Mapping the Effects of Peer-to-Peer Sharing Economy Platforms on Society

A Grounded Theory study towards the creation of a conceptual model of the effects of peer-to-peer sharing economy platforms on values, actors and institutional arrangements.

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Master Thesis Report

TU Delft Delft University of Technology

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Summary

In the past few years multiple peer-to-peer sharing economy platforms, such as Uber and Airbnb, have grown exponentially. On the one hand the these digital platforms have had many positive effects, such as lowering prices and increasing convenience and personal contact between users, and might possibly lead to economic growth and environmental sustainability. On the other hand these platforms have run into a multitude of problems, including liability and safety issues, and lead to unfair competition with incumbent companies. To keep the positive effects of these platforms, but to mitigate the negative effects "these transformations need to be simultaneously nurtured, supported, and protected against" (Kenney & Zysman, 2015, p. 4).

This study focused on the role of policymakers in determining their strategy to respond to the challenge the peer-to-peer sharing economy platforms pose. A balanced trade-off between values has to be made to make the best decisions on which actions to take. Such a trade-off is however not easily made, since it is hard to comprehend all the developments and the effects of these platforms: no clear framework of the effects of peer-to-peer sharing economy platforms on society is present in literature.

The objective of this study is to compose this theoretical overview of the effects of peer-to-peer sharing economy platforms, in terms of effectuated values, involved actors and possible arrangements to mitigate negative effects. The theoretical overview must be suited for use by policymakers in making trade-offs to determine the best reaction towards these platforms.

The perspective that was chosen to indicate the effects of the platforms, was the perspective of institutional economics. From this perspective it can be argued that policymakers need to base their decisions on the underlying values that are effectuated, while considering the involved actors and possible institutional arrangements. The effectuated values are thus the main concepts of interest. Values are in this context defined as: "Principles or standards of behaviour; one's judgement of what is important in life" (Oxford Dictionaries, n.d.). The decision to focus especially on these values is founded on the premise that policymakers should preferably base their decision on the underlying values and not on the existing institutional arrangements (e.g. sector legislation). This because these values are the ultimate objective of policy and legislation or other institutions are the instruments to reach this objective. The rationale is that certain values need to be secured of promoted and that current legislation is present in order to achieve this. The foundation for formulation new policy should thus ideally be based on the end goals and not on the current instrument.

In order to achieve the objective of this study from the perspective of institutional economics the following main research questions was formulated.

What are the effects of peer-to-peer sharing economy platforms on values, actors and institutional arrangements?

Peer-to-peer sharing economy platforms are in this context defined as digital platforms where providers meet with users in order to execute a 1-on-1 transaction with a physical world component, where no transfer of ownership takes place. More specifically only broker platforms are included, which means that providers own the value added assets and the platform controls the user relationship (Ballon & Walravens, 2009).

To come to answer the research question a Grounded Theory approach was used (Glaser & Strauss, 1967). This approach is specifically suitable for the exploratory nature of the study and the aim to build a theory. The approach consists of three steps of coding in which relevant concepts (in this case values, actors and institutional arrangements) are identified, categorized and related to each other. The theoretical mapping was composed in the last months of 2015 and was based on the academic and semi-academic sources available at that time.

On the basis of the Grounded Theory approach a conceptual model was composed that mapped the effects of peer-to-peer sharing economy platforms on values, involved actors and institutional arrangements, which can be seen in figure A.

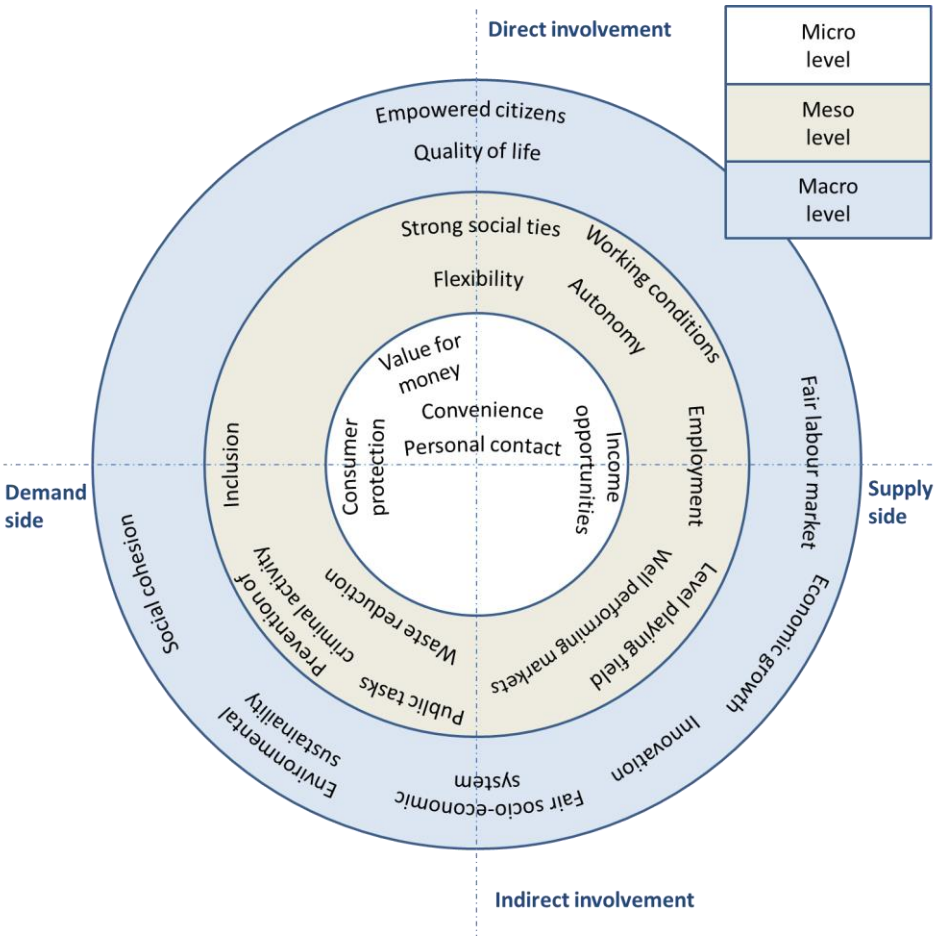

Figure A – The mapping of the effects of peer-to-peer sharing economy platforms on values in society.

The effects on values were structured on the basis three levels: the micro, meso and macro level. The distinction between these levels is made by assessing the number of occurring transactions that is needed to result in an effect on these values. Micro level values are effectuated after just one transaction, meso level values are effectuated after a larger series of transactions and macro level values are only effectuated when a system of transactions takes place with a high frequency on a large scale.

Besides the three levels of values, the model is divided into four nominal quadrants on the basis of two axes. These axes divide the involved actors in four groups. The horizontal axis divides actors into a demand side and supply side of the transaction. The vertical axis divides the actors in direct and

indirect involved actors. Direct demand side actors are the consumers that use the platform. Direct supply side actors are the providers to the platform. Indirect supply side actors include investors, incumbent competitors and labour associations. Indirect demand side actors include other citizens and consumer associations. Governmental parties are indirectly involved on both the demand and supply side of the transaction.

These two axes were combined with the three levels of values (micro, meso, and macro) to create a combined model. In this model the individual values can be positioned, based on the level on which they are effectuated and the quadrant of actor for which they are most relevant. By positioning these values in the model a mapping of the effects of peer-to-peer sharing economy platforms in terms of values and actors is created.

Besides creating a mapping of the effects of peer-to-peer sharing economy platforms in terms of values and actors, also the institutional arrangements were studied. The institutional arrangements can be categorized in five different groups and can be used in combination with the value mapping model. The main distinction between the five groups can be made on the basis of two variables: 1) whether the institutional arrangement can be used within the existing regulatory regime or whether it is aimed at changing the regulatory regime and 2) whether the institutional arrangement is aimed at *stopping* the peer-to-peer sharing economy platform transactions, *steering* these transaction or *strategizing* on these transactions. These groups can be used to identify possible institutional arrangements that can mitigate the negative effects on values. Table A presents these five groups.

Table A - Overview of the groups of institutional arrangements.

	Existing regulatory regime	Stopping / Steering / Strategizing
Group 1	Within existing regulatory regime	Stopping transactions
Group 2	Within existing regulatory regime	Directly steering transactions
Group 3	Within existing regulatory regime	Indirectly steering transactions
Group 4	Within existing regulatory regime	Strategizing on transactions
Group 5	Changing existing regulatory regime	Stopping, steering or strategizing on transactions

This conceptualisation of the effects of peer-to-peer sharing economy platforms on society in terms of values, actors and institutional arrangements was validated via the means of empirical validation, in which the specific choices in the process were elaborated on, expert validation, in which nine experts and representatives of involved actors were interviewed (e.g. a sharing economy company, the municipality of Amsterdam and the Dutch consumer association), and a theoretical comparison, in which the model was positioned within the trends of literature and directly compared to an analytical model commissioned by the Dutch ministry of Economic Affairs (Van Eijk et al., 2015).

These combined answers to the research questions together answer the main research question:

What are the effects of peer-to-peer sharing economy platforms on values, actors and institutional arrangements?

In the theoretical comparison it was found that this study provides a unique overview of these effects, since it is the first attempt at the creation of a holistic analytical model of the effects. By mapping the effects of peer-to-peer sharing economy platforms a first attempt at creating a

substantive theory was conducted, which shows the scientific relevance of the study. Besides this scientific relevance the study also has a strong societal relevance, since the resulting model can be used by policymakers to increase their insight into the effects of peer-to-peer sharing economy platforms. This increased insight, together with the leads for the possible institutional arrangements can help policymakers to make a more complete, structured and thus better trade-off. The usability of the model was also acknowledged by the independent experts and the representatives of involved actors.

Future work could focus on the improvement of the model by adding the mechanisms behind and links between the effects on values. Another way to improve the model would be to add a tool that can help policymakers decide on what reaction is best, currently the model only gives possible reactions without a means to decide on which one to choose. Besides improving the model, future studies could focus on specific effects that are mapped in the model or could use the created model as a building block to create a formal theory on the effects of the sharing economy as a whole.

Keywords

Sharing economy, Digital platforms, Peer-to-peer exchange, Values, Effects, Grounded theory

Content

Appendices

Chapter 1 – Introduction and research approach

Peer-to-peer platforms in the sharing economy have grown exponentially in the past few years, challenging incumbent companies and existing institutions. This chapter introduces this trend (paragraph 1.1) and examines the developments from an institutional economics perspective (paragraph 1.2). Based on the created insights paragraph 1.3 identifies the research problem at hand, which is addressed in the research design of paragraph 1.4.The chapter ends with an outline of the structure of the report, in paragraph 5.

1.1 The rise of peer-to-peer sharing economy platforms

In the years 2008 and 2009 two new start-up companies were launched that now, only several years later, are two of the most successful companies worldwide. The names of these companies: Airbnb, the peer-to-peer lodging platform, and Uber, the peer-to-peer car hailing platform. With estimated values of around 25 and 50 billion US dollars and hundreds of thousands daily users worldwide, these companies have become integral parts of the global economy (Chokkattu & Crook, 2014; Crook & Escher, 2015).

Airbnb was founded in 2008 in San Francisco and is currently active in over 190 countries. Via the company's platform individuals can find and rent accommodations that are listed by other private users. This peer-to-peer transaction provides an alternative for the regular hospitality industry and holds the promise of a more authentic, more personal and cheaper experience (Crook & Escher, 2015). Uber was founded in 2009, also in San Francisco, and is currently active in 58 countries worldwide (Chokkattu & Crook, 2014). The Uber platform knows different services: UberBlack, a service where travellers can find a licensed cab that can pick them up; UberVan, UberLux and Uber SUV, services that also connect travellers to licensed cabs, but that focus on different types of vehicles (vans, luxury cars and SUV's); UberX, a service where travellers can find someone to share a cab with; and UberPop, a service where travellers can find amateur cab drivers that can take them to their destination.[1]

Airbnb and Uber have in common that they use innovative business models based on digital platforms: the companies provide a digital environment that functions as a platform where consumers and service providers can connect and exchange value. A schematic overview of this relation was composed by Cheng (2014) and can be seen in figure 1. After a match has been made on the platform, the provider delivers the product or service to a consumer, after which the consumer and provider review each other. If something went wrong or when the user has other questions and problems, she/he addresses them to the company. The company delivers support, controls the quality and is responsible for the overall (macro) marketing. In return for these services the provider pays a fee or commission to the platform. Marketing and customer satisfaction on a micro level fall under the responsibility of the provider.

[1] Note that Uber uses different names for these services in different states or countries. The names here are the names that are used in the United States.

Figure 1 – Schematic overview of the peer-to-peer platform relations taken from Cheng (2014).

One of the factors that makes digital platforms so successful is the snowball effect of users. The more consumers that are active on a platform, the more attractive the platform becomes for providers. However the same is true the other way round: the more providers on a platform, the more attractive the platform becomes for consumers. This positive feedback loop or these positive externalities lead to a snowball effect where the success and use of a platform can grow exponentially. However, this loop can also work in reverse, leading to an exponential decline of platform use when a small group of users decides to leave.

Both Airbnb and Uber have profited from this snowball effect, but have run into multiple challenges in their explosive growth. Mid-2011 Airbnb was confronted with several cases in which renters trashed and plundered the accommodation they hired, leaving the home-owners with enormous damages. After first denying responsibility, Airbnb ultimately compensated the home-owners (Arrington, 2011). A year later, in May 2012, a general program was established that guaranteed the compensation of damages for all accommodations that are booked via the website (Empson, 2012). Another year later, in June 2013, Airbnb again ran into trouble, this time with regulators when several Airbnb users were fined for illegally renting out their house. The regulators accused the users of renting out their houses without proper licensing and in opposition to local zoning plans that stated that the houses were meant for habitation and not for commercial activity (Lawler, 2013). Airbnb took up the case and successfully fought the decision at court (Lunden, 2013). In 2014 yet a new challenge appeared when the company received critiques on the fact that local governments

missed out on tourist-tax revenues. Several cities have since made special deals with Airbnb to arrange these payments via the platform (Lawler, 2014).

Concerning Uber, especially UberPop has been highly controversial worldwide. The service was for example introduced in The Netherlands, Germany and France over the course of 2014, but is currently already banned in all three countries (Dillet, 2015; Gibbs, 2015; Lomas, 2015). These rulings being based on complaints about, amongst others, the lack of licensing, inadequate driver training and consumer safety.

Considering their fast growth and the controversy they provoke, Airbnb and Uber have been at the centre of attention of many media outlets through the years. Airbnb and Uber are however not the only companies that use these new business models based on digital platforms. As part of a trend that has been called the *platform economy,* the *sharing economy* and the *peer-to-peer economy* many companies now use innovative platform-enabled business models to connect consumers (Kenney & Zysman, 2015). Examples include TaskRabbit, a company that helps people to find others that can run their errands, Postmates, a company that enables peer-to-peer delivery of almost any good, and GoBoat.nl, a company that allows users to list, find and rent boats.

Competitors and regulators are taken by surprise by this trend: the fast growth of these peer-to-peer platforms in the sharing economy has put existing business models and institutional arrangements under significant stress and can have big consequences for society as a whole. Taxi drivers no longer have a monopoly on personal driving services and lose a large part of their customer base to Uber, Lyft and other Transportation Network Companies (TNC's) (Isaac, 2014). Hotel chains see declining booking rates and try to reinvent themselves by copying the personalized approach Airbnb uses (Zervas, Byers & Proserpio, 2015). In most cases incumbents try to fight the arrival of these new competitors by either adjusting their own practices or by claiming the illegality of the new businesses (Cusumano, 2014).

Governments and regulators want and need to come with the right response to these new innovative services. The existing institutional arrangements no longer fit the current market landscape and there is a strong call for intervention. The case however is not that simple. On the one hand the new companies clearly address a big need of consumers world-wide and generate innovative economic activity (Camps, 2015). On the other hand many questions arise around the legality of some activities and the safeguarding of important values, such as accountability for damages, consumer safety and a level playing field (Malhotra & Van Alstyne, 2014). Finding the right approach that simultaneously encourages the positive effects and mitigates the risks is thus of vital importance. This study will provide a first step to find this right approach.

1.2 The process of institutional change

From an academic point of view these developments can be studied using different perspectives (Teubner, 2014), including: Legal studies, which focus on the legality of the peer-to-peer sharing economy companies in specific cases; behavioural studies, which focus on the motivations people have to participate in the sharing economy; and IT studies, which focus on characteristics of digital platforms that guarantee optimal performance.

This report will study the peer to peer developments from the perspective of *institutional economics* theory. In this field of theory the institutions of an environment are of vital importance to the

dynamics that occur. These institutions can be described as a "system of rules that structure the course of actions that a set of actors may choose" (Scharpf, 1997). When we speak of a system of rules, not only formal rules like laws and regulations are meant. Four different types of institutions can be discerned (Williamson, 1998):

1. First level institutions are the rules that govern the individual actors in the system. Internal hierarchies and contracts belong to this category. In the case of the taxi market a first level institution for example is that a taxi driver has a contract with a taxi company and a license to act as a driver in a certain area.
2. The second level of institutions concerns specific arrangements that are agreed upon between multiple actors. Agreements between taxi companies about the division of area's for their business can be seen as an example on the second level.
3. The third level consists of the legal rules and regulations in the system. Formal rules in the taxi industry for example require taxi drivers to pass exams and to purchase licenses before they are allowed to act as a taxi driver.
4. The fourth layer is on the level of culture and values, unwritten rules all actors in the system abide to. This layer determines the attitude different actors have towards new problems and solutions. The culture in the taxi market for example is a quite closed and protectionist one where taxi drivers have to invest a lot to acquire a license and where newcomers are not welcome.

This study thus focusses on the system of rules, in the form of personal relations, organizations, laws and regulation and norms and values, that shapes the developments of platform companies such as Airbnb and Uber.

As stated in the introductory paragraph peer-to-peer sharing economy platforms have a strong impact on their environments and the incumbent actors. A way to look at this is to say that the new entrants change the dynamics of their environment and thus the system of rules that structure the course of actions. When we look at the example of the taxi market we see that new personal contracts between drivers and operators are possible (level 1), area divisions become irrelevant (level 2), specific laws that were written for the taxi market do not take into account the possibilities of Uber like companies (level 3) and society calls for a more open culture when it comes to personal driving services (level 4).

The challenging nature of the peer-to-peer sharing economy platforms can be explained using the *evasive entrepreneurship* concept (Elert & Henrekson, 2015). This concept states that existing institutions can prevent entrepreneurs from undertaking certain actions or can raise the costs of entrepreneurial activities significantly. A way for entrepreneurs to evade these institutions is to exploit unclear or contradicting institutions. Inconsistencies in or the lack of regulations make it unclear if an activity is illegal or not. This is exactly what we see is happening with peer-to-peer sharing economy platforms like Uber and Airbnb. By defining themselves as technology companies instead of transportation or hospitality companies, these companies operate in a "legal void" (Isaac, 2014). Hereby "evasive entrepreneurs through their actions in the market may spur institutional change with potentially important welfare effects" (Elert & Henrekson, 2015, p.1).

The existing institutions are thus challenged by the peer-to-peer sharing economy platforms and a process of institutional change is instigated. In the field of institutional change several theories are

present. One concept especially addresses the issue when there is a gap between the institutions intentions and its outcomes: *institutional layering* (Van der Heijden, 2011). Following this concept one can see that "some actors will try to close the gap, while others might benefit from the gap as it serves their interests and aim to keep it as it is" (Van der Heijden, 2011, pp. 11), just like we see is happening with Uber and the taxi market. The concept of layering states that the existing institutions are not replaced entirely but that gradually step by step change will occur (Mahoney and Thelen, 2010). This perspective was used to look at the current processes that occur in the environments of innovations like Uber and Airbnb.

By taking this *institutional economics* perspective this study positions itself between the legal question (what is allowed and what is not allowed?) and the political question (what approach towards these companies is desirable?). Such a positioning can help to create insight into the effects of peer-to-peer sharing economy platforms on society and can form a basis for the formulation of a suitable and well-informed response. The next paragraph elaborates on this by formulating the research problem this study tries to tackle.

1.3 Research problem

Given the rise and impact of peer-to-peer sharing economy platforms and the theoretical interpretation of the developments that are occurring, this study aims at gaining more insights into the effects of the peer-to-peer sharing economy platforms on society. The motivation for such a study is twofold: gained insight in the effects of peer-to-peer sharing economy platforms has both a societal and an academic relevance.

Firstly a study towards the effects of peer-to-peer sharing economy platforms has a strong societal relevance. As discussed in the first paragraph, the rise of these companies has had a big effect on the respective environments and a process of institutional change is instigated. On the one hand these companies clearly use innovative business models that potentially have positive effects on economic growth. On the other hand their disruptive nature is a cause of concern and effects on society are unclear. Kenney and Zysman (2015) summarize this by saying that "these transformations need to be simultaneously nurtured, supported, and protected against" (Kenney & Zysman, 2015, p. 4).

The significant effects of digital platforms are also acknowledged by the European Commission (Ivanovas, 2015). Online platforms are part of the European Digital Single Market strategy, which aims to "open up digital opportunities for people and business and enhance Europe's position as a world leader in the digital economy" (European Commission, 2016a, par. 1). The European Digital Single Market knows three pillars: 1) creating *Access* for consumers and businesses, 2) establishing the right economic *Environment* for internet services to flourish and 3) maximising the growth benefits for *Economy & Society* (European Commission, 2016a). As part of the European Digital Single Market the emergence of online platforms is seen as a positive development, however some concerns are raised. It is for example unclear what these platforms do with user data and what effect the bargaining power of these platforms has on economic relations. Besides this consumer protection might be under pressure (European Commission, 2016b, par. 4-5). The impact of these digital platforms can thus be significant and "depends on the types of platform concerned" (Ivanovas, 2015, p.1). Depending on the impact of the platforms, they "may give rise to regulatory intervention" (Ivanovas, 2015, p.1). One of the identified types of platforms is platforms in the sharing economy, but currently no specific communications on these platforms have been published.

This study focusses on the role of policymakers in handling the challenge sharing economy platforms pose. How must local, national and international policymakers find their way in these diverging interests? If the trend is left alone the new businesses might lead to the creation of jobs, more efficient markets and economic growth. The negative aspects of these platforms might however grow worrisomely big. Consumer protection might erode, tax revenues might go down and competition might become unfair. Regulatory intervention on the other hand might completely stifle the new initiatives, halting innovation and possible economic growth. Hence, a balanced trade-off between these values must be made.

According to Kenney and Zysman (2015) policymakers have a hard time making this trade-off. The reason for this is that it is very difficult to comprehend the developments and the effects the platforms have on society. Ballon and Van Heesvelde (2011) acknowledge this and state that it is hard to formulate suiting regulatory reactions without a clear view on the effects on the digital platforms. They argue that a "valid approach (would be) to start with a more theoretical exercise" (Ballon & Van Heesvelde, 2011, p. 708). This theoretical exercise is needed because currently there is no clear framework or conceptual model of the effects of peer-to-peer sharing economy platforms on society (Ballon & Van Heesvelde, 2011; Kenney & Zysman, 2015; Martin, 2015).

Policymakers have to make a balanced trade-off in deciding how the best reactions to both nurture and protect against peer-to-peer sharing economy platforms. Such a trade-off can only be made when the effects of the platforms on society are comprehendible. A conceptual model or framework can provide these insights. No theoretical overview of the effects of peer-to-peer sharing economy platforms is however present in theory yet.

The objective of this study is to create a theoretical overview of the effects of peer-to-peer sharing economy platforms on society. The theoretical overview must be suited for use by policymakers in making trade-offs to determine the best regulatory reaction. The trade-offs policymakers have to make should ideally not be made on the basis of the current institutions (e.g. existing sector regulations), but on the underlying values that are effectuated by the platforms (Camps, 2015). These values are the ultimate objective of policy; legislation and other institutions are the instruments to reach this objective. The rationale is that certain values need to be secured or promoted and that current legislation is present in order to achieve this. The foundation for the adjustment of existing or formulation of new policy should thus ideally be based on the envisaged policy objectives and not on the current instruments. The assessment of the different effectuated values is thus very important in deciding on what reaction is best and currently this assessment of values is incomplete (Camps, 2015). We hereby define value as: "Principles or standards of behaviour; one's judgement of what is important in life" (Oxford Dictionaries, 2015).

A reaction on the developments should be based on a value assessment, but should also take into account the reality of actors and possible institutional arrangements. To create a context for the effectuated values, this study will thus also consider the different types of actors that are involved with the developments and the institutional arrangements that are currently proposed to secure the effectuated values. More specific the objective of this study is to create a theoretical overview of the effects of peer-to-peer sharing economy platforms on society, in terms of effectuated values, involved actors and possible institutional arrangements to mitigate the negative effects of the platforms.

Summarizing we can say that it is of societal relevance to encourage the innovative developments of these platforms, which might lead to economic growth, and to secure important values in society simultaneously. Shaping a suiting approach to this difficult task is however very hard without a clear (and theoretical) overview of the effects of the peer-to-peer sharing economy platforms. There is however no theoretical framework or conceptual model present in theory that focusses on these effects. This study is aimed at creating such a conceptual model based on the values that are effectuated, the actors that are involved and the institutional arrangements that are possible. The next paragraph will elaborate on how the research is designed in order to develop this conceptual model.

1.4 Research design

In designing a research one can chose for a quantitative or qualitative approach. Given the exploratory nature of the research objective, a qualitative approach is most suitable for this study (Verschuren & Doorewaard, 2010). Fundamental to this approach is that "a qualitative study does not begin with a hypothesis or a presumed outcome as in the case of a quantitative study. However (…) a qualitative study cannot begin without a plan" (Agee, 2009, pp. 433). This paragraph elaborates on this plan by discussing the research questions guiding the qualitative research and the Grounded Theory approach that was used.

1.4.1 Research questions

In order to achieve the objective as formulated in the previous paragraph, this study is structured around research questions. The main research question of this study is formulated as follows:

What are the effects of peer-to-peer sharing economy platforms on values, actors and institutional arrangements?

In order to answer this main research question, several supporting questions were answered:

1. *What constitutes the concept of peer-to-peer sharing economy platforms?*
2. *What values in society are effectuated by the emergence of peer-to-peer sharing economy platforms?*
3. *For what types of actors are these values relevant?*
4. *What types of institutional arrangements are proposed to secure these values?*
5. *How can the values, actors and institutional arrangements be combined in a conceptual model of the effects of peer-to-peer sharing economy platforms on society?*

In the following subparagraph the approach towards the answering of these questions will be discussed.

1.4.2 Research methods

This study was conducted in six steps, in which three different methods were used: 1) Desk research, 2) Grounded Theory Analysis and 3) Expert interviews. Table 1 shows an overview of the methods used in the different steps. Below the different steps will be elaborated on.

Table 1 – Schematic overview of use methods, answered research questions and outcome of each step

	Method / Approach	Subquestions	Outcome
Step 1	Desk research: - Description of the trend - Institutional economics theory	-	- Research problem - Research design
Step 2	Desk research: - Digital platform theory - Sharing economy theory	1	- Definition of the concept
Step 3	Grounded Theory: - Open coding - Axial coding	2, 3 and 4	- Long list of values, actors and institutional arrangements - Values, actors and institutional arrangements categories
Step 4	Grounded Theory: - Selective coding	5	- Conceptual model of values, actors and institutional arrangements
Step 5	Expert interviews	-	- Validated conceptual model of values, actors and institutional arrangements
Step 6	Desk research: - Theoretical comparison - Usability demonstration	-	- Validated conceptual model of values, actors and institutional arrangements with tested theoretical and practical value

Step 1

During the study different rounds of desk research were conducted. An initial desk research was performed on the trend of peer-to-peer platforms in the sharing economy and on institutional economics theory. The academic search engines Scopus and Google Scholar were used to find publications on the peer-to-peer platforms in the sharing economy and also the general search engine Google was used to find semi- or non-academic sources. Keywords that were used include: “digital platforms,” “sharing economy,” “platform economy,” “peer-to-peer platforms,” “Uber” and “Airbnb.” Publications on *institutional economics* theory were mostly gathered using the reference lists of courses of the study Systems Engineering, Policy Analysis and Management where this field of theory was used.

The outcomes of the first step were the formulation of the research problem and the research design as described in this chapter.

Step 2

In this step the aim was to answer the first subquestion: What constitutes the concept of peer-to-peer sharing economy platforms? In order to answer this question another round of desk research was conducted, this time focussing specifically on theory on digital platforms and on the sharing economy. The desk research was based on the already found literature of the previous step and on new search results using the academic search engines.

The two fields of theory were combined to construct a taxonomy of digital platform types and sharing economy initiatives to scope the domain and to define the concept of peer-to-peer sharing economy platforms. By clearly defining the concept at hand a better conceptual model of the effects of a specific type of platforms (peer to peer platforms) on society can be constructed.

Step 3

In step 3 the effectuated values, involved actors and proposed institutional arrangements were identified (subquestions 2, 3 and 4). The approach that was used to identify these concepts was Grounded Theory. Grounded Theory is an exploratory approach that can be used to construct theory from empirical sources, thus to create a "grounded" theory (Glaser & Strauss, 1967).

The Grounded Theory approach emphasises the simultaneous collection and analysis of data, since the concepts and focus of an exploratory study are not crystal clear at the start of the process (Corbin & Strauss, 1989). During the process the focus of the researcher can shift or deepen to help a researcher find the relevant data and evidence for the construction of theory. New data is thus sampled on theoretical grounds and not on statistical grounds (Corbin & Strauss, 1989). In the context of this study we can say that the different effectuated values are not known yet and findings during the analysis might lead to an increased interest in certain types of publications. This shifting focus might seem unstructured and not academic from a quantitative point of view, but for theory building this adaptation on the initial research plan is acceptable (Eisenhardt, 1989).

The simultaneous collection and analysis of data and the possibility to shift and deepen focus, make the Grounded Theory analysis significantly different from case study research, another often used qualitative research method. In case study research the material to be studied is set before the study takes place and is linked to specific cases of interest. Next to that, a case study protocol is used to guarantee that the case material will be examined in a structured way with the right questions in mind (Yin, 2012). Case study research is thus a more structured and initially determined qualitative approach than Grounded Theory. In this study such a structured approach is however not feasible, since there is a lack of guiding or structuring theories on peer-to-peer sharing economy platforms. Without such a theoretical framework there are no initial grounds to structure the exploratory study on. Case study research is thus less suited for the task at hand.

Moreover, case study research is set up in such a way that each case is examined individually. Grounded Theory allows for a more holistic approach to the concept at hand by allowing the analysis of a combination of cases. Using a case based approach would result in the identification of specific effects of specific platforms. These effects however can only be based on the development of that specific platform so far. By combining different cases a more general view on the effects of peer-to-peer sharing economy platforms can be created. This identification of a broad range of effects can result in insights in the effects of specific platform even when these effects have not occurred yet. In other words, by combining cases one can learn from the effects of one platform to anticipate effects of the other. This makes Grounded Theory more suitable than a case study approach for the task at hand.

In chapter 3 the different steps of the method will be elaborately discussed, but the general set up of a Grounded Theory analysis is as follows. The method consists of three coding steps: open coding, axial coding and selective coding (Bryant & Charmaz, 2007).

In the open coding phase a set of selected sources was searched for relevant pieces of information. This happens on the basis of an initial set of concepts of interest, the sensitizing concepts (Blumer, 1954). The sensitizing concepts in this study are: values, actors and institutional arrangements. Different pieces of information in the sources are linked together by using codes. For example the code "sustainability" can be formulated to link different pieces of information on sustainability to each other. The open coding phase results in a long list of codes that capture the rich picture of the relevant concepts. In the axial coding phase these codes are categorized together to create higher level concepts or categories. You can say that these categories summarize and order the rich picture of relevant concepts. In the final phase, the selective coding phase, the categories are structured even further and are related to each other (Bryant & Charmaz, 2007). In this phase the conceptual model of the relevant concepts is made on the basis of the identified categories.

In step 3 the aim is to answer subquestions 2, 3 and 4. For this only the open and axial coding are needed. The outcomes of this step are a long list of relevant concepts and a short list of higher level categories.

Step 4

In step 4 of the study the aim is to answer the 5th subquestion: How can the values, actors and institutional arrangements be combined in a conceptual model of the effects of peer-to-peer sharing economy platforms on society? This step corresponds with the selective coding phase of the Grounded Theory approach. The outcome of this step is a conceptual model, where the categories of the relevant concepts are structured and related to each other.

Step 5

The fifth step of the study is aimed at validating the composed conceptual model. This validation will be elaborately discussed in chapter 3, but the general set-up is as follows. The conceptual model was tested in the form of expert validation. This expert validation was conducted via the means of expert interviews where the found model was discussed. This discussion focussed on the individual parts of the model, as well as the model as a whole.

Step 6

In step 6 the theoretical and practical value of the model were tested. A theoretical comparison was conducted, which was based on desk research. In the theoretical comparison the model was positioned within different trends of publications on the sharing economy and digital platforms and was directly compared to a similar model that was developed in the same period as the model of this study. The results of the comparison are used to put the model in the right perspective and to identify both the possible added value and the features that are left out. Besides the theoretical value, the practical value of the model was tested by applying the model to a specific case. By applying the model to assess the effects in this specific case, the usability of the model will be tested.

1.5 Structure of the report

The different steps of the study correspond with the structure of this report. Chapter 2 will contain the domain scoping and concept definition of peer-to-peer sharing economy platforms. Chapter 3 focusses on the Grounded Theory analysis. The method will be discussed elaborately, the specific set-up for this study will be presented and the means to guarantee validity of the model will be discussed. Besides that the results of the open and axial coding phase will be presented. In chapter 4 the final phase of Grounded Theory will be conducted, the selective coding phase, in which the

conceptual model will be presented. Besides this the validation by expert interviews will be discussed. In chapter 5 the theoretical comparison and application to the specific case will be discussed, in order to test and demonstrate the theoretical and practical value of the model. Finally chapter 6 will draw conclusions from the used method and conceptual model to answer the main research question. This chapter will also contain the recommendations for stakeholders and future research questions and the reflections on methods and outcomes.

Chapter 2 – Domain scoping and concept definition

Peer-to-peer sharing economy platforms have a big influence on society and a theoretical perspective on their effects needs to be created. A first step in this process is to clearly scope the domain of interest and to define the concept of peer-to-peer sharing economy platforms. In this chapter an extensive literature review is conducted to achieve these objectives and to answer subquestion 1: What constitutes the concept of peer-to-peer sharing economy platforms? Paragraph 2.1 elaborates on the combination of two theoretical approaches that are relevant in scoping the domain: Digital platform theory and sharing economy theory. Paragraph 2.2 and 2.3 subsequently focus on the relevant literature in these fields. The chapter concludes with paragraph 2.4, where the definition of a peer-to-peer sharing economy platform is set, which is the deliverable of this chapter.

2.1 Two theoretical approaches towards the concept

This study looks at the concept of peer-to-peer sharing economy platforms from the perspective of institutional economics. To create a conceptual model of the effects of these platforms first a clear definition of this concept is needed.

The concept peer-to-peer sharing economy platforms contains two elements that both refer to a different field of theory: digital platform theory and sharing economy theory. The process of defining the concept can thus be approached both from the one filed of theory as well as from the other. For example in the communication of the European Commission as referred to in paragraph 1.3 digital platforms are the main subjects (Ivanovas, 2015). Digital platforms in the sharing economy are considered as one type in this field. One can however also approach the concept from the new field of sharing economy theory. Here peer-to-peer platforms are only one type of sharing economy business model (next to for example shared ownership). This chapter will investigate both fields of theory to come to the definition of peer-to-peer sharing economy platforms as was used in this study. Figure 1 illustrates the area of interest, the intersection of both fields of theory.

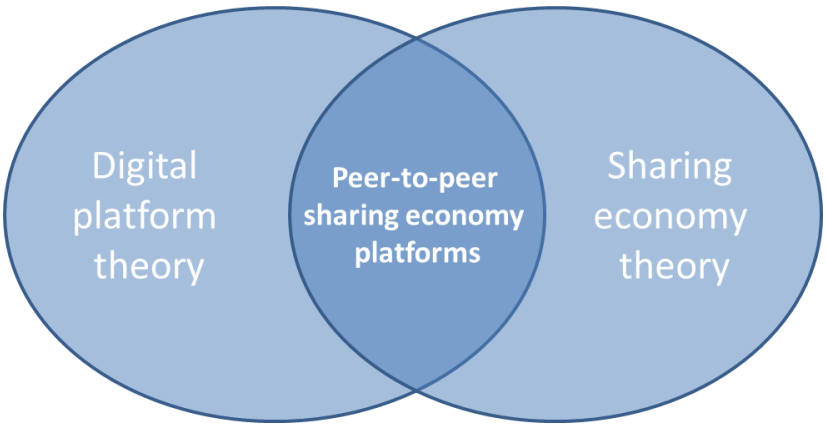

Figure 2 – Theoretic area of interest

2.2 Digital platforms

Digital platforms are the backbone of peer-to-peer sharing economy platforms. The economic idea of a platform is that it brings collaborators together in order to create value. Collaborators are the users, peers and providers in the market (Kenney & Zysman, 2015). By bringing these people together products and services can be exchanged in direct transactions (Eisenmann, Parker & van

Alstyne, 2006; Hagiu & Wright, 2011). Note that under this definition any place that brings together people that together create value can be seen as platform. Think for example of real-life marketplaces or start-up incubators.

The digital aspect of platforms is the main reason businesses like Uber and Airbnb could become so large so quickly. The foundations for these digital forms of platforms are the "algorithmic revolution" and the rise of cloud computing possibilities. Combined these two technological developments have made computing power a variable and operational cost (Kenney & Zysman, 2015). This means that businesses can acquire this computing power at a distance from third parties instead of them having to make large inflexible investments in their own servers. This results in low entry barriers for online platforms and for huge scaling possibilities.

Bringing consumers, peers and providers together on a digital marketplace has proven to be very successful formula. This success is amplified by the phenomena that this set-up almost always creates a winner-takes-all situation, where the platform owner has a monopoly on the place where these transactions occur (Kenney & Zysman, 2015). The bigger the amount of users the more attractive the platform becomes for new users and so forth. This monopoly position allows platform owners to acquire "gatekeeper roles" in their system, which makes them very powerful (Ballon & Walravens, 2009).

2.2.1 Types of digital platforms

In digital platform theory a broad range of platforms is included. Examples are Google, as a search platform, Facebook, as a social network platform, the Apple AppStore, as an application platform, and Uber, as a ride sharing platform. In order to structure this field of platforms Ballon and Walravens (2009) present a typology. In this typology four types of platforms are discerned: Enabler platforms, System Integrator Platforms, Neutral Platforms and Broker Platforms. Determining factors in this typology are the control over the value adding assets and the control over the customer relation.

Control over the assets means that the platform owner owns or controls most of the assets "necessary for the value proposition" (Ballon & Walravens, 2009). The role of providers is limited to certain activities based on these assets.

Control over the customer relation means that the users of the platform are strongly connected to the platform and not the individual providers of the assets. Indicators for control over the customer relation are platforms where communication between user and provider can only be conducted through the platform, where payments are processed through the platform and the branding of the products is performed by the platform.

Table 2 presents a schematic overview of the types of platforms.

Table 2 – Platform typology after Ballon & Walravens (2009, p. 5-6)

	No Control over Customers	Control over customers
Control over assets	**Enabler Platform** The platform owner controls many of the necessary assets to ensure the value proposition, but does not control the customer relationship.	**System Integrator Platform** The platform owner controls many of the assets to ensure the value proposition, and establishes a relationship with end-users. Entry of 'third-party' service providers is actively encouraged.
No control over assets	**Neutral Platform** The platform owner is strongly reliant on the assets of other actors to create the value proposition, and does not control the customer relationship.	**Broker Platform** The platform owner is strongly reliant on the assets of other actors to create the value proposition, but does control the customer relationship.

Based on this classification the four types of platforms can be described as follows:

- With a platform of the **enabler** type the platform owner has control over the assets, but not over the customer relation. An example of this is the Android operating system of Google. This is a platform in the way that it provides a software environment where application developers can reach telephone users. The Android operating system is the biggest part of the value proposition to buyers of phones, since it provides all the functionalities. Android is however not in control over the customer relation since telephone hardware developers, mobile network operators and retailers do this. Payment, communication and branding are mostly done by these parties.
- A **system integrator** type platform owner has control over the assets and also over the customer relation. As a contrast to Android, the Apple OSX operating system is mostly a system integrator platform. Apple provides almost the whole value proposition by itself, since it develops the hardware and provides the operating system that facilitates the functionalities of the phone. Next to that Apple also controls the customer relationship because it sells its own phones and creates a strong Apple lock-in effect with the iCloud and iTunes accounts.
- **Neutral** platform owners have no control over the assets and also no control over the customer relation. An example of this type of platform is PayPal. This payment platform only facilitates the financial transaction between a user and provider and does not control the assets or have a strong connection with the customers.
- The **broker** platform owner does not have control over the assets, but does control the customer relation. These platforms connect providers that own and control the assets with customers. These customers are tied to the platform and not to the individual providers. Examples as Uber and Airbnb make this very clear. Providers own the cars and houses that are the object of the transaction, but no contact between provider and user is possible

outside the platform, payment is processed through the platform and the branding is done on platform level.

Not only Ballon and Walravens (2009) emphasize the importance of ownership, Gansky (2010) also makes a distinction in platforms based on ownership. In her book two types of platforms are discerned: Full mesh platforms and Own-to-mesh platforms. Full mesh platforms are platforms where one party owns all the assets and provides them as a service to consumer. A classic example of this is the leasing schemes for photocopying machines. Own-to-mesh platforms are platforms where a company only owns the platform that connects people who need assets with people who own assets.

This distinction in central or decentral ownership is also made by Hill and Wellman (2012), who classify platforms using two axes: 1) Whether the platform owns the assets or the providers do, and 2) whether the platform transfers the goods to the users or the users themselves do. An example of central ownership and peer-to-peer transfer is ZipCar, where a fleet of cars is owned by the company, but users pick-up and return the cars to designated parking spots. An example of provider ownership and peer-to-peer transfer is Peerby, where users can lend goods of others and pick up the goods themselves.

2.2.2 Scoping of digital platforms

Given the broad range of platforms that are part of digital platform theory it is important to indicate what type of platforms are meant with the peer-to-peer sharing economy platforms in this study. Following Ballon and Walraven's leading typology (2009) the concept used in this study only includes the broker type platforms, in the terms of Gansky (2010) the Own-to-mesh platforms. To keep this study to a manageable size it is decided to only focus on this type, since it best fits the peer-to-peer sharing economy platform idea.

2.3 Sharing economy

The second theoretical approach towards peer-to-peer sharing economy platforms is from the field of sharing economy theory. This field of theory is relatively young and there are only a limited number of academic papers that cover the characteristics of the sharing economy. Within theory on the sharing economy there are different subdomains (Teubner, 2014). There are papers that focus on the motivations behind sharing (e.g. Hamara and Ukkonen, 2013), papers that investigate the aspect of regulation and competition in the sharing economy (e.g. Boudreau & Hagiu, 2008; Cusumano, 2014; Gobble, 2015) and papers that look into specific instances of the sharing economy. Examples of this last subdomain are Isaac (2015), who explores the effects of TaskRabbit; Zekanović-Korona and Grzunov (2014), who study demographics of Airbnb users; and Zervas, Byers and Proserpio (2013), who study the effects of Airbnb on hotel revenue in Texas. In order to come to a definition of peer-to-peer sharing economy platforms especially papers that define and categorize the sharing economy are relevant.

2.3.1 Defining and categorizing the sharing economy

There is no generally accepted definition of the sharing economy in theory (Martin, 2015). Schor (2014) also mentions this by stating that "coming up with a solid definition of the sharing economy that reflects common usage is nearly impossible. There is great diversity among activities as well as baffling boundaries drawn by participants" (Schor, 2014, p. 2). One way of getting close to an understanding what the sharing economy is, is by categorizing types of sharing economy initiatives.

Creating such a “map” of the sharing economy is an important step in studying the effects on society (Martin, 2015).

An important and early publication in the field of sharing economy theory is the book “What’s mine is yours” by Botsman and Rogers (2010). In their book the authors discern three broad categories of collaborative consumption:

1. **Redistribution markets.** These types of initiatives enable the reselling or redistribution of used goods. Examples are marketplaces where used children clothing is sold to parents that have a slightly younger child.
2. **Product service systems.** In this category initiatives are included where people pay for the rights to access certain goods, instead of purchasing the good all together. Access over ownership is a way to save money and to prevent waste of resources and idle capacity. An example is Zipcar, where individuals do not own a car anymore, but use a centrally owned car when needed.
3. **Collaborative lifestyles.** These types of initiatives are based around intangible assets like time, money and skills. People share services, learn from each other and divide work. Examples are TaskRabbit or Skillshare, where people run errands on demand or share their knowledge of certain skills via online videos.

These categories were the first to map the sharing economy under the name of collaborative consumption (Stokes, Clarence, Anderson & Rinne, 2014). Later more publications and mappings followed. Cheng (2014) for example makes a more inclusive classification of types of initiatives that fall under the umbrella of the sharing economy. She identifies the following seven categories:

1. **Peer-to-peer marketplaces**. On these online marketplaces providers and users meet to exchange goods (new or second hand) or services. Examples are Uber or Airbnb.
2. **Gift economy**. These types of sharing economy initiatives are based on voluntary contribution of goods or services. An example is Couchsurfing, which allows travellers to sleep for free at homes of freely sharing homeowners.
3. **Commons-based peer production**. These types of initiatives rely on small voluntary contributions from a large group of people. An eminent example is the online encyclopaedia Wikipedia.
4. **Solidarity economy/democratic wealth**. In this category initiatives can be found where a larger group of people together own wealth or control assets or efforts, mostly in order to create mutual wealth. Examples are time banks where every person pledges to invest a certain amount of time per month to help other people.
5. **Collaborative Consumption**. The goal of initiatives in this category is to prevent excess production of goods. Examples are Zipcar, where cars are shared, or toolsheds, where tools are shared.
6. **Peer-to-peer lending**. Initiatives in this category are based on the lending of money to others. This can concern microcredits or buying debt assets.
7. **Crowdfunding**. These initiatives are aimed at realising projects by a large number of small investments by different people. Kickstarter is an example of this.
8. **Ridesharing**. Finally ride sharing initiatives are all based around sharing transportation. Either by hitching rides (Blablacar) or by renting cars from your neighbours (Getaround).

Besides these broad categories of types of initiatives there are also multiple authors that divide the sharing economy on the basis of business sectors (Matofska, 2015; Johal & Zon, 2015; Owyang, 2014; Bothun et al., 2015). Sectors that are commonly mentioned are transportation, hospitality, consumer goods, food, money, knowledge & learning and health & wellness. Most of the authors that use a sector-based approach to classify the sharing economy have a consultancy background. Classifying the sharing economy according to existing sectors can be appealing to existing corporate clients that want to anticipate on the sharing economy. This sector-based approach however is not clear-cut since one fundamental effect of digitization and platforms is that "sectors are blurring" (Kenney & Zysman, 2015, p. 12).

2.3.2 Scoping to peer exchange

For this study it is relevant to distil the peer-to-peer platforms in the sharing economy from the other types of sharing economy initiatives. In the described classification efforts of the previous paragraph Cheng (2014) makes a distinction between peer-to-peer platforms and other sharing economy business models, but some overlap is present (for example collaborative consumption or gift economy initiatives can also be based on peer-to-peer platforms). The peer-to-peer aspect in this study means that there is a 1-on-1 transaction between a provider and a user and that the main objective is reached within this one transaction. The main objective of an Uber ride for example is to reach a certain location, after the one transaction (the ride) this objective is met. Platforms where a 1-on-1 peer-to-peer aspect is not present are outside the scope of this study. Examples of this are crowdsourcing platforms.

When we look into types of peer-to-peer exchange we can use the classification Andersson, Hjalmarsson and Avital (2013) make. In their paper the authors discern four types of peer-to-peer exchange in the sharing economy:

1. Peer-to-peer file sharing, where the content is digital.
2. Peer-to-peer trading, where transfer of ownership takes place.
3. Peer-to-peer goods sharing, where access to goods is provided.
4. Peer-to-peer service sharing, where services are provided.

In the concept of peer-to-peer sharing economy platforms used in this study not all types of this typology are included. Two scoping decisions are made:

The first is that peer-to-peer file sharing is not included. The concept of peer-to-peer sharing economy platforms in this study only includes platforms where a physical world component is present. Examples of peer-to-peer platforms where no physical component is present are The Pirate Bay and Skillshare. These two online environments enable the sharing of digital content or access to digital content in the form of streaming. Where the latter is generally seen as part of the sharing economy, the former is mostly not. Initiatives such as The Pirate Bay (for example Popcorn Time and BitTorrent) are highly controversial due to copyright discussions. These types of platform have already been studied extensively in the past few years (Peitz and Waelbroeck, 2006) and including platforms that allow for the sharing of digital content in this study, would introduce this highly contested area of practices in this study. It is therefore chosen not to include these platforms in the definition of peer-to-peer sharing economy platforms as used in this study.

The second scoping decision on peer-to-peer exchange is that peer-to-peer trading is not taken into account in this study. In this study only platforms were taken into account where no transfer of ownership takes place. The concept of sharing in the sharing economy is widely discussed since not all initiatives truly comprise the sharing of goods (Teubner, 2014). An example of a platform that is often included in the sharing economy is Etsy. On this platform artists can offer their creations to buyers from all over the world. In other words Etsy is a marketplace for art and thus not much different from Ebay (an international auctioning market) and Marktplaats (a Dutch website where second-hand goods can be traded). These types of platforms have led to considerably less controversy in society and do not pose as big a challenge as Uber and Airbnb type of platforms. For this reason peer-to-peer trading platforms are not included in the definition of peer-to-peer sharing economy platforms as used in this study.

Concluding we can say that from a sharing economy perspective only peer-to-peer exchange is taken into account. Of the types of peer exchange discerned by Andersson, Hjalmarsson and Avital (2013) peer-to-peer file sharing and peer-to-peer goods trading are not included. This leaves the peer-to-peer goods sharing platforms (e.g. SnappCar and GoBoat) and peer-to-peer service sharing platforms (e.g. Uber and TaskRabbit).

2.4 Definition of peer-to-peer sharing economy platforms

Combining the scoping decisions from both digital platform theory and sharing economy theory we can now define the concept of peer-to-peer sharing economy platforms that is used in this study. This definition is the answer on the first subquestion of this study: *What exactly constitutes the concept of peer-to-peer sharing economy platforms?*

On the basis of digital platform theory we have defined three criteria on which to assess if a platform is part of the peer-to-peer sharing economy platform concept:

1. There is a digital platform where providers and users meet to conduct a transaction.
2. In this transaction the providers own/control the value adding assets.
3. The platform controls the user relationship.

From the field of sharing economy theory we can set three more criteria on which to assess if a platform is part of the peer-to-peer sharing economy platform concept:

4. The main objective of the user is met in a 1-on-1 transaction.
5. The main product of the transaction knows a physical world component.
6. In the transaction no transfer of ownership takes place.

Combining all these criteria leads to the definition of a peer-to-peer sharing economy platform that is used in this study. The answer on subquestion 1 is thus:

A peer-to-peer sharing economy platform is a digital platform where providers, who own the value added assets, meet with users, of which the platform controls the user relationship, in order to execute a 1-on-1 transaction with a physical world component, where no transfer of ownership takes place.

Examples of platforms that fit this description are Airbnb (short stay rentals), Uber (taxi services), Postmates (delivery services), TaskRabbit (all kinds of small tasks), GoBoat (boat sharing), BlaBlaCar

(ride sharing), Parking Panda (parking spot sharing), Peerby (goods sharing), Feastly (cooking services), DogVacay (dog sitting services), Shurfing (surf equipment sharing), Munirent (heavy equipment sharing), CouchSurfing (short stay couch sharing), DeskBookers (short stay working spot rental), Dolly (furniture moving services) and many more.

The platforms that fit this definition are the object of interest in the Grounded Theory analysis.

Chapter 3 – Grounded Theory approach

On the basis of the definition of the concept of peer-to-peer sharing economy platforms the study towards the effects on society can start. As discussed in chapter 1, this study focusses on the effects of these platforms on values, actors and institutional arrangements. This chapter elaborates on the Grounded Theory approach that was used to identify these effects. Paragraph 3.1 discusses the different steps of the method in detail and presents the specific set-up of the analysis in this study. Following this, paragraph 3.2 elaborates on the methodological validation of this approach. The outcomes of the open and axial phases of coding will subsequently be presented in paragraph 3.3 and 3.4. Together these outcomes answer subquestions 2, 3 and 4.

3.1 Grounded Theory approach and set-up

This paragraph elaborates on the used Grounded Theory approach as was introduced in chapter 1. The methodological steps of Grounded Theory will be covered in subparagraphs 3.1.1 to 3.1.4 and sub paragraph 3.1.5 introduces the specific set-up of grounded analysis that was conducted in this study.

3.1.1 Sensitizing concepts

The Grounded Theory approach is an exploratory method in which multiple sources are coded to find relevant concepts to construct a theory or conceptual model (Glaser & Strauss, 1967). In this study the object of interest is the concept of peer-to-peer sharing economy platforms. The aim of this study is to compose a conceptual model of the effects of these platforms. The search for concepts that can form the basis for such a model can start by formulating sensitizing concepts. These sensitizing concepts are the initial ideas about the possible theory that guide the analysis of the study (Blumer, 1954). Or in other words, sensitizing concepts can be seen as “interpretive devices and as a starting point for a qualitative study” (Bowen, 2006).

The formulation of sensitizing concepts at the onset of the Grounded Theory approach is however a contested practice and the cause for a major divide between the two founders of Grounded Theory: Barney Glaser and Anselm Strauss (Kelle, 2007). According to Glaser a researcher should start a Grounded Theory approach without any preconceived idea or theoretical frame. Such a clean sheet would allow for the purest form of theory building from empirical data. Strauss however proclaimed that researchers, especially novice researchers, could start with a theoretical perspective in mind, in order to better create usable theory. According to Strauss theory created without any reference to other fields of literature would be of less relevance (Kelle, 2007). In this study it was chosen to follow Strauss’s line of thought and to start with a theoretical perspective and sensitizing concepts. This decision was made since the usability of the ultimately derived theory is of major importance given the challenging developments as described in chapter 1.

The perspective on the peer-to-peer sharing economy platforms that was used in this study is that of *institutional economics*. As was described in chapter 1, this perspective focusses on the institutions (or sets of formal and informal rules) that shape the development of the peer-to-peer sharing economy platforms. The developments around the peer-to-peer sharing economy platforms put existing institutions under significant stress and a process of institutional change is occurring. In the process we see that there is a gap between the intentions of the existing institutions and their outcomes. A step-by-step adjustment of these institutions is needed to close this gap (Mahoney and

Thelen, 2010). In the context of this theoretical perspective three sensitizing concepts were formulated.

Since we established that policymakers have to make a trade-off between values that are effectuated by the platforms, the effects on values were the starting point of our search. Policymakers have to make a trade-off between different values, but have to do this in an environment full of involved parties and existing institutional arrangements. Besides that new parties might get involved and new institutional arrangements might be proposed to secure the values that are effectuated. To create a model that can help in making a trade-off between values, it can thus be important to include notions about the context of the trade-off. This context exists of the involved actors and the used or proposed institutional arrangements. The sensitizing concepts that were used in this study are thus the following three: *Values*, *Actors* and *Institutional arrangements*.

The first sensitizing concept that is formulated is *Values.* As was mentioned in the first chapter, the definition for *Values* used in this study is: "Principles or standards of behaviour; one's judgement of what is important in life" (Oxford Dictionaries, 2015). The values in this study are formulated as the concepts that are of importance to *Actors* involved with the rise of peer-to-peer sharing economy platforms. Examples of values range from *Autonomy* (providers find it important to autonomous) to *Economic growth* (Governments, industries and citizens find it important that the economy keeps growing).

The definition of an *Actor* is as follows: "An actor is a social entity, a person or an organization, able to act on or exert influence on a decision" (Enserink et al., 2010). In the context of this study, the *decision* that has to be made is the suiting reaction of the policymaker towards the rise of peer-to-peer sharing economy platforms. All social entities that can have an influence on this decision are thus defined as actors. This influence can be very direct (e.g. the policymakers themselves are also interpreted as actors) or very indirect (e.g. journalists who steer the public opinion on the sharing economy), very influential (e.g. large incumbent industry coalitions with strong connection with policymakers) or not very influential (e.g. individual providers that are dissatisfied with the platform company).

The final sensitizing concept is the concept of *Institutional arrangements*. *Institutional arrangements* are defined as "different (in)formal regimes and coalitions for collective action and inter-agent coordination, ranging from public-private cooperation and contracting schemes, organizational networking to policy arrangements" (Centre for International Development Issues Nijmegen, 2007). These institutional arrangements are thus configurations or instances of institutions on the different institutional levels (Williamson, 1998) as were discussed in chapter 1. Examples include platform-initiated reputation system, contracts between platform companies and regulators and legislation on short-stay rental entrepreneurs (Airbnb providers).

These three sensitizing concepts are the concepts that guide the analysis of the different sources with the aim to create a conceptual model of the effects of peer-to-peer platforms on society

3.1.2 Open coding

After the sensitizing concepts are formulated, the first of three coding phases is executed: the open coding phase (Strauss & Corbin, 1990). On the basis of the sensitizing concepts the different selected sources were analysed or as Walker (2006) formulates it: "In open coding, analysts immerse

themselves in the data through line-by-line analysis, coding the data in as many ways as possible and writing memos about the conceptual and theoretical ideas that emerge during the course of analysis" (Walker, 2006, p. 551). Given the institutional economics perspective and the sensitizing concepts, practically this means that the sources were studied with the following questions in mind: What effectuated values are described in this source? What actors are involved according to this source or for which actors are these values relevant? Which institutional arrangements are proposed in this source?

The answers to these questions were marked in the text, creating quotations. These quotations are linked to a specific code. These specific codes were named after the value, actor or institutional arrangement that is discussed in the short text. For example the following text was coded under the value *accountability*:

> *"Last New Year's Eve, an off-duty driver for the ride-sharing service Uber killed a pedestrian while hunting for fares. Since the driver was a "contractor," the sharing service would not compensate the victim's family. The contract stipulates that the service is a matching platform and "the company does not provide transportation services, and … has no liability for services ... provided by third parties." Who then will bear the costs of such disasters? Jaron Lanier says these new business models enjoy profits while offloading risk to others. When society picks up the tab, these new business models raise concerns. Maybe they are no cause for celebration"* (Malhotra & Van Alstyne, 2014).

Fragments of texts in other sources that are also about *accountability* were linked to the same code. In this way a systems of codes is created that links different quotations and builds a base for the relevance of the code.

The codes composed in the open coding phase are formulated on a detailed level. The code accountability for example could also have been coded as *citizen protection*. Using more general codes like this does however not lead to the desirable outcome. The open coding phase is aimed at creating rich picture of the relevant concepts and a certain level of detail is preferable (Corbin & Strauss, 1990). This rich picture can later be refined, combined or removed in the axial coding phase.

On the basis of the found codes and the increasing understanding of the concepts new sources can be selected. In this way the researcher can shift or deepen his focus (Corbin & Strauss, 1990). In this study for example it appeared that the *working conditions* of Uber drivers or Taskrabbit errand-runners were a cause of concern. To get more insights into the specifics of these concerns several sources that focussed on the rise of different types of freelancer in the labour market were added to the analysis. By adding these sources the value *working conditions* could be linked to more quotations to create a stronger empirical base for the relevance of this value.

The open coding phase continues until theoretical saturation is reached (Corbin & Strauss, 1990). This means that new data sources do not provide any new insights anymore. The outcome of the open coding phase is a long list of relevant codes concerning values, actors and institutional arrangements, with links to their appearance in the different sources. The results of the open coding phase of this study will be discussed in paragraph 3.3.

3.1.3 Axial coding

In the axial coding phase the different codes that were found are refined and combined. This computation leads to the creation of higher level categories (Corbin & Strauss, 1990). In the case of this study the specific values were combined into higher level value concepts, the specific actors were combined into types or actors and the specific institutional arrangement into types of institutional arrangements. By creating higher level concepts from the long list of codes a first conceptualisation step is performed, creating increased insight into the effects of peer-to-peer sharing economy platforms.

The combination of codes is done on the basis of the increased understanding of the researcher (Corbin & Strauss, 1990). This understanding can sometimes be based on common sense (for example when the actors *local governments* and *national governments* were combined into the category *policymakers*) or on deeper insights into the dynamics of the main object of study, the peer-to-peer sharing economy platforms (for example when the actors *accountants*, *insurance companies* and *marketers* were combined in the category *enablers*, due to the fact that these types of actors can enable the practice of peer-to-peer platforms by providing services to the companies).

The results of the axial coding phase of this study will be discussed in paragraph 3.4.

3.1.4 Selective coding

The final step of the Grounded Theory approach is to take the higher level concepts of the axial coding phase and to relate them to each other in the selective coding phase (Corbin & Strauss, 1990). Walker (2006) states that "the analyst is charged with the task of integrating the data around a central theme, hypothesis, or story to generate a theory" (Walker, 2006, p. 556). This means the categories are structured in such a way that patterns and relations in the concept of interest become clear and a theory is formulated.

This theory is a substantive theory on the effects of peer-to-peer sharing economy platforms. A substantive theory is "a theory about the substantive area on which (the researcher) has conducted research" (Lempert, 2007, p. 246). This means that the model will only be applicable to the specific type of platform as was defined in chapter 2. Besides this the model is only applicable to these types of platforms in their development phase. When for example these platforms have reached a certain level of maturation and the process of institutional change is over, many findings in the model will not be relevant anymore. This type of theory different from a formal theory, which "is not specific to a group or place, instead applies to a wide range of concerns and problems across situational contexts" (Lempert, 2007, p. 246). Examples of formal theory could be theories on the effects of the sharing economy as a whole (thus also including other types of platforms) or theories the effects of technological developments in a broader sense (e.g. including the development of 3D-printing or drones).

In this study the process of axial and selective coding were performed in an iterative way. This means that initial categories were structured in different ways that lead to insights and adjustments in the composition of categories. The ultimately derived conceptual model was improved by means of expert interviews, which will be discussed in paragraph 4.2. The result of the selective coding phase, the conceptual model of the effects of peer-to-peer sharing economy platform on society, will be presented and discussed in chapter 4 of this report.

3.1.5 Specific set-up

The Grounded Theory approach for this study was conducted during a three month period, ranging from November 2015 to January 2016. In this period the three phases of coding were performed, each making up for about one-third of the time. This does however not mean that the phases were conducted in a strict sequential order. Especially during the axial and selective coding phase an iterative process of redefining concepts and relations was used.

In preparation for the Grounded Theory analysis a long list of 63 documents on the platforms in the sharing economy was composed. The academic search engines Scopus and Google Scholar were used to find academic sources on peer-to-peer sharing economy platforms. General keyword as 'sharing economy,' 'digital platforms,' 'platform economy' and 'peer-to-peer transactions' were used to find the different sources. Also specific keywords as 'Uber' and 'Airbnb' were used to find relevant authors and papers. Since the theory on peer-to-peer sharing economy platforms is relatively new, also semi-academic sources, like think tank reports and extensive journalistic articles, were used in this study. These sources were mostly found using the general search engine Google (instead of the academic search engines), since academic search engines only search academic sources.

Of the long list of 63 documents, 26 documents were analysed and coded in this study. These documents were selected from the long list on the basis of several criteria. First of all only the documents that focussed on peer-to-peer sharing economy platforms, following the specific definition used in this study were selected. Secondly, the selection favoured longer and more holistic articles over shorter and specific articles. Thirdly some sources were selected on the basis of increased insight into the concept of peer-to-peer sharing economy platforms.

Ultimately the selection contained a spread of different types of sources:

- Thirteen of the selected documents were academic papers or essays, written by researchers from several fields of study, including: Technology Strategy & Management, Business & Economics, Information Systems, Social Sciences, and Telecommunications Policy.
- Seven of the used documents were journalistic articles. Sources of these articles include the Australian Financial Review, the Financial Times and The Verge. Most of the journalistic articles were written from an Economics & Business or Technology perspective. Of the seven journalistic articles, two were explicitly opinionated.
- Five documents were reports from either think-tanks or consultancy companies. These reports were written from a Public policy & Regulation or a Business perspective.
- Finally one document was a vision statement from the Dutch Ministry of Economic Affairs. This document was written from a Public policy perspective.

Most of the above mentioned documents (twenty out of the twenty-six) were published in 2014 and 2015, since theory on peer-to-peer sharing economy is relatively new. An overview of the used documents can be found in Appendix A.

The process of coding was executed using ATLAS.ti version 7. ATLAS.ti is a qualitative research software package that allows for the coding of sources, the linking of quotations, the combination of codes into families and the creation of relational models between concepts. These capabilities make it pre-eminently suitable for conducting a Grounded Theory study. The full digital documentation of the coding process can be found in Digital Appendix A.

3.2 Validation of an interpretative research approach

The Grounded Theory approach is an interpretive approach, since the data is used to construct the theory, or in this case the conceptual model. This interpretive approach is different from positivistic studies, where one starts with a theory that is tested with data (Sandberg, 2005). Assessment of the quality or validity of an interpretive approach is done in a different way than with positivistic approaches (Sandberg, 2005). Corbin and Strauss (1990) acknowledge this for the specific case of Grounded Theory by stating that in judging Grounded Theory "it is not appropriate (…) to use criteria ordinarily used to judge the procedures and canons of quantitative studies" (Corbin and Strauss, 1990, p. 424). Note here that "quantitative studies" are considered positivistic.

Two approaches towards the assessment of the quality or validity of an interpretative approach can be used. Firstly Eisenhardt (1989) and Corbin and Strauss (1990) state that a Grounded Theory study should be empirically valid. Secondly Eisenhardt (1989) advocates that the resulting theory should be "good theory" and should provide new theoretical insights. These two approaches to validity will be discussed in the following paragraphs, along with the way this validity is safeguarded in this study.

3.2.1 Empirical validity

Eisenhardt (1989) states that theory building studies can be assessed by looking at the empirical aspects of the study. Important aspects that are mentioned are the strength of the method, the evidence that is grounding the theory and the analytical procedure. Researchers must provide information on the sample, data collection process and analysis in order for readers to assess the quality and validity of the study Eisenhardt (1989).

Corbin and Strauss (1990) make similar statements. According to them "the reader should be able to make judgments about some of the components of the research process that lead to the publication" (Strauss & Corbin, 1990, p. 425). The authors formulate seven questions (or criteria) that have to be answered in order for this to be possible:

1. "How was the original sample selected? On what grounds (selective sampling)?
2. What major categories emerged?
3. What where some of the events, incident, actions and so on that (as indicator) pointed to some of these major categories?
4. On the basis of what categories did theoretical sampling proceed? That is, how did theoretical formulations guide some of the data collection? After the theoretical sampling was done, how representative did these categories prove to be?
5. What were some of the hypotheses pertaining to conceptual relations (that is, among categories), and on what grounds were they formulated and tested?
6. Were there instances when hypotheses did not hold up against what was actually seen? How were these discrepancies accounted for? How did they affect the hypotheses?
7. How and why was the core category selected? Was this selection sudden or gradual, difficult or easy? On what grounds were the final analytical decisions made?" (Strauss & Corbin, 1990, p. 425).

These questions largely correspond with the empirical aspects formulated by Eisenhardt (1989). Since these questions apply to different phases of the Grounded Theory process (set-up, open coding, axial coding and selective coding) answering them occurs throughout the report. To give a

complete overview of the empirical validity Appendix B contains a table that summarizes the answers to all questions.

3.2.2 Good theory and new insights

According to Eisenhardt (1989) an interpretative study can be assessed on the basis of the theory that is derived from the study. Firstly this new theory should comply with the standards of a "good theory." According to Pfeffer (1982) a "good theory" is parsimonious, logically coherent and testable. Secondly the derived theory should add new insights to the body of knowledge. Replication of existing theory is not the objective of theory-building studies. It is impossible to guarantee these types of validity of the study beforehand, but the criteria can be used as a critical reflection on the outcome of the study, in this case the conceptual model.

In this study the criteria of "good theory" were explicitly dealt with via the means of expert interviews and a theoretical comparison. After the construction of the conceptual model in the selective coding step, the model was discussed with multiple experts on the sharing economy, on digital platforms and on public policy. In these interviews especially the logical coherence of the model was tested. Also the parsimony of the model was tested since the model needs to be explained and discussed in a relatively short time.

Besides the expert validation, the new theory, in the form of the conceptual model, was compared with other theories in the theoretical comparison phase of Grounded Theory. Here the similarities and differences with other theories are discussed. From this comparative perspective the logical coherence of the model and the addition of new insights was analysed.

3.2.3 Validity in this study

As discussed above the validity of the Grounded Theory approach used in this study was guaranteed in the three following ways:

1. Empirical validation
2. Expert validation (through interviews)
3. Theoretical comparison

As stated before, the overview of the empirical validation can be found in appendix B. The expert validation and theoretical comparison can be found in chapter 4 and 5, respectively in paragraph 4.2 and 5.1-5.2.

3.3 Open coding results

The open coding phase is the first phase of the Grounded Theory approach. As described in the first paragraph of this chapter 26 documents were the source for the coding process. The coding was executed on the basis of the sensitizing concepts *values*, *actors* and *institutional arrangements*. All of the codes were linked to so-called quotations. These quotations are small parts of text in which the relevant code is mentioned. Multiple codes can be linked to one quotation.

In total 715 different quotations were marked. These 715 quotations were all linked to one or more codes. In total 275 different codes were identified, of which 153 were marked as value, 41 as actor and 69 as institutional arrangement. In Appendix C the long lists of codes can be found.

An example of a *value* that was coded is: *Autonomy*. This code represents the value of being independent and making your own choices. For many persons this is an important value in their daily life. Peer-to-peer sharing economy platforms have an effect on this value; they can for example enable people to become more autonomous. During the coding of the documents this value was found ten times, spread over five different documents. Examples of quotations are:

> *"Millennials are willing to trade off a steady income and the benefits of full-time employment, from healthcare to a fridge full of soda, for flexibility and autonomy"* (Botsman, 2015, p. 2).

> *"There are many testimonies of how Airbnb and other platforms have been instrumental to providers' meaningful independence. Thus, as the peer economy matures, providers may factor in the potential for monetization into their acquisitions. It is conceivable that a young couple that wants to own a home might justify a costly mortgage because there are platforms like Airbnb"* (Cheng, 2014, p. 19).

> *"The desire for an independent lifestyle, public concern about environmental and community sustainability and disillusionment with a consumer culture of acquisitiveness all drive greater consumer interest in sharing rather than owning"* (Owyang, Samuel & Grenville, 2014, p. 8).

A type of *actor* that was coded was for example: *Insurance Companies*. This type of actor plays a role in the effects of peer-to-peer sharing economy platforms, since liability for accidents can be an issue. Insurance companies are mentioned as parties that can work with platform owners to provide platform-based insurance or as parties that can offer special "sharing insurance" for users and providers. During the coding this actor was mentioned seven times, spread over six documents. Example quotations are:

> *"Who's liable if a car is shared, rented, or borrowed and then crashed by a stranger? That is an example of the questions posed by insurance companies that the legal sector and owners of assets will face. While websites like RelayRides offer insurance policies up to $1 million for autos, will that cover a tragedy caused by users of this service?"* (Owyang, 2013, p. 1).

> *"In March 2015, Uber and the Property Casualty Insurers Association of America (PCI) announced model legislation for consideration by states that they jointly developed; 18 states have already passed laws that mirror the model, according to Robert Passmore, PCI's senior director for personal lines."* (Marshall, 2015, p. 16).

> *"For example, there is much concern over the lack of insurance products to cover the hybrid 'private-commercial' nature of sharing economy transactions. As long as these platforms remain unsure of their regulatory future, they will have less incentive to develop new, private solutions to these concerns – for example by approaching insurance providers and developing new insurance products to best suit their needs"* (Allen & Berg, 2015, p. 33).

An example of an institutional arrangement that was coded was: *Metrics-based Regulation*. The principle behind this type of regulation is that peer-to-peer sharing economy platforms share their data about users, providers and transactions with regulators. In this way regulators can monitor if no laws are broken or incidents occur. This type of regulation was proposed/mentioned nine times, spread over three different documents. Quotations that contain this code are for example:

> *"Data need not be made public in order to share it with government, and can help your case by reducing regulator concerns. Sharing economy entrepreneur Shelby Clark, Founder of car-sharing service RelayRides, suggested the idea of metrics-based regulations. Under this model a firm such as RelayRides could share accident and insurance claim data that could lead to lower insurance requirements given a track record of infrequent accidents. Regulators, like the California Public Utilities Commission, need data to make sure ridesharing firms, for example, aren't restricting access for people in particular neighbourhoods or for the disabled"* (Cannon & Summers, 2014, p. 4).

> *"Governments should consider how the technology underpinning the sharing economy can allow for different approaches to regulation and service delivery that draw on the significant amount of useful data generated by platforms. Information about service quality can help regulators develop risk based approaches for platforms that focus regulatory oversight on high-risk activities and serious, repeat violators"* (Johal & Zon, 2015, p. 24).

> *"The application of data analytics, however, could improve the return on investment on regulators' limited investigation resources. Increasing amounts of computing power and cheap storage make it easier than ever to combine and analyse large data sets to identify correlations that indicate potential violations and violators. Regulators may also be able to use data from other government agencies to augment the data they collect from the industry they regulate."* (Shah, Brody & Olson, 2015, p. 15).

3.4 Axial coding results

On the basis of the long lists of codes in the three categories (values, actors and institutional arrangements) higher level concepts can be formulated. This step, the axial coding phase, uses the rich picture created in the open coding phase to find the patterns and categories relevant to peer-to-peer sharing economy platforms. The combination of codes into these categories was done in an iterative way. Using the network view of ATLAS.ti different groupings of codes were created on a trial and error basis. As stated in paragraph 3.1.5, this process was also refined by insights from the selective coding step, where concepts were related to each other.

In total the 275 codes were combined in 49 categories. The 153 marked values were combined into 24 value concepts; the 41 marked actors were combined into 12 types of actors; and the 69 marked institutional arrangements into 13 types of institutional arrangements. Together these categories answer the 2nd, 3rd and 4th subquestion of this study. Below each subquestion is answered by a table containing all the categories relevant to that question.

2. *What values in society are effectuated by the emergence of peer-to-peer sharing economy platforms?*

Table 3 – Value categories derived in axial coding phase.

	Value categories		
1	Autonomy	13	Innovation
2	Consumer protection	14	Level playing field
3	Convenience	15	Personal contact
4	Economic growth	16	Prevention of criminal activity
5	Employment	17	Quality of life
6	Empowered citizens	18	Safeguarding of public tasks
7	Environmental sustainability	19	Social cohesion
8	Fair labour market	20	Strong social ties
9	Fair socio-economic system	21	Value for money
10	Flexibility	22	Waste reduction
11	Inclusion	23	Well performing markets
12	Income opportunities	24	Working conditions

3. *For what types of actors are these values relevant?*

Table 4 – Actor categories derived in axial coding phase.

	Actor categories		
1	Enablers	7	Policy executors
2	Incumbent companies	8	Policymakers
3	Investors	9	Providers / workers
4	Labour organisations	10	Sharing economy companies
5	Members of Society	11	User organisations
6	Observers	12	Users

4. *What types of institutional arrangements are proposed to secure these values?*

Table 5 – Institutional arrangement categories derived in axial coding phase.

	Institutional arrangement categories		
1	Consumer protection actions	8	Platform initiated quality control
2	Cooperative development of regulation	9	Regulation reviews
3	Create alternatives	10	Regulator – platform cooperation
4	Data driven supervision	11	Self-regulation
5	Independent actor involvement	12	Standards development
6	Intervention	13	Strategic policy measures
7	Joint regulatory action		

A description of each of these categories is given in appendix D which also includes the underlying codes and the motivation for the combinations of these codes into a category. In the remainder of this paragraph three examples are given.

An example of the value category that was formed was the concept *Inclusion*. This concept was composed by combining four different codes: *Accessibility*, *Discrimination*, *Homophily* and *Participation*. The concept *Inclusion* stands for the value that economic transactions should not exclude certain (groups of) individuals. The economic transactions should be accessible for all, no discrimination between users should be made, transactions should not be limited to a specific type of users and all members of society, regardless of their socio-economic background, must be able to participate. Examples of quotations that lie at the basis of this category are:

> Accessibility: *"Liz Krueger (Democratic New York state senator) also charged that the lack of effective regulation over Airbnb exposes consumers to drawbacks of which they may not be aware. 'Most illegal hotels fail to meet federal, state and city accessibility requirements for people with disabilities,' she said"* (Marshall, 2015, p. 5).
>
> Discrimination: *"A taxi cab driver is legally required to pick-up anyone hailing the cab in any part of town, an Uber driver can refuse. A hotel must lodge a boarder regardless of ethnicity, they cannot decide that a person's religion or ethnicity is undesirable. Should the same apply to Airbnb hosts? With these examples in mind, policy arbitrage is not the ideal basis of a new competitive business model"* (Kenney & Zysman, 2015, p. 18).
>
> Homophily: *"Existing research of well-known peer production platforms reveals that their volunteer bases are homogenous. Wikipedia is infamous for having a difficult time attracting women contributors (Wikimedia Foundation 2014); 90% of its contributors identify as male (Khanna, 2012). Tapio Ikkala and Airi Lampinen's research has found that participants in gift-based network hospitality (i.e.: CouchSurfing) carefully select each other based on homophily (Ikkala and Lampinen, forthcoming)"* (Cheng, 2014, p. 20).
>
> Participation: *"The Airbnbs of the world and their venture capitalist backers are siphoning off too much value, she (Janelle Orsi, an activist lawyer) and others argued. Discussions of labour exploitation, race to the bottom dynamics, perverse eco-impacts, unequal access for low-income and minority communities, and the status of regulation and taxation engaged attendees throughout the next two days"* (Schor, 2014, p. 1).

An example of an actor category that was composed in the axial coding phase is the *Labour organisations* type of actor. This category is composed of the traditional *Labour Unions* and the new *Provider associations*, both actors that were found in the open coding phase. *Labour organisation* type of actors represent the rights of workers and providers and are mainly focussed on values like *Working conditions* and *Employment*. Quotations that lie at the basis of this category are:

Labour unions: *"Unfortunately, there is a great deal of political and legal pressure to collapse the distinction between independent contractors and employees by classifying many of the former as the latter. There are two sources of this pressure. First are the claims that independent contractors are 'effectively' employees whose sole distinct attribute is that they are avoiding the strictures of general employment law. Second are the incumbent unions who see the rise of independent contracting as a threat to the old industrial union model. While employees are governed by workplace relations law, independent contractors work under general contract law"* (Allen & Berg, 2014, p. 33).

Provider associations: *"As workers start to voice collective concerns, such as the Uber drivers did, new types of unions are emerging to re-imagine collective bargaining and rights in the networked era; in fact, the Drivers Network is a new union that formed for Lyft and Uber drivers"* (Kneese, Rosenblat, & Boyd, 2014, p. 12).

Independent actor involvement is a type of institutional arrangement that was composed in the axial coding phase. This type of institutional arrangement tries to safeguard values as *Consumer protection* or *Quality of the product* by involving independent actors. Codes that lie at the basis of this category are*: Independent insurance*, *Independent reputation systems*, *Independent research* and *Outside validation / certification*. The following quotations are examples of quotations that were used to construct this category.

Independent insurance: *"The ratings systems are not yet very good, and there are already start-ups attempting to delink ratings from individual platforms. Insurance can also be unbundled"* (Schor, 2014, p.10).

Independent reputation systems: *"To a great extent, the viability of shared services hinges on the quality of review systems because people rely on them to decide whether and what to purchase. Authenticating the validity of reviews is critical to prevent abuse. An independent agency might help prevent glowing "sock puppet" reviews or unfair criticisms"* (Malhotra & Van Alstyne, 2014, p. 47).

Independent research: *"Rather than relying on maxims about the usefulness of the sharing economy, it helps to have concrete data, especially in the face of sceptical regulators. Airbnb commissioned a study that found that; "Because an Airbnb rental tends to be cheaper than a hotel, people stay longer and spent $1,100 in the city, compared with $840 for hotel guests; 14% of their customers said they would not have visited the city at all without Airbnb." These positive spill over effects are a compelling case for authorities in cities like San Francisco, the focus of the study. (…) Firms should marshal such evidence and take it on themselves to publicize the benefits their firms provide"* (Cannon & Summer, 2014, p. 4).

Outside validation / certification: *"Certification has a number of benefits over occupational licensing. First, and broadest, certification allows 'consumers or employers to choose whether they are willing to pay a higher wage for someone with greater state-documented skills relative to someone with fewer job characteristics.' That is, the market decides whether the benefit of the certification outweighs the cost*

of obtaining it. This acts as a market-based mechanism distinguishing the costs and benefits" (Allen & Berg, 2014, p. 31).

Chapter 4 – Constructing a Conceptual Model

On the basis of the concepts that were formulated in the axial coding phase, this chapter presents the conceptual model of effects of peer-to-peer sharing economy platform on values in society. In paragraph 4.1 the model is gradually constructed and presented. Paragraph 4.2 elaborates on the expert interviews that were conducted to improve and validate the model.

4.1 The composition of the conceptual model

In the study so far the main concepts of interest were the effectuated values, the involved actors and the proposed institutional arrangements. In the previous chapter it was shown how a grounded theory analysis was used to identify instances of these concepts. In this paragraph a combined conceptual model of these concepts is presented. This conceptual model gives a structured insight into the effects of peer-to-peer platforms on values in society.

The conceptual model is primarily based on the effectuated values in society. The values are structured in three levels, as will be presented in paragraph 4.1.1. The actors are positioned on the basis of two distinguishing axes, resulting in four quadrants, as will be shown in paragraph 4.1.2. Paragraph 4.1.3 combines the three levels of values and the four quadrants of actors in a combined conceptual model of values and actors. In paragraph 4.1.4 the institutional arrangements are linked to the combined model. The proposed institutional arrangements are thus not an integral part of the main conceptual model, but can be used in combination with the model.

4.1.1 Ripple effect on values

As was presented in the previous chapter, ultimately more than a hundred different values were identified in the open coding phase of the grounded theory analysis. These 100+ values were combined in broader value concepts in the axial coding phase, resulting in 25 different value concepts. When examining these 25 values, three distinct groups can be discerned:

1. **Micro** level values.
2. **Meso** level values.
3. **Macro** level values.

The distinction between these levels is made by assessing the number of occurring transactions that is needed to result in an effect on these values. Note that with transaction a peer-to-peer sharing economy transaction between user and provider is meant. Micro level values are effectuated after just one transaction, meso level values are effectuated after a larger series of transactions and macro level values are only effectuated when a system of transactions takes place with a high frequency on a large scale.

Some examples of micro level values that are effectuated are the values *Good price*, *Convenience* and *Personal contact.* These values are important, even when only one transaction occurs. *Working conditions, Autonomy* and *Waste reduction* are values that are effectuated on the meso level. These values only become relevant if a series of transactions occur. Finally values as *Economic growth, Environmental sustainability* and *Innovation* are considered to be on the macro level. These values are only effectuated if transactions take place on a large scale with a high frequency.

The basis for a distinction on these three levels is was inspired by the four layer model of institutions by Williamsons (1989). A large discrepancy between very concrete effects as *Convenience* and very

high level effects as *Economic growth* was identified, which corresponded with the different levels of concreteness between the layers in Williamson's model. In this model it was however chosen not to include four layers, but just three. This decision was made since the difference in effects on the middle two layers could not be made clear-cut. The three layer model that is used thus differentiates between very concrete micro effects and more abstract macro level effects. Between these two extremes the group of meso effects is positioned.

The distinction between these levels could also be linked to a temporal dimension. Micro level values would be effectuated in the short term, meso level values in the mid-term and macro level values in the long-term. Using the temporal aspect to describe the distinction is however not strictly correct. As was elaborated on the introduction chapter, the development of peer-to-peer sharing economy platforms happens at an unprecedented speed. Concepts as short-term, mid-term and long-term are thus dependent on the pace of the development of specific platforms and are not linked to a universal set amount of time. Therefore a temporal distinction does not provide a clear distinction between the different types of values and the distinction between micro, meso and macro is only made on the basis of the frequency and scale of the transactions.

Figure 3 shows the different levels in three different circles or rings. This representation can be seen as a ripple model. The effects of transactions ripple through the model, from micro level effects, via the meso level, to macro level effects. This ripple model of effectuated values is the basis of the final conceptual model.

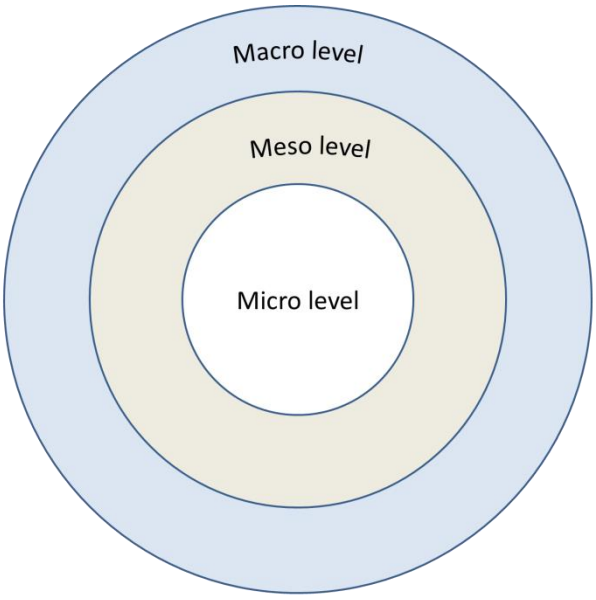

Figure 3 – The ripple model of effectuated values that is the basis of the final conceptual model.

4.1.2 Four quadrants of actors

The axial coding phase of the previous chapter led to the identification of twelve different types of actors. A distinction between these actors can be made on the basis of multiple dimensions (e.g. governmental vs. non-governmental, for-profit vs. non-profit or local vs. global). In this study it is chosen to make a distinction on the basis of two dimensions:

- **Direct involvement** with the transaction versus **indirect involvement** with the transaction.

- Association with the **demand** side of the transaction versus association with the **supply** side of the transaction.

The first dimension, concerning the direct involvement versus indirect involvement, differentiates between the three directly involved actors *Users, Providers* and *Platform companies* and the other actors (e.g. *Policy makers, Labour associations* and *Incumbent companies*). The second dimension focusses on the association with either the demand side of the transaction (e.g. *Users, Consumer associations* and *Members of society*) or the supply side of the transaction (e.g. *Providers, Investors* and *Labour associations)*. There are however actors that are associated with both demand and supply side of the transaction. These are the *Policy makers* and *Policy executors*, who focus on issues like consumer protection (demand side), but also on fair competition (supply side). Also the *Observers* (i.e. journalists and researchers) are associated with both sides, since they have a somewhat neutral stance in the matter. Extensive descriptions of all these types of actors can be found in appendix D.

Combining the two dimensions as two axes in a two-dimensional space results in four distinct quadrants of actors: 1) directly involved demand side actors, 2) directly involved supply side actors, 3) indirectly involved demand side actors and 4) indirectly involved supply side actors. Figure 4 gives a schematic representation of these quadrants. These quadrants result in a nominal division of actors. This in contrast to a rational scale which would imply that actors are more directly involved when they are positioned higher in the model and more associated with the demand side when they are more to the left.

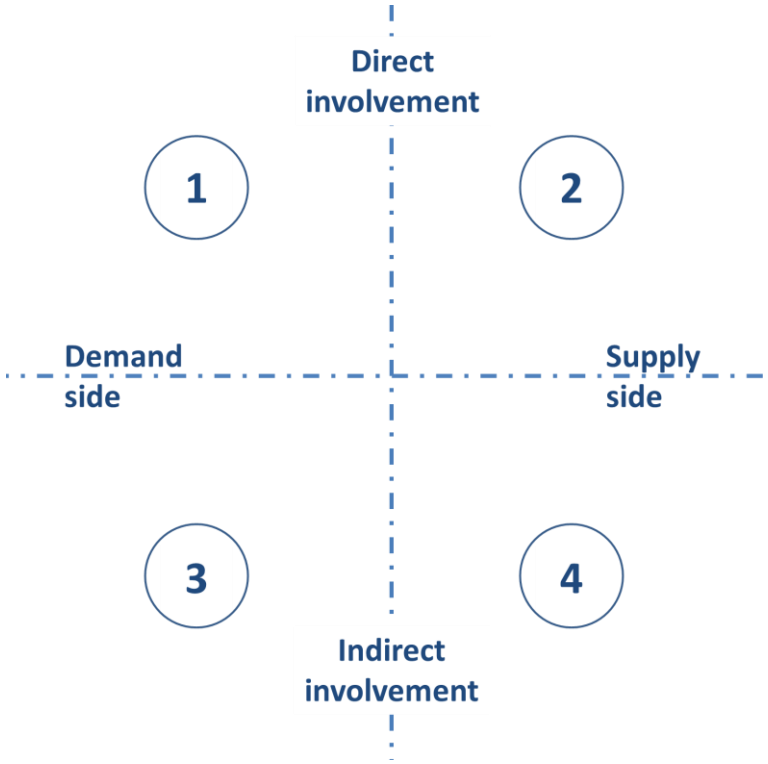

Figure 4 – Four quadrant distinction between actors.

As mentioned in the beginning of this paragraph, multiple different axes could have been used to make distinctions between different types of actors. The motivation for these two specific axes is as follows. As with the effects on values, the main concept of interest is the transaction on a peer-to-

peer sharing economy platform. This transaction is characterized by two peers of which one is on the supply side and one is on the demand side. This corresponds with the classical idea of a free market as was first described by Adam Smith (1776).

However not only the direct supplier, in this case the provider to the platform, and the direct demander, or consumer, are relevant when assessing the effects of these transactions on society. Many more actors were found to be involved in the discourse on the rise of peer to peer platforms. These actors do not have a direct stake in the economic transaction between provider and consumer, but only an indirect stake. To acknowledge this difference, the second axis was added to the model, which differentiates between direct and indirect involvement. The positioning of the indirect actors was done on the basis of their association with either the supply side or the demand side of economic transactions.

The identified types of actors of the previous chapter can be positioned in this model, which results in figure 5. Here we see that the only directly involved actors are the *Users* on the demand side and the *Providers* on the supply side. These actors are directly involved in the peer-to-peer transactions. Indirect demand side actors are *Consumer associations* and *Members of society*. These actors are more associated with the demand side of economic transaction, but do not partake in the peer-to-peer sharing economy platform transactions. Actors associated with the supply side of economic transactions are *Investors*, *Incumbent companies*, *Labour associations* and *Enablers* (i.e. *Accountants*, *Marketers*, *Strategists*, *Lobbyists* and the *Legal sector*). These actors are not directly involved in the peer-to-peer sharing economy transaction, but do have a stake in the transaction or its effects.

Besides these clear cases, some actors are positioned on the border between different quadrants. The *Policymakers*, *Policy executors* and *Observers* (i.e. *Journalists* and *Researchers*) are all indirectly involved in the transaction and associated with both the demand and the supply side. Here it is important to note that there is a vast amount of different types of policymakers and policy executors (e.g. different governmental departments, local governments, different kinds of executive branches of governments and watchdogs). The distinction in this model is made on the fact whether a governmental body can change existing legislation or not. *Policymakers* are capable of changing policy and legislation, but *policy executors* have to act within the existing legal and policy framework. Some governmental organisations might thus have policymaking and policy executing divisions within one organisation.

Another actor that has a special position on the border between quadrants is the *Platform company*. As was shown in chapter 1, this platform company forms the link between *Users* and *Providers* and is thus directly involved in the transaction. In other words, without the *Platform companies* there would be no peer-to-peer transaction. In this transaction the platform has to support both *User* and *Provider* demands. This means that the effects for both these sides of the transaction are relevant for the *Platforms company* and the actor is thus placed on the border between supply and demand. Besides this the *Platform company* has a set of responsibilities that lie outside the scope of the direct transaction. Activities as branding, consumer relationship management and relations with external parties fall under the responsibility of the platform company. These tasks outside the direct transaction make that indirect effects are also relevant for the platform company, resulting in a position on the border between direct and indirect involvement.

This position in the middle of the model makes all the effects of the peer-to-peer sharing economy transactions relevant for the *Platform companies*, it is however contested how far the responsibilities of the *platform company* reach. Where platform companies have tried to keep their responsibilities limited over the past few years (e.g. limited legal liability for accidents or external effects), the call for an increased ownership of these effects is growing (e.g. the call for more responsibility on the working positions of providers) (Kenney & Zysman, 2015). Because of this growing call for responsibility this model designates all the indirect effects as potentially relevant for the *Platform companies*. To what extent this relevance proves to be valid, differs per case and development phase.

Appendix D contains a more elaborate motivation for the position of each of the actors.

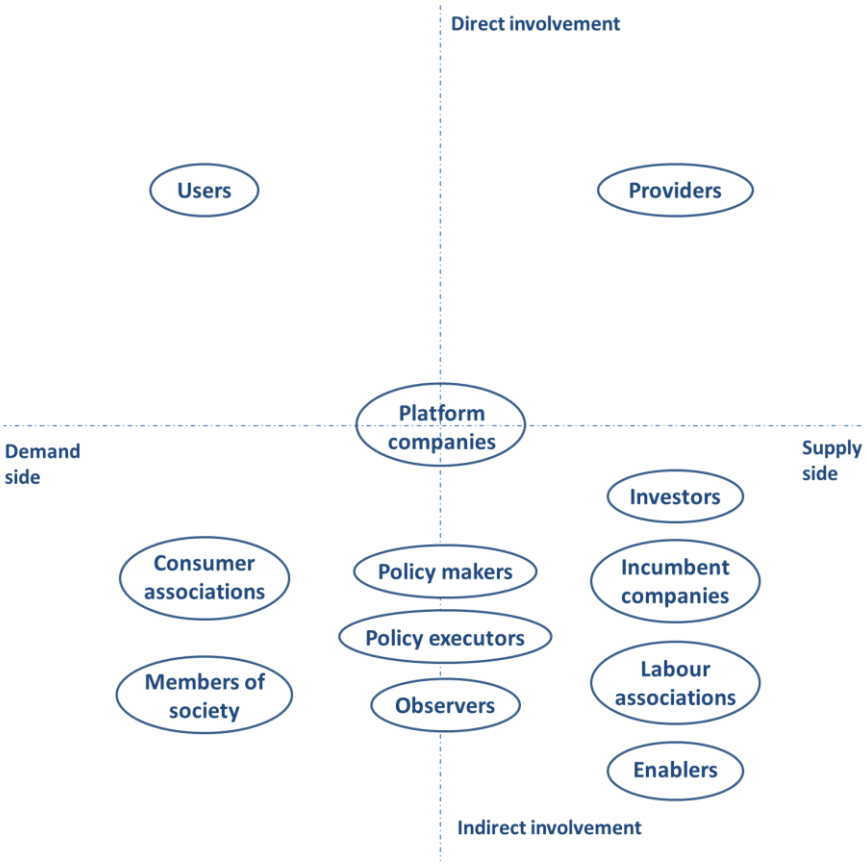

Figure 5 – Different types of actors positioned in the four quadrants.

The two axes for actor division allow for an elegant combination with the ripple model of values of the previous paragraph. The next paragraph will elaborate on this combination.

4.1.3 Combined value model

To come to the final conceptual model of effects of peer-to-peer platforms on values in society, the value ripple model and the four actor quadrants are combined into one main model. This model gives insight into the different levels of effects that are relevant for different types of actors. The combination of these insights is the mapping of the effects of peer-to-peer platforms on values in society.

Figure 6 shows the structure of the combined model.

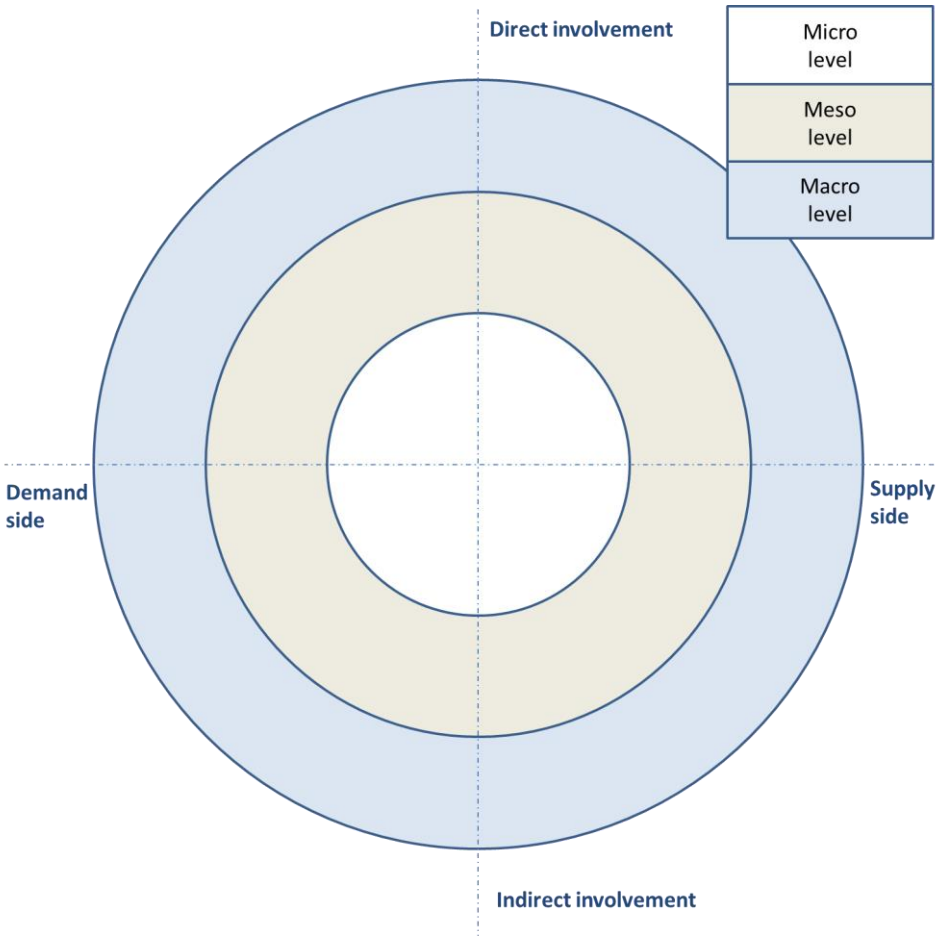

Figure 6 - Structure of the mapping of the effects of peer-to-peer sharing economy platforms on values in society.

The individual values will be mapped onto this structure in the remainder of this paragraph, following the different levels of values. The values follow from the axial coding phase of the previous chapter. In appendix D each value is elaborately described including a motivation for the position in model. The remainder of this paragraph will thus only shortly touch upon the different values and their position.

All the values in the model are formulated in a positive way (e.g. *Good prices*, *Fair labour market* and *Inclusion*). This formulation thus implies that the effects on transaction will lead to these positive outcomes (e.g. peer-to-peer sharing economy transactions will lead to a *Fair labour market*). This is however not the case. The concepts are formulated this way purely due to the fact that they are values. In the Grounded Theory analysis it was found that people find it important that people get value for their money, that the labour market is fair and that economic transactions are inclusive for all members of society. The conceptual model shows that peer-to-peer sharing economy platforms have effects on these values. The directions of these effects (i.e. platforms make this value stronger or weaker) are not part of the model. The reason for this is that these directions are often not studied yet and differ per specific case. The aim of this study is to create a substantive theory model that is generally applicable. Definite statements about the directions of the effects are thus not in place in this model.

However, while discussing the values in this paragraph an indication of the direction of the effect is given.

Micro level

The micro level contains values that are effectuated even when only one transaction occurs. These values are thus mostly relevant for the directly involved actors. Figure 7 shows the positioning of the micro level values in the conceptual model. After this the positioning of the individual in with layer will be discussed.

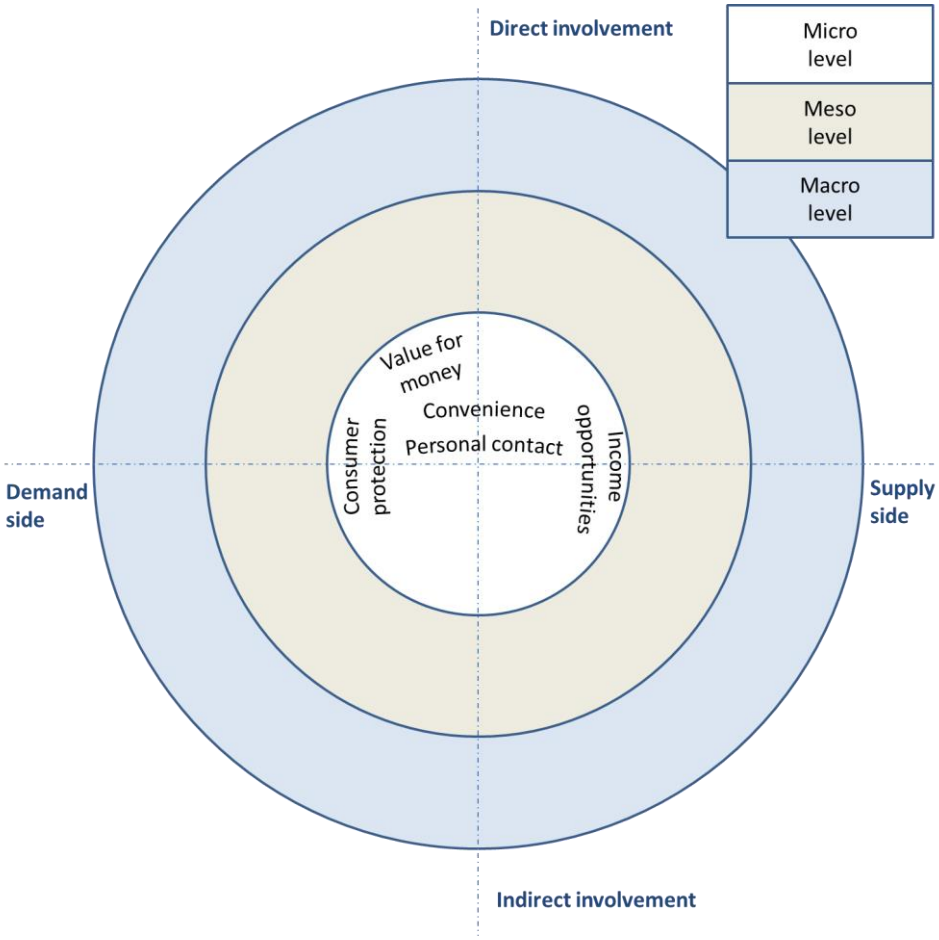

Figure 7 – Structure of the conceptual model including the micro level of effects on values.

Direct involvement, demand side

For the directly involved actors on the demand side the important values are: 1) that consumers get *Value for money* when purchasing for goods and services, 2) that economic transactions are *Convenient*, 3) that consumers have *Personal contact* in their economic transactions and 4) that consumers enjoy *Consumer protection*.

Transactions via peer-to-peer sharing economy platforms have an effect on these values since they hold the potential to make economic transaction cheaper, more convenient and more personal. The platforms might lead to a more diversified supply of products with the possibility of personalized quality. There is however also the possibility that the quality of the products suffers due to availability issues or other longer term problems. The effects on the *Consumer protection* value might not be positive because of liability and safety issues (both concepts underlie the *Consumer protection* value, as can be found in the axial coding paragraph 3.4).

Direct involvement, supply side

The relevant effectuated values for directly involved actors on the supply side of the transaction are: 1) that economic transactions are *Convenient,* 2) that providers have

Personal contact in their economic transactions and 3) that providers have *Income opportunities* in their lives.

Transactions via peer-to-peer platforms might make economic transactions more convenient and personal. Also these platforms provide ways for providers to earn money.

Indirect involvement, supply side

The indirectly involved parties that are associated with the supply side of the transaction are also effectuated on the value *Income opportunities* due to the platform transactions. This is especially the case for the *Investors* in the platforms and the *Enablers* (e.g. *Insurance companies* or Lobbyists) that can sell services to the platform companies or users. This value might however also be negatively influenced if the investments turn out bad.

Indirect involvement, demand side

The value that is relevant for indirectly involved actors on the demand side of the transaction is *Consumer protection*. *Consumer protection* is of importance not only for the directly involved user, but also for uninvolved members of society, in the case of liability issues, and for governmental parties, due to the legal obligation of governments to make sure that consumers are protected in economic transactions (even when only one transaction occurs).

Meso level

The meso level contains values that are effectuated when a larger series of transactions occurs. These values are relevant for all directly and indirectly involved actors. Figure 8 shows the positioning of the meso level values in the conceptual model. After this the positioning of the individual in with layer will be discussed.

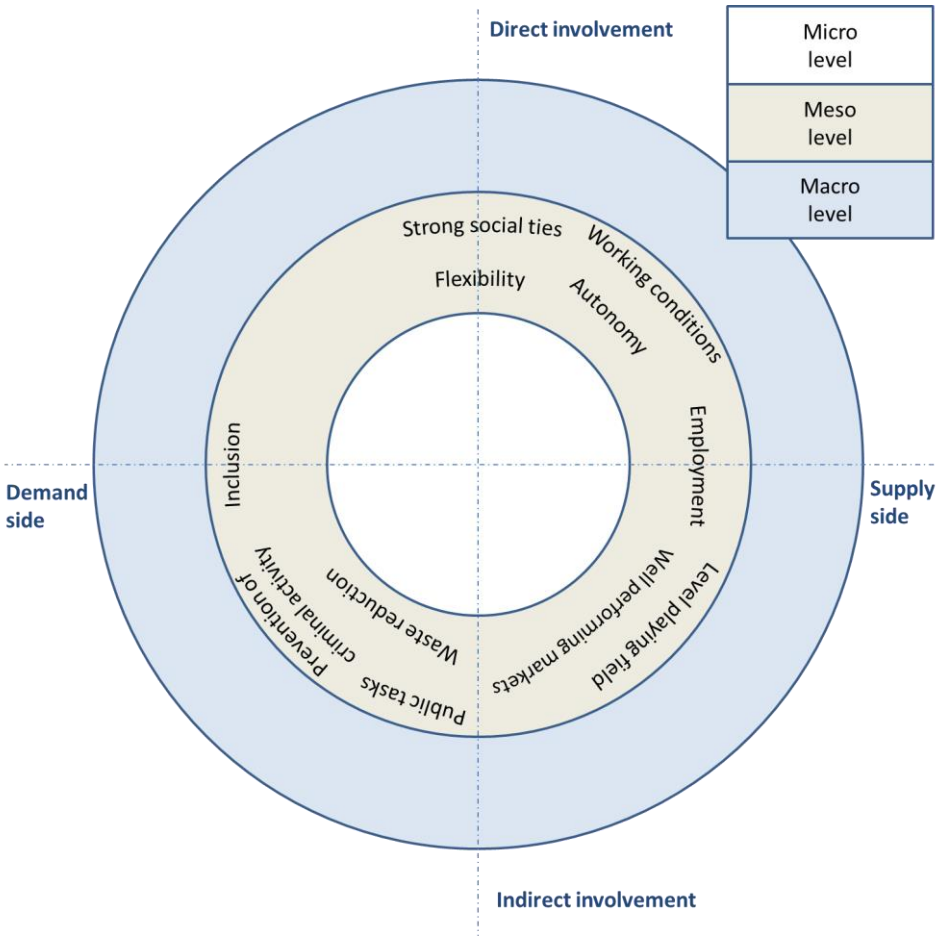

Figure 8 – Structure of the conceptual model including the meso levels of effects on values.

Direct involvement, demand side

The values on the meso level that are relevant for the directly involved actors on the demand side are: 1) users should be able to maintain *Strong social ties* with others, 2) users should have *Flexibility* in their daily life and 3) the economic transactions should be non-discriminatory and accessible (*Inclusion).*

More frequent peer-to-peer transactions might lead to *Stronger social ties* and more *Flexibility* for the consumers, because of the *Personal contact* and *Convenience* on the micro level. The term *Inclusion* contains values as accessibility, non-discrimination and participation. Peer-to-peer transactions might lead to a negative effect on *Inclusion* (for example when non-white ethnicities get lower prices for their services) or to a positive effect (for example when convenient transactions make certain services available to people who did not have access before).

Direct involvement, supply side

For the directly involved actors on the supply side of the transaction the following values are relevant at a meso level: 1) providers should have *Flexibility* in their daily life, 2) providers should have *Autonomy* over the actions they take and the careers they pursue, 3) providers should be able to maintain *Strong social ties* with others, 4) providers should have fair *Working conditions* and 5) providers should have *Employment* opportunities.

The meso level values that are effectuated when a larger series of peer-to-peer transactions takes place. If this is the case direct suppliers can become more *Flexible* and *Autonomous* in their actions, since they can choose their own working practices. However these values might also be negatively influenced due to the power of platform companies to dictate (surge[2]) prices. Just as with the directly involved actors at the demand side, more *personal contact* of frequent peer-to-peer transactions might lead to *Stronger social ties* with other users of the platforms. The fair *Working conditions* value might however be under pressure, because providers to the platform do not have a legal worker status. Social benefits and minimum wage thus do not apply to them. Finally the *Employment* opportunities might be positively influenced because there are more possibilities to acquire an income on a regular basis. These new opportunities might however also replace the old jobs that are currently present at incumbent companies and thus not increase the total number of available *Employment* opportunities.

Indirect involvement, supply side

For the indirectly involved parties that are associated with the supply side of the transaction the following values are relevant: 1) it is important to have *Employment* opportunities for all possible workers in society , 2) a *Level playing field* for competing companies is desirable , and 3) it is important to have *Well performing markets* that connect supply and demand.

As discussed above, the *Employment* opportunities might be positively influenced because peer-to-peer platforms provide new ways to acquire income on a regular basis, however these new "jobs" might just replace old jobs at incumbent companies. The *Level playing field* value might be negatively influenced, because incumbent companies and sharing economy companies not always have to follow the same rules due to unclear regulation. Finally the *Well performing markets* value might be influenced positively or negatively. A positive effect may occur due to the more efficient coupling of users and providers. A negative effect on the performance of market may occur due to the monopolistic character of some platforms and the possibility of a race to the bottom with incumbent competitors.

Indirect involvement, demand side

The meso values that are relevant for indirectly involved actors on the demand side of the transaction are: 1) Society should work on *Waste reduction*, 2) governmental organisations should be able to *Safeguard public tasks,* 3) governmental organisations should be able to *Prevent criminality* 4) economic transactions should be *Inclusive* for all members of society.

The indication is that *Waste reduction* probably will be positively influenced by sharing economy platforms, due to the possibility to access assets more easily via platforms instead of buying new products. The *Safeguarding of Public tasks* however is likely to be negatively influenced. This is mostly due to the fact that administrations might receive lower tax incomes from currently unregulated platform activities and that externalities from the transactions (e.g. nuisance or rising house prices) interfere with standing public policy. The *Prevention of criminality* can also be negatively influenced by peer-to-peer sharing economy transactions, because it might be hard for regulators and the police to monitor the actions on platforms. This lack of visibility allows for people with malicious intentions to conduct criminal activities. Finally the value *Inclusion* can be positively

[2] Adjusted prices due to fluctuating demand or special circumstances.

influenced, because of convenient usability for all citizens, or negatively influenced, because of discriminatory practices and possibly limited accessibility.

Macro level

The macro level contains values that are effectuated when a system of transactions is embedded in on a large scale with a high frequency. These values are relevant for the directly involved actors, but also for a large part for the indirectly involved actors. Figure 9 shows the positioning of the macro level values in the conceptual model. After this the positioning of the individual in with layer will be discussed.

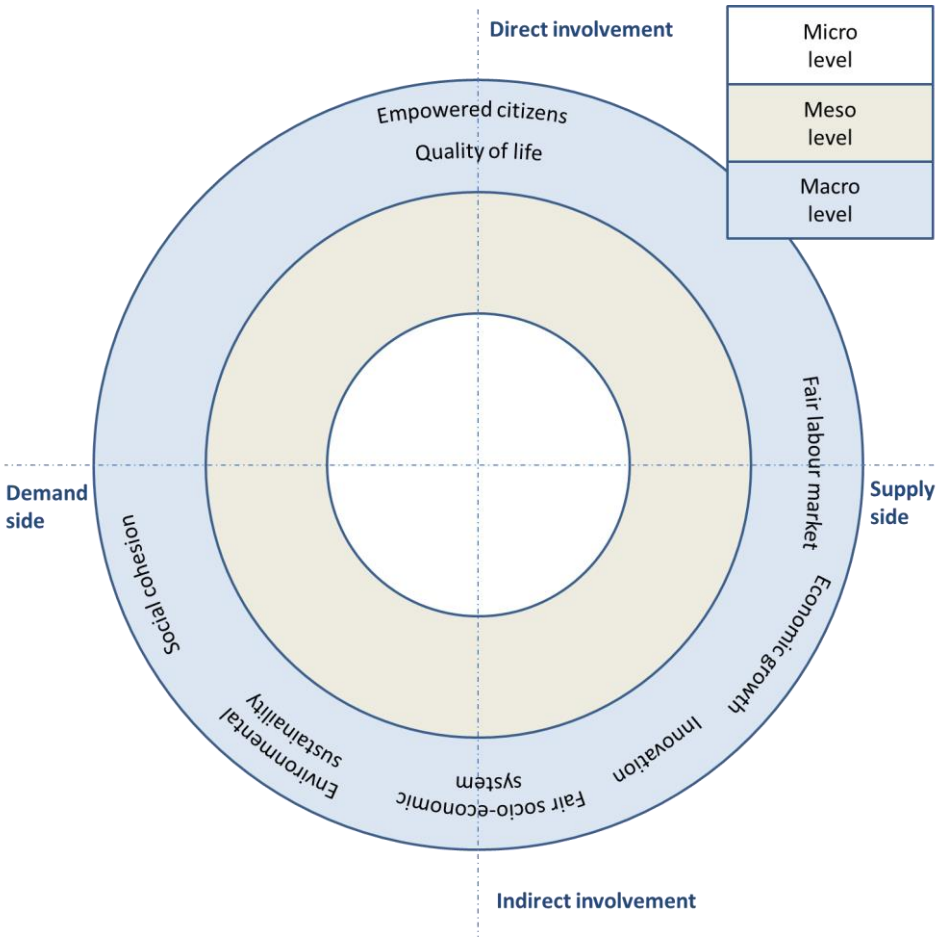

Figure 9 - Structure of the conceptual model including the macro levels of effects on values.

Direct involvement, demand side

The macro values that are relevant for directly involved actors on the demand side are: 1) citizens should be *Empowered* in their own lives and 2) the *Quality of life* of citizens should be high.

The direction of the effects on macro values are the hardest to predict. Direct users can become more empowered through the *convenience* and *flexibility* the platforms provide, but *consumer protection* and *inclusion* issues might lead to a negatively influenced empowerment. The same goes for the *Quality of life*. Better *prices*, more *convenience*, better accessibility (*inclusion*) of products and *stronger social ties* can lead to a higher *Quality of life*. But the same *consumer protection* and *inclusion* issues might cancel this positive effect.

Direct involvement, supply side

For directly involved actors on the supply side of the transaction the relevant values are: 1) citizens should be *Empowered* in their own lives, 2) the *Quality of life* of citizens should be high and 3) the *labour market* for workers should be fair.

Just as for the direct users in the transaction, platform transaction might also lead to *empowerment* and *quality of life* for direct suppliers. *Income opportunities*, *flexibility*, *autonomy* and *stronger social ties* might lead to these positive effects. The *working conditions* can however result in a negative effect on these values, especially on the *empowerment* value due to the dependent relation between provider and platform. Besides that a fair labour market will be influenced by the *employment* opportunities and *working conditions*. The effects on these values are unclear and it is thus hard to say whether platforms in the sharing economy will lead to a more or less *fair labour market*.

Indirect involvement, supply side

The values that are relevant for the indirectly involved parties that are associated with the supply side of the transaction are: 1) the *labour market* for workers should be fair, 2) society should be in a state of *economic growth,* 3) *innovation* in society is nurtured and stimulated and 4) the *socio-economic system* to divide the wealth should be fair.

As discussed for the directly involved suppliers the labour market for workers can become more of less fair due to the platform transactions. Indirectly involved suppliers also benefit from a *fair labour market* since this includes the regular jobs at incumbent companies or in completely different sectors. The position of the worker influences the fairness of the market, via the *working conditions* and *employment opportunities*. The position of the employers is however also part of a fair labour market, since labour is always a contract between employer and employee. A *level playing field* and a *well performing market* can have positive effects on the employers and thus on a *fair labour market*, but these values might be negatively influenced by the platform transactions. *Level playing field* and *well performing markets* might also lead to economic growth, but again, the direction of these effects is hard to establish. *Innovation* is often mentioned as a value in its own, or as a mechanism to guarantee economic growth under new challenging circumstances. The rise of sharing economy platforms can be seen as an innovation on its own, but can also lead to even more or maybe less innovation in the future. Finally the *fairness of the socio-economic systems* is influenced by the rise of sharing economy platform transactions. The *performance of markets*, the position of (non-)workers and the position of platform operators all influence the division of wealth and benefits. Whether the socio-economic system will become more or less fair due to these changes is hard to predict.

Indirect involvement, demand side

For the indirectly involved actors on the demand side of the transaction the following macro level values are relevant: 1) the *socio-economic system* to divide the wealth should be fair, 2) *environmental sustainability* should be guaranteed by society and 3) *Social cohesion* should be present in society.

As discussed for the indirect involved supply side, the rise of sharing economy platform can influence the fairness of the socio-economic system. Besides the economic aspects of these effects, also the social values have an impact on the fairness of this system. *Inclusion*, *consumer protection, criminality prevention* and the *safeguarding of public tasks* are vital for a fair system and the platform transactions have an effect on them. As stated before it is hard to predict if the socio-economic

system will become more or less fair due to these changes. *Environmental sustainability* is likely positively influenced when waste is reduced, but second order effects might cancel this effect. An example might be that due to the convenience of Airbnb more people go on holidays, which leads to more plane flights and higher emissions. The net-effects are thus hard to predict. Finally the *social cohesion* can possibly be positively influenced by sharing economy platforms. Especially stronger social ties can cause this effect, but the unclear effects on inclusion might alter this.

Complete model

The combination of the different levels of values, the four quadrants of actors and the specific values leads to the mapping of the effects of peer-to-peer sharing economy platforms on society. The complete model can be seen in figure 10 and a bigger version is included in appendix E. In the next paragraph the found institutional arrangements will be linked to this model.

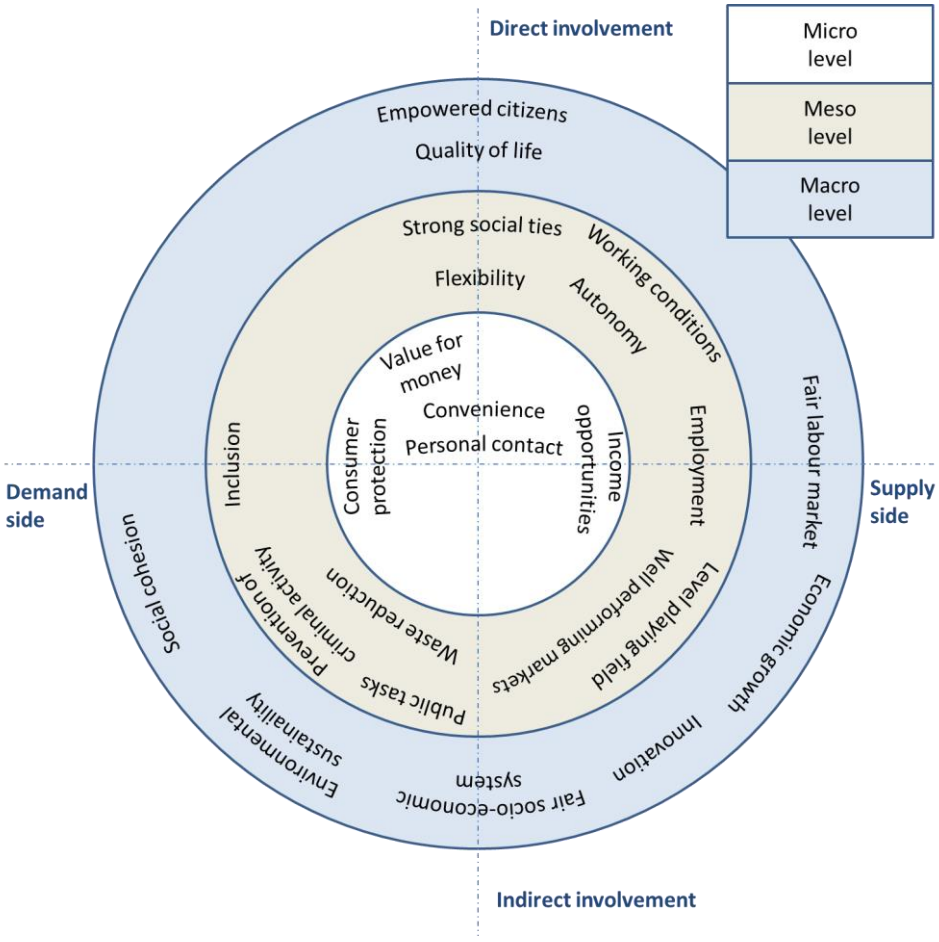

Figure 10 - Complete model of the effects of peer-to-peer sharing economy platforms on values in society.

4.1.4 Institutional arrangements linked to the model

The identified institutional arrangements of the open and axial coding phase are not an integral part of the values model. They can however be used in combination with the model to create increased insight in the possibilities for action. As was presented in the axial coding phase, thirteen types of institutional arrangements can be identified, which are elaborately described in appendix D. These institutional arrangements were defined as “different (in)formal regimes and coalitions for collective action and inter-agent coordination, ranging from public-private cooperation and contracting schemes, organizational networking to policy arrangements” (Centre for International Development

Issues Nijmegen, 2007). For the selective coding phase these thirteen types are categorized in five broader groups. For every value in the model, one can check if any of the institutional arrangements from the five groups can be used to better secure this value.

The distinction between the five groups is made on the basis of two variables: 1) whether the institutional arrangement can be used within the existing regulatory regime or whether it is aimed at changing the regulatory regime and 2) whether the institutional arrangement is aimed at *stopping* the peer-to-peer sharing economy platform transactions, *steering* these transaction or *strategizing* on these transactions. Within the groups distinction is made between direct and indirect steering (with or without direct involvement of a policy executor), between different types of actors who can use the described measures and between unilateral and multilateral action. Table 6 shows an overview of the five groups of institutional arrangements after which each of the groups is discussed.

Table 6 - Overview of different groups of institutional arrangements.

	Existing regulatory regime	Stopping / Steering / Strategizing
Group 1	Within existing regulatory regime	Stopping transactions
Group 2	Within existing regulatory regime	Directly steering transactions
Group 3	Within existing regulatory regime	Indirectly steering transactions
Group 4	Within existing regulatory regime	Strategizing on transactions
Group 5	Changing existing regulatory regime	Stopping, steering or strategizing on transactions

Group 1 – Stopping transactions within existing regulatory regime

The first group of institutional arrangements contains the types of arrangements that are aimed at stopping the transactions on peer-to-peer sharing economy platforms. Arrangements in this group aim to do this within the existing regulatory regime. These measures are mostly relevant for policy executors but can also be instigated by other actors such as incumbent companies. The types of arrangements that are part of this group are: 1) *Intervention* and 2) *Joint regulatory action.*

Intervention measures range from fines, to prohibition and from court cases to settlements. These are the actions that interfere with the transaction and try to stop them. These actions can be executed unilateral by the policy executors. Also other parties can start court cases which are aimed at banning the platform practices. These interventions can also be executed in cooperation by several different regulatory bodies. This *Joint regulatory action* is also aimed at stopping the transactions, but then on a multilateral basis.

Group 2 – Directly steering transactions within existing regulatory regime

The second group of institutional arrangements contains types of arrangements that accept the fact that transactions on peer-to-peer sharing economy platforms take place, but try to directly steer them in order to secure certain values. Direct steering is differentiated from indirect steering in the sense that direct steering involves an active role of the policy executor and indirect steering does not. These steering actions all take place within the existing regulatory regime and are mostly relevant for the actor policy executor. Types of institutional arrangements that are part of this second group are: 1) *Consumer protection actions*, 2) *Standards development*, 3) *Regulatory deals*, 4) *Data driven supervision* and 5) *Joint regulatory action.*

The *Consumer protection actions* accept the fact that the peer-to-peer transactions occur, but try to make their negative effects on consumers as small as possible. Examples of this type of measures are to issue consumer alerts or to inspect the assets and providers of the transaction. The *Development of standards* measures also accept the fact that the transactions occur and are aimed at raising the quality or compliance level of the transactions. Examples are to issue quality and safety standards or to impose non-discriminatory trade-practices. These two types of institutional arrangements can be executed unilaterally by the policy executor.

The other three types of arrangements within this third group can be executed multilaterally. *Regulatory deals* are made between policy executors and sharing economy companies on specific subjects in order to better secure pressured values. These deals can be made when the new entrants do not completely comply with existing regulation, but when policy executors do not want to completely ban the initiatives. Examples are deals made on the payment of taxes or the cooperation in prevention of criminal activity. *Data driven supervision* measures contain measures in which the policy executors get access to the data of the sharing economy companies in order to better supervise on the compliance levels. Examples are data on the locations of the providers in order to be able to react quickly in case of problems or insights in the used price-algorithms to prevent exploitation of workers. Finally *Joint regulatory action* again can be executed by different policy executors to directly steer the transactions on the peer-to-peer sharing economy platforms.

Group 3 – Indirectly steering transactions within existing regulatory regime

The third group of institutional arrangements consist of arrangements that aim at indirectly steering the peer-to-peer sharing economy platform transactions. These types of institutional arrangements thus also accept the fact that these transactions occur and are formulated within the existing regulatory regime. These indirect steering actions can be executed by policy executors, platform companies and independent actors, such as insurers. Types of institutional arrangements that are part of this group are: 1) *Platform initiated quality control*, 2) *Self-regulation* and 3) *Independent actor involvement.*

The *platform initiated quality control* measures are measures performed by the platform companies aimed at raising the quality of the transactions for direct consumers and direct providers. A well-known example is the establishment of a reputation system in which consumers and providers rate each other after the transaction to increase transparency and exclude low quality providers. Another example of this type of measures is to conduct background checks on providers or on assets. *Self-regulation* measures of platform companies aim at more than direct quality issues. Examples are the provision of insurances for damages to first and third parties and the guarantees for payments via the platform. These two types of arrangements can be executed unilaterally by the platform companies, either enforced by the policy executors or on their own initiative.

These institutional arrangements can also be executed multilaterally by *involving independent actors* that can help to increase the trust and transparency in the transaction. Examples are independent parties who can provide safety or quality certification or who can conduct independent research on the effects of the peer-to-peer transactions. Another way of involving an independent party is to team up with independent insurers to cover liability issues of users.

Group 4 – Strategizing on transactions within existing regulatory regime

The fourth group of institutional arrangements contains arrangements that are aimed at creating a strategy around the peer-to-peer sharing economy platform transactions. These arrangements do not intervene or steer the transactions, but prepare for future challenges. Arrangements in this group are most relevant for policy executors, policymakers and platform companies, but can include cooperation with any other actor. The types of institutional arrangements that are part of this group are: 1) *Strategic regulatory measures* and 2) *Create alternatives*.

Strategic regulatory measures are measures aimed at pre-emptive influence. Examples range from the monitoring of start-ups to the creation of a network of stakeholders to discuss and foresee regulatory problems. The other type of institutional arrangements is the *creation of alternatives* to the platforms. The mechanisms behind the big and successful platform companies are not too complex and can be easily copied. To improve the position of providers for example, provider organisations can start their own version of the platform, or to level the playing field incumbents can adopt sharing economy practices. Taxi companies can for example establish their own car-sharing platform to compete with Uber. Both these types of arrangements can be executed unilaterally or multilaterally. Policymakers or policy executors can take strategic actions on their own or can involve other parties in these efforts and different types of actors can create alternatives alone or together.

Group 5 – Stopping, Steering or Strategizing on transactions by changing existing regulatory regime

The final group of institutional arrangements contains arrangements aimed at changing the existing regulatory regime in order to stop, steer or strategize on peer-to-peer sharing economy platform transactions. Arrangements in this group can provide a whole new regulatory framework for the activities on the peer-to-peer platforms. These types of arrangements are most relevant or policymakers, but can include cooperation with other actors. Two types of institutional arrangements are part of this group: 1) *Regulation reviews* and 2) *Cooperative development of regulation*.

Reviewing the regulation is an unilateral action by the policymakers and can be done in various ways: Goal-oriented regulation can be introduced, where specific instrumental provisions are removed from legislation and only the outcome is set; dual regulation can be established, where incumbents and sharing economy platforms have their own specific rules that still guarantee the safeguarding of values and the establishment of a level playing field; regulation can be eased or removed to give incumbents the same options as new companies; or regulation can remain unchanged after the review process. *Cooperative development of regulation* is the multilateral version of reviewing policy in which stakeholders are involved in the process. This can either be on the initiative of the policymaker but it is also possible that sharing economy companies or other parties actively propose new forms of regulation.

As mentioned before these groups of institutional arrangements can be used in combination with the values model to find possible measures to secure the values. The mentioned institutional arrangements are based on the grounded theory approach and not on a thorough examination of legal possibilities or an analytical identification of all possibilities. The different groups provide five different approaches towards formulating reactions when values are under pressure. Within these groups possibly more options are possible and even other groups might be present.

4.2 Expert validation

To validate the structure and usability of the model, the model was discussed with multiple experts in the field of digital platforms, sharing economy or public policy. In the period from the end of January to the beginning of February 2016 nine interviews were conducted, each taking between 30 minutes and one and a half hour. Six of the interviews were with representatives of involved organisations and three interviews were with independent experts. Table 7 and 8 give an overview of the conducted interviews. The approved minutes of the interviews are not available in this public version.

Table 7 - Overview of the interviewed representatives of the involved actors.

Expert name	Organization
Marieke Beugel	Verbond van Verzekeraars (Dutch Association of Insurers)
Pieter van de Glind	ShareNL (Dutch knowledge- and network platform for the collaborative economy)
Femke Haccoû & Nanette Schippers	Municipality of Amsterdam (Innovation team)
Paul Heijman	GoBoat (Dutch boat sharing platform)
Else Meijer & Annelies de Zeeuw	De Consumentenbond (Dutch Consumers Association)
Niels van der Poel	Dutch Ministry of Economic Affairs (Direction of General Economic Policy)

Table 8 - Overview of the interviewed independent experts.

Expert name	Expertise
Paul de Bijl	Economist with experience in the areas of digital economy, new business models and market disruption.
Maurits Kreijveld	Independent researcher and consultant in the areas of co-creation and digitalization. Writer of the book *De Kracht van Platformen (The Power of Platforms).*
Mindert Mulder	Expert on public policy and legislative changes. Currently working on projects aimed at modernizing legislation.

In the interviews the conceptual model of the effects of peer-to-peer sharing economy platforms on values in society was presented and discussed. The interviewees were asked to provide feedback on the structuring decisions (three levels of values, two axes of actors), the positioning of individual values in the model and the usability or applicability of the model. The received feedback was used to improve and validate the model as it was presented in the previous paragraph. In the following subparagraphs the general lessons from the feedback are presented.

4.2.1 Feedback on structuring decisions

As was presented in paragraph 4.1, the conceptual model is structured using three levels of values (micro, meso, macro) and four quadrant based on two axes (demand versus supply side, direct versus

indirect involvement). This way of structuring is a vital part of the final conceptual model and the interviewees were thus asked to reflect on these decisions and to provide feedback. The following general lessons were taken from the discussions on this aspect:

- All interviewees understood the different levels and could imagine that such a division would be logical given the found values. The different levels were recognized in the current debate about the peer-to-peer sharing economy platforms and the development of the debate over the years. One of the experts indicated that the division was very workable.
- Some experts recognized stages of growth of start-ups in the division of effects: for small platforms only micro values are relevant, if they grow they encounter the values and difficulties of the meso level and once they are established they can have an influence on a higher level. One of the interviewees identified the division line between micro and meso as the tipping point for growing platforms after which they have to determine the course of their development.
- The two axes of different actors were understood by the interviewees. Some experts indicated that they themselves used different division (e.g. Individual, Platform, Government), but that the chosen division was also understandable.
- Almost all experts mentioned that many different structuring decisions could have been made. The decisions in the presented conceptual model seemed logical for the interviewees and no big weaknesses were pointed out, but any other well substantiated division would also have been possible.

4.2.2 Feedback on positioning of individual values

After the discussion on the structure of the model, the placement of the different values was discussed. In the interviews the model was presented in the same build up order as was done in paragraph 4.1 of this report. Individual experts had questions or remarks on different values and positioning decisions. The proposed changes were taken in consideration for the improvement of the model and were tested with other experts. Ultimately four values were repositioned and three values were renamed to add clarity. Below these values are discussed:

- The value Consumer protection was initially positioned in the meso level of values. The idea behind this was that consumer protection issues especially become relevant when multiple transactions take place. One of the experts however pointed out that consumer protection is already relevant when even one transaction takes place (micro level). A safety tragedy in one transaction can for example already trigger big effects. Suiting consumer protection preconditions for the transaction are thus already relevant on a micro level. This suggestion was adopted and the value was moved from the meso level to the micro level.
- In the initial model the values Good Price and Quality of the product were separately formulated. The Good price value was positioned on the micro level and the value Quality of the product on the meso level. The rationale behind this was the fact that some quality dimensions might only become relevant after multiple transactions had taken place. One of the experts however noted that consumers make a very direct trade-off between quality and price. According to the interviewee the division of these values, especially over two different layers, was illogical. The direct trade-off between quality and price was adopted in the model by combining both values into the new concept Value for money. This new value was positioned in the micro layer.

- The value *Convenience* was initially positioned on the micro level for direct demand actors. One of the experts remarked that convenience was also relevant for the direct suppliers: for them it can also become more convenient to execute economic transactions through the digital platforms. The value was thus placed from exclusively direct demand to both direct demand and supply.
- The value *Social cohesion* was initially formulated as sharing as a value, which stood for the higher level value of a more caring and sharing society. One of the interviewees mentioned that this value might better be named *Social cohesion*, since it more clearly showed the societal concept that was aimed at with the formulation of this value. On the basis of this argument the value was renamed.
- The values *Empowered citizens* and *Quality of life* were initially named *Individual quality of life* and *Individual empowerment*. The "individual" part of both values was stripped, since it did not match with the macro level of thinking, according to one expert.

Besides specific remarks on individual values, the experts also had more general remarks about the placement of the values. The recurring remarks were:

- Some of the experts noted that the values that are relevant can change over time. The placements in the model can thus change: Values can be added, values can change position and values can be removed. This remark is addressed in the reflection on the study in chapter 6.
- Some experts noted that the positioning of the values in the model was sometimes difficult. The differences between a positioning on the micro level or on the meso level were sometimes not really clear. The experts pointed out that the argumentation for the positioning was thus important. Besides this, some experts argued that different argumentations could lead to different placements of the values. To address this point the used argumentations were elaborated on in appendix D.

4.2.1 Feedback on usability and applicability of the model

Besides the structuring of the model and the positioning of the values, the interviewees were also asked to give their opinion on the usability or applicability of the model, in order to test if the objective of the study ("to create a theoretical overview of the effects of peer-to-peer sharing economy platforms on society, in terms of effectuated values, involved actors and possible institutional arrangements") was reached. Strong points of the model that were mentioned are as follows:

- According to almost all interviewees the model provides clear insights in the effects of peer-to-peer sharing economy platforms. One of the interviewees called it a "powerful overview" that was one of the better ones he had seen. A second expert called the model potentially very useful and another regarded it as a simple but promising overview.
- Aspects that were appreciated by the interviewees were the analytical nature of the model and the neutral representation of the effects (as opposed to descriptive or political). Also the holistic approach to the effects was appreciated. According to one expert the model contained all the debates and perspectives on the effects of these platforms. Another expert stated that de model touched upon 90% of the discussions that they encountered in their experience with these platforms. Another aspect that was pointed out as laudable was that

the model contains a good balance between positive and negative effects and that it shows the relationship in a structured way.

- According to most experts the model can be a point of departure for policy discussions, actions and the development of strategies. Some experts saw potential for the model to function as a diagnosis tool or as a lens through which cases can be assessed. In this way the model could be used to identify relevant effects, pros & cons and impediments to development. Especially the application of the model to specific cases was mentioned as a promising aspect. An example of such an application is given in paragraph 5.3.

The experts also pointed out some weaker or missing parts of the model:

- Many experts noted that the mechanisms behind the effects or the specific relations between the values are the most interesting. These aspects can however not be found in the model. One expert for example remarked that it would be most interesting to see what micro effects lead to what meso effects and ultimately to what macro effects.
- Following up on the missing mechanisms, many experts stated that the model does not give a framework for action: The model cannot help policymakers to determine what actions to take or what levers to pull. The institutional arrangements give an indication of possibilities, but the model does not help in determining what action is best.
- Another point that some experts were missing in the model was that the effects do not have a direction, or in other words, it is not clear what values will be positively or negatively influenced. Some experts saw this as a strong aspect of the model, but others stated that the model would be more useful if indications for these directions were included in the model.
- Some experts questioned whether the model was complete and how they would be sure it was. Combining this remark with the earlier remark of the possibility of changing values, the experts questioned if the model was useful as a diagnosis tool for specific cases.
- Finally also one expert noted that the model could be improved by professionally designing the visualization and by rephrasing some of the concepts to better fit the jargon of policymakers. According to the expert this would significantly help to spread the model and increase its use amongst policymakers.

The implications of the lessons of the expert validation will be discussed in the conclusions, recommendations and reflections that are presented in chapter 6.

Chapter 5 – Theoretical and practical value of the model

On the basis of the validated model of the previous chapter, this chapter elaborates on the theoretical and practical value of the model. The chapter starts with a theoretical comparison of the model by positioning the study and the model within different trends in the research on digital platforms and the sharing economy (paragraph 5.1). In the other part of the theoretical comparison the composed model will be directly compared with a similar model that was developed for the Dutch Ministry of Economic Affairs in order to assess and anticipate on the effects of digital platforms in general (paragraph 5.2). The chapter concludes with practical demonstration of the use of the model on a specific case, in order to test the usability (paragraph 5.3).

5.1 Positioning of the model within different trends in literature

Positioning the model of this study in different trends of literature is part of the theoretical comparison phase of the Grounded Theory approach. Concerning digital platforms and sharing economy theory, roughly four relevant trends in literature can be discerned: 1) literature focussing on the mechanisms behind platforms and factors that might determine their success, 2) literature focussing on the motivations for sharing on these platforms, 3) literature focussing on specific effects or applications of sharing economy platforms and 4) literature attempting to give an holistic view on the effects of sharing economy platforms. These trends were identified as such, since this structure creates a clear division between different backgrounds of literature: Trend 1 contains technical and institutional economics publications, trend 2 contains psychological and behavioural publications, trend 3 contains different types of publications depending on the effect studied (e.g. environmental effects will be studied from an ecological background) and trend 4 contains the new field of sharing economy publications.

Below each of these trends will discussed and several examples of publications within the trends will be given. These publications are explicitly examples; the aim is not to give a complete overview of all the publications within the trends.

Trend 1 – Mechanism and success factors

The first trend in literature focusses on the mechanisms behind platforms and factors that might determine their success. Examples of publications in this trend are Hill and Wellman (2012), who use a game theory approach to prove that by setting the suiting incentives it is possible to get participants to truthfully report on the quality of their offered products; Andersson, Hjalmarsson and Avital (2013), who study a multitude of ride sharing companies to find important distinguishing factors for these companies; Kohda and Masuda (2013), who show that platforms that absorb risks for users are more successful; Slee (2013), who explores the role of reputation systems in the success of platforms; Jenk (2015), who uses the case of peer-to-peer transactions in the sharing economy to provide evidence for Coase's theorem[3]; Chen, Mislove and Wilson (2016), who use data analytics to determine Uber's algorithms; and Henten and Windekille (2016) who elaborately study the role of transaction costs in the sharing economy.

[3] "The Coase Theorem states that "if trade in an externality is possible and there are no transaction costs, bargaining will lead to an efficient outcome regardless of the initial allocation of property rights". George Stigler restated it: "with zero transactions costs, private and social costs will be equal"."(Jenk, 2015, p. 1).

This trend in literature thus focusses on the mechanisms in platforms and the factors that might determine the success of platforms. The model proposed in this study focusses on the effects of these platforms under the assumption that these mechanisms work well and the platforms are a success. This study thus does not fit in this trend of literature.

Trend 2 – Motivations for sharing on platforms

The second trend in literature studies the motivation for sharing via platforms and the types of users of these platforms. Examples of publications within this trend are Jones and Leonard (2010), who study what factors lead to trust in websites and digital platforms; Albinsson and Perera (2012), who interview users of gift economy platforms to find their motivations for sharing; Hamara and Ukkonen (2013), who use a survey to find the intrinsic motivations for sharing on a peer-to-peer platform; and Zekanović-Korona and Grzunov (2014), who use a survey to investigate the demographics and motivations of users of Airbnb.

The model proposed in this study contains values that might pose as a motivation for people to use the peer-to-peer sharing economy platforms. In this sense one can say that the expected effects on values might form a motivation for people to use the sharing economy platforms.

Trend 3 – Specific effects or applications

The third trend in theory is to focus on specific effects of peer-to-peer sharing economy platforms or effects of specific sharing economy platforms. The following publications are examples of this trend in literature: Belk (2013), who describes the effects of new sharing economy platforms on incumbent and proses suitable reactions by these companies; Zervas, Proserpio and Byers (2013), who study the effects of the rise of Airbnb on the incumbent hospitality sector; Isaac (2014) and Isaac (2015), who describe how respectively Uber and Taskrabbit became a success and what effects these platform companies have on their environment; Dillahunt and Malone (2016), who study the effects of peer-to-peer platforms on income opportunities and reintegration of workers; Martin (2016), who studies the effects of peer-to-peer sharing economy platforms on environmental sustainability and equality in society; and Schor (2016), who studies the effects of sharing economy platforms on inclusion and equality in society.

These studies on the specific effects or the specific platforms can all be linked to the value model proposed in this study. All the effects studied in the above mentioned publications can be found as values in the model. The publications within this trend however elaborately focus on these effects and thus provide a richer insight in the dynamics within the effects on the value than this study.

Trend 4 – Holistic views on the effects of sharing economy platforms

The final trend in literature tries to give a holistic view on the effects of peer-to-peer sharing economy platforms on society. Examples of publications in this trend are Cheng (2014), who breaks the sharing economy down in different subcomponents and describes the a broad range of effects (with a focus on work-related issues); and Schor (2014), who provides arguments both for and against the sharing economy, with a focus on ecological and social aspects; and Kenney and Zysman (2015), who focus on the implications and consequences of digital platforms and attempt to sketch the debate around them.

The model proposed in this study best fits in trend 4 of the literature, since it also attempt to give a holistic view on the effects of peer-to-peer platforms in the sharing economy. The major difference

with the above mentioned publications is that this study proposes an analytical model of these effects instead of a descriptive exploration. The analytical model contains, amongst other effects, the effects described in the mentioned publications but structurally connects them with all other effects to create an insightful overview. This is new in this trend of literature.

Created insights from the positioning of the model within different trends in literature

Concluding we can say that the first trend studies how peer-to-peer platforms work and what success factors are, the second trend studies why people share on these platforms, the third trend focusses on specific effects of these transactions and the fourth trend gives an holistic overview of these effects. The developed model in this study assumes successful platforms and sharing users with a multitude of motivations. The model best fits in the fourth trend and tries to give a holistic overview of the effects on the values that are mentioned in the discourse on the rise of these platforms. The model is different from other publications in this trend, since it provides an analytical overview instead of a descriptive one. The studies in the third trend focus on specific effects within the model and provide a richer insight into these specific effects, but do not relate them to other effects, which has been done in this study.

5.2 Comparison with the TNO model on digital platforms.

Another part of the theoretical comparison is the direct comparison of the model with a similar model. The model that is used for this comparison is a model from a study towards the effects of digital platforms and the policy options for governments to act on these effects that was commissioned by the Dutch Ministry of Economic Affairs a few months before the start of this study. This study was conducted by the Dutch research institute TNO, in cooperation with Consultancy firm Ecorys and the Dutch research institute for information law IViR. The final report of this study was presented to the Ministry in November 2015 and made public in January 2016. The TNO study focusses on digital platforms in general and not only on broker type platforms in the sharing economy (see chapter 2). The motivation for the TNO study and the analytical model as the end result of the TNO study are however comparable to this study. This section therefore contains a detailed comparison of the two studies, focussing on the motivation and objective of the study, the structure of the analytical model, the role of values in the model and the role of institutional arrangements in the model. In this comparison the model created in the TNO study will be referred to as the 'TNO model' and the model created in this study as the 'value mapping model.'

5.2.1 Motivation and objective of the study

The motivation for the TNO study was formulated as follows: *"The increasing economic and societal impact of digital platforms raises a number of questions for policy makers. On the one hand digital platforms offer considerable opportunities. Digital platforms lower transactions costs and enable users to express themselves and share information. On the other hand, there are also concerns raised in public debates about how platforms or users on digital platforms can and should comply with (existing) regulatory principles and frameworks."* (Van Eijk et al., 2015, p. 2).

This closely corresponds with motivation for this study that was formulated as follows: *"The rise of these (peer-to-peer sharing economy platform) companies has had a big effect on the respective environments and a process of institutional change is instigated. On the one hand these companies clearly use innovative business models that potentially have positive effects on economic growth. On the other hand their disruptive nature is a cause of concern and effects on society are unclear. Kenney*

and Zysman (2015) summarize this by saying that "these transformations need to be simultaneously nurtured, supported, and protected against" (Kenney & Zysman, 2015, p. 4)." (This report, p. 9).

The objective of the TNO study is formulated as follows: *"The result of this study is a framework to analyse policy options for digital platforms. It provides a structured approach that promotes completeness and consistency for the analysis of the government role and policies for digital platforms"* (Van Eijk et al., 2015, p. 7).

This again shows great similarities with the objective that was formulated in this study: *"The objective of this study is to create a theoretical overview of the effects of peer-to-peer sharing economy platforms on society. The theoretical overview must be suited for use by policymakers in making trade-offs to determine the best reaction."* (This report, p. 10).

5.2.2 Structure of the analytical model

In the TNO study an "analytical framework for identifying and evaluating policy options" was composed, which is shown in figure 11.

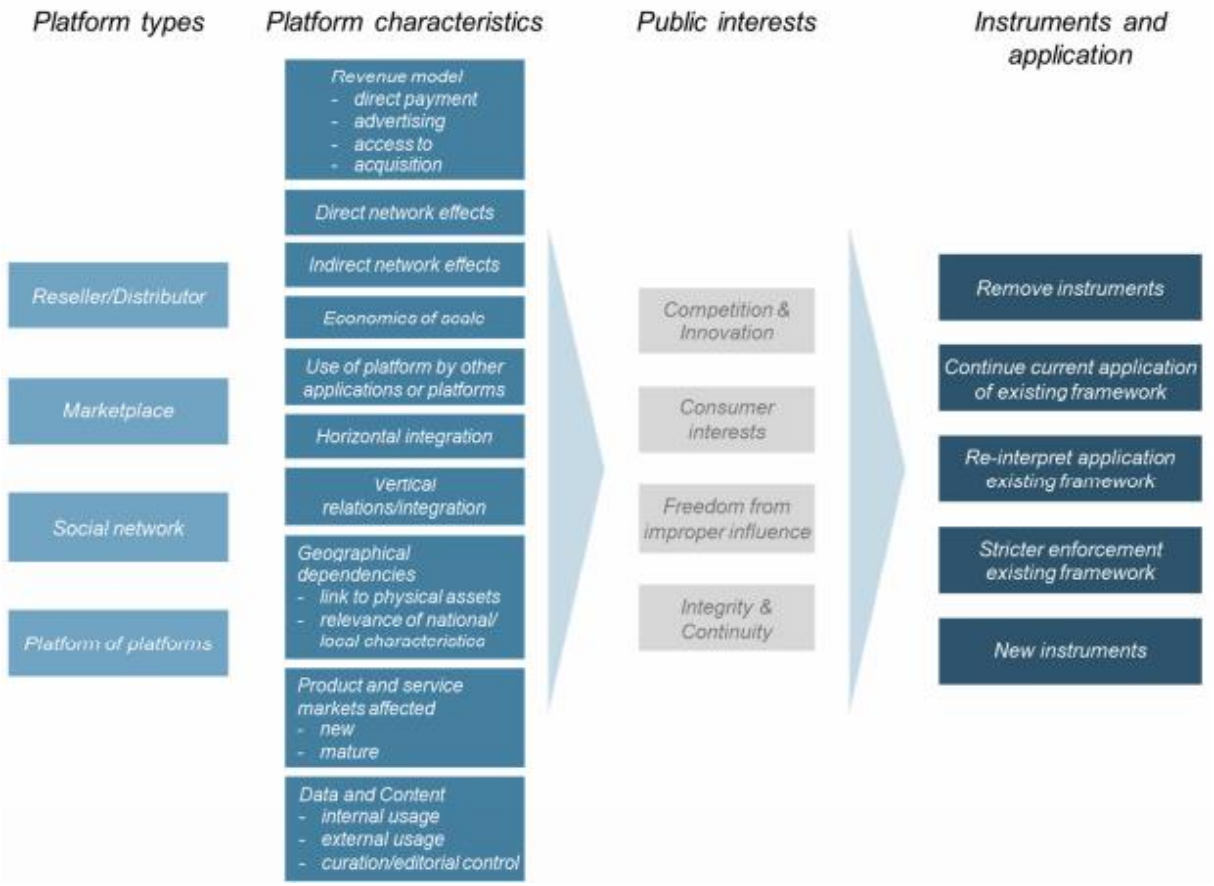

Figure 11 - The analytical framework for identifying and evaluating policy options as was composed in the TNO study (2015).

The structure of this TNO model is more focussed on the identification and evaluation of policy options and less on the mapping of the effects on values such as in the value mapping model of this study. The structures of both models thus differ significantly. There are however some similarities that can be identified. The differences and similarities will be discussed following the structure of the TNO model.

Platform type

The TNO model starts with an identification step in which the type of platform is established. On the basis of multiple criteria four different types of platforms are distinguished: Reseller/Distributor platforms, Marketplace platforms, Social network platforms and Platforms of platforms. The marketplace platform is the type that contains the peer-to-peer sharing economy platforms as defined in this study, since the definition of the marketplace platform is as follows: “Market places facilitate transactions between users and user groups on the platform. The transactions can concern any product or service and marketplaces can have an impact on a wide array of markets” (Van Eijk et al., 2015, p. 18). In the definition of TNO however also platforms that facilitate transfer of ownership are included, which are not included in the definition of peer-to-peer sharing economy platforms as was used in this study.

Platform characteristics

The second step of the TNO model looks at the characteristics of the model, such as revenue model, network effects and geographical dependencies. Combined with the type of platform these characteristics might lead to the concept of peer-to-peer sharing economy platforms as was used in this study.

Public interests

The third step of the TNO model focusses on the public interests that are influenced by the platform. This step in the TNO model contains the effects that are the main focus of the value mapping model that was constructed in this study. The TNO model divides the public interests into four categories, which will be elaborately compared to the values found in this study in paragraph 5.2.3.

Instruments and application

The fourth step of the TNO model focusses on the instruments and application of different fields of legislation. This part of the TNO model corresponds with the institutional arrangements part of the value mapping model constructed in this study. The TNO model provides five options to react to the identified effects of the digital platforms on the public values. These options will be elaborately compared to the five groups of institutional arrangements that are proposed in this study in paragraph 5.2.4.

Concluding we can say that the structure of the TNO model differs mostly in the first two steps from the value mapping model constructed in this study. Where the TNO model leaves room for many different types of platforms with different characteristics, the model of this study only focusses on peer-to-peer sharing economy platforms. The third step of the TNO model focusses on the public interests that are effectuated, which corresponds with the value mapping model part of this study. The fourth step of the TNO model focusses on the policy options for policymakers, which corresponds with the groups of institutional arrangements identified in this study. In the remainder of this paragraph the third and fourth step of the TNO model will be compared to the value mapping model constructed in this study. This in order to gain insights in possible improvements of the value mapping model and to identify possible improvement that could be made to the TNO model.

5.2.3 Values in the model

In the third step of the TNO model the effects of the platform on public interests are identified. These public interests can be seen as types of values. The definition of a value in this study is “Principles or standards of behaviour; one’s judgement of what is important in life” (Oxford

Dictionaries, 2015). Public interests are also concepts that people find important and thus the comparison can be made between the value mapping model and the public interests step of the TNO model. The TNO model knows four groups of public interests: 1) *Sufficient competition and innovation*, 2) *Safeguarding consumer interests*, 3) *Freedom from improper influence* and 4) *Providing integrity and continuity*. These groups will be discussed below and afterwards the differences between the full set of public interests of the TNO model and the full set of values of the value mapping model of this study will be identified.

The *Sufficient competition and innovation* group of public interests is aimed at "ensuring increase of welfare and efficiency through competition and innovation" (Van Eijk et al., 2015, p. 19). These interests correspond mainly with the values *Fair competition, Innovation* and partly the value *Well performing markets* (in terms of monopoly prevention) of the value mapping model proposed in this study. This type of public interest is thus included in the value mapping model.

The *Safeguarding consumer interests* group of public interests in the TNO model aims at "promoting consumer choice, offering sufficient levels of consumer protection and safeguarding fundamental rights (Van Eijk et al., 2015, p. 19). Issues such as freedom of choice, sufficient information and rules on sale of products fall within this group (Van Eijk et al., 2015, 2015). These interests mainly correspond with the value *Consumer protection*, but also aspects of the value *Inclusion* (safeguarding the fundamental right of access or non-discriminatory practices) and the value *Value for money* (safeguarding quality levels) fall within this group. This type of public interest is thus also included in the value mapping model.

The third group of public interests is the group *Freedom from improper influence*, which aims at "Avoiding unnecessary restrictions by governments, while safeguarding societal interests through positive obligations" (Van Eijk et al., 2015, p. 19). Also improper influence from platforms has to be prevented. Issues that are part of this group are national security, privacy, diversity and public health (TNO, 2015). The aspects of the values *Consumer protection*, *Prevention of criminality*, *Inclusion* and *Safeguarding of public tasks* correspond with the issues in this group. The TNO study stresses that especially minors have to be protected from improper influence. This nuance is not present in the value mapping model that was constructed in this study, but can be used in the application of the model (i.e. the effects can be assessed from the perspectives of different groups of consumers).

The final group of public interests is the *Providing integrity and continuity* group. This group states that "market players, consumers and government need to be able to rely on safe and reliable digital communications provided by networks and services" (Van Eijk et al., 2015, p. 19). The safety and reliability of digital communication for consumers are not specifically part of the value mapping model of this study. These two aspects can however be linked to the more general values *Safety and security* and *Reliability* that are part of the values *Consumer protection* and *Value for money*. This specific perspective on these values is added to improve the value mapping model.

In figure 12 the values that correspond with the public interests as identified by the TNO study are highlighted. As we can see, there are many values that do not have a place in the TNO identification of public interests. Especially issues related to the *Empowerment of citizens*, *Social connection*, *Employment* and *Labour* and the *Environment* are not taken into account in the TNO model. The authors of the study acknowledge this by stating that "other public interests might also be at stake and can be integrated into the analytical framework" (Van Eijk et al., 2015, p. 19). Aspects that were

part of the TNO model, but not the value mapping model of this study, are the specific attention for the protection of minors and the safeguarding secure digital communication for providers and platforms. These aspects are added to the value mapping model to improve its richness. The nuance of different groups of consumers is added to the description of the *Consumer* actor and the specific focus on digital communication is added to the *Consumer protection* and *Value for money* descriptions, which all three can be found in appendix D.

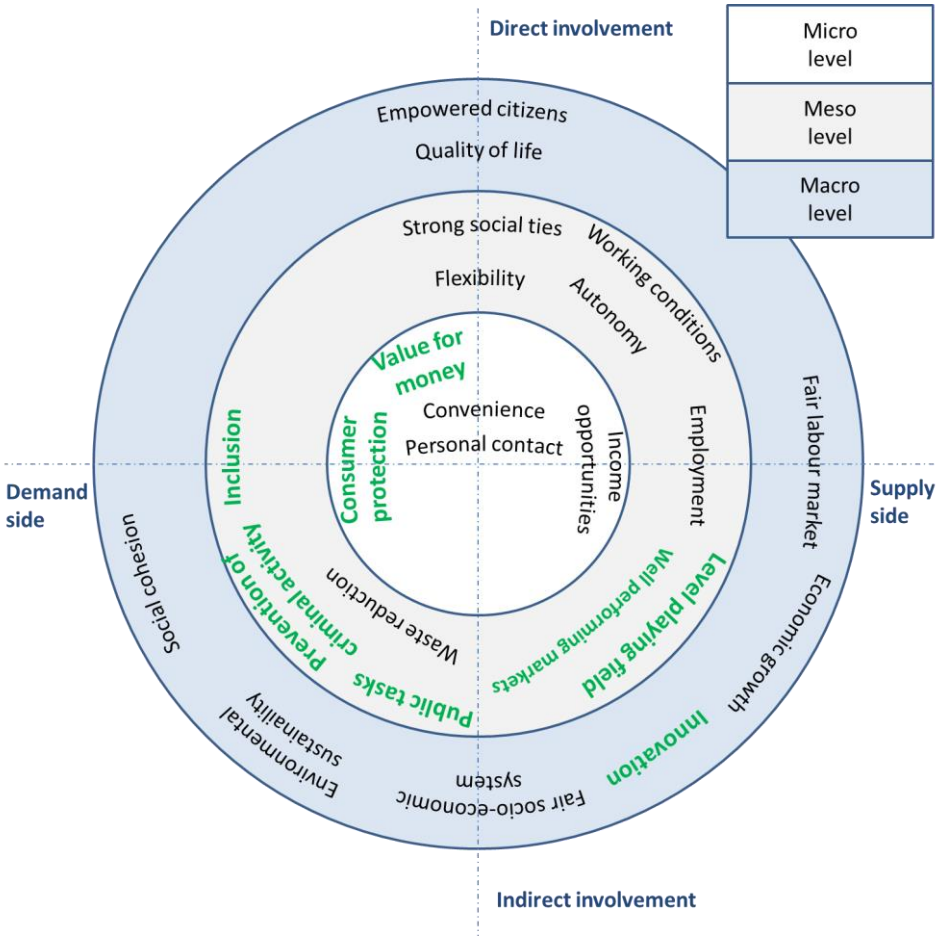

Figure 12 - Indication of values that correspond with the identified public interests in the TNO model. Corresponding values are bold and green.

5.2.4 Institutional arrangements in the model

The fourth step of the TNO model proposes five types of actions policymakers can take to mitigate the negative effects of digital platforms. This step corresponds with the five groups of actions that are formulated in this study. The groups TNO identifies are: 1) *Remove instruments*, 2) *Continue current application of existing framework*, 3) *Re-interpret application of existing framework*, 4) *Stricter enforcement of existing framework* and 5) *New instruments*.

For group 1 till 4 the study has identified what fields of legislation are relevant to either remove, continue, re-interpret or enforce. The study identifies seven of these fields, which are: 1) Competition law, 2) Consumer protection laws, 3) the E-commerce directive, 4) the Audiovisual Media Services Directive, 5) Data protection and privacy laws, 6) Copyright law and 7) Electronic communications law.

This study does not give details on the specific field of law that are applicable, but does contain several groups of arrangement that operate within the existing regulatory regimen (group 1 through 4). Within these groups options for stopping the transaction and for direct and indirect steering are proposed. The TNO options of continuing the application of the legislation, stricter application of legislation and re-interpretation of regulation all fall within the existing regulatory regime. The TNO options however only consider unilateral actions of the policy executor and thus do not cover all the possibilities within the existing regulatory regime that were identified in this study.

The fifth group of changing the existing regulatory regime contains the options to remove, alter or continue the laws. The TNO study describes several ways to alter the regulation, of which one is that "it may be considered necessary to move towards 'principles-based regulation', as opposed to 'rules-based regulation'"(Van Eijk et al., 2015, p. 33). This corresponds with *goal-oriented regulation* code that lays at the basis of Regulation review type of arrangement within group 5 .

The fifth option policymakers have, according to TNO, is to introduce *New instruments.* TNO describes two options for new instruments: 1) *Self-regulation* and 2) *Co-regulation*. These options are also present in the groups of institutional arrangements as formulated in this study, namely in the groups of Indirectly steering transactions within existing regulatory regime *(group 3), as the institutional arrangement type of self-regulation* and in the group Directly steering transactions within existing regulatory regime *(group 2),* as the institutional arrangement type of *Regulatory deals.*

When we combine these findings we can map the policy options of TNO on the groups of institutional arrangements of this study. In table 9 this mapping can be found. As we can see most of the policy options correspond, but TNO did not include all the types of institutional arrangements that were identified in this study. The types of institutional arrangements TNO did not include are: *Joint regulatory intervention* of group 1, *Data driven supervision* and *Joint regulatory steering* of group 2, *Platform initiated quality control* and *Independent actor involvement* of group 3, *Create alternatives* and *Strategic regulatory measures* of group 4 and *Cooperative development of regulation* of group 5.

Concerning the institutional arrangements one can thus say that many of the policy options TNO sketches correspond with the groups of institutional arrangements that were formulated in this study. This study however includes more options, especially options that require cooperation between parties and that include platform companies or independent parties. Also the more strategic options are not included in the TNO study. The TNO study however elaborates more on the applicable fields of law that can be used, altered or removed, which was not part of this study.

Table 9 - Mapping of TNO policy option on the types of institutional arrangements as proposed in this study. Green marked types of institutional arrangements correspond with the TNO policy options, unmarked types of institutional arrangements do not.

Groups of institutional arrangements	TNO policy option
Group 1 – Stopping transactions within existing regulatory regime • Intervention • Joint regulatory intervention	Continue current application of existing framework Re-interpret application of existing framework Stricter enforcement of existing framework
Group 2 – Directly steering transactions within existing regulatory regime • Standards development • Consumer protection actions • Regulatory deals • Data driven supervision • Joint regulatory steering	New instruments: Co-regulation
Group 3 – Indirectly steering transactions within existing regulatory regime • Self-regulation • Platform initiated quality control • Independent actor involvement	New instruments: Self-regulation
Group 4 – Strategizing on transactions within existing regulatory regime • Create alternatives • Strategic regulatory measures	
Group 5 – Stopping, Steering or Strategizing on transactions by changing existing regulatory regime • Regulation reviews • Cooperative development of regulation	Remove instruments Re-interpret application of existing framework

5.2.5 Explanation of the differences with the TNO study

There is one major explanation for the differences between the value mapping model of this study and the TNO model. This explanation lies in the approach that was taken to create the model. The TNO study was "based upon desk research and previous work performed by the different consortium partners on related topics. The resulting draft framework was tested in five case studies" (Van Eijk et al., 2015, p. 7). Based on this description it is not exactly clear what the desk research of the TNO study consisted of and what the previous work of consortium partners was, but it suggests that the design of the TNO study had a more fixed nature than this study: the study was started with initial ideas about digital platforms and the case study method is a structured and predefined approach (Yin, 2012). This fixed nature has led to relevant and probably valid findings on digital platforms, but has left little room for exploratory work and new ideas.

The Grounded Theory approach used in this study is more exploratory of nature and has thus resulted in a more complete identification of effectuated values and possible institutional arrangements to mitigate the negative effects. By using the theoretical perspective of institutional economics and the corresponding sensitizing concepts during this study some guiding ideas were present, but only to a limited extent. The possibility of a shifting focus and theoretical sampling allowed for new ideas and findings to emerge and to be adopted in the final model. This more

exploratory approach thus naturally led to the identification of more effectuated values and more possible institutional arrangements. By using the academic Grounded Theory approach and three ways of validation (empirical validation, expert validation and theoretical comparison) the model created in this study is also more academically substantiated.

5.2.6 Created insights from the comparison with the TNO study

In terms of motivation and objective both studies are very similar. The only difference is that the TNO study focusses on different types of digital platforms, whereas this study chose to limit the focus on peer-to-peer sharing economy platforms. This difference can also be seen in the structure of the TNO model: the first two steps of the TNO model identify the type and characteristics of the platform, which is set in this study to peer-to-peer sharing economy platform.

Step three of the TNO model largely corresponds with the value mapping model as was constructed in this study. The value mapping model of this study is however more elaborate than the four groups of public interests the TNO model presents. Two improvements were made to the value mapping model concerning the existence of different types of consumers and the specific focus on digital communication in the *Consumer protection* and *Value for money* values. The public interests of the TNO could be improved by adding effects on values as *Empowerment of citizens*, *Social connection*, *Employment* and *Labour* and the *Environment.*

The fourth step of the TNO model corresponds with the groups of institutional arrangements as proposed in this study. The two models largely correspond, but the types of institutional arrangements proposed in this study contain more options for policymakers. The groups of institutional arrangements of the value mapping model could be improved by adding the specific fields of law that are applicable. This was not done in this study, but can be conducted in future work. The TNO model could be improved by adding options for policymakers that do not include the necessity to change (the interpretation of) the existing legislation.

The explanation for the differences between the value mapping model and the TNO model can be found in the used approach. The TNO study used a more fixed approach towards designing the model that left little room for exploratory work and new findings. The Grounded Theory approach in this study had a more exploratory nature and has resulted in a more complete identification of effectuated values and possible institutional arrangements. Besides this the resulting model is more academically substantiated than the TNO model.

Using the academically sound and exploratory approach towards the subject of peer-to-peer sharing economy platforms a model was created that gives analytically structured insights in the effectuated values, the involved actors and the possible institutional arrangements. This analytically structured insight goes beyond the sole identification of effectuated values and possible institutional arrangements as was done in the TNO model. On top of this, the model created in this study gives a more complete overview than the TNO model.

5.3 Practical application of the model

In this paragraph the value mapping model and linked institutional arrangements will be applied to a specific case. The objective of the study was to provide a theoretical overview that could help policymakers in determining their approach towards the peer-to-peer sharing economy platforms.

This paragraph demonstrates how this can be done using the created model and thus functions as a test to see if the objective of the study was met.

The model functions as a lens on the case or as a diagnostic tool to identify the relevant effects on values. The specific case that will be used in this paragraph is the case where the municipality of a large Dutch city wants to assess the effects of the rise of Airbnb in their city. The model will hypothetically be used by a group of policy advisors working for a city councillor that has to decide on how to react on the rise of Airbnb. The assessment of the effects by the policy advisors will help the city councillor to make the best trade-off and determine a suiting strategy.

The indications for the direction of the effects (positive or negative effects) mentioned in this section are based on the read articles during this study. The directions are thus not academically proven. Besides this it is possible that experienced policy advisors identify different effects than the ones mentioned in this paragraph. The indications of the effects are thus purely to demonstrate the use of the model. First, the effects on the values will be assessed using the gained insights during this study. After this the clear positive, clear negative and the uncertain effects will be listed to create insight in the trade-off. After this the different policy options will be used to formulate possible institutional arrangements that can be implemented to mitigate the negative effects.

5.3.1 Effects on values

The effects of the rise of Airbnb in the city will be discussed following the different levels of values within the model in order to show the practical use of the model in a real life case.

Micro level

The effects of Airbnb on the *Value for money* for direct users in the city will probably be positive (+), because consumers will have a wider choice of a more diversified set of accommodations. The C*onvenience* for direct users in the city does not have a clear positive or negative effect (+/-). Booking a hotel is currently as convenient as booking an Airbnb accommodation. For direct providers, who own a house in the city, the effect is however clearly positive (+). It is very easy for them to list their apartment or house on Airbnb, which was previously hard to rent out. The *Personal contact* between user and provider can occur when users arrive at the location and exchange the keys. However the personal contact might also be negatively influenced since a hotel always has employees who can be of service and an Airbnb listing sometimes does not include meeting the home owner. The effect on this value is thus balanced out to neutral (+/-). *Consumer protection* is probably less well arranged with Airbnb listings than with the incumbent hospitality industry (-), because house safety, liability and the prevention of fraud are less well-regulated in the Airbnb domain, which leads to this negative effect. Finally the income opportunities for provider are positively influenced, since Airbnb allows for the monetization of previously unmonetizable property (+).

The effects of Airbnb on values in the micro layer in this city are thus:

- Value for money: **+**
- Convenience direct demand: **+/-**
- Convenience direct supply: **+**
- Personal contact: **+/-**
- Consumer protection: **-**
- Income opportunities: **+**

Meso level

The rise of Airbnb in the city will probably lead to more *Flexibility* for the directly involved people in the city, since renting periods are better customisable and houses can be rented whenever providers want (+). The *Social ties* between citizens are probably not influenced since it is unlikely that two users have continuing personal contact in order to build this relation (+/-). The *Autonomy* of provider is positively influenced (+). This due to the fact that they have income opportunities and rent out their house whenever they want. The *Working conditions* for the providers are not likely to be influenced because the nature of Airbnb rental does not require a lot of personal labour (in contrast to Uber) and the relation between Airbnb and its users does not lead to exploitation (+/-). The *Employment* for directly involved persons can change, but renting out your house is not likely to become a full time job for most of the providers (+/-). The effects on jobs of employees of the incumbent parties are however unclear. If Airbnb leads to less revenue and profit for the traditional hospitality sector, jobs might disappear. This effect is however highly uncertain and requires extra investigation (- ?).

The rise of Airbnb in the city probably leads to an unequal *playing field* between Airbnb providers and incumbent entrepreneurs (-), because the Airbnb providers do not have to abide to the same laws as the existing hospitality sector (e.g. fire safety laws). The effects on the *Market performance* are unclear. The competition of Airbnb can cause a race to the bottom or a monopolistic position of Airbnb. This effect however requires more research to check if this will indeed be the case (- ?). The rise of Airbnb in the city will probably lead to negative effects on the execution of other *public tasks* (-). The city can miss tourist tax revenues and the renting of houses can interfere with zoning laws, which for example set that certain areas can only be used for domestic use and not commercial use. The effect of Airbnb on *waste reduction* is probably not that big (+/-). The access over ownership idea probably does not result in big effects when it comes to owning or accessing houses. The prevention of criminal activity may be negatively influenced since the supervision over Airbnb houses is not as good as over hotels. This effect is however unclear and might need more investigation (- ?). Finally Airbnb probably has a negative influence on *inclusion* (-). Airbnb providers are not obligated to arrange wheelchair accessibility and studies have shown that discrimination can be an issue when it comes to the prices providers can ask for their houses.

The effects of Airbnb on values in the meso layer in this city are thus:

- Flexibility: **+**
- Strong social ties: **+/-**
- Autonomy: **+**
- Working conditions: **+/-**
- Employment: **- ?**
- Level playing field: **-**
- Well performing markets: **- ?**
- Public tasks: **-**
- Waste reduction: **+/-**
- Prevention of criminal activity: **- ?**
- Inclusion: **-**

Macro level

Taking the micro and meso effects into account, it is probable that the rise of Airbnb will lead to more e*mpowered citizens* in the city (+). The effects on their *quality of life* are however probably not very big, since many more aspects determine this value and the effects of the rise of Airbnb on contributing values as *convenience for consumers* and *personal contact* are not that big (+/-). The effects on the labour market in the city are unclear and possibly negative (- ?) as the effects of Airbnb on incumbents for a large part determine the job opportunities that are available in the city. This same effect will determine if Airbnb will lead to economic growth or not. This is possible since more economic activity is created, but it is yet unclear whether this will add to the incumbent economic activity or if it will only replace it. This possible positive effect thus needs further investigation (+ ?). The rise of Airbnb in the city will however certainly lead to an innovative way of doing business in the city (+). The effects on the socio-economic system in the city will probably stay low (+/-). Inequality is not likely to rise or fall due to the growth of Airbnb. The effects on environmental sustainability are probably also low at a city level (+/-). Globally Airbnb might lead to more travel and higher pollution levels and depending on the politicians in power however this could become an issue. Here it is chosen that these effects are not directly relevant for the city level (+/-). Last, the social cohesion in the city is probably not influenced much either, since Airbnb does not lead to the city's society to become closer to each other (+/-).

The effects of Airbnb on values in the macro layer in this city are thus:

- Empowered citizens: **+**
- Quality of life: **+/-**
- Fair labour market: **- ?**
- Economic growth: **+ ?**
- Innovation: **+**
- Fair socio-economic system: **+/-**
- Environmental sustainability: **+/-**
- Social cohesion: **+/-**

5.3.2 Created insights

After assessing the different effects the policy advisors can make an overview of the probable positive effects, the probable negative effects and effects that are worth researching in the short run. Table 10 shows the positive effects in contrast to the negative effects, combined with the effects that are worth researching.

The rise of Airbnb in this city will probably have positive effects on the citizens that can provide accommodations or that want to travel to other places. Allowing Airbnb to grow in the city shows that the city has room for innovation and that individual entrepreneurs can profit. Another effect that can possibly occur is that the rise of Airbnb will lead to more economic activity and economic growth for the city.

Possible negative effects are however the protection and inclusion of consumers. Besides this the rise of Airbnb will probably lead to unfair competition and difficulties with the execution of other public tasks, such as the collection taxes. It is still unclear if Airbnb will lead to the disappearance of jobs and what the effects on the overall labour market in the city will be. Besides this Airbnb might

lead to a race to the bottom for the hospitality industry in the city and might hamper the prevention of criminal activity. These last unclear effects can have a negative impact and need to be investigated further in order to make the best trade-off.

Table 10 - Overview of positive and negative effects of the rise of Airbnb on a large Dutch city, including effects that have to be researched further.

Positive effects (+)	Negative effects (-)
Value for money	Consumer protection
Convenience for providers	Level playing field
Income opportunities	Public tasks
Flexibility	Inclusion
Autonomy	
Empowered citizens	
Innovation	
Possibly: • Economic growth	Possibly: • Employment • Fair labour market • Well performing market • Prevention of criminal activity

Concluding on these effects one can thus say that the positive effects are most relevant for the directly involved parties, but the indirectly involved parties encounter the negative effects. Besides this most macro level effects, which are possibly heavily used in the debate, are still unclear.

5.3.3 Possible institutional arrangements to mitigate negative effects

The policy advisors can give the city councillor insights into the different effects that will probably occur, but besides this, they can also propose measures to mitigate some of the negative effects. The options they can propose can be derived using the groups of institutional arrangements. Below for two of the clear negative effects *Consumer protection* and *Level playing field*, different options are proposed to demonstrate how the groups of institutional arrangements can be used to formulate a reaction.

Consumer protection

In line with the first group of institutional arrangements, policy executors can chose to try to stop the transactions on Airbnb from happening. By stopping the transactions the negative effects on *Consumer protection can be mitigated*. Local regulators can for example try to ban Airbnb from the city via court on the basis of consumer protection laws. This however would cancel all the positive effects, which might not be desirable.

The second group of institutional arrangements offers options for policy executors to directly steer the transactions on the platform to improve the protection of consumers. An option could be to publish guidelines for people who offer their homes via the platform or to issue special consumer alerts pointing out the hazards of Airbnb accommodations and the positive characteristics of the formal hospitality sector. Other direct steering measures could be to agree with Airbnb that the company shares data on the addresses of Airbnb listings. In this way the municipality can find providers to the platform and directly address them in case of consumer protection issues.

In order to mitigate the negative effects on consumer protection also indirect steering measures could be used (group 3). Policy executors could allow Airbnb to take care of consumer protection by letting the platform conduct its own background checks on providers and houses. Another indirect measure would be to allow Airbnb to prevent liability issues by contracting an independent insurer. These measures might be taken on initiative of the platform companies or can be encouraged by policy executors.

The city councillor can also to choose a more strategic approach to mitigate the negative effects on consumer protection (group 4). For example a symposium could be organised with different stakeholders where the issue of consumer protection is discussed.

A possible way to change the existing regulatory regime (group 5) could be to change the hospitality legislation of the city, so that it includes short stay rentals and forces them to stick to all the existing safety and liability regulations. The legislation can however also be changed in such a way that it includes the short stay rentals, but allows for different ways to reach the goal of consumer protection (goal-oriented legislations). A third measure could be to introduce specific regulation for short stay rentals and create a situation where different rules apply to the incumbents and to Airbnb (dual regulation).

Level playing field

In order to mitigate the negative effects on the level playing field the policy executor can again choose to try and ban Airbnb from the city (using measures from group 1 of the institutional arrangements). Via court cases or on the basis of existing laws grounds can be created to prohibit peer-to-peer Airbnb transactions in the city. Another option is to fine individual providers to discourage them from participating on the platform. Again however, this would cancel all the possible positive effects.

Direct steering of the Airbnb transactions (group 2) to improve the level playing field could be done by making a regulatory deal with Airbnb in which the regulator promises not to fine providers when Airbnb increases its compliancy levels in order to level the playing field. Another way to directly steer the transactions is by working together with Airbnb to track professional renters that illegally rent out their accommodations via Airbnb. By removing professional renters from the platform and only allowing hobbyists, the competition with the regular hospitality sector will be less intense. Indirect ways to steer the transactions on Airbnb (group 3) are harder to formulate since Airbnb is on its own has little incentive to level the playing field by itself.

A strategic measure (group 4) that can be taken by incumbent companies is to try to level the playing field by starting their own local version of a lodging platform to directly compete with Airbnb. This measure might be taken on initiative of the incumbent companies themselves or can be encouraged by policy executors.

Finally a way to change the existing regulatory regime (group 5) can be to alter the law in such a way that Airbnb providers fall under the exact same rules as incumbent hospitality entrepreneurs. Another option is to ease the regulation for incumbents to level the playing field at a lower level of regulation.

5.3.4 Conclusion

Using the model to assess a specific case can give a city councillor increased insights into the trade-off he or she has to make. Besides this the groups of institutional arrangements can help in formulating responses to the negative effects of the platform. In this way the model thus supports policymakers in reacting to the effects on public values such as caused by the rise of peer-to-peer sharing economy platforms, which was the objective of this study.

5.4 Created insight on the theoretical and practical value of the model

By positioning the constructed value mapping model in the different trends of literature and comparing it directly with the TNO study, the theoretical comparison phase of the Grounded Theory approach was executed. From the positioning of the model in the different trends of literature it can be concluded that the model of this study can be placed in the trend of holistic publications on the effects of sharing economy platforms. It is however unique in the fact that it provides an analytical overview of these effects as opposed to a descriptive overview. Besides this the effects, which are studied in the trend that focusses on the specific effects, can be linked to the value mapping model of this study.

From the direct comparison with the TNO model it can be concluded that the value mapping model gives a more comprehensive view on values that are effectuated by the digital platforms. Some nuances from the TNO model could however be used to improve the value mapping model. Besides this the TNO focusses more on the specific laws that are applicable, which could be added to this model to improve the usability. The groups of arrangements of the value mapping model however provide a more diverse set of policy options as compared to the TNO model.

The practical application of the model onto a specific case demonstrated that the model can indeed give policymakers increased insight in the trade-off that has to be made when determining the approach towards peer-to-peer sharing economy platforms. The use of the model resulted in a clear list of positively influenced values, negatively influenced values and values on which the effects are important, but unclear. Moreover by applying the different groups of institutional arrangements different possibilities for action were provided to mitigate the negative effects.

Chapter 6 – Created Insights and New Questions

In this final chapter of the report the created insights of the study and the emerged new questions are discussed. Paragraph 6.1 will recap the initial research problem and objective of the study and provides the answers to the formulated research questions. On the basis of these conclusions recommendations for the use of the model and future research will be formulated in paragraph 6.2. Paragraph 6.3 concludes the report with a reflection on the research process and the outcomes of the study.

6.1 Meeting the objective and answering the research questions

This study started with describing the explosive rise of peer-to-peer sharing economy platforms and their effects on society. On the one hand the these digital platforms have had many positive effects, such as lowering prices and increasing convenience and personal contact between users, and might possibly lead to economic growth and environmental sustainability. On the other hand these platforms have run into a multitude of problems, including liability and safety issues, and lead to unfair competition with incumbent companies. To keep the positive effects of these platforms, but to mitigate the negative effects "these transformations need to be simultaneously nurtured, supported, and protected against" (Kenney & Zysman, 2015, p. 4).

This study focused on the role of policymakers in determining their strategy to respond to the challenge the peer-to-peer sharing economy platforms pose. A balanced trade-off between values has to be made to make the best decisions on which actions to take. Such a trade-off is however not easily made, since it is hard to comprehend all the developments and the effects of these platforms: no clear framework of the effects of peer-to-peer sharing economy platforms on society is present in literature (Ballon & Van Heesvelde, 2011; Kenney & Zysman, 2015; Martin, 2015).

The objective of this study was to create this theoretical overview of the effects of peer-to-peer sharing economy platforms on society, in terms of effectuated values, involved actors and possible governance institutional arrangements to mitigate the negative effects of the platforms. This theoretical overview had to be suited for use by policymakers in making trade-offs to determine the best reaction. In order to achieve this objective the following main research questions was formulated.

What are the effects of peer-to-peer sharing economy platforms on values, actors and institutional arrangements?

In order to answer this main research question, several supporting subquestions were answered. These questions and answers can be found below:

Subquestion 1:

1. *What constitutes the concept of peer-to-peer sharing economy platforms?*

Via a literature study of digital platform theory and sharing economy theory, the following definition was formulated:

A peer-to-peer sharing economy platform is a digital platform where providers, who own the value added assets, meet with users, of which the platform controls the user relationship, in order to

execute a 1-on-1 transaction with a physical world component, where no transfer of ownership takes place.

To answer the 2nd, 3rd and 4th subquestion a Grounded Theory approach was used. In preparation for the Grounded Theory analysis a long list of 63 documents on the platforms in the sharing economy was composed using the academic search engines Scopus and Google Scholar. Of the long list of 63 documents, 26 documents were analysed and coded using the software package ATLAS.ti. These documents were mostly selected from the long list on the basis of two criteria: 1) The document focusses on peer-to-peer sharing economy platforms as defined in this study and 2) the document uses a holistic approach towards the effects on society. Some documents were added to the sample on the basis of theoretical sampling. Below the answers on the individual subquestions can be found.

Subquestion 2:

2. *What values in society are effectuated by the emergence of peer-to-peer sharing economy platforms?*

The definition of the concept value, as was used in this study, is: "Principles or standards of behaviour; one's judgement of what is important in life" (Oxford Dictionaries, 2015). On the basis of the open and axial coding phases of the grounded theory approach, the following values were identified:

Table 11 - Value categories derived in axial coding phase.

	Value categories		
1	Autonomy	**13**	Innovation
2	Consumer protection	**14**	Level playing field
3	Convenience	**15**	Personal contact
4	Economic growth	**16**	Prevention of criminal activity
5	Employment	**17**	Quality of life
6	Empowered citizens	**18**	Safeguarding of public tasks
7	Environmental sustainability	**19**	Social cohesion
8	Fair labour market	**20**	Strong social ties
9	Fair socio-economic system	**21**	Value for money
10	Flexibility	**22**	Waste reduction
11	Inclusion	**23**	Well performing markets
12	Income opportunities	**24**	Working conditions

Subquestion 3:

3. *For what types of actors are these values relevant?*

The definition of the concept actor, as was used in this study, is: "An actor is a social entity, a person or an organization, able to act on or exert influence on a decision" (Enserink et al., 2010). In the context of this study, the *decision* that has to be made is the suiting reaction of the policymaker towards the rise of peer-to-peer sharing economy platforms. On the basis of the open and axial coding phases of the grounded theory approach, the following actors were identified:

Table 12 - Actor categories derived in axial coding phase.

	Actor categories		
1	Enablers	7	Policymakers
2	Incumbent companies	8	Providers / workers
3	Investors	9	Sharing economy companies
4	Labour organisations	10	Citizens
5	Observers	11	User organisations
6	Policy executors	12	Users

Subquestion 4:

4. *What types of institutional arrangements are proposed to secure these values?*

The definition of the concept institutional arrangement, as was used in this study, is: "different (in)formal regimes and coalitions for collective action and inter-agent coordination, ranging from public-private cooperation and contracting schemes, organizational networking to policy arrangements" (Centre for International Development Issues Nijmegen, 2007). On the basis of the open and axial coding phases of the grounded theory approach, the following institutional arrangements were identified:

Table 13 - Institutional arrangement categories derived in axial coding phase.

	Institutional arrangement categories		
1	Consumer protection actions	8	Platform initiated quality control
2	Cooperative development of regulation	9	Regulation reviews
3	Create alternatives	10	Regulator – platform cooperation
4	Data driven supervision	11	Self-regulation
5	Independent actor involvement	12	Standards development
6	Intervention	13	Strategic policy measures
7	Joint regulatory action	14	Worker empowerment

The answers on subquestion 2, 3 and 4 together form the input for the answer to subquestion 5.

Subquestion 5:

5. *How can the values, actors and institutional arrangements be combined in a conceptual model of the effects of peer-to-peer sharing economy platforms on society?*

On the basis of the selective coding phase of the grounded theory approach a conceptual model was composed that mapped the effects of peer-to-peer sharing economy platforms. These effects on values were structured on the basis three levels: the micro, meso and macro level. The distinction between these levels is made by assessing the number of occurring transactions that is needed to result in an effect on these values. Micro level values are effectuated after just one transaction, meso level values are effectuated after a larger series of transactions and macro level values are only effectuated when a system of transactions takes place with a high frequency on a large scale.

The identified actors were structured using two distinguishing dimensions:

- **Direct involvement** with the transaction versus **indirect involvement** with the transaction.
- Association with the **demand** side of the transaction versus association with the **supply** side of the transaction.

Combining the two dimensions as two axes in a two-dimensional space results in four distinct quadrants of actors: 1) directly involved demand side actors, 2) directly involved supply side actors, 3) indirectly involved demand side actors and 4) indirectly involved supply side actors.

These two axes were combined with the three levels of values (micro, meso, and macro) to create a combined model. In this model the individual values can be positioned, based on the level on which they are effectuated and the quadrant of actor for which they are most relevant. By positioning these values in the model a mapping of the effects of peer-to-peer sharing economy platforms in terms of values and actors is created. This mapping can be seen in figure 13.

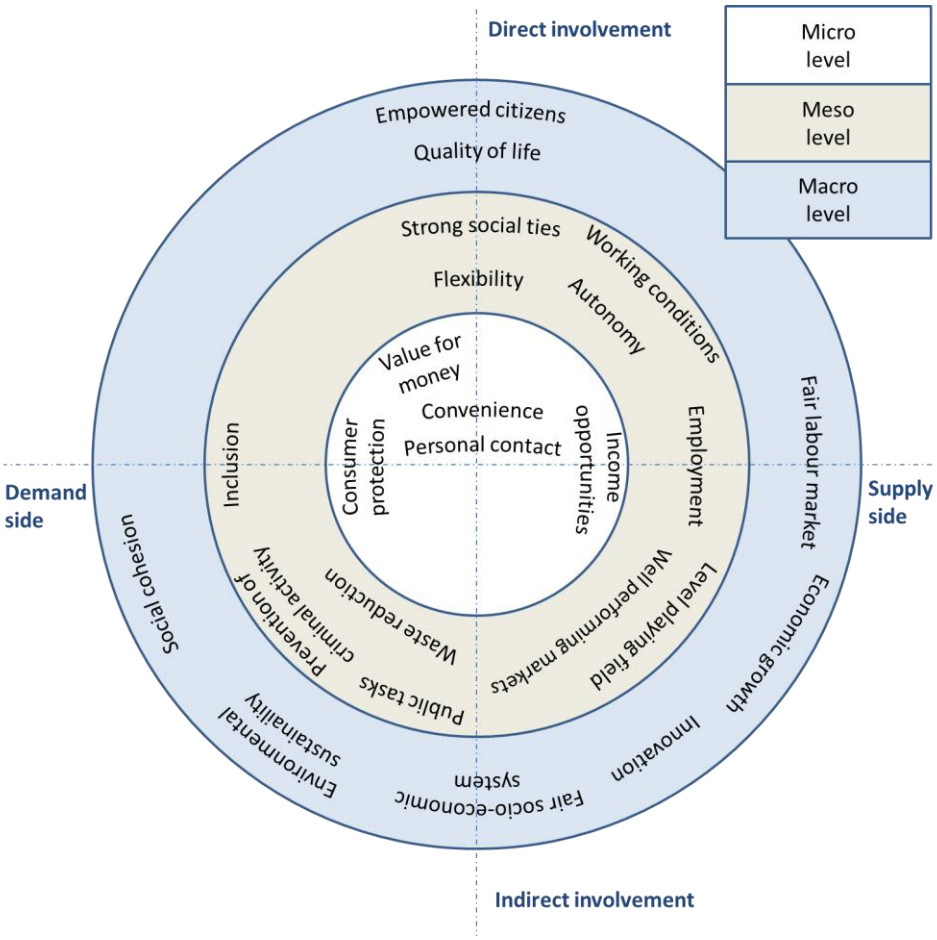

Figure 13 - Complete model of the effects of peer-to-peer sharing economy platforms on values in society.

Besides creating a mapping of the effects of peer-to-peer sharing economy platforms in terms of values and actors, also the institutional arrangements were studied. The institutional arrangements can be categorized in five different groups and can be used in combination with the value mapping model. The main distinction between the five groups can be made on the basis of two variables: 1) whether the institutional arrangement can be used within the existing regulatory regime or whether it is aimed at changing the regulatory regime and 2) whether the institutional arrangement is aimed at *stopping* the peer-to-peer sharing economy platform transactions, *steering* these transaction or

strategizing on these transactions. These groups can be used to identify possible institutional arrangements that can mitigate the negative effects on values. Table 14 presents these five groups.

Table 14 - Overview of the groups of institutional arrangements that can mitigate the negative effects on values.

	Existing regulatory regime	Stopping / Steering / Strategizing
Group 1	Within existing regulatory regime	Stopping transactions
Group 2	Within existing regulatory regime	Directly steering transactions
Group 3	Within existing regulatory regime	Indirectly steering transactions
Group 4	Within existing regulatory regime	Strategizing on transactions
Group 5	Changing existing regulatory regime	Stopping, steering or strategizing on transactions

This conceptualisation of the effects of peer-to-peer sharing economy platforms on society in terms of values, actors and institutional arrangements was validated via the means of empirical validation, in which the specific choices in the process were elaborated on, expert validation, in which nine experts and representatives of involved actors were interviewed, and a theoretical comparison, in which the model was positioned within the trends of literature and directly compared to an analytical model commissioned by the Dutch ministry of Economic Affairs (TNO, 2015).

These combined answers to the research questions together answer the main research question:

What are the effects of peer-to-peer sharing economy platforms on values, actors and institutional arrangements?

With the answers to the research questions we can check if the study succeeded in achieving its formulated objective. This objective was to create a theoretical overview of the effects of peer-to-peer sharing economy platforms on society, which had to be suited for use by policymakers in making trade-offs to determine the best reaction. As was shown in paragraph 5.3, the model can be used as a lens or diagnostic model on a specific case. Using the model in this way results in a list of values that is positively effectuated, a list of values that is negatively effectuated and a list of values that requires further investigation into the effects. Besides this the relevant actors are identified and five leads for the development of institutional arrangements are given. The model can thus help policymakers to better make trade-offs and determine actions.

Societal and scientific relevance

In the introductory chapter it was stated that the scientific relevance of this study is to provide a theoretical overview of the effects of peer-to-peer sharing economy platforms. In the theoretical comparison it was found that indeed this study provides a unique overview of these effects, since it is the first attempt at the creation of a holistic analytical model of the effects. By mapping the effects of peer-to-peer sharing economy platforms a first attempt at creating a substantive theory was conducted to fill this gap in literature. Besides this, publications on specific effects of peer-to-peer sharing economy platforms can be linked to the model. In this way the model also structures the research on these effects and thus allows for a better holistic insight in these effects.

Besides this scientific relevance the study also has a strong societal relevance, since the resulting model can be used by policymakers to increase their insight into the effects of peer-to-peer sharing economy platforms. This increased insight, together with the leads for the possible institutional

arrangements can help policymakers to make a more complete, structured and thus better trade-off. The usability of the model for policymakers was demonstrated in paragraph 5.3, where the model was used to assess the effects of the rise of Airbnb in a large Dutch city and to identify possible actions policymakers and other parties could take. The usability of the model was also acknowledged by the independent experts and the representatives of involved actors. Some recommendations can however be made to increase this usability of the model.

6.2 Recommendations

On the basis of these conclusions and the insights gained throughout the study, several recommendations can be given. These recommendations are divided in recommendations on the use the model (paragraph 6.2.1) and recommendations for future research (paragraph 6.2.2).

6.2.1 Recommendations on the use of the model

As was shown in paragraph 5.3 the model of this study can be used by policymakers to provide insight into the trade-offs to be made when aiming for mitigation of the negative effects of peer to peer platforms on values. In order for this to be done in an optimal way several recommendations can be given on the use of the model and possible improvements to the model.

Use of the model

The model created in this study can be used in several ways. First of all it can be used by different stakeholders to increase the knowledge and understanding of the effects of peer-to-peer sharing economy platforms on values. With an overview of all different effects this model can provide a holistic view on the effects in relation with each other. This in contrast to more descriptive accounts on the effects of peer-to-peer sharing economy platforms.

The model can also be used in specific cases where policymakers want to react to the emergence of a new peer-to-peer platform. As was shown in paragraph 5.3 the model can be used as a lens or diagnostic model to identify the clear positive, clear negative and uncertain effects of this specific platform. This can be done by policymakers on their own or in cooperation with involved external parties. With insights into the effects the trade-off for policymakers becomes clearer and the points of attention can be identified. This way of using the model can also contribute to start a dialogue in the organisation of the policymaker or with external parties to discuss the effects of the platform. Using the model the different effects can be clearly communicated within policy teams or towards politicians who can use the insights in policy debates.

A final way to use the model is to create a broader vision on peer-to-peer platforms in the sharing economy. This in contrast to the use of the model on specific platforms in a diagnostic way. Statements about macro values can form elements of a policy vision on peer-to-peer sharing economy platforms. For example a statement could be that the city of X will welcome new platforms with the intention to increase the sustainability of the city.

Improvement of the model

As was mentioned in the expert validation of the model, there are still some points in the model that could use improvement in order to raise its usability. The model is still lacking the mechanisms that connect the different values in the model. What values for example could build up to the eventual economic growth in the long run? Further research could be done to link the micro level effects on values to meso and macro effects values. Insights into these relations can help policymakers if they

want to intervene in certain mechanisms or if they want to steer to a certain effect on the macro level.

Another way to improve the model would be to add a part to the model that would help policymakers to select the best option for action. Currently the model only gives leads towards possible institutional arrangements that could be used to mitigate potential negative effects. The model does not provide the means to make a selection between these options. If the model would support policymakers in selecting the policy option, it would be of greater added value. In order to achieve this future studies could focus on the question which institutional arrangement is most suited to address specific negative effects.

A third way to improve the model would be to give better insights into the possible directions of the effects (positive or negative). Currently the model does not contain clear statements about these directions because they were not academically proven. Using a Grounded Theory approach in an exploratory study also can not result in hard proven hypotheses of this kind, since the approach is aimed at theory building and not theory testing (Corbin & Strauss, 1990). During the course of the study and in the future new research might become available that proves or disproves certain hypotheses on the effects of peer-to-peer sharing economy platforms. These academically founded directions of effects can be added to the model to give policymakers more certainty when assessing a specific case.

Another way to improve the model is to do an independent study to check on completeness of the model. If policymakers are going to use this model to base their decisions on it is important that all the effects are taken into account. To be sure this is the case an independent study can be done where new cases, new literature and new discourse could be analysed in order to improve the substantive theory on the effects of peer-to-peer sharing economy platforms. Exact replicability is not the aim of a Grounded Theory approach, but by conducting a comparable study the insights in the effects can be improved. This study can be done directly, but also in a few years to see whether some effects on values have changed.

A final and very practical way to improve the model is to professionally design the visualization and to rephrase the used words to words that better fit the jargon of policymakers. These practical improvements could help spreading the model and making it easy to use for policymakers.

6.2.2 Recommendations for future research

The results of this study lead to two types of future research that can be done. First of all the model can be used to identify specific effects that are of interest and are worth to study more thoroughly. Secondly this study can also be used as a substantive theory that can be used as a building block to eventually become a formal theory.

Research into specific effects

The model currently maps all the different effects of peer-to-peer sharing economy platforms on society. This mapping does not contain the directions of the effects, which could be added on the basis of conducted research, as was proposed in the previous subparagraph. The model could however also function as a research agenda, indicating on what effects research needs to be done. In that sense one can say that every value in the model contains a hypothesis on the effects peer-to-peer sharing economy platforms might have on this value. For all the 24 different values a research

question can thus be derived from the model. Examples are: What are the effects of peer-to-peer sharing economy platforms on inclusion in society?; what are the effects of peer-to-peer sharing economy platforms on working conditions in society?; and what are the effects of peer-to-peer sharing economy platforms on in environmental sustainability?

Some of these effects have already been studied (e.g. Schor (2016) studied the effects of sharing economy platforms on inclusion and equality), but most of them not yet. The model can be used to identify missing studies on the effects peer-to-peer sharing economy platforms. Especially empirical studies that show quantitative proof of the relations can be of much added value in the debate, which was also acknowledged by the consulted experts in this study.

Building a formal theory

As was described in chapter 3 this study has built a substantive theory on the effects of peer-to-peer sharing economy platforms, as opposed to a formal theory. The formulated substantive theory, in the form of the conceptual model, can however be expanded to a formal theory when more studies are conducted on similar subjects.

This study for example focussed specifically on the effects of peer-to-peer platforms in the sharing economy. Future studies can focus on the effects of other types of platforms in the sharing economy (e.g. crowd sourcing platforms) or non-digital sharing economy initiatives (e.g. local cooperative libraries). Combining the findings of multiple studies on the effects of sharing economy initiatives might lead to the formulation of a formal theory on the effects of the sharing economy.

6.3 Reflection

In this paragraph a reflection will be given on the process and the outcomes of the study. This to clearly indicate points that have to be taken into account while interpreting the model and to indicate the value of the model over time.

6.3.1 Process

During the process of the study only one person worked on the grounded theory study. Glaser and Strauss however indicate that a grounded theorist should preferably not work alone. When multiple researchers work the same data and the same codes, findings can be checked and validated within a team. This would have been of added value during the open coding phase since important aspects are less frequently missed and interpretation biases can be filtered out. In the axial and selective coding phase this is even of bigger importance. The construction of the final model is a creative process which requires the researcher to make many structuring choices. Discussing these choices with multiple team members might have resulted in a model that is better understandable, less interpretation dependent and more validly based on the empirical findings.

Since this study was performed in the context of a graduation project that required an individual study, it was impossible to work together during the coding phases. Experts were consulted to improve the model during the selective coding phase, but no cooperation took place during the open and axial coding. This fact must be kept in mind while interpreting the results. In the independent study that was proposed in paragraph 6.2 to check the model on completeness and replicability, preferably multiple researchers work together.

Another reflection on the process of this study is that a more diverse set of sources could have been used. As was described in paragraph 3.1, this study only contains written documents as input for the open coding phase. The interviews with experts were of course not in written form, but were only used to improve and validate the model during the axial and selective coding phase. It is possible that richer insights could have been gathered in the open coding phase when interviews were already conducted in that phase. Also documentaries or audio files could have been used to diversify the nature of the sources.

6.3.2 Outcome

A reflection point that has to be taken into account when interpreting the outcome of the study is that the study took place during (and not after) the development of these peer-to-peer sharing economy platforms. News article about the troubles of for example Uber and Airbnb and publications on the sharing economy and digital platforms kept on appearing during the study. Examples of this are the study of TNO that was used for the theoretical comparison and several studies towards specific effects that were conducted in 2016 and referred to in the theoretical comparison. For the grounded theory approach at one point the best sources were selected and new sources were kept out, in order to come to finalizing statements. This means that possibly highly relevant sources were left out of the grounded theory analysis. Only if the study would have taken place after the developments would have reached a stable point, this could have been prevented. It remains however important to note that the findings of this study are based on the (semi)academic sources that were available during the last months of 2015.

This notion raises the question if this model is still relevant in five or ten years. As was discussed in the expert validation paragraph (paragraph 4.2), values can change, emerge or disappear over time. The model with its exact positioning of the values can lose its academic value. The structuring of the model however stays relevant over time. The difference between micro, meso and macro values can still be used in a couple of years and also the division of actors is still relevant in the future. The exact positioning of the values might have changed and probably a richer picture can be made on the basis of future sources. This model forms a starting point for an improved model that can be used in the future. In that sense the model can be seen as an evolving tool, which policymakers can use over the years to structure the debates and the insights on the effects of peer-to-peer sharing economy platforms.

Another reflection point on the outcome of the study is that the effects are framed in the form of values. As was discussed in the first chapter, this was done since the trade-off in finding the best reaction should preferably be made on the underlying values. However not in all cases this preferable course of action takes place. Political reality, the framing of debates and strategic behaviour or actors often determine the outcome of political decisions. To take into account this context also the involved actors and possible institutional arrangements to mitigate negative effects were mapped, but the dynamics between the actions of these actors and the existing and proposed institutional arrangements were not analysed. These dynamics are often highly case specific and thus harder to grasp in a general conceptual model, but this model might give the impression that the value trade-off can be made independent of these dynamics. This is often not the case.

Concerning the use of values to frame the effects a final point of reflection can be made. The field of Value Sensitive Design (Van der Hoven, 2009) is another research field in which is worked with these

values. One could say that Value Sensitive Design could thus also have been used to assess the effect of peer-to-peer sharing economy platforms on society. This field of theory is however more a design approach. Corresponding with the recommendation that all involved actors can use the model to create insight in the effects of the platform, this Value Sensitive Design approach could be used by platform owners to anticipate on the possible effects on values.

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Appendix A. Documents used in Grounded Theory approach

Table 15 - Documents used in Grounded Theory approach.

Title	Author	Year	Source	Source type	Source field
Regulating Innovation in the New Economy	Gobble, M.A.M.	2015	Research-Technology Management	Academic journal article	Technology Strategy and Management
Choosing a Future in the Platform Economy	Kenney, M. & Zysman, J.	2015	Kauffman Foundation New Entrepreneurial Growth Conference	Discussion paper	Technology Strategy and Management
Understanding Fair Labor Practices in a Networked Age	Kneese, T., Rosenblat, A. & Boyd, D.	2014	Data & Society Research Institute	Working Paper	Technology Strategy and Management
Platform Rules: Multi-Sided Platforms as Regulators	Boudreau, K.J. & Hagiu, A.	2008	Social Science Research Network	Academic journal article	Digital Platforms
The Digital Disruption and its Societal Impacts	Kenney, M., Rouvinen, P. & Zysman, J.	2014	Journal of Industry, Competition and Trade	Academic journal article	Economics & Business
Disruptive Innovation: Risk-shifting and Precarity in the Age of Uber	Isaac, E.	2014	Berkeley Roundtable on the International Economy	Working paper	Economics & Business
ICT platforms and regulatory concerns in Europe	Ballon, P. & Van Heesvelde, E.	2011	Telecommunications Policy	Academic journal article	Telecommunications Policy
Debating the Sharing Economy	Schor, J.	2014	Great Transition Initiative	Academic Essay	Social and Economic sciences
Why is it so difficult to define the sharing economy	Martin, C.	2015	Open practices	Journalistic opinionated article	Digital social innovation
Is sharing really caring? A nuanced introduction to the peer economy	Cheng, D.	2014	MIT Center for Civic Media	Policy Primer	Civic Media
Peer-to-Peer Service Sharing Platforms: Driving Share and Share Alike on a Mass-Scale	Andersson, M., Hjalmarsson, A. & Avital, M.	2013	International Conference on Information Systems	Conference paper	Information Systems
How Traditional Firms Must Compete in the Sharing Economy	Cusumano, M.A.	2015	Communications of the ACM	Academic essay	Technology Strategy and Management

Theory meets practice in the taxi industry: Coase and Uber	Jenk, J.	2015	Munich Personal RePEc Archive	Academic essay	Economics & Business
The Dark Side of the Sharing Economy… and How to Lighten It	Malhotra, A. & Van Alstyne, M.	2014	Communications of the ACM	Academic essay	Economics & Business
The Dark Side to the Collaborative Economy	Owyang, J.	2013	Webstrategist.com	Journalistic article	Consultancy
On-Demand in high demand	Botsman, R.	2015	Australian Financial Review	Journalistic article	Economics & Business
How Uber and the Sharing Economy can Win Over Regulators	Cannon, S. & Summers, L.H.	2014	Harvard Business Review	Journalistic article	Economics & Business
The 'sharing economy' undermines workers' rights	Morozov, E.	2013	Financial Times	Journalistic opinionated article	Economics & Business
All Markets Are Not Created Equal: 10 Factors To Consider When Evaluating Digital Marketplaces	Gurley, B.	2012	Above the Crowd	Journalistic opinionated article	Economics & Business
The Sharing Economy	Marshall, P.	2015	Sage Business Researcher	Think-tank report	Economics & Business
The rating game	Dzieza, J.	2015	The Verge	Journalistic article	Technology
Policymaking for the Sharing Economy	Johal, S. & Zon, N.	2015	Mowat Centre	Think-tank report	Public Policy
The sharing economy	Allen, D. & Berg, C.	2014	Institute of Public Affairs	Think-tank report	Public Policy
Sharing is the new buying	Owyang, J., Samuel, A. & Grenville, A.	2014	Vision Critical	Think-tank report	Economics & Business
The regulator of tomorrow	Shah, S., Brody, R. & Olson, N.	2015	Deloitte Government Lab	Company report	Regulation
Kiezen voor kansen	Camps, M.	2015	Dutch Ministry of Economic Affairs	Policy vision statement	Public Policy

Appendix B. Empirical validation

This appendix discusses the empirical validity of the used Grounded Theory approach by answering the seven question formulated by Strauss & Corbin (1990). Some of the questions could be answered by directly quoting the main text of this report. Other questions have original texts to answer them.

Question 1: How was the original sample selected? What grounds (selective sampling)?

Applicable part of the report: Grounded Theory set-up (paragraph 3.1, p. 25-26).

"In preparation for the Grounded Theory analysis a long list of 63 documents on the platforms in the sharing economy was composed. The academic search engines Scopus and Google Scholar were used to find academic sources on peer-to-peer sharing economy platforms. General keyword as 'sharing economy,' 'digital platforms,' 'platform economy' and 'peer-to-peer transactions' were used to find the different sources. Also specific keywords as 'Uber' and 'Airbnb' were used to find relevant authors and papers. Since the theory on peer-to-peer sharing economy platforms is relatively new, also semi-academic sources, like think tank reports and extensive journalistic articles, were used in this study. These sources were mostly found using the general search engine Google (instead of the academic search engines), since academic search engines only search academic sources.

Of the long list of 63 documents, 26 documents were analysed and coded in this study. These documents were selected from the long list on the basis of several criteria. First of all only the documents that focussed on peer-to-peer sharing economy platforms, following the specific definition used in this study were selected. Secondly, the selection favoured longer and more holistic articles over shorter and specific articles. Thirdly some sources were selected on the basis of increased insight into the concept of peer-to-peer sharing economy platforms."

Question 2: What major categories emerged?

Applicable part of the report: Axial coding (paragraph 3.4, p. 30-31).

On the basis of the long lists of codes that resulted from the Open Coding phase the categories were defined. "In total the 275 codes were combined in 49 categories. The 153 marked values were combined into 24 value concepts; the 41 marked actors were combined into 12 types of actors; and the 69 marked institutional arrangements into 13 types of institutional arrangements." The tables below show the emerged categories.

Table 16 - Value categories derived in axial coding phase.

	Value categories		
1	Autonomy	**13**	Innovation
2	Consumer protection	**14**	Level playing field
3	Convenience	**15**	Personal contact
4	Economic growth	**16**	Prevention of criminal activity
5	Employment	**17**	Quality of life
6	Empowered citizens	**18**	Safeguarding of public tasks
7	Environmental sustainability	**19**	Social cohesion
8	Fair labour market	**20**	Strong social ties
9	Fair socio-economic system	**21**	Value for money
10	Flexibility	**22**	Waste reduction

11	Inclusion	**23**	Well performing markets
12	Income opportunities	**24**	Working conditions

Table 17 - Actor categories derived in axial coding phase.

	Actor categories		
1	Enablers	**7**	Policymakers
2	Incumbent companies	**8**	Providers / workers
3	Investors	**9**	Sharing economy companies
4	Labour organisations	**10**	Citizens
5	Observers	**11**	User organisations
6	Policy executors	**12**	Users

Table 18 - Institutional arrangement categories derived in axial coding phase.

	Institutional arrangement categories		
1	Consumer protection actions	**8**	Platform initiated quality control
2	Cooperative development of regulation	**9**	Regulation reviews
3	Create alternatives	**10**	Regulator – platform cooperation
4	Data driven supervision	**11**	Self-regulation
5	Independent actor involvement	**12**	Standards development
6	Intervention	**13**	Strategic policy measures
7	Joint regulatory action		

Question 3: What were some of the events, incident, actions and so on that (as indicator) pointed to some of these major categories?

Applicable part of the report: Open coding (paragraph 3.3).

The quotations that form the basis for the found codes in the open coding phase include the events, incidents and actions that ultimately led to the emergence of these categories. In paragraph 3.3 and 3.4 multiple examples of these quotations can be found.

Question 4: On the basis of what categories did theoretical sampling proceed? That is, how did theoretical formulations guide some of the data collection? After the theoretical sampling was done, how representative did these categories prove to be?

Applicable part of the report: Not mentioned in the report.

There have been two very specific moments of theoretical sampling.

Already early in the process it became clear that the possible negative effects of peer-to-peer sharing economy platforms were manifold. To guarantee that all these issues were taken into account two special sources were added that focussed on the negative aspects of the peer-to-peer sharing economy platforms. These sources were: *The Dark Side of the Sharing Economy… and How to Lighten It,* Malhotra & Van Alstyne, 2014 & *The Dark Side to the Collaborative Economy*, Owyang, 2013.

Ultimately many categories in the model were based on these critical reflections of the sharing economy platforms.

The category *Working conditions* was based on different quotations over the different initial sources. Initially it was shortly mentioned that Uber drivers did not have a say in the policy of Uber and that they could be excluded from the platform if their ratings dropped. On the basis of these findings two articles were added that focused on the role of the worker in the peer-to-peer economy and the future of labour: *Understanding Fair Labor Practices in a Networked Age*, Kneese, Rosenblat, & Boyd, 2014 & *The 'sharing economy' undermines workers' rights*, Morozov, 2013. These articles elaborately describe the problems for workers in the peer-to-peer economy. The added insights ultimately have led to the formulation of the value category *Fair labour market* and the actor category *Labour organisations.*

Question 5: What were some of the hypotheses pertaining to conceptual relations (that is, among categories), and on what grounds were they formulated and tested?

Applicable part of the report: Selective coding (paragraph 4.1, p. 34-37).

Two main hypotheses are the basis for the conceptual model and thus the relations between the categories. These hypotheses are the division of values in three levels and the division of actors in four quadrants.

Value levels

"100+ values were combined in broader value concepts in the axial coding phase, resulting in 25 different value concepts. When examining these 25 values, three distinct groups can be discerned:

4. **Micro** level values.
5. **Meso** level values.
6. **Macro** level values.

The distinction between these levels is based on the number of occurring transactions that is needed to result in an effect on these values. Note that with transaction a peer-to-peer sharing economy transaction between user and provider is meant. Micro level values are effectuated after just one transaction, meso level values are effectuated after a larger series of transactions and macro level values are only effectuated when a system of transactions is embedded in the practice of daily life."

The decision to make this specific division was mostly based on the big contrast between the very direct values that were found (price, convenience, etc.) and the very high-level and abstract values that were found (socialism, altruism, economic growth, etc.). This contrast led to the understanding that these values were of different levels, both relevant but from an entirely other order. There were however many values that could not be fitted into these two extremes: a large middle group existed. The decision to base the division on the number of transactions that take place (micro, meso and macro level) brought a clear insight in the differences between the different values."

This division of values was tested during the expert interviews, see next question.

Actor quadrants

"The axial coding phase of the previous chapter led to the identification of twelve different types of actors. A distinction between these actors can be made on the basis of multiple dimensions (e.g.

governmental vs. non-governmental, for-profit vs. non-profit or local vs. global). In this study it is chosen to make a distinction on the basis of two dimensions:

- **Direct involvement** with the transaction versus **indirect involvement** with the transaction.
- Association with the **demand** side of the transaction versus association with the **supply** side of the transaction."

"Combining the two dimensions as two axes in a two-dimensional space results in four distinct quadrants of actors: 1) directly involved demand side actors, 2) directly involved supply side actors, 3) indirectly involved demand side actors and 4) indirectly involved supply side actors."

"Multiple different axes could have been used to make distinctions between different types of actors. The motivation for these two specific axes is as follows. As with the effects on values, the main concept of interest is the transaction on a peer-to-peer sharing economy platform. This transaction is characterized by two peers of which one is on the supply side and one is on the demand side. This corresponds with the classical idea of a free market as was first described by Adam Smith (1776).

However not only the direct supplier, in this case the provider to the platform, and the direct demander, or consumer, are relevant when assessing the effects of these transactions on society. Many more actors were found to be involved in the matter. These actors do not have a direct stake in the economic transaction between provider and consumer, but only an indirect stake. To acknowledge this difference, the second axis was added to the model, which differentiates between direct and indirect involvement. The positioning of the indirect actors was done on the basis of their association with either the supply side or the demand side of economic transactions. Appendix D contains an elaborate motivation for the position of each of the actors.

These two axes also allow for an elegant combination with the ripple model of values"

This division of actors was tested during the expert interviews, see next question.

Question 6: Where there instances when hypotheses did not hold up against what was actually seen? How were these discrepancies accounted for? How did they affect the hypotheses?

Applicable part of the report: Expert validation (paragraph 4.2, p. 50-51).

During the expert validation the hypotheses in the model were tested with experts on the digital economy and representatives of involved actors. The two main hypotheses that structure the model (as were described in the previous question) were understood by the experts and were not altered. The positioning of several specific values in the model was changed. Below these changes are elaborated on:

- "The value Consumer protection was initially positioned in the meso level of values. The idea behind this was that consumer protection issues especially become relevant when multiple transactions take place. One of the experts however pointed out that consumer protection is already relevant when even one transaction takes place (micro level). This since for example a safety tragedy in one transaction can already trigger big effects. Suiting consumer

protection preconditions for the transaction are thus already relevant on a micro level. This suggestion was adopted and the value was moved from the meso level to the micro level.

- In the initial model the values Good Price and Quality of the product were separately formulated. The Good price value was positioned on the micro level and the value Quality of the product on the meso level. The rationale behind this was the fact that some quality dimensions might only become relevant after multiple transactions had taken place. One of the experts however noted that consumers make a very direct trade-off between quality and price. According to the interviewee the division of these values, especially over two different layers, was illogical. The direct trade-off between quality and price was adopted in the model by combining both values into the new concept Value for money. This new value was positioned in the micro layer.
- The value convenience was initially positioned on the micro level for direct demand actors. One of the experts remarked that convenience was also relevant for the direct suppliers: for them it can also become more convenient to execute economic transactions through the digital platforms. The value was thus placed from exclusively direct demand to both direct demand and supply.
- The value Social cohesion was initially formulated as sharing as a value, which stood for the higher level value of a more caring and sharing society. One of the interviewees mentioned that this value might better be named Social cohesion, since it more clearly showed the societal concept that was aimed at with the formulation of this value.
- The values Empowered citizens and Quality of life were initially named Individual quality of life and Individual empowerment. The “individual” part of both values was stripped, since it did not match with the macro level of thinking, according to one expert.”

Question 7: How and why was the core category selected? Was this selection sudden or gradual, difficult or easy? On what grounds were the final analytical decisions made?”

Applicable part of the report: Selective coding (paragraph 4.1) and relevance of the study (paragraph 1.3).

The core category of the ultimate model is the peer-to-peer sharing economy transaction between user and provider. This category was not derived from the open and axial coding phase; it was predetermined, since the whole study is focussed on the effects of the transactions on these platforms. The choice was in that sense thus easy and ultimately turned out to be very workable for the conceptual model. The grounds to focus the model on the values that are effectuated and the different actors for which these values are relevant were elaborately discussed in chapter 1.

Appendix C. Open coding results

Values codes (1)

#	Code name	#	Code name	#	Code name
1	(Im)perfect competition	31	Diversification of income sources	61	Historic way of working
2	(No) durable social ties	32	Division between work and hobby blurs	62	Homophily
3	Accessibility	33	Economic growth	63	Idle / excess capacity
4	Accountability	34	Economic liberty	64	Illegal activity
5	Affordable housing	35	Effective regulation	65	Income
6	Alienation from colleagues and employer	36	Efficiency	66	Income opportunities
7	Altruism	37	Efficient discovery / meet-up	67	Inequality in society
8	Anonymity	38	Employment	68	Information (a)symmetry
9	Anticompetitive behaviour	39	Empowering	69	Innovation
10	Attractiveness of risk	40	Enjoyment in task	70	Instability of the job
11	Autonomy	41	Entrepreneurial spirit	71	Job security
12	Availability	42	Environmental sustainability	72	Labour costs
13	Capacity management	43	Equality	73	Labour market
14	Capitalism	44	Excessive profit taking by platforms	74	Labour protection
15	Challenge to institutions	45	Excessive regulation	75	Lags in confirmation
16	Collaboration	46	Existing economic interests	76	Legal liability / insurance
17	Consumer needs	47	Expensive resources	77	Leverage against platforms
18	Consumer protection	48	Experience of providers	78	Losing welfare status
19	Consumption	49	Exploitation	79	Market failure
20	Control	50	Fair labour	80	Minimum wages
21	Convenience	51	Fairness	81	Monopolistic platforms
22	Cooperation	52	Fake enjoyment in task	82	Negative externalities
23	Creation of jobs	53	Fear of change	83	Neoliberalism
24	Criminal activity	54	Flexibility	84	New capabilities
25	Customised products	55	Food safety	85	No fitting regulation / legal void
26	Democracy	56	Fraud	86	Non-profit
27	Desperation	57	Freedom	87	Nuisance
28	Discrimination	58	Freelancing as a value	88	Openness
29	Disruption of market performance	59	Gatekeeper role	89	Outlet for creativity
30	Disruptive to incumbents	60	Governmental control	90	Overtime pay

Values codes (2)

#	Code name	#	Code name	#	Code name
91	Ownership vs. Access	**121**	Responsiveness to conflict	**151**	Worker solidarity
92	Participation	**122**	Rise of freelancer	**152**	Working conditions
93	Permissionless innovation	**123**	Risk shedding	**153**	Zoning plans
94	Personal ambition / careers	**124**	Safeguarding critical functions		
95	Personal contact	**125**	Safety and security		
96	Personal interests	**126**	Scalability		
97	Personal investment of providers	**127**	Second order effects on environment		
98	Personal tragedy	**128**	Sharing as value		
99	Perverse eco-impacts	**129**	Social and healthcare benefits		
100	Poor behaviour of existing companies	**130**	Social connection		
101	Possibility for cv building	**131**	Social solidarity		
102	Poverty alleviation	**132**	Socialism		
103	Precautionary principle	**133**	Spillover effects		
104	Predictability	**134**	Status		
105	Price	**135**	Status-quo bias / uncertainty		
106	Privacy	**136**	Strengthening communities		
107	Provider - platform relation	**137**	Sustainability of the trend		
108	Provider replaceability	**138**	Switching costs		
109	Public goods	**139**	Tax revenue		
110	Public health	**140**	Tertiary sharing		
111	Pursuing previously non-paying passion	**141**	Traditional western (capitalist?) Values		
112	Quality of life	**142**	Transaction costs		
113	Quality of product	**143**	Transparency		
114	Race to the bottom	**144**	Trendiness / novelty		
115	Regulatory bias	**145**	Trust in strangers		
116	Regulatory failure	**146**	Unemployment benefits		
117	Reintegration of workers	**147**	Unfair competition		
118	Reliability	**148**	Voice in decision-making		
119	Responsibility for workers	**149**	Waste of resources		
120	Responsiveness	**150**	Worker invisibility		

Total number of linked quotations: 503

Actors codes

#	Code name	#	Code name	#	Code name
1	Accountants	**16**	Journalists	**31**	Public prosecutor
2	Cities	**17**	Labour unions	**32**	Regulators
3	Companies as client	**18**	Landlords	**33**	Reputation system providers
4	Consumer groups	**19**	Legal sector	**34**	Researchers
5	Consumers	**20**	Lobbyists	**35**	Sharing economy firms
6	Criminals	**21**	Local governments	**36**	Society / public opinion
7	Employees of existing companies	**22**	Marketers	**37**	Start-ups
8	Employees of sharing economy firms	**23**	Middlemen	**38**	Strategists
9	Entrepreneurs	**24**	Outside validators	**39**	User unions
10	Federal / national governments	**25**	Owners of assets	**40**	Users / consumers
11	Freelancers	**26**	Platform intermediaries	**41**	Workers
12	Incumbent companies	**27**	Policy makers		
13	Industry associations / coalitions	**28**	Politicians		
14	Insurance companies	**29**	Provider associations		
15	Investors	**30**	Providers to the platform		

Total number of linked quotations: 311

Institutional arrangements codes

#	Code name	#	Code name	#	Code name
1	Asset checks	26	Independent research	51	Publishing advocacy pleas
2	Avoiding regulators	27	Inspection	52	Reduce industry specific controls
3	Background checks	28	Insurance provided by platforms	53	Regulation of access
4	Build a network with stakeholders	29	Introduce dual regulation	54	Regulation of interactions
5	Build alternatives for for-profit platforms	30	Introduce goal-oriented regulation	55	Regulations proposed by sharing economy firms
6	Change current regulation	31	Laws and regulation	56	Regulatory cooperation
7	Combination of instruments	32	Legal worker classification	57	Remove regulation all together
8	Consultation	33	Licenses	58	Regulatory ruling
9	Consumer alert	34	Metrics-based regulation	59	Reputation systems
10	Cooperative ownership of the platforms	35	Monitoring activities	60	Review old regulation
11	Court case	36	Monitoring start-ups	61	Revoke company permit
12	Court rulings	37	No change in current regulation	62	Selecting providers
13	Democratizing the platforms	38	Outside validation / certification	63	Self-regulation
14	Different regulators work together	39	Payment guarantees	64	Set guidelines not regulation
15	Ease existing regulations	40	Platform establishing rules and procedures	65	Setting price floors
16	Encourage good labour practices from the very beginning of a start-up	41	Platform providing support and documentation	66	Setting quality and service standards
17	Establish a strategic operating framework	42	Platforms as regulator	67	Settlements
18	Establishing innovation rooms	43	Platforms take care of the taxes	68	Sharing data
19	Exclusion from platform	44	Policy debates	69	Tracking providers
20	Fines	45	Price setting	70	Training for providers
21	Imposing non-discriminatory trade practices	46	Provider exams	71	Understand new technologies
22	In-platform communication channel	47	Provider penalties	72	Verified identities of providers
23	Incumbents adopt sharing practices	48	Provider protests / strikes	73	Visual recognition of providers
24	Independent insurance	49	Public access to information	74	Workforce programs
25	Independent reputation systems	50	Public policy		

Total number of linked quotations: 285

Appendix D. Axial coding results

Values

Category name	**Autonomy**
Underlying codes	Autonomy Control Division between work and hobby blurs Enjoyment in task Outlet for creativity Personal ambition / careers Personal interests Possibility for CV building Pursuing previously non-paying passion Status
Description	The value autonomy is important for providers to the platforms. People want to have control over their lives, they want to do what they love and decide for themselves when and where they work. Autonomy is not aimed at money, but more at developing oneself according to one's personal ambitions. Peer-to-peer transactions might lead to higher autonomy, but this also depends on the working conditions (see elsewhere in this appendix).
Position in model	Direct involvement, supply side, meso level
Motivation for position	Autonomy is mostly relevant for the providers that are directly involved in the peer-to-peer transaction, hence the direct involvement, supply side positioning. The value is placed at the meso level since it requires a larger set of transactions to allow for an autonomous lifestyle for the providers. Just a few transactions do not make someone autonomous.

Category name	**Consumer protection**
Underlying codes	Accountability Anonymity Consumer protection Legal liability / insurance Personal tragedy Privacy Responsiveness to conflict Safety and security
Description	The value consumer protection includes issues as safety, privacy and liability, both of the physical world transaction and the digital communication between the parties. Not only should these issues be safeguarded in economic transactions, also the responsiveness to breaches of these values should be well organized. The transactions in the sharing economy might lead to lessened safeguarding of this value.
Position in model	Direct & indirect involvement, demand side, micro level
Motivation for position	The value consumer protection is most relevant for the directly involved and indirectly involved consumers (thus the demand

	side). Consumer protection is of importance for the directly involved consumers since it sets the preconditions for the economic transactions they partake in. For the indirectly involved actors the consumer protection is of importance, since the value also includes liability issues, which might become a problem for people indirectly damaged by the peer-to-peer transaction. The value is placed at the micro level, since these issues are already relevant when only one transaction takes place. Only one tragedy has to happen to affect this value.

Category name	**Convenience**
Underlying codes	Convenience Efficient discovery / Meet-up Transaction costs
Description	Convenience is a value that includes the ease in which economic transactions can be made. Especially transaction costs as search costs and bargaining costs determine the convenience of an economic transaction. Transactions on peer-to-peer sharing economy platforms might lead to higher convenience.
Position in model	Direct involvement, demand & supply side, micro level
Motivation for position	The convenience value is relevant for the directly involved parties, at both the supply and demand side. Directly involved consumers might find a supplier more easily and vice versa. This convenience is already relevant when only one transaction takes place, hence the positioning in the micro layer.

Category name	**Economic growth**
Underlying codes	Economic growth Scalability
Description	Economic growth is a high-level value that is aimed at in almost any nation. Economic growth can lead to higher welfare for citizens and enterprises and determines the nation's international status. Peer-to-peer sharing economy platforms could lead to economic growth since they create new economic activity. It is however not clear if this activity is new and can be added to the total amount of economic activity or whether peer-to-peer sharing economy platforms only replace other forms of activity leading to a net-result of zero.
Position in model	Indirect involvement, supply side, macro level
Motivation for position	The economic growth value is mostly relevant for the indirectly involved, supply side parties. The directly involved and demand side parties also benefit from economic growth, but the value is most important for indirect supply side parties. This since these are the parties that actively partake in the economic sector and can benefit most directly from economic heydays. Economic growth effects will only occur at a macro level since it requires a large frequency and scale of transactions to have a significant effect on the economic growth numbers.

Category name	**Employment**
Underlying codes	Creation of jobs Employment Reintegration of workers
Description	The value employment includes the creation and availability of jobs for citizens. It is valued in society that everybody who wants to work has the opportunity to get a job. Peer-to-peer sharing economy platforms could lead to the creation of new job opportunities, since new businesses rise. It is however not clear if these jobs are new or whether they only replace job opportunities at incumbent companies.
Position in model	Direct & indirect involvement, supply side, meso level
Motivation for position	Employment is mostly relevant for directly and indirectly involved supply side parties, since the jobs are always on the supply side of the transaction. For the directly involved actors employment is relevant since the peer-to-peer transactions on the sharing economy platform can substitute for a job when no other jobs are available. For the indirectly involved actors it is also of importance since the peer-to-peer transactions could lead to increased competition and the possible loss of regular jobs. These effects will only occur when transactions happen at a larger scale and frequency, since only a few transactions do not make up a job.

Category name	**Empowered citizens**
Underlying codes	Economic liberty Empowering Freedom
Description	This value contains the notion that citizens should be empowered in their lives and that they should have the (economic) liberty and possibilities to determine their own actions. Peer-to-peer sharing economy platforms might lead to more empowered citizens, since the platforms could make economic transactions more convenient and higher value for money. Also increased autonomy might lead to more empowered citizens. It is however unclear if these effects will all be positive and if they will include all citizens.
Position in model	Direct involvement, demand & supply side, macro level
Motivation for position	This value is of relevance to the directly involved citizens at both the demand and the supply side of the transaction, since the transactions only empower the ones that partake in them. The empowerment value is placed at the macro level since it requires a large frequency of transactions in order for the platforms to have a longer term effect on the empowerment of citizens. It could be argued that this value could also be placed on the meso level, since empowerment can already occur on the basis of less frequent transactions. The macro level however was chosen since the empowerment in this sense is built up from codes as economic liberty and freedom, which are the more abstract values one experiences in his/her life and thus at a higher level.

Category name	**Environmental sustainability**
Underlying codes	Consumption Environmental sustainability Perverse eco-impacts Second order effects on environment
Description	The value environmental sustainability contains the notion that it is of value to preserve the natural environment of this world and fight negative developments like deforestation, the extinction of species and global warming. A reduction of waste and consumption due to sharing initiatives can lead to positive effects on environmental sustainability, second order effects might however cancel these effects. An example of a second order effect is increased air traffic due to convenient access to foreign Airbnb accommodations.
Position in model	Indirect involvement, demand side, macro level
Motivation for position	The environmental sustainability value is most relevant for the indirectly involved demand side actors. Ultimately environmental sustainability is relevant for all parties in society, but the value was placed here since this value is mostly relevant from the perspective of a 'member of society'. Note here that all other actors (e.g. business owners, providers and direct consumers) are 'members of society' and the value thus applies to them all. The value is only effectuated at the macro level since it requires a large scale and frequency of transactions to significantly influence the global environment.

Category name	**Fair labour market**
Underlying codes	Fair Labour Freelancing as a value Labour market Rise of freelancer
Description	The value fair labour market includes the notion that labour should be organized in a fair way, especially given the rise of freelancers in the overall economy. Traditionally labour markets are not organized in a way that facilitates a large number of freelancers. It is important that the labour system is organized in such a way that all workers have adequate working conditions and rights. Peer-to-peer sharing economy platforms might lead to more autonomy for workers, but might also put stress on the working conditions of these people. The overall effects on the labour market and the future of working are thus unclear.
Position in model	Indirect involvement, supply side, macro level
Motivation for position	This value is relevant for the directly and indirectly involved actors at the supply side of the transaction, since these are the actors that perform the labour. A labour market system is only significantly influenced when transactions happen frequently and at a large scale, hence the value is placed in the macro layer.

Category name	**Fair socio-economic system**
Underlying codes	Capitalism Democracy Equality Fairness Historic way of working Inequality in society Neoliberalism Socialism Traditional Western (capitalist?) Values
Description	Fair socio-economic system is the value that describes the importance of an accepted organized society. There are many ideologies on how such a system should be organized and how wealth should be divided, for example capitalism, socialism and neoliberalism. Important in all these systems are values as equality and fairness and the fact that there is an historic way of how society is organized. The rise of peer-to-peer sharing economy platforms can have an effect on how this system is or should be organized. These effects however are hard to predict since there are many factors that are important to consider (see for example the values Inclusion, Fair Labour market and Citizen empowerment elsewhere in this appendix.
Position in model	Indirect involvement, demand & supply side, macro level
Motivation for position	The socio-economic system concerns the indirectly involved actors at both the demand and supply side. This since the socio-economic system is most relevant for 'members of society' at the indirect demand side and the entrepreneurs and economically active persons at the indirect supply side. Naturally the socio-economic system is also important for the directly involved actors, but these also for them it is more important in their role as 'member of society'. The value is placed at the macro level since the socio-economic is only possibly significantly influenced when transactions occur at a high frequency and large scale.

Category name	**Flexibility**
Underlying codes	Flexibility
Description	Flexibility is a value that describes the flexibility of citizens to make plans and to adjust these plans when needed. Peer-to-peer sharing economy platforms could lead to higher flexibility for citizens, since the convenient transactions are easily planned and adjusted and more choice is present (i.e. choice between a diversity in products and a diversity in income opportunities)
Position in model	Direct involvement, demand & supply side, meso level
Motivation for position	The value flexibility is relevant for both demand and supply side of the directly involved actors, since both parties benefit from higher convenience and more choice (i.e. diversity in products and diversity in income opportunities). This value is effectuated at a meso level since it requires a higher frequency and scale of transactions for people to truly become flexible in their lifestyle. In that sense this value is the higher order value of the

	convenience value.

Category name	**Inclusion**
Underlying codes	Accessibility Discrimination Homophily Participation
Description	The concept Inclusion stands for the value that economic transactions should not exclude certain (groups of) individuals. The economic transactions should be accessible for all, no discrimination between users should be made, transactions should not be limited to a specific type of users and all citizens, regardless of their socio-economic background, must be able to participate. Peer-to-peer sharing economy platforms could lead to trouble on this concept since there might be no means to safeguard these aspects in the transactions, but could also lead to higher participation due to the convenience of the transactions.
Position in model	Direct & indirect involvement, demand side, meso level
Motivation for position	The inclusion value is mostly relevant for directly and indirectly involved actors at the demand side of the transaction. The directly involved consumers can experience discrimination issues and the indirectly involved actors can experience accessibility and participation issues. This value is placed at the meso level, since it becomes relevant when the number and frequency of transactions grows and people start to miss out on possibilities or start to be able to participate more.

Category name	**Income opportunities**
Underlying codes	Diversification of income sources Income Income opportunities
Description	The value income opportunities stand for the fact that it is important that citizens should be able to earn money if they want to work for it. It is not the same as having a job, but it focusses on tasks that provide income for a citizen. Peer-to-peer sharing economy platforms provide means for citizens to make extra money and thus this value is probably positively influenced by the rise of these transactions.
Position in model	Direct & indirect involvement, supply side, micro level
Motivation for position	The value income opportunities is relevant for the supply side actors, both directly involved an indirectly involved. People can earn an income by providing to the platform and indirectly involved parties (such as investors and enablers) can create income when the platforms are a success. This value is already relevant at a micro level, since providers directly earn money through the transaction.

Category name	**Innovation**
Underlying codes	Attractiveness of risk Entrepreneurial spirit Fear of change Innovation Permissionless innovation Precautionary principle Status-quo bias / uncertainty Sustainability of the trend Trendiness / Novelty
Description	Innovation here is a value in itself that stands for the continuous improvement of technology and practices in society. Different attitudes towards innovation are captured in this value, cautious and more fearful attitudes and entrepreneurial and risk seeking attitudes. Peer-to-peer sharing economy platforms are a way of innovation. The rise of these platforms thus probably positively influences this value.
Position in model	Indirect involvement, supply side, macro level
Motivation for position	The value innovation is mostly relevant for the indirectly involved actors at the supply side. These actors are the actors that mostly partake in the economic activities in society and value innovation since it provides them with new means to make a business. The innovation value will also be relevant for all other parties, but since these innovations have to be implemented mostly by indirectly involved supply side parties, the value is placed here. The value is relevant at a macro level since it is a higher level and abstracter term that is only significantly influenced when transactions occur at a large scale and with high frequency.

Category name	**Level playing field**
Underlying codes	(Im)perfect competition Anticompetitive behaviour Existing economic interests No fitting regulation / Legal Void Regulatory bias Unfair competition
Description	A level playing field is a value that is relevant for the players in a market. It is important that the rules of competition are fair and that all players have the chance to participate in the market and compete for customers. Regulatory biases and anticompetitive behaviour (based on existing economic interests) might form a hazard to a level playing field. The rise of peer-to-peer sharing economy platforms has had a negative effect on the level playing field value, mostly due to the legal void in which the new companies operate.
Position in model	Indirect involvement, supply side, meso level
Motivation for position	The level playing field value is relevant for the indirectly involved supply side actors, since this group includes the incumbent companies, for which this value is most relevant. The value is placed at the meso level since the platforms only become real

	competition when transactions occur more frequent and at a larger scale.

Category name	**Personal contact**
Underlying codes	Personal contact
Description	Personal contact is a value that lies at the core of a human being. It describes the need and importance of contact with other people. In the context of this study this value especially describes the personal contact one has in an economic transaction. Peer-to-peer sharing economy platforms could have a positive impact on this value, since it becomes easier to connect with other people. There is however no guarantee that these transactions indeed lead to better personal contact.
Position in model	Direct involvement, demand & supply side, micro level
Motivation for position	The personal contact value is relevant for the directly involved actors at the demand and the supply side, since these actors have personal contact in the transaction. This contact is already established when one transaction takes place and thus the value is placed at the micro level.

Category name	**Prevention of criminal activity**
Underlying codes	Criminal activity Fraud Illegal activity
Description	The value prevention of criminal activity contains the notion that governments should be able to counteract criminal activity as determined by the law. It is important that the government can do this in an effective way in order to prevent uncivilized situations. The rise of peer-to-peer sharing economy platforms might make it harder for governments to find and fight criminal activity, since the peer-to-peer transactions are less formally organized that traditional transactions and a lack of oversight might occur.
Position in model	Indirect involvement, demand side, meso level
Motivation for position	The prevention of criminal activity is mostly positioned at the indirectly involved actors at the demand side of the transaction, since this value is mostly relevant for 'members of society.' This value is placed at the meso level since it becomes a problem when transactions happen more frequent and criminals can profit from the relative anonymity in these transactions.

Category name	**Quality of life**
Underlying codes	Consumer needs Quality of life
Description	The quality of life of citizens is one of the major values in society. It is the conclusion of many smaller values that are important for citizens and that build up to the larger notion of a high quality of life. Peer-to-peer sharing economy platforms can influence the

	quality of life of citizens in various ways, through a multitude of other smaller values. Whether the effects will be positive or negative is thus very hard to say.
Position in model	Direct involvement, demand & supply side, macro level
Motivation for position	Quality of life is a value that is most relevant for the directly involved actors at both the demand and the supply side of the transaction. The transactions can lead to a higher quality of life for these parties, more than it leads to a higher quality of life for indirectly involved actors. The quality of life value is placed at the macro level since it requires a large frequency of transactions in order for the platforms to have a longer term effect on the lives of citizens.

Category name	**Safeguarding of public tasks**
Underlying codes	Affordable housing Food safety Governmental control Negative externalities Nuisance Public goods Public health Safeguarding critical functions Spill over effects Tax revenue Zoning plans
Description	The value Safeguarding of other public tasks contains the idea that governmental organisations should be able to perform their public tasks in an effective manner. These public tasks are determined by parliament and government and should thus be safeguarded. Peer-to-peer sharing economy platforms might have an influence on the safeguarding of these tasks, because secondary effects or externalities of peer-to-peer transactions in one domain, might lead to effects in other domains. These effects might directly interfere with public tasks as the prevention of nuisance or the consistency of zoning plans, but also indirect effects via the loss of tax revenue can affect this value.
Position in model	Indirect involvement, demand side, meso level
Motivation for position	The safeguarding of public tasks value is placed at the indirect involvement demand side quadrant, since these public tasks are most relevant for actors in their role as ‘member of society.’ These public tasks come under pressure when the transactions on the peer-to-peer platforms become more frequent and happen at a larger scale.

Category name	**Social cohesion**
Underlying codes	Altruism Collaboration Cooperation

	Non-profit Openness Poverty Alleviation Sharing as value Social solidarity Trust in strangers
Description	Social cohesion is the value that describes the abstract value of sharing and caring about one and other. Social cohesion can be present in a society when citizens are altruistic, collaborative and trusting. Since peer-to-peer sharing economy platforms are for a large part based on the trust in one and other and they provide convenient ways for people to connect, their rise might positively influence this value. It is however also possible that issues on inclusion and growing inequality in society can lead to a negative effect of peer-to-peer sharing economy platforms on this value.
Position in model	Indirect involvement, demand side, macro level
Motivation for position	The social cohesion value is most relevant for the indirectly involved demand side actors, since social cohesion is value that exists on a societal level between 'members of society.' In their role as members of society, this value is relevant for all involved parties. The value is placed at the macro level, since only when transactions occur at a large scale and with a high frequency, this value is significantly influenced.

Category name	**Strong social ties**
Underlying codes	(No) durable social ties Social connection Strengthening communities
Description	Having strong social ties is a value for citizens because it connects them to others and can provide a social safety net. The strengthening of communities is an important aspect in this value. Peer-to-peer sharing economy platforms can have a positive influence on this value since the convenient social interactions might lead to during social ties. It is however not guaranteed that all these kinds of transactions lead these during ties.
Position in model	Direct involvement, demand & supply side, meso level
Motivation for position	The value strong social ties is relevant for both the directly involved actors. Strong social ties are made between providers and consumers when transactions take place more often, hence the positioning in the meso layer.

Category name	**Value for money**
Underlying codes	Availability Customised products Experience of providers Lags in confirmation New capabilities Poor behaviour of existing companies

	Predictability Price Quality of product Reliability Responsiveness
Description	Value for money is an important value in economic transactions. People want to get a good quality and enough options for the price they pay for products. Aspects as availability and reliability are vital in this aspect, both of the physical transaction and the digital communication between consumer and provider. Peer-to-peer sharing economy platforms will probably have a mixed influence on this value. Products might become cheaper, more diversified and in some aspects of higher quality. Other dimensions of quality (e.g. reliability) might be negatively influenced.
Position in model	Direct involvement, demand side, micro level
Motivation for position	The value for money value is relevant for the directly involved actors who are the consumers in the transaction. For them this value for money is relevant since they are the actors that acquire the products or services. The value is influenced at a micro level since this value already is relevant when one transaction occurs.

Category name	**Waste reduction**
Underlying codes	Ownership vs. Access Expensive resources Idle / excess capacity Waste of resources
Description	It is a value in society not to waste resources, capacity and time. This is rooted in an economic argument (waste is not efficient and costs money) but also in an environmental argument (waste puts more pressure on the environment). The peer-to-peer sharing economy platforms have the possibility to positively influence this value. Especially the concept of access over ownership can be a driving force behind this positive influence.
Position in model	Indirect involvement, demand side, meso level
Motivation for position	The value waste reduction is most relevant for 'members In society' and thus positioned in the indirectly involved demand side quadrant. This value is effectuated only when multiple transactions take place and a large group of people prefers access over ownership, hence the positioning in the meso layer.

Category name	**Well performing markets**
Underlying codes	Capacity management Challenge to institutions Disruption of market performance Disruptive to incumbents Effective regulation Efficiency Excessive profit taking by platforms

	Excessive regulation Gatekeeper role Information (a)symmetry Market failure Monopolistic platforms Race to the bottom Regulatory failure Switching costs Tertiary sharing Transparency
Description	The value of well performing markets includes the notion that markets in society should be balanced and provide the right results over the long run. Different types of market failure might hinder the performance of markets and might result in a race to the bottom or a monopolistic structure where consumer needs are not well secured. Peer-to-peer sharing economy platforms could lead to lesser performance of markets, since they have the tendency to result in monopolistic structures. Besides that they might lead to a race to the bottom since the prices can be driven down due to lower costs.
Position in model	Indirect involvement, supply side, meso level
Motivation for position	The value well performing markets is most relevant for the actors that are indirectly involved at the supply side, since these actors are the economically competing actors. The value is positioned in the meso layer, since the peer-to-peer transactions only start to have a significant impact on the market performance, when more transactions occur.

Category name	**Working conditions**
Underlying codes	Alienation from colleagues and employer Desperation Exploitation Fake enjoyment in task Instability of the job Job security Labour costs Labour protection Leverage against platforms Losing welfare status Minimum wages Overtime pay Personal investment of providers Provider - platform relation Provider replaceability Responsibility for workers Risk shedding Social and healthcare benefits Unemployment benefits Voice in decision-making Worker invisibility

	Worker solidarity Working conditions
Description	Having just working conditions is a value that is relevant for workers and providers. Just working conditions means that wages are above minimum, that social and health benefits are taken care of, that workers are protected against exploiting employers and that jobs are stable and secure. The working conditions for providers to platforms might be under pressure due to the lack of a legal worker classification and the risks that are shifted from the platform company to the provider.
Position in model	Direct involvement, supply side, meso level
Motivation for position	The working conditions are most relevant for the direct supply side actors, since these are the actors that provide the service or product. The value is positioned at the meso level since the peer-to-peer transactions can only be seen as work when they occur more frequently.

Actors

Category name	**Consumers**
Underlying codes	Companies as client Criminals Users / consumers
Description	Consumers are the people that use the platforms to get access to products or services. Different types of consumers can be identified such as youth, elderly people, companies, but also criminals that might rent a car to use in a heist.
Position in model	Direct & Indirect involvement, supply side
Motivation for position	Consumers are directly involved with the platform transaction, since they receive the product or service the providers. This automatically associates them the demand side of the transaction.

Category name	**Enablers**
Underlying codes	Accountants Insurance companies Legal sector Lobbyists Marketers Outside validators Reputation system providers Strategists
Description	Enablers are all types of professionals that can earn money by providing services to the platform companies. These actors can provide insurance, reputation system or marketing strategies that the platforms can use to create better value for consumers and providers.
Position in model	Indirect involvement, supply side
Motivation for position	Enablers are not directly involved in the economic transaction between provider and consumer, but can deliver side services. They are more associated with the supply side of the economic transaction since they offer services to other parties.

Category name	**Incumbent companies**
Underlying codes	Employees of existing companies Incumbent companies Industry associations / coalitions
Description	Incumbent companies, their employees and industry organizations of these companies together form the actor incumbent companies. These actors are influenced by the peer-to-peer platforms since they form new competition.
Position in model	Indirect involvement, supply side
Motivation for position	The incumbent companies are not directly involved with the platform transaction and only indirectly influenced. They are more associated with the supply side of the economic transaction since they offer services to consumers.

Category name	**Investors**
Underlying codes	Investors
Description	Investors are the capital-rich persons or companies that invest in peer-to-peer sharing economy start-ups and thus propel these companies in their growth.
Position in model	Indirect involvement, supply side
Motivation for position	Investors are not directly involved in the platform transaction, but have a direct stake in the platform company. Due to this stake they are more associated with the part that offers the product, thus the supply side of the transactions.

Category name	**Labour organisations**
Underlying codes	Labour Unions Provider associations
Description	Traditional worker unions and new platform provider associations are bundled the in the actor labour organisations. These organisations are the representatives of workers, either providers to platforms or workers whose work is affected by platforms.
Position in model	Indirect involvement, supply side
Motivation for position	Labour organisations are not directly involved with the transactions but the providers or workers they represent are. Since they represent these workers and providers they are more associated with the supply side of the transaction.

Category name	**Members of society**
Underlying codes	Citizens Landlords Society / Public opinion
Description	Members of society are the people in society that are not directly involved in the peer-to-peer sharing economy transactions. These transactions might however have an effect on values that are important to them, such as inclusion and liability. Landlords are a special type of citizens, since they do own the assets that are traded in the transaction, but do not have a direct involvement in the transaction. All actors in the model are in fact members of society, but besides this have a more specific role.
Position in model	Indirect involvement, demand side
Motivation for position	Members of society are in the definition of this study per definition not involved in the transaction. They are thus indirectly involved. They are positioned at the demand side of the axis because they are more associated with the consumer side of economic transactions.

Category name	**Observers**
Underlying codes	Journalists

	Researchers
Description	Observers are actors as journalists and researchers that do not have a direct stake in the developments around peer-to-peer sharing economy platforms, but that might be important for the shaping of (public) opinion around relevant issues.
Position in model	Indirect involvement, demand & supply side
Motivation for position	The observers are not directly involved in the platform transaction, they only observe them. This makes them a very independent party which is not specifically associated with the demand or supply side of the transaction. Therefore this actor is placed between the two sides of the transaction.

Category name	**Policy executors**
Underlying codes	Public prosecutor Regulators
Description	Policy executors are the parts of government that have the task to execute laws and regulation and do not have the ability to directly change these laws and regulations. The interpretation of laws and regulation does fall under the mandate of these actors. Especially since peer-to-peer sharing economy platforms operate in a legal void, this interpretation can be very determining for the development of the platforms.
Position in model	Indirect involvement, demand & supply side
Motivation for position	Policy executors are not directly involved in the platform transactions can have an influence on them from an indirect position. Policy executors can be focussed on for example consumer protection or fair competition, which results in their placement in both demand and supply side.

Category name	**Policymakers**
Underlying codes	Cities Federal / national governments Local governments Policy makers Politicians
Description	Policymakers are the actors that have the power to review and change regulation and to propose new regulation. This can either be on a local or national level.
Position in model	Indirect involvement, demand & supply side
Motivation for position	Policymakers are not directly involved with the platform transaction, but the set the framework for economic transactions. This framework consists of both supply side and demand side issue, which results in their placement in both demand and supply side.

Category name	**Providers / workers**
Underlying codes	Freelancers

	Owners of assets Providers to the platform Workers
Description	Providers / workers are the people who provide the services on the peer-to-peer platforms. These people own the assets that are the main product of the transaction and work on a freelance basis.
Position in model	Direct involvement, supply side
Motivation for position	Providers / workers are the providing party in the platform transaction and thus directly involved. They supply the product or service and are thus associated with the supply side.

Category name	**Sharing economy companies**
Underlying codes	Employees of sharing economy firms Entrepreneurs Middlemen Platform intermediaries Sharing economy firms Start-ups
Description	The sharing economy companies are the companies that own and maintain the peer-to-peer sharing economy platforms. These are the entrepreneurs and start-ups that have developed the peer-to-peer concept. The platform companies are the middle men between consumers and providers.
Position in model	Direct & Indirect involvement, demand & supply side
Motivation for position	The sharing economy companies are both directly and indirectly involved in the transaction. They provide the platform on which the direct transaction takes place, which makes them directly involved, but they are also responsible for all the matters and issues besides these direct transactions (see figure 1 in chapter 1). They are associated with both the demand and the supply side of the transaction, because the serve both the consumers and providers and connect them on the platform.

Category name	**User organisations**
Underlying codes	Consumer groups User unions
Description	User organisations are organisations that represent the users of peer-to-peer platforms or other more general consumers that might sometimes become users of these platforms.
Position in model	Indirect involvement, demand side
Motivation for position	User organisations are not directly involved with the transactions but the consumer or users they represent are. Since they represent these consumers and users they are more associated with the demand side of the transaction.

Institutional arrangements

Category name	**Consumer protection actions**
Underlying codes	Background checks Consumer alert Inspection Licenses Visual recognition of providers
Description	Consumer protection actions are actions that can be taken by regulators to guarantee quality and protection for consumers in the platform transactions. The actions do not directly intervene with the practices of the platform companies (by for example prohibition or legal obligations), but can be seen as an add-on on the transactions. Regulators can execute background checks on providers, can publish consumer alerts, to make consumer more watchful, they can inspect or license providers or can obligate providers to be visually recognizable. With these measures the transactions are thus not changed, only the preconditions.
Group	Group 2 – Directly steering transactions within existing regulatory regime

Category name	**Cooperative development of regulation**
Underlying codes	Consultation Regulations proposed by sharing economy firms
Description	The cooperative development of regulation consists of policymakers working with involved actors to come to the best possible regime on the peer-to-peer sharing economy platforms. This can be done via consultation, where the policymaker asks the different involved parties to give input on the proposed regulation, or on the initiative of the platforms, where platforms formulate a suiting regime according to them.
Group	Group 5 – Stopping, Steering or Strategizing on transactions by changing existing regulatory regime

Category name	**Create alternatives**
Underlying codes	Build alternatives for for-profit platforms Cooperative ownership of the platforms Democratizing the platforms Incumbents adopt sharing practices
Description	The creation of an alternative platform is an action that any involved actor can take. By creating an alternative platform the new owners can guarantee the safeguarding of values that are important to them. For example more altruistic versions of Uber can be created as a non-profit alternative. Workers can also create their own platform to guarantee autonomy and good working conditions. Finally also incumbent companies can create a sharing economy platform to benefit from the same legal void as the new competitors, through which the playing field is levelled.

Group	Group 4 – Strategizing on transactions within existing regulatory regime

Category name	**Data driven supervision**
Underlying codes	Metrics-based regulation Monitoring activities Platform providing support and documentation Public access to information Sharing data Tracking providers
Description	Data driven supervision is a way for regulators to monitor the activities of platform companies. In order for this to work, the platform company has to give the regulator access to its data. By tracking providers, opening up data and monitoring transactions the regulators can better check if the platforms are compliant or if they act in a safe and responsible way.
Group	Group 2 – Directly steering transactions within existing regulatory regime

Category name	**Independent actor involvement**
Underlying codes	Independent insurance Independent reputation systems Independent research Outside validation / certification
Description	The involvement of independent actors is a means to get an unbiased view or control on the transactions on the peer-to-peer sharing economy platforms. By involving insurers, independent reputation system providers, outside validators for providers or by conducting independent research consumer and providers are better protected from platform bias and malpractice. The interests of the platform company might for example not be aligned with the interests of the providers, which could lead to unfair reputation systems.
Group	Group 3 – Indirectly steering transactions within existing regulatory regime

Category name	**Intervention**
Underlying codes	Court case Court rulings Fines Legal worker classification Provider penalties Regulatory ruling Revoke company permit Settlements
Description	The institutional arrangement type intervention consists of actions a regulator can take, based on the existing legislation, to intervene with the transactions on the platform. Via court cases

	or regulatory rulings the transactions can be classified as illegal, which would give the regulator the possibility to fine the companies, to revoke company permits or to reach settlements with companies. A special case of intervention is to rule that providers to the platform are actually employees of the platform company, which would allow regulators to impose extra rules on the (system of) transactions.
Group	Group 1 – Stopping transactions within existing regulatory regime

Category name	**Joint regulatory action**
Underlying codes	Combination of instruments Different regulators work together
Description	Joint regulatory action is special form of regulatory action since it involves multiple different regulators. All types of institutional arrangements within the group of regulatory action can be executed by multiple regulators together, in order to reach better results.
Group	Group 1 – Stopping transactions within existing regulatory regime and Group 2 – Directly steering transactions within existing regulatory regime

Category name	**Platform initiated quality control**
Underlying codes	Asset checks Background checks Exclusion from platform Provider exams Regulation of access Regulation of interactions Reputation systems Selecting providers Training for providers Verified identities of providers
Description	Platform initiated quality control measures are measures a platform takes to increase the quality of the product or the consumer protection of direct users. The most eminent example of this type of institutional arrangement is the establishment of a reputation system, which allows consumers and providers to rate each other in order increase the service and safety levels. If rating fall to low, providers can be excluded from the platform. Other measures are more aimed ex-ante action by for example to execute background or assets checks or to specifically select or train providers in order to increase the service and safety levels.
Group	Group 3 – Indirectly steering transactions within existing regulatory regime

Category name	**Regulation reviews**
Underlying codes	Change current regulation Ease existing regulations

	Introduce dual regulation Introduce goal-oriented regulation Laws and regulation No change in current regulation Policy debates Public policy Reduce industry specific controls Remove regulation all together Review old regulation
Description	Regulation reviews are aimed at reviewing the legislation in order to better regulate the new peer-to-peer sharing economy platforms. These reviews are based on policy debates and public policy strategies. There are many options in changing the regulation: The regulation can be removed, eased, kept as it is or made more strict. Also dual regulation (which would result in different rules for incumbents and platform companies) or goal-oriented regulation (as opposed to instrumental regulation and would thus only steer on the outcome) can be introduced. The specific actions depend on the current legislation and the decisions of policymakers.
Group	Group 5 – Stopping, Steering or Strategizing on transactions by changing existing regulatory regime

Category name	**Regulatory deals**
Underlying codes	Platforms take care of the taxes Regulatory cooperation
Description	This type of institutional arrangement includes all kinds of cooperation between platforms and regulators that result in a deal between the two parties. An eminent example is the deal where the platform promises to take care of the collection of taxes and pays them to the regulator. These types of deals can mitigate specific negative effects of the platforms, while these platforms stay able to operate.
Group	Group 2 – Directly steering transactions within existing regulatory regime

Category name	**Self-regulation**
Underlying codes	Insurance provided by platforms Payment guarantees Platforms as regulator Self-regulation
Description	Self-regulation actions from platforms are aimed at securing values that are not directly linked to consumer protection of direct user or at quality of the product (platform initiated quality control are aimed at these values). Self-regulation would be that a platform takes care of the securing of values as the prevention of criminal activity, the reduction of waste or the safeguarding of other public tasks. Insurance is also part of this type of institutional arrangement since it protects the indirectly involved

	citizens as well. A way to arrange this self-regulation is via the means of compliance by design, where the effectuated values are taken into account while designing and developing the platform.
Group	Group 3 – Indirectly steering transactions within existing regulatory regime

Category name	**Standards development**
Underlying codes	Imposing non-discriminatory trade practices Set guidelines not regulation Setting price floors Setting quality and service standards
Description	The development of standards is a regulatory action that is not a direct intervention in the transactions of a specific platform, but focusses more at steering the behaviour of platforms and providers of these platforms. Examples are the establishment of standards aimed at improving the quality and service, price and non-discriminatory nature of transactions. Measures within this type of institutional arrangement have to be based on existing regulation and can also be formulated as guidelines (which are not legally binding). The development of standards is different from the consumer protection actions, since these action more try to steer the behaviour instead of taking care of preconditions around consumer safety.
Group	Group 2 – Directly steering transactions within existing regulatory regime

Category name	**Strategic regulatory measures**
Underlying codes	Encourage good labour practices from beginning of start-up Monitoring start-ups Build a network with stakeholders Establish a strategic operating framework Establishing innovation rooms Understand new technologies
Description	Strategic regulatory measures are not aimed at the problems caused by existing practice of peer-to-peer platform transactions, but try to prepare for future problems or negative effects. These strategic measures could thus be seen as preventive measures as well. By monitoring start-ups and encouraging the safeguarding of value as good working conditions from the start, future problems might be diverted. Other ways to anticipate on these problems are by building a network with stakeholders, by establishing strategic operating frameworks (in which the vision a sharing economy platforms is given) , by establishing innovation rooms (in which regulators work with involved actors to think of innovative ways to cope with the new platforms) and by studying the developments in order to better understand the mechanisms and effects of the new technologies.
Group	Group 4 – Strategizing on transactions within existing regulatory regime

Appendix E. Conceptual model of the effects of peer-to-peer sharing economy platforms