in its managerial organization, but is socialized through the consumers’ social interaction of sharing their cars and utilizing the existing private car fleet and user feedbacks. B2C and cooperatives introduces shifts from

privately owned cars to shared use of car in a car fleet. P2P represents a shift from acquisition to shared use. B2C (point to point) offers affordable carsharing and potential profit. B2C (roundtrips) offers the same. Cooperatives offers revenue to its members or part owners, sponsorships and grants. P2P provides more affordable cars, profit and revenue to its customers (20/80 split), that due to its use of under-utilized assets can scale up its business rapidly (Frenken, 2017, p. 5). Botsman and Rogers (2010; Münzel et al., 2017, p.3) argues that the main advantage of carsharing as a system is that it has an embodied “higher utilization of goods by replacing permanent individual ownership by temporary, on-demand access”. This advantage is utilized through the idiosyncratic system of carsharing, that is part of a greater system again. Carsharing is however also a sharing economy.

4.1.6.2 *Carsharing as a sharing economy: Introducing two organizational mechanisms*

This empirical section addresses issues related to carsharing as a sharing economy. The sharing economy is characterized by distribute physical assets through digital platforms or digital markets – that act as intermediators (Frenken, 2017, p. 6). It brings together the physical world and the digital world – through inclusiveness and stranger sharing, almost anyone may join into their digital networks or share cars, and there are very few restrictions (Schor, 2014). The role of carsharing companies as intermediators was supported by the informants. Peter in case A argued as mentioned; “We are a platform in the middle that connects those who need a car with those who wants to rent out a car”. In addition to being an intermediary the sharing economy may also offer a potential change in consumption patterns by moving from capitalist consumption patterns to a *collaborative consumption* (Frenken, 2017). It also presents a change from exchange-value of the free capitalist market to a *share-value*, this effects how a commodity is valuated and purchased. In the sharing economy underutilized assets are shared, rather than exchanged (Frenken, 2017). Informant; Egil (2017) did however argue that he did not see the difference between exchange and sharing, since in his point of view carrental also presented assets being shared by their consumers. This argument will be sought problematized in the conclusion. However, informant; Kjetil from case B, made a very good drawing of how the different carsharing companies are organized as a sharing economy which operates on the convergence of the physical and digital – how the money flows, how different actors are involved and how the cars are shared, -- and how the digital structure works and underpin the different carsharing business models. The businesses core function is therefore to be an intermediary between the

physical world; cars and users, manual service and employees, and the digital world; platforms, digital services and markets. Kjetil's (2016) representation of the four cases in this case comparison shows that the four carsharing companies are intermediators between the physical and digital world. In case A, C, and D the money flows back to their owners, but in case B it flows back to its members, whom are also part-owners. Kjetil's (2016) arguments confirm Frenken's (2017) argument that the companies in the sharing companies seems to function as intermediators, which also supports the authors claim of two organizational mechanisms; allocation (rearranging of resources) and a second mechanism; alignment (cooperation between users and management). In the four cases there seem to be a cooperation between the management of the carsharing companies and the users, members or customers. How strong this alignment is seems to be dependent on how tight the contact between the company and their users are, this will be brought up in the conclusion, by discussing the notion of the sharing economy. Although the mechanism of allocation is evident in various manners in the four cases, the author do not know what the future will bring; will they choose the more alternative or progressive social path, that implies a strengthening of the two mechanisms of allocation and alignment, or will they in the future adjust or adapt to the capitalist mode of production and adhere to 'business-as-usual' (Schumpeter, 1943; Fagerberg, 2005). The next empirical section will emphasise on how the four cases are organized in the capitalist market.

4.1.6.3 How does the four carsharing companies position themselves in the capitalist market?

This empirical section will address issues related to how the different carsharing companies tend strategically position themselves in the capitalist market. Most of the informants expressed that the different carsharing companies could complement, as well as compete for market shares. However, this case comparison shows that the different carsharing companies try to position themselves in the market mostly related to a future of multiple mobility, as mentioned by informant Hans in case B, and Christopher in case D, and gain market shares. They are also aware that self-driving cars may take over the market in the future. The answer to whether the actual situation is of complementary organization in the market, or a competition, is still unclear. Schumpeter argues that

competition from the new commodity, the new technology, the new source of supply, the new organization, [...] [that drives] cost and quality advantage and [...] strikes not at the margins of the profits and the outputs of the existing firms [...] but at] their foundations and their very lives (Schumpeter, 1943, p. 84; Fagerberg, 2003, p. 130).

All the four companies in this case comparison has to in one way or another relate to the capitalist market, which is the hegemonic market. This market operate by capitalist rules of competition, market shares, adventures, and investments of which Esseletzbichler and Rigby (2010, pp. 48-49) describes as a market of ‘create and destroy’. While some of the companies may succeeded others will be destroyed and crumpele under the strict and competitive rules of the capitalist market. It is hard to figure out which of the four companies that has the best potentials to survive in this market, which business ideas are more prone to gain long-term economic growth in this market of consumers and competing businesses. Although the company in case C, has the best financing, company in case A seems to have experienced the most rapid growth recently. The company in case D however seems to have the most innovative ideas, but do they overcome their struggles with financing and fulfill their big ideas. Schumpeter (1943; Fagerberg 2003) however argue that it is innovation that favor capitalist enterprises, this puts company in case D in a strategic position in the market, because of their innovative ideas on multiple mobilities on one platform. Case B’s company, has however decided to go for steady growth and the continual financing from its part-owners. They might be the most sustainable company, but company in case A is gaining speed. According to Schumpeter (1943, p. 66; Geels 2002) creative destruction plays a vital role in the capitalist markets, where innovations drive the economy and not the other way around. This is supported by Perez (2010). By this view carsharing is dependant on existing incremental, radical system and techno-economic paradigms; the four distinguishable types of innovations to survive in the capitalist market (Freeman and Perez 1988; Geels and Schot, p. 402). These types of innovation affects the technology available to the carsharing company, but how does competition affect the different carsharing different organization models of the carsharing companies?

Peter (2016) from case A argues as following:

We have been very clear on our model and vision from the beginning. We are her and we are heading there. The other competitors may do as they please. It is first when we reach a certain size that it becomes important to us to see how we fit into the landscape. And nobody owns that landscape yet. We want to take that position (Case A, informant; Peter, 2016).

This suggests that the dominant position in the market of carsharing in Oslo, is still open for any carsharing company to grasp. Case A however has an advantage; they exploit the existing private car fleet (Frenken 2017), this enables them to up-scale their business rapidly and gain market shares. Hans (2016) in case B emphasize economic sustainability and healthy competition among the carsharing companies in the market:

Competition is good to collect the potentials in the market. We run our business after demand. That is why we are favorable. We have sought an organization model that is economic sustainable. OBOS is our ideal – they stand for quality and good services (Case B, informant; Hans, 2016).

Kjetil (2016) adds to Hans' arguments:

Until now competition have not affected our organization model. We have not done any strategical choices to position ourselves in the market, except from keeping prices down, run efficiently and offer high quality services. That has been the run through melody, but we also need to keep track with the time or context, and see if adjustments are necessary. But our focus has been to be solid and cost efficient (Case B, informant; Kjetil, 2016).

Kjetil (2016) therefore emphasize adaption, adjustment and embeddedness in time and context to position themselves in the market. This is also appreciated in theory on evolutionary economic geography (Boschma and Martin, 2010). Haakon (2017) in case C however emphasize on their collaboration with the Nordic branches of their company, as well as consumer surveys, but also their owners who possess financial control over their company. Christopher (2017) in case D argues that they have to fight more to take a position in the market: "As it is today – competition does not affect our organization model – we are not dependent on doing anything, but we must become more aggressive". Taken together; these informants have discussed positioning and competition in the market and how this affects their organization model, but what do they compete on or for in the market? Peter (2016) in case C argues:

Our biggest competitor is private automobility, that Norwegians are concerned about owning their own cars. The challenge is to make people understand that they do not need to own a car. It is always available cars, when I need one, and the costs are considerably lower. This takes time. We have started to roll the ball. The question is: Who will be first to cross the finish line, will it be us or somebody else? (Case A, informant; Peter, 2016).

This question still remains open, but what are Hans in case B's arguments?

We compete to be a good service for our users. We are a compromise between the ideal; to own a car and the more affordable; to share a car. Our service must compensate with services

that makes us more attractive than owning a private car. Freedom of not owning is important. We need to be user-friendly and facilitating (Case B, informant Hans, 2016).

Linda (2016) in case B however argues that the different carsharing companies compete against each other:

We compete with others who run carsharing schemes and pay close attention to if they rise or fall. Our customer focus is generally higher – we search for new potential users. Since our company have grown larger we need to handle both members and customers. If we had gotten to many members suddenly it would have been difficult to handle. We do not think so much on competition from the transport sector in general. The different solutions complement each other (Case B, informant; Linda, 2016).

Kjetil (2016) in case B argues that they compete on price and good services, and to share rather than own, he supports Hans's arguments on this point. Haakon (2017) supports Linda's arguments that the different carsharing companies compete against each other and car rental firms. Egil (2017) adds to his arguments and claims that they compete on the best ICT solutions and technology. Christopher (2017) in case D opens up the competition situation by arguing that they compete on everything that has to do with carsharing, taxis and customers. But how can carsharing companies influence capitalist forces? Peter (2016) in case A argues:

We can reduce the number of cars on the roads. To own a car costs 50.000 NOK annually, Aftenposten claims that it costs 100.000 NOK. Back to what I started this interview with. We could have managed with 125.000 cars. Many milliards of cars are standing still, mostly parked all day long, that is why it is necessary to reduce the number of cars: Not own, but pay for usage. Our biggest competitors are the car producers. We want to take part in a mobility solution. This will affect the car industry (Case A, informant Peter, 2016).

Hans (2016) in case B supports this view: "The biggest effort is to transform from ownership to buying services. [...] Sharing services can facilitate and distribute services more evenly – this is important for societal challenges" (Case B, informant; Hans, 2016). While both Peter and Hans accentuate the role of converting from ownership to sharing, Hans also highlight equality and environmental aspects. Peter (2016) argues it will affect the car industry. This supports Geels' (2004) arguments that carsharing or automobility takes part of socio-technical systems that are changing. Linda (2016) also claims that the transformation from ownership to sharing is crucial:

The simple fact that we do not own but share. That means less space to collect things, less areas to store owned objects. Because of this the producers will earn less money. It is difficult

to see how this will affect our society. Sharing is local, ecological and anti-global in a way, but our ICT-solutions are very global (Case B, informant; Linda, 2016).

Kjetil (2016) also in case B supports these views and brings in the socio-technical system again (Geels 2004). Kjetil (2016) in case B argues that they offers an alternative way to car ownership.

This will affect the alternatives people have to choose among in the market, if we grow this will affect the possibilities for the car producers – how many cars can they sell? If carsharing becomes more mainstream more actors has to relate to us such as car importers, car factories and the car industry – they will try to position themselves (Case B, informant; Kjetil, 2016).

Kjetil (2016) however adds that he does not believe that carsharing will lead to societal transformations, but adjustments in the market has to be made – hopefully in form of more sustainable solutions. But still the impact of carsharing is very modest. Haakon (2017) express what could ultimately happen:

All car producers' fear – is that it will not be sold cars in 15-20 years. The car industry in the world is big, many monies are involved and jobs. BMW and Daimler have started their own carsharing companies. This will affect how big companies think, but these changes will not start in Oslo (Case C, informant Haakon, 2017).

Egil (2017) adds further arguments to the discussion:

There is no doubt that it will affect the users, people, organizations and possibilities to use our products. It will change the way people transport themselves. What has happened the last decades with increased use of private automobiles is not societal sustainable or ecologic. Our trade may influence this development. We can influence; call it capitalistic consume patterns (Case C, informant; Egil, 2017).

Christopher (2017) in case D supports the other informants views on ownership/sharing: Some changes are bound to happen because of this.

People in urban areas are more open to travel in other ways – they have become more demand oriented. The number of people not taking a drivers license have increased. In a few years, many will not own their own cars – this will be replaced by car fleet owners – mobility on demand (Case D, informant; Christopher, 2017).

This supports Botsman and Rogers (2010; Münzel et al., 2017a, p. 3) claims. But how may capitalist actors put pressure on carsharing schemes? Peter (2016) argues:

It has been much talk about monopolism. Capitalist forces are important, without these forces we would not have managed, that is why we have collected private capital three times this

year to operate our services. Carsharing is more local, than e.g. AirBnb. But if a big company, such as Schibsted would decide to bet on carsharing and compete with us – this would cause big challenges for us. In the future we may however go over to self-driving cars. The car is our past times horse carriage, what is the future's car? (Case A, informant; Peter, 2016).

Hans (2016) in case B argues that private automobility is a result of capitalism. He hopes that political institutions will pose rules on the market and constrain it. The role of political institutions to enhance positive behavior and constrain negative behavior was discussed in the theoretical part on the regulated political economy. Hans (2016) argues:

Institutions can regulate and constrain the market forces. It is a struggle between regulations and commercial capitalism – a balance needs to be retained. We need to constrain private automobility. Many people earn their living by private automobility, we cannot expect a 180 degrees reversal. To limit the development, we need ingenuity (Case B, informant; Hans, 2016).

Linda (2016) expresses her concerns, and supports Hans' claim:

What does the car producers do? What will they think of people like us? Will they try to take the market for themselves? They have big muscels. We earn what we use. The others do not, but they have financial forces in their back, owners who invest money for long-term prospects. Things can change. The municipality can regulate more, and residential cooperatives can facilitate carsharing (Case B, informant; Linda, 2016).

Kjetil (2016) in case B supports Schumpeters ideas on the 'entrepreneurial function' (Schumpeter, 1934, p. 65; Fagerberg, 2003, p. 130): "Good entrepreneurs who come up with good solutions may increase the market shares and competition in the market". Haakon (2017) in case C adds additional arguments to the discussion, he argues that what cars we use have impact of future transformation processes:

It is very much about if it is a hydrogen car, an electric car or what roll on the roads. Access to car is important. The car producers can shut down the access to the cars technologically. The road we drive on, parking, self-driving cars, the difference of cities and more rural places – these factors will all affect carsharing (Case C, informant; Haakon, 2017).

Egil (2017) in case C emphasize on the capitalist forces abilities to control through capital: "Capitalistic forces with capital can do everything from buying companies, to constrain development and put capital into companies for development. They put pressure on companies". This implies that when the carsharing companies do not have the abilities to finance their firms own innovations, they become vulnerable victims of preasure from

external capitalist's investments, that may seek to control their businesses (Lazonick, W. (2005). Christopher (2017) in case D is however more optimistic on their behalf:

We see that many car companies have started to smell lukewarm. Car sales will be conducted in other ways. Many investors have been interested in us. Mobility will change in the future – we are ahead (Case D, informant; Christopher, 2017).

The companies' abilities to adapt and change to new realities or a new common sense is crucial for their positioning in the market (Perez, 2010). In these markets capitalism through creative destruction reshapes the companies or the other way. In the process of creative destruction, Schumpeter (1970; in Bernard et al 2013: 6), argues that the capitalist enterprises are the engines of which the forces of capitalism evolve. In this view, it is the carsharing companies which dominates the process of change in which innovations are configured and happen. In this change in innovation activity the transient surplus profit is what motivates the capitalist enterprises as they position themselves in the market (Bernard et al 2013). The companies expressed that they also had other competitors in the market, such as private automobility and car producers, and they position themselves in the market when multiple mobilities might be organized under one platform, this was particularly mentioned by informant Hans in case B and informant Christopher in case D. Multiple mobilities and other competitors such as big companies as Google or Schipsted, the car producers and the car designers, as well as venture capital, suggests that the companies not just position themselves in the carsharing market, but also in a greater system of transformation; socio-technical systems (Geels 2004).

5 *Conclusion: The complex nature of a sharing economy*

Previous scientist's works of theoretical or methodological character, mentioned in this master thesis, give us a useful toolkit on how to act or react, when the sea gets rough and new waters are flowing onto the shores; in the shape of a violent societal upheaval. In this master thesis the author has sought to apply these scientists' works on the sharing economy, more particularly carsharing – in times of refractions. The author however takes a structural and evolutionary economic stance to understanding carsharing, embedded in the interpretive community's debates on the sharing economy and carsharing. The task has been to problematize the three empirical and three theoretical questions posed in this master thesis. While the author would like to discuss the carsharing's organizational models, their positioning in the capitalist market and the induced technologies they apply, in the empirical section. Next the structural forces (mechanisms and sharing functions), the notion of the sharing economy and its typology, will be discussed.

5.1 The empirical findings from the case comparison

5.1.1 How are the four companies organized?

This case comparison shows that the way the four carsharing companies have organized their businesses as different business model and legal forms and are quite distinguishable. What they have in common are their abilities to combine sharing functions, their managerial mechanism of alignment and their distributional mechanism of allocation, which will be discussed under the theoretical questions problematized in this master thesis. They also have in common their ability to create more collaborative consumption patterns (Frenken, 2017), change from exchange-value to share-value, and from private ownership of cars to on-demand sharing. While case A and B separates it selves from the other cases, case C and D have great similarities, although case C is a franchise and case D a holding company. Their two ways of organizing their businesses as distinguishable business models and legal forms, had great effects on its combination of sharing functions and the two mechanisms discovered. This will be brought up later in this conclusion. The four ways of organizing their businesses displayed in this case comparison also showed that this had effects on their economic, social and

environmental ambitions. The entrepreneurial firms, did however show more social progressiveness and aimed at being more environmental friendly, than the franchise; case C. Lazonick (2005, p. 30) argued that an innovative firm had three core activities that affects its organization; to organize, to strategize and to finance. The levels of ability to organize their carsharing company is measured by their capacity of allocating their resources through alignments with its users, members or customers – which are combinatory. This ability of being combinatory is based on the theory on the sharing economy – a feature that all companies have in various manners or degrees. Strategizing shows that the companies with ‘in-house’ innovation in proximity are the most innovative, such as case A and case D. Case B is the least innovative, but they focus on other aspects such as functionality and user-friendliness. Case A seemed to have solid investors at their back and case C; a global company. They scored highest on financing. Case D has struggled with their financing, but they have sorted it out. It is now sufficient.

Table 7: Organization models of the four cases

Case	A	B	C	D
Business models	P2P	Non-profit cooperative	B2C	B2C
Sharing economy	Combinatory/ physical-digital/collaborative/share-value/on-demand	Combinatory/ physical-digital/collaborative/share-value/on-demand	Combinatory/physical-digital/collaborative/share-value/on-demand	Combinatory/ physical-digital/collaborative/share-value/on-demand
Legal form	Holding company	Cooperative	Franchise	Holding company
The innovative firm				
Organizing	Very high	Highest	Low	High
Strategizing	In-house	External supplier	In-house (Scandinavia)	In-house
Financing	Very high	Good	Very high	Sufficient
Organizational innovation	Combinatory mechanisms and sharing functions	Combinatory mechanisms and sharing functions	Combinatory mechanisms and sharing functions	Combinatory mechanisms and sharing functions

5.1.2 How does the four carsharing companies position themselves in the capitalist market?

Of the four cases, case A seemed to be the most ambitious carsharing company in this case comparison. They aimed at a dominant market position. They were followed by case C and

case D that wanted maximum profit. Case B was the most modest carsharing company – their task was economic sustainability and steady growth. At the time the interview sessions were conducted (December 2016 to July 2017), it was however only case B that was economically sustainable. This might however change, since case A has experienced rapid growth recently. Since all the four cases were embedded in the capitalist market, they all somewhat have to relate to its commodifying practices, fight for profits, competition and fight for consumers. This was discussed by Schumpeter (1943, p. 84; Fagerberg, 2003, p. 130). While all the cases; A, C and D were mostly commodified, case B was the only carsharing company that was mainly socialized. This difference was discussed in the theoretical section. All the informants seemed to agree that it was mainly economic growth that changed their organization models. When the author asked about what they competed for in the market, Peter in case A confirmed their dominant market position ambitions and argued that private automobility was their main competitor, and noted that the dominant market position was still open for anyone to take. As a socialized carsharing company case B competed for good service for their users, to be facilitating and user-friendly. Kjetil (2016) argued that their company (B) also competed with other carsharing companies by having a great customer focus. Egil (2017) argued that they competed on having the highest level of technology (case C). Christopher in case D claimed that they competed on everything regarding carsharing, taxis and customers. They all highlighted their wish to transform automobility from private ownership to on demand sharing. They were also all aware that carsharing is part of a greater system; call it a socio-technical system of transportation in transformation, which could affect the car industry (Geels, 2004). Egil (2017) argued that private car ownership was not sustainable societally or ecologically. He also argued that carsharing could affect capitalist consumption patterns into more collaborative consumption patterns. The informants also discussed their vulnerabilities for companies with bigger muscles, such as capitalist investors and car producers, which could control their companies financially, make competition too hard for them, or withdraw the availability of the technology they applied. Christopher in case D mentioned that investors had showed interest in them. Hans (2016), Linda (2016), Haakon (2017), Egil (2017) and Christopher (2017) all argued that they wanted more regulations in the carsharing system. This shows that of all the three sharing functions, regulated sharing seemed to be the weakest function: Most of the informants wanted more regulations.

5.1.3 How does induced ICT-solutions have impact on their business goals?

The carsharing companies use of induces branches or ICT-solutions (Perez, 2010) and new organizational innovations (Perez, Schumpeter, Lam) characterize carsharing in Oslo, Norway – is a run-through theme in the empirical section. All the informants supported the role of these induced ICT-solution as facilitating automatization of services, user-friendliness, functionality and ease of use (Peter (2016), Hans (2016), Linda (2016), Kjetil (2016), Haakon (2017), Egil (2017) and Christopher (2017)). It was mainly the increased capacity of these services and newest technologies applied that improved the carsharing companies digital services and functionality through automatization. The Internet, personal computers and smartphones has gone through a myriad of incremental innovations since it was presented on the market, at its early stage, and are now categorized as induced branches or technologies (Perez, 2010). Haakon (2017) also argues that Norway is in front of most countries in the world by applying the latest updates on smartphones, personal computers facilitated by the highest data capacity available. While how the different carsharing company of each case showed great differences in organization and economic ambitions, the technologies applied are however very similar. The three cases with an in-house innovation strategy had a higher level of appliance of recent technologies.

Table 8: Goals, technological level, four types of innovations, innovation strategy

Cases	A	B	C	D
Goals	Dominant market position	Economic sustainability and user-fiendliness	Maximum profit, be in contact with the market	Run multiple mobility platform
Level of technology	Very high	Sufficient	Very high	Very high
Four types of innovations				
Incremental and radical innovations	Induced ICT-solutions, mixed type of cars	Induced ICT-solutions, mixed type of cars	Induced ICT-solutions, mixed type of cars	Induced ICT-solutions, only electrical cars
System	Parts of socio-technical system in transformation	Parts of socio-technical system in transformation	Parts of socio-technical system in transformation	Parts of socio-technical system in transformation
Techno-economic paradigm	Currently reorienting	Currently reorienting	Currently reorienting	Currently reorienting
Innovation strategy	In-house	External supplier	In-house	In-house

While the sharing functions differs from each case, so does their innovation strategies which affects their usage of new technologies according to Herstad (2017). Case A has in-house innovation mainly, case D has moved from using external suppliers to having bought them up, and will now rely on in-house innovation mostly. Case D is a franchise where the innovations happens jointly in collaborations with their branches in the Nordic countries, and is therefore also in-house; in Scandinavia at least. Case B use external partners to supply their technology. There is however no guaranty that in-house innovations provide more use and diffusion of innovation in their firm, multiple carsharing companies may replicate the same innovations, hence it might not be that innovative. The advantages of in-house induced or incremental innovations are that it engages and utilize creativity and knowledge of their employees, and they become more familiar with their services and products. In-house innovations are however expensive as informant; Christopher in case D expressed – it might take up much of their employees’ capacity and be very expensive. The costs attached to innovate, may hinder small entrepreneurial firms such as case A and case D to fully follow their business ideas. Though it seems as it is the company in case C that has the highest levels of new technologies compared to the other cases – having a global company in their back enables them to invest, as well as their maneuvers are dependent on its mother company – that also might make them less flexible or resistant to change. Financial control as discussed in the theoretical part may enable as well as constrain a firm (Lazonik, 2005, p. 30). Informant; Haakon and Egil, in case D, did however not feel constrained by being a branch of a global company they rather expressed their gratitude of having financial forces in their backhand. Schor (2014, p. 4) also argues that venture capital may try to gain control with smaller entrepreneurial firms, such as company case A and company case D. Informant Christopher (2017) in case D, have confirmed that investors have shown interests in them. Christopher (2017) also argues that lack of financial resources, as they were a small entrepreneurial firm, constrained their potentials of realizing their business ideas, because it was expensive to develop innovations technologically to back up their innovative ideas. Case A seems to have more investors in their back, although they also were a small entrepreneurial firm, but not as small as case D. In case B they rely on their part-owners deposit, which allowed them to grow steadily, but they only have basic technologies in their cars. To repeat from the theoretical part firms, must “*finance* [to...] make investments to transform technologies and access markets that can only be expected to generate revenues sometimes in the future” (Lazonick, 2005, p. 30). This implies that the business models that can allocate their resources better and if they have more financial capital – are more prone to survive in the long run according to the capitalist rules.

Capital enhances usage of technologies, but accessibility, proximity and user-friendliness also counts.

5.2 Extension of theory?

The three theoretical questions, that followed the three empirical questions, posed in the introduction, suggested that the typology of the sharing economy would be discussed. Secondly, the structural embeddedness would be problematized and finally the notion of the sharing economy would be analyzed. While the goal with the empirical findings is to scrutinize the similarities and differences of the four cases of carsharing in Oslo. The three empirical questions posed and the subsequent empirical findings has been a foundation for the author's theoretical ambitions of this master thesis: To expand theory. The theoretical questions suggested in the introduction was as following:

5.2.1 What structural forces (hidden mechanisms and functions) influence the organization of the four cases of carsharing?

Table 9: The hidden organizational mechanisms and sharing functions

<i>Case</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Mechanisms				
Allocation	High	Very high	Weak	Normal
Alignment	Very strong	Ideal	Normal	Strong
Sharing functions				
Core function	Commodified	Socialized	Commodified	Commodified
Helping function	Socialized	Commodified	Regulated	Socialized
	Regulated	Regulated	Socialized	Regulated

Structuralism was discussed in the opening of the methodological section and in the theoretical section on the combinatory sharing economy. A structural approach should seek to reveal hidden 'structural forces' or mechanisms and functions, that explains how a system

works; the relationships between the parts. Structuralism typically argues that ‘social structures’ and the interdependencies of these systems are of greater importance, than the merely sum of its parts. This view is supported by Giddens (1984), Lévi-Strauss (1967) and Hubbard (et al., 2005). In this master thesis the author has particularly sought to find mechanisms and functions that can explain how the sharing economy, based on the empirical findings of this master thesis, is organized. To achieve this the author has suggested two mechanisms and three sharing functions that may enhance the understanding of the nature of the sharing economy through a structural approach. The evaluations made in this table are made on the basis of the empirical findings. The suggestions are made to expand the theoretical understanding of carsharing’s organizational innovations and explains its embodied combinatory attributes. These combinatory attributes (mechanisms and sharing functions) will be applied to suggest a contribution to the theory on the sharing economy, discussed in the interpretive community: A notion of the sharing economy, particularly carsharing. The structural mechanisms and sharing functions will be explained more deeply in the next section.

5.2.2 What notion does the author claim for the sharing economy, particularly carsharing?

Table 10: The foundations for the notion

<i>Case</i>	<i>Integration of users</i>	<i>Profit/ Non-profit</i>	<i>Allocation</i>	<i>Sharing</i>	<i>Alignment</i>
A	Super users, close feedback	Maximum profit	20/75 – revenue back to owners	Commodified and socialized	Very strong
B	Board members/ part-owners/user-controlled	More non-profit	Revenue back to the members	Socialized and commodified	Ideal
C	In contact with the market, user surveys once a year	Maximum profit	Revenue back to owners of the global firm (not yet)	Commodified and regulated	Weak
D	Close feedback	Profit/ green gain	Revenue back to owners (net yet)	Commodified and socialized	Strong

To clarify and add more theory to the notion of the sharing economy, the author has chosen a structural approach. A structural comparison asks about the nature of the sharing economy and the hidden mechanisms which makes the carsharing work and what the similarities and differences each case consists of. To identify these features and add to the typology of the

sharing economy, exemplified by carsharing in Oslo, Norway, the author have created three functions of sharing; regulated, socialized and commodified, based on theoretical sources. The author has also as identified two 'hidden' mechanisms; allocation and alignment, embedded in the sharing economy's organizational innovation This contribution is what makes this master thesis a structural approach; hidden mechanisms and functions beneath the sharing economy has been unraveled. This contribution to understanding the complex nature of the sharing economy, more particularly carsharing, has been discussed by drawing interdisciplinary scientific text that has huge relevance for grasping what carsharing really is all about: Its core notion. Before the author addresses this issue, she would like to repeat Richardson's (2015) notion of the sharing economy, for the sake of a comparison:

The sharing economy refers to forms of exchange facilitated through online platforms, encompassing a diversity of for-profit and non-profit activities that all broadly aim to access to under-utilized resources through what is termed 'sharing' (Richardson, 2015, p. 121).

The notion the author has created is however somewhat different, it is more akin to and supported by Frenken's (2017) three scenarios, mentioned in the interpretive communities debates on the sharing economy and carsharing in the theoretical section. Let's repeat them to:

[1] a platform-capitalistic future of seamless consumption cumulating into monopolistic super-platforms,

[2] a platform-redistributive future where governments shift taxes from platform labour and usage of goods to platform capital and ownership of goods, and

[3] a platform-cooperativist future lead by citizens owning and governing online sharing platforms (2017, p. 3).

The author will based on the theoretical, methodological and empirical analysis of this master thesis therefore suggest following notion created to understand the essence of the sharing economy: *The sharing economy; or more specifically carsharing, is a system of interdependent combinatory which allows for regulated, socialized or commodified exchange of services through virtual market places. Due to its high concentration of management and innovative technology allows for a concentrated allocation of existing resources, which altogether strengthens its alignment, by keeping costs down for both the carsharers and the management.*

This notion of the sharing economy requires a clarification of two 'hidden' attributes; three functions; regulated, socialized and commodified sharing, and two mechanisms; allocation and alignment. If we can define the meaning of regulated, socialized and

commodified exchange or sharing, we have the first key to understanding what carsharing as a *sharing* economy really is about.

Regulated sharing is exchange of services where the carsharing companies reluctantly have to adhere to thoroughly defined *laws* and *rules*. “Rules include norms of behavior and social conventions as well as legal rules” (Hodgeson, 2006: 1). The legal rules can however be taxes or fees, defined by institutions, such as e.g. the municipality or the state. A carsharing company can also be regarded as regulated on a higher level of cooperating with any type of governance or institutions in a G2P business model. The theoretical basis of regulated sharing as a core function was discussed in the regulated political economy.

Socialized sharing is however more complex, but it is basically based on social production or services offered through social interactions or communication, discussed in the theoretical section on the socialized solidarity economy. At the system level, it is defined by how the carsharers are embodied in the whole carsharing system; whether they are integrated in the organization models of the carsharing companies or not. It is also embodied in the idea that the carsharers actually share something through social interactions enabled by an exchange of services socially. Socialized sharing as a core function usually takes place in non-profit cooperatives or P2P business models that are socialized, the latter business model may however also be commodified.

According to the perspective of *commodified sharing*, the carsharing companies will try to expand their share of the market either geographically, in density or number – to accumulate capital, reinvest and reach a critical mass of customers that makes their business profitable and secures long term economic growth. They offer a commodified and highly technological service; a commodity – and most importantly seek surplus for their services and their investors, as well as adventures. The basis for the idea of commodified sharing was discussed in the theoretical section on the commodified capitalist economy. Companies with this type of sharing as a core function are usually B2B business models.

However, In the reality of the sharing economy, these different three *sharing functions*; such as regulated sharing, socialized sharing and commodified sharing – are however rather mixed. But most likely, among these three sharing functions there may be a dominant function, a helping function and a problem function (or just a function not applied, not necessary for its functionality or not elaborated to its fully potential), this was exemplified in table 6 in the empirical section. A dominant function is the core ability of sharing in which the carsharing company follows. A helping function is a secondary function that supports the core function. A problem function is a function, which is not usually applied or not fully

mastered by the carsharing company. All carsharing companies have their ideosyncratic configurations of the three sharing functions: Their own typical mix classifies them differently in a sharing economy typology, which was visualized and discussed in the empirical section.

That said, the three core functions of sharing has been identified. The second key to understanding the complex nature of the sharing economy; its social structure (Giddens, 1984), is to reveal its two ‘hidden’ mechanisms; allocation and alignment. To approach this challenging task the author will first return to what she claims is an unsatisfactory notion of the sharing economy. Cockayne (2016) claimed that the sharing economy was particularly fascinating in two ways: Its environmental impacts and its organization. The author has in this master thesis sought to unravel the core attributes of the four carsharing companies in this case comparison’s different organization; its organizational innovation. Richardson (2015) and Schor (2014) however argues that carsharing is exciting in a third way: Its social impacts. There are therefore three aspects that makes carsharing particularly interesting. This master thesis has sought to discuss its organizational aspects without undermining its obvious environmental and social impacts. The idiosyncratic organization of the sharing economy, displayed in this master thesis four cases is however left out in Richardson’s (2015) and Frenken’s (2017) definition on the sharing economy. The author has sought to compensate for this conceptual weakness of the existing core notions of the sharing economy by constructing her own interpretation or notion of the sharing economy.

The two core mechanism’s that contributes to understanding this notion was as mentioned; allocation and alignment. While the three sharing functions explains the foundation of each business models idiosyncratic sharing, the two mechanisms suggested are created to express why the different carsharing companies’ organizational models represents such a novel structure. While allocation can be understood as a distribution or designated rearrangements of resources, e.g. to reinvest surplus to its members, users or customers in form of cheaper or higher quality services, alignment can be understood as the rearranging of its organizational features; its users, members and customers, as well as its management to strengthen its organizational innovations (inspired by Merriam-Webster, 2017a/b).

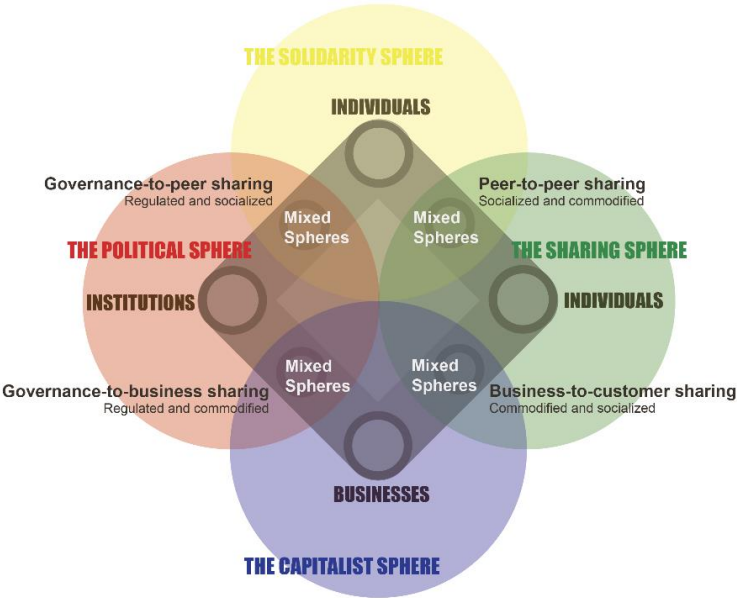
The carsharing companies ability to allocate its resources distinguishes it selves from the “normal” capitalist economy by *sharing* its profit with its carsharers or by offering services that due to the above mentioned definition are more affordable, than similar services in the capitalist economy. A P2P carsharing company, such as case A exemplifies, typically takes 20 percent of the profit, which leaves the remaining 80 percent to be shared among their

members, customers or users. A non-profit cooperative, such as case B, rearrange its surplus to the benefits of its members. Companies of B2B business models in the sharing economy; in this case; carsharing companies, may also display evident allocational attributes and show clear alignments, the alignment is however stronger in non-cooperatives and P2P business models. This is due to the non-cooperatives integration of the users in their legal form and business models and the P2P example in this master thesis; case A, utilization of strong user contacts, such as super users. Alignments between the management of the carsharing companies may help keeping costs down and facilitate allocation or rearrangements of resources. The carsharing companies in this case comparison shows different manners in which alignments are made with its customers, users or members allows for radical organizational innovation of its organization models to take place (Schumpeter, 1943; Fagerberg, 2005). These differences was shown in table 8, and was based on the empirical data material results from the four carsharing companies from case A to case D. Theoretical explorations, methodological investigations as well as empirical data collections has there jointly contributed to a understanding of the complex nature of the sharing economy, particularly carsharing seen from the range of a bird's-eye perspective (structures and systems), to a frog's-eye perspective (informants' standpoints).

5.2.3 What business typology does the author claim for carsharing as a sharing economy?

In this part of the conclusion the author will apply the concepts, existing theory, combinations of theory, empirical findings and discussions in this conclusion to what she calls 'the combinatory landscape of the sharing economy'. It is combinatory as the author have discussed in this master thesis, by combining; the regulated political sphere, the commodified capitalist sphere, the socialized solidarity sphere, and finally the sphere of the sharing economy. Between these spheres the author suggests that there are mixed spheres of which different spheres has influence on each other. The whole visual model represents the sharing economy. The visual models shows that there are three types of actors; institution (e.g. state or municipality), individuals (who seek profit or not) and businesses (non-profit cooperatives or B2B). The actors interact through hidden organizational attributes, such as allocation and alignments that ties together their collaboration processes. The model suggests that there are three sharing functions that support the three business models in this master thesis; these are either socialized, regulated or commodified. This master thesis empirical findings shows that

there were three types of business models; the B2B (roundtrip) business models of case C and D, the P2P business model of case A, and the non-profit cooperative business model of case B. They all seemed to fit into this model, but the sharing functions were differently combined than this models shows, this was discussed previously in this conclusion. Note that the author also found that the different mechanism was present in each case in various manners or amounts. These two mechanisms were more present in case A and case B, according to the author’s interpretations. Three of the cases also were mostly commodified, only case B was socialized. Note that case B has been interpreted as a business, which it is, but it shows features that separates it from a B2B business model. This has been discussed in this conclusion.



Visualizing theory 2: The combinatory landscape of the sharing economy

The regulated features of each case seemed to come from its legal form, which the author did not find the capacity to scrutinize. It is also outside the field of which the author study and not the competence of a human geographer. That said, the author will in the next part of the conclusion turn to the overall contributions of the four cases – when compared to each other.

5.3 Current economic, social and environmental impacts

In this section of the conclusion the author will address issues such as social progressiveness, economic ambitions and environmental impacts, how are they currently and how can they transform? Let’s start with the current situation. Case A, based on the empirical findings, seems to be the most ambitious of the four cases economically, followed by C and D. Case B however aims at economic sustainability and has steady growth as an ambition, they are however the only economically sustainable carsharing company in this case comparison. Case A has thus experienced experienced explosive growth recently, and might be sustainable economically, as we are speaking. Case B thus prioritized differently. Case B is the most socially progressive carsharing company by having members as part owners and integrating them into the board; they are user-controlled and non-profit. The second most socially progressive was case A, by having super users that they followed up end invited in for meeting, advices and guidance. Note, the carsharing company with the highest environmental impacts is case D, since they only offer electric cars and aim at creating a joint platform for multiple mobilities in the future. These ideas are radical in terms of environmental gains. This is a brief summary of the economic, social and environmental impacts the four cases of carsharing have currently.

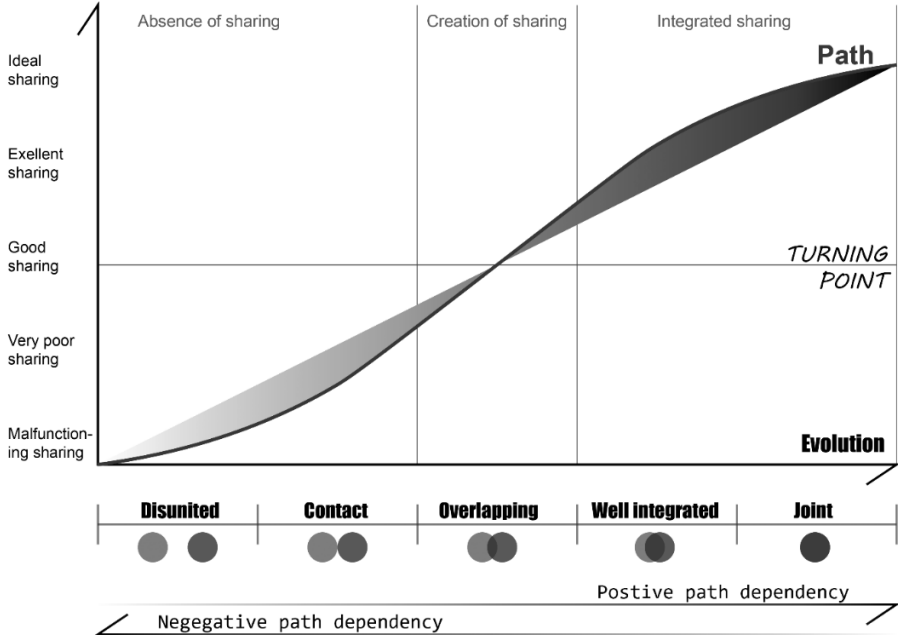
Table 11: Current economic, social and environmental impacts within the case comparison

Case	A	B	C	D
Economic ambitions	Dominant market position	Economic sustainability	Maximum profit	Maximum profit
Social progressiveness	Very high	Highest	Normal	High
Environmental impacts	Normal	High	Normal	Very high
Ideas	Reduce amounts of cars on the roads	Have environmental effects	Reduce amounts of cars on the roads	Radical green ideas, platform for multiple mobilities
Carpark	Mixed	Mixed	Mixed	Only electric cars

In the last section of the conclusion will discuss how the future may proceed into a more alternative socially progressive path: A *sharing* economy.

5.4 How can the four cases become more socially progressive?

In the final section of this conclusion the author will again return to Richardson’s (2015) evident paradox of the sharing economy, which will have great effects on its potential alternative and more socially progressive path: Will commercialization dominate the sharing economy in the future or will more socially progressive ideas flourish? According to Richardson’s (2015) there is an evident discrephanse between a sharing economy that facilitates more progressive social mindsets and practices, to be integrated into its organization model, and the sharing economy that is more based on a capitalist mode of production. While a progressive social organization model would be more organizational innovative according to interpretive communities debates on the sharing economy (Schor, 2014, Richardson, 2015, Frenken, 2017), the sharing economy based on a capitalist mode of production would just be an extension of ‘business-as-usual’ (Fagerberg, 2005). The future will therefore show how socially progressive these forms of organization models are.



Visualization of theory 4: Forecasting -- towards a sharing economy (Nenseth, et al., 2012, p. III)

The visualization shows how the path towards a more socially progressive sharing economy may start up from scratch or be emphasized: This visualization shows how an organization of a carsharing models can move from a malfunctioning sharing model or absence of sharing (exchange-value) through improved integration, transforming to share-value, collaboration and communication between the carsharing company and its carsharers: It may hence evolve

into an *ideal sharing model* – through following an S-shaped curve (Nenseth, et al., 2005). An ideal state is a state where the company and the users' works close to being *one unit*. This process is truly evolutionary and evolves through processes of creativity, knowledge and bounded rationality in endogenous systems that is fueled by applying generalized Darwinist terms, such as selection, variety, continuity and mutations, which affects the carsharing companies' path dependence. The integration of carsharers into the organization model *improves sharing* and more *customized technological services* from the company as they coevolve. This process of evolutionary change involves institutional (inertia), entrepreneurial activity of innovative firms and individuals, and takes place at real sites and places – they innovate together as heterogeneous actors at multiple levels or scales.

6 References

- Baxter, J. (2010). Case Studies in Qualitative Research. *Qualitative Research Methods in Human Geography*. Oxford: Oxford University Press, pp. 81-98.
- Benkler, Y. (2006a). Introduction: A Moment of Opportunity and Challenge. *The wealth of Networks: How Social Production Transforms Markets and Freedom*. New Haven and London: Yale University Press, pp. 1-35.
- Benkler, Y. (2006b). Peer Production and Sharing. *The wealth of Networks: How Social Production Transforms Markets and Freedom*. New Haven and London: Yale University Press, pp. 59-91.
- Benkler, Y. (2006c). The Economics of Social Production. *The wealth of Networks: How Social Production Transforms Markets and Freedom*. New Haven and London: Yale University Press, pp. 91-133.
- Bernard, L., Gevorkyan, A.V., Palley, T.I., and Semmler, W., (2013). Time Scales and Mechanisms of Economic Cycles: A Review of Theories of Long Waves. *Political Economy Research Institute (PERI)*, pp. 1-21.
- Bradshaw, M., and Stratford, E. (2010). Qualitative Research Design and Rigor. *Qualitative Research Methods in Human Geography*. Oxford: Oxford University Press, pp 69-80.
- Boschma, R.A., and Frenken, K. (2006). Why is Geography not an Evolutionary Science? Towards an evolutionary economic geography. *Journal of Economic Geography* 6, pp 273-302.
- Boschma, R.A., and Martin, R. (2010). The Aims and Scope of Evolutionary Economic Geography. *The Handbook of evolutionary Economic Geography*, pp 3-39.
- Brousseau, E., Garrouste, P., and Raynaud, E. (2011). Institutional changes: Alternative Theories and the Consequences for Institutional Design. *Journal of Economic Behavior & Organization* 79 (1-2), pp 3-19.

- Böcker, L., and Meelen, T. (2016). Sharing for People, Planet or Profit? Analysing Motivations for Intended Sharing Economy Participation. *ISU Working Paper*, pp. 1-21.
- Caballero, R.J. (2017). *Creative Destruction*. MIT Economics. [pdf]. Available at: <http://economics.mit.edu/files/1785> [Accessed 10 Feb. 2017].
- Castree, N., Kitchin, R., and Rogers, A. (2013a). Evolution. *A Dictionary of Human Geography (2016)*. [ebook]. Oxford: Oxford University Press. Available at: <http://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-556?rskey=RNXdRh&result=557> [Accessed 11 Nov. 2017].
- Castree, N., Kitchin, R., and Rogers, A. (2013b). Commons. *A Dictionary of Human Geography (2016)*. [ebook]. Oxford: Oxford University Press. Available at: <http://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-246?rskey=g231Fc&result=1> [Accessed 16 Oct. 2017].
- Castree, N., Kitchin, R., and Rogers, A. (2013c). Political Economy. *A Dictionary of Human Geography (2016)*. [ebook]. Oxford: Oxford University Press. Available at: <http://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-1417?rskey=WfYZbX&result=1418> [Accessed 11 Nov. 2017].
- Castree, N., Kitchin, R., and Rogers, A. (2013d). Regulation. *A Dictionary of Human Geography (2016)*. [ebook]. Oxford: Oxford University Press. Available at: <http://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-1543?rskey=ovY7sV&result=1545> [Accessed 11 Nov. 2017].
- Castree, N., Kitchin, R., and Rogers, A. (2013e). Regulation Theory. *A Dictionary of Human Geography (2016)*. [ebook]. Oxford: Oxford University Press. Available at: <http://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-1544?rskey=ovY7sV&result=1546> [Accessed 11 Nov. 2017].
- Castree, N., Kitchin, R., and Rogers, A. (2013f). Tragedy of the Commons. *A Dictionary of Human Geography (2016)*. [ebook]. Oxford: Oxford University Press. Available at: <http://www.oxfordreference.com/view/10.1093/acref/9780199599868.001.0001/acref-9780199599868-e-1912#> [Accessed 16 Oct. 2017].
- Cockayne, D.G. (2016). Sharing and Neoliberal Discourse: The Economic Function of Sharing in the Digital On-demand Economy. *Geoforum* 77, pp. 73-82.

- Cohen, B., and Kietzmann, J. (2014). Ride on! Mobility Business Models for the Sharing Economy". *Organization & Environment*, Vol 27(3), pp. 279-296.
- Dowling, R. (2010). Power, Subjectivity, and Ethics in Qualitative Research. *Qualitative Research Methods in Human Geography*. Oxford: Oxford University Press, pp. 26-39.
- Dunn, K. (2010). Interviewing. *Qualitative Research Methods in Human Geography*. Oxford: Oxford University Press, pp. 99-137.
- Dylan, B. (1964). The Times They Are a-Changin'. [online]. New York: Columbia Records. Available at: https://www.youtube.com/watch?v=e7qQ6_RV4VQ [Accessed 27 Oct. 2017].
- Edquist, C., (2005). Systems of Innovation: Perspectives and Challenges. *The Oxford Handbook of Innovation*. Oxford: Oxford University Press, pp. 181-209.
- Fagerberg, J. (2005). A Guide to the Literature. *The Oxford Handbook of Innovation*. Oxford: Oxford University Press, pp. Page 1-26.
- Fagerberg, J. (2003). Schumpeter and the Revival of Evolutionary Economics: An Appraisal of the Literature. *Journal of Evolutionary Economics* 13. Berlin and Heidelberg: Springer-Verlag, pp. 125-159.
- Frenken, K. (2017). Political Economies and Environmental Futures for the Sharing Economy. *ISU Working Paper*, pp. 1-23.
- Forbruksforskningsinstituttet, SIFO (2017). Tillitsproblemer for Delingstjenester i Vekst. [online]. *Høgskolen i Oslo og Akershus*. Available at: <http://www.hioa.no/Om-HiOA/Senter-for-velferds-og-arbeidslivsforskning/SIFO/Aktuelle-saker-SIFO/Tillitsproblemer-for-delingsstjenester-i-vekst> [Accessed 27 Oct. 2017].
- Geels, F.W. (2004). From Sectoral Systems of Innovation to Socio-technical systems – Insights about Dynamics and Change from Sociology to Institutional Theory". *Research Policy* 33, pp. 897-920.
- Geels, F.W. (2010). Ontologies, Socio-technical Transitions (to Sustainability), and the Multi-Level Perspective". *Research Policy* 39, pp. 495-510.
- Geels, F.W. (2016). *Sustainability Transitions*.
- Geels, F.W. (2001). Technological Transitions as Evolutionary Reconfiguration Processes: A Multi-Level Perspective and a Case-study". *Research Policy* 31 (2002), pp. 1257-1274.

- Geels, W.G., Kern, F., Fuchs, G., Hinderer, N., Kungl, G., Mylan, J., Neukirch, M., and Wasserman, S. (2016). The Enactment of Socio-technical Transition Pathways: A Reformulated Typology and a Comparative Multi-Level Analysis of the German and UK low-carbon electricity transitions (1990–2014). *Research Policy*, Volume 45, Issue 4, pp. 896–913.
- Geels F.W., and Schot, J. (2007). Typology of Sociotechnical Transition Pathways. *Research Policy* 36 (2001), pp. 399-417.
- Giddens, A. (1984). Elements of the Theory of Structuration. *The Constitution of Society*. Berkeley and Los Angeles: University of California press, pp. 1-41.
- Hagemoen, Mytting., H. (2005). Ønsket om å Styre Eget Liv og Arbeid – En Kvalitativ studie av Kvinnelig Entreprenørskap i Oslo. Hovedoppgave i Samfunnsgeografi (equivalent to master thesis). *Institute of Sociology and Human Geography*. Oslo: Universitetet i Oslo, pp. 1-121.
- Hay, I. (2010). Glossary. *Qualitative Research Methods in Human Geography*. Oxford: Oxford University Press, p. 368-391.
- Heidegger, M. (1935). Extracts from “The Origin of Art” and “Epilogue”. *Visual Culture – Critical Concepts in Media and Culture Studies (1971)*. London and New York: Routledge, pp. 182-187.
- Herstad, S.J. (2017). Innovation Strategy Choices in the Urban Economy”. *Urban Studies Journal Limited 2017*. London: Sage Publications, pp. 1-18.
- Hodgson, G., M. (2006). What are institutions? *Journal of Economic Issues*, Vol. XL, No. 1, pp. 1-25.
- Hubbard, P., Kitchin, R., Bartley, B., and Fuller, D. (2005). A Brief History of Geographic Thought. *Thinking Geographically*. London and New York: Continuum, p. 22-57.
- Innovation Cities (2017). *Innovation Cities Index 2016-2017*. [online]. Available at: <http://www.innovation-cities.com/innovation-cities-index-2016-2017-global/9774> [Accessed: 12.04.2017].
- Johnstad, T., (1998). Samvirke – Begrep og Utvikling. *Samarbeid og Samvirke – Utvikling og Organisering an Samvirke*. Oslo: Tano Aschehoug, pp. 58-89.

- Jossep, B., and Ngai-Ling, S. (2006a). Early Regulation Approaches in Retrospect and Prospect. *Beyond the Regulation Approach – Putting Capitalist Economies in their Place*. Cheltenham and Northampton: Edward Elgar, pp. 13-58.
- Jossep, B., and Ngai-Ling, S. (2006b). Introduction. *Beyond the Regulation Approach – Putting Capitalist Economies in their Place*. Cheltenham and Northampton: Edward Elgar, pp. 1-13.
- Karnøe, P., and Garud, R. (2012). Path-Creation: Co-evolution of Heterogeneous Resources in the Emergence of the Danish Wind Turbine Cluster. *European Planning Studies Vol. 20, No. 5*. New York and London: Routledge, pp. 733-752.
- Korotayev, A., Zinkina, J., and Bogevolnov, J. (2011). Kondratieff Waves in Global Invention Activity (1900-2008). *Technological Forecasting and Social Change* 78. New York: Elsevier Science Inc, pp. 1280-1284.
- Kusenbach, M. (2003). Street Phenomenology: The Go-along as Ethnographic Research Tool?. *Ethnography*, pp. 455-485.
- Lam, A. (2005). Organizational Innovation. *The Oxford Handbook of Innovation*. Oxford: Oxford University Press, pp. 115-148.
- Lazonick, W. (2005). The Innovative Firm. *The Oxford Handbook of Innovation*. Oxford: Oxford University Press, pp. 29-56.
- Lévi-Strauss, C. (1967). Do Dual Organization exists? *Structural Anthropology*. New York: Anchor Books, Doubleday & Company Inc, pp. 128-161.
- MacKinnon, D., Cumbers, A., Pike, A., Birch, K., and McMaster, R. (2009). Evolution in Economic Geography: Institutions, Political Economy, and Adaption. *Economic Geography* 85(2), pp. 129-150.
- Mathews, J.A. (2013). The Renewable Energies Technology Surge: A New Techno-economic paradigm in the Making? *Futures* 46. New York: Elsevier Science Inc, pp. 10-22.
- Meadows, D. (1999). *Leverage Points: Places to Intervene in a System*. [pdf]. Hartland: The Sustainability Institute. Available at: http://www.donellameadows.org/wp-content/userfiles/Leverage_Points.pdf [Accessed 27 Oct. 2017].

- Merriam-Webster (2017): *Alignment*. [online]. Available at: <https://www.merriam-webster.com/dictionary/alignment> [Accessed: 12.07.2017].
- Merriam-Webster (2017): *Allocation*. [online]. Available at: <https://www.merriam-webster.com/dictionary/allocation> [Accessed: 12.07.2017].
- Metz, R. (2011). Do Kondratieff Waves Exist? How Time Series Techniques can help Solve the Problem?. *Cliometrica* 5. Berlin and Heidelberg: Springer-Verlag, pp. 205-238.
- Münzel, K., Boon, W., Frenken, K., and Vaskelainen, T. (2017a). Carsharing Business Models in Germany: Characteristics, Success and Future Prospects. *ISU Working Paper*, pp. 1-19.
- Münzel, K., Boon, W., Frenken, K., and Blomme, J., and van der Linden, D. (2017b): Explaining Carsharing Diffusion Across Western European Cities. *ISU Working Paper*, pp. 1-23.
- Nenseth, V., Julsrud, T.E., and Hald, M. (2012). Nye Kollektive Mobilitetsløsninger – Bideling som Case. *Transport Økonomisk Institutt (TØI)*, pp. 1-36.
- Patton, M., Q. (2002). Qualitative interviewing. *Qualitative Research and Evaluation methods*. Newbury Park: Sage, pp. 339-426.
- Perez, C. (2010). Technological Revolutions and Techno-Economic Paradigms. *Cambridge Journal of Economics* 34. Oxford: Oxford University Press, pp. 185-202.
- Richardson, L. (2015). Performing the Sharing Economy. *Geoforum* 67, pp. 121-129.
- Rigby, D., and Essletzbitchler, J. (2010). Generalized Darwinism and evolutionary economic geography. *The Handbook of Evolutionary Economic Geography*, pp. 43-61.
- Sabel, C., and Zeitlin, J. (1985). Historical Alternatives to Mass Production: Politics, Markets and Technology in the Nineteenth Century Industrialization. *Past and present*, No. 108, pp. 133-176.
- Schoenberger, E. (1991). The Corporate Interview as a Research method in Economic Geography. *Professional Geographer*, Vol 43, No. 2, pp. 180-189.
- Schor, J. (2014). Debating the Sharing Economy. *Great Transition Initiative*, [online], p. 14. Available at: <http://greattransition.org/publication/debating-the-sharing-economy> [Accessed 30 Oct. 2017].

- Schot, J. (2016). *Research and Policy Agenda for a World in Transition*.
- Schumpeter, J. A. (1947). *Economic Theory and Entrepreneurial History. Essays on Entrepreneurs, Innovations, Business Cycles and the Evolution of Capitalism (1989)*. New Brunswick and London: Transactions Publishers, pp. 253-271.
- Smith, K. E. (2006). Problematizing Power Relations in 'Elite' Interviews. *Geoforum* 37(4), pp. 643-653.
- Stacheli, L. A., and Mitchell, D. (2005). The Complex Politics of Relevance in Geography. *Annals of the Association of American Geographers*, 95(2), pp. 357-372.
- Statistics Norway (2017). *Key Figures for the population*. [online]. Available at: <http://www.ssb.no/en/befolkning/nokkeltall/population> [Accessed 12.04.2017].
- Statistics Norway (2015a). *Personal Owned Enterprise by Economic Activity and Sex. New established Enterprises*. [online]. Available at: <https://www.ssb.no/en/virksomheter-foretak-og-regnskap/statistikker/etablerere> [Accessed 12.04.2017].
- Statistics Norway (2015b). *Persons that are Entrepreneurs in Private and Public limited companies, by Education, Age and Sex*. [online]. Available at: <https://www.ssb.no/en/virksomheter-foretak-og-regnskap/statistikker/etablerere> [Accessed 12.04.2017].
- Statistics Norway (2016). *Population and Area. Urban Settlements. 1 January*. [online]. Available at: <http://www.ssb.no/en/befolkning/statistikker/befytt/aar/2016-12-06> [Accessed 12.04.2017].
- Statistics Norway (2015c). *Record Number of Entrepreneurs Established Enterprises in 2015*. [online]. Available at: <https://www.ssb.no/en/virksomheter-foretak-og-regnskap/artikler-og-publikasjoner/record-number-of-entrepreneurs-established-enterprises-in-2015> [Accessed 12.04.2017].
- The Innovation Policy Platform (2017). *Radical and incremental innovation*. [online]. Available at: <https://www.innovationpolicyplatform.org/content/radical-and-incremental-innovation> [Accessed 10.24.2017].
- Thorkildsen, Sønstabø, C. (2007). Effekter av Norsk Eierskap i Tsjekkisk Næringsmiddelindustri. Master thesis in Human Geography. *Institute of Sociology and Human geography*. Oslo: University of Oslo, pp.1-125.

Tylecote, A. (1992a). Technological Styles. *The Longwave in the World Economy – The Current Crisis in Historical Perspective*. London and New York: Routledge, pp. 36-70.

Tylecote, A. (1992b): The Longwave Debate. *The Longwave in the World Economy – The Current Crisis in Historical Perspective*. London and New York: Routledge, pp. 7-35.

7 Appendix

Interview 1, case A, informant; Peter (2016). *Carsharing and the Sharing Economy*.

Interview 2, case B, informant; Hans (2016). *Carsharing and the Sharing Economy*.

Interview 3, Case B, informant; Linda (2016). *Carsharing and the Sharing Economy*.

Interview 4, Case B, informant; Kjetil (2016). *Carsharing and the Sharing Economy*.

Interview 5, Case C, informant; Haakon (2017). *Carsharing and the Sharing Economy*.

Interview 6, Case C, informant; Egil (2017). *Carsharing and the Sharing Economy*.

Interview 7, case D, informant; Christopher (2017). *Carsharing and the Sharing Economy*.