A typology on Urban Business models

The city as a business model

Master Thesis

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Name: Suzanne van Vugt

Student number: 4832779

Supervisor: Jan Jonker

2nd examiner: Peter Vaessen

Personal information

Name: Suzanne van Vugt

Student number: 4832779

Supervisors

Assigned supervisor   Jan Jonker

Assigned 2nd examiner: Peter Vaessen

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Suzanne van Vugt

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Abstract

Because of the increasing number of people living in urban environments, it has a large impact on the health of the earth. Therefore, the urban environment will play a big role in the journey of getting a more sustainable world. Within those environments, the role of the residents is changing. They are becoming more knowledgeable and therefore they are willing to perform some tasks of the semi-government, which will result in a more self-organized system. This new way of working also asks for a new way of organization, and therefore new business models should be created. A start of this process is made within this thesis.

In creating new business models, the main purpose is to collectively create multiple values. This value is created by the close collaboration of the residents within the same neighbourhood by connecting and interacting with each other. In seeing the city their selves as a business model and using their resources in order to create value, the resource-based view should be used. Within companies this view was, for a long time, used to create value, also called the firm-centric perspective. The process of value creation only took place within the company. This perspective is criticized on many aspects by different parties. Also the consumer plays a big role in this process. The consumers become more connected, informed, empowered, and more active. Therefore this view is changing towards a more co-creative perspective between different parties.

The two perspectives are combined in this thesis. The resource-based view is used in order to take into account the resources available in the neighbourhood, only those are used to create value. These resources are the five types of idle capacity, earlier explored by Jonker (2018) consisting of the following types: Material, spatial, social, institutional, and financial idle capacity. The process of actually creating the value should be done by the residents by working together towards the same goals.

Before a new business model can be created, it is useful to design a typology on different kind of neighbourhoods based on the types of idle capacity. In order to find such a typology, an exploratory case study was performed, with 3 different methods of data collection; analyses of available documents, focus group interviews and individual interviews. Data were collected in five different neighbourhoods. The data analysis was based upon the Grounded Theory Approach, with a deductive analysis scheme.

Neighbourhoods can be divided in three different categories according to the results: the Efficient-, Selfish-, and Platform neighbourhood. These categories are characterized by the use of some configurations of the types of idle capacity.

This study has some critical points which challenges the appropriateness of the end result. Because of the limited amount of neighbourhoods that were studied Vugt the criticisms on the design, the results of this study may not show an appropriate typology on urban business models. Therefore more in-depth research is needed to validate the findings of this study. In conclusion, it can be used as an explorative study for further research.

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1. Introduction

More and more people are living in urban environments and their role within the society is changing (PBL, 2018). They become more self-organized and take some tasks of the semi-government over. More collaboration exists and therefore multiple values are collectively created. Jonker (2018) suggested that in order to create collectively multiple values it is possible to use the idle capacity. However, it remains unclear if this suggestion is true in practice. Therefore the question within this study is:

"What types of neighbourhoods can be distinguished in the typology on urban business models based on configurations of the idle capacity?"

1.1 Urban environments

A large number of the global population (54%) lives in an urban environment and this number is expected to increase in the next decade (PBL, 2018). As a result of this, cities account for 75% of natural resource consumption, 50% of global waste production and around 70% of greenhouse gas emissions. As such, the city has a large influence on the sustainability of the environment (PBL, 2018). Because of the high urban population and the more knowledgeable people, the society is shifting from just normal cities with passive residents, towards active residents which want to be more self-organized. People within such an urban environment work together to organize things like their own energy, food production, mobility, but also things like a safer neighbourhood or a cleaner living environment. They invest in their business models with money, time and competences in order to create mutual values and urban business models. For their investment they expect something in return what results in a mix of social, ecological and financial advantages (Jonker, 2018).

Urban environments are considered as a good environment for the creation of new business models, because they have a high concentration of resources, data, capital and talent over a small geographic territory. This enables sharing and reuse of models, meaning that different users use the same product more than once. Also, cities are large enough to have effective markets. New business models are more likely to survive in the presence of a large and varied supply of materials and a high potential market demand. The ability of city governments to shape urban planning and policy can contribute to the central role local governments can have on introducing the new business models (PBL, 2018).Based on the assumption that local idle capacity can be used in the collective creation of multiple values. Therefore, it can also be used in urban business models. The local idle capacity is the unused capacity within an urban environment and is divided in five different types. These five are possibly not exhausted, in this project it will be studied if there are more types. By studying different combinations of these different types, new urban business models can be created. Thus the configuration itself is called an urban business model. This is nothing more than multiple value creation between different parties within an urban context.

These new business models make use of a surplus; what at first was seen as waste is now considered as something valuable. In the new models three principles are important: sustainability, inclusiveness and circular (Jonker, 2018).

1.2 Main concepts within the literature

To gain a better understanding of what this study is about, the following main concepts are explained underneath: Idle capacity, collective value creation, (urban) business model, and the typology.

Idle capacity

Idle capacity is the capacity which is unused and seen as a surplus. Based on earlier research, the idle capacity can be classified in five different types; material, spatial, social, institutional, and financial idle capacity. It is unclear if more categories of idle capacity exist. The idle capacity is the basic element for collectively creating multiple values, and used in the development of urban business models (Jonker, 2018).

Collective value creation

By looking at companies, collective value creation means that not the company creates the value, but different parties working together to create multiple values (Prahalad and Ramaswamy, 2004).

When talking about urban environments, people can also work together to create value for their environment. They can do this by working closely together and so create models in which value is created for their environment. An example is the circular business model in which waste is seen as something valuable and is used in the process again (Remmerswaal, S., Hanemaaijer, A. & M. Kishna, 2017). The collectively multiple value creation used in this research study is categorized in three kinds of value: Social, ecological, and financial value (Jonker, 2018).

(Urban) business model

Different authors have different opinions on what a business model is. This means that there is not one unambiguously definition for a business model. The following one is just an example of one of the definitions: '*The construct of an organization which shows how they create values for their customers due to several components and this value converts to economic values for their own*' (Remmerswaal, S., Hanemaaijer, A. & M. Kishna, 2017).

An urban business model is nothing more than the configurations made by the different kinds of idle capacity classified as a specific type of neighbourhood. What configurations can be made depends on which idle-capacities are present within that urban environment (Jonker, 2018).

Typology

A typology is an organized system of types that breaks down an overarching concept into component dimensions and types (Collier, 2012). For this research a typology should be made on urban business models.

1.3 Cause and relevance

People are living more and more in urban environments (BPL, 2018) and are looking for ways to work together to create value (Jonker, 2018). It is assumed that people within urban environments can create value by making use of the local idle capacity (Jonker, 2018). Therefore the resource based view is used. Residents do this by working together and therefore a co-creative perspective is combined with the resource based view. Now this study is organized to investigate which types of idle capacity exist in urban environments, how these are used in urban environments, and to see what types of urban environments exist by making configurations of those existing types of idle capacities.

This research will contribute to the forming of theory about what types of idle capacity exist in urban environments, in what combinations, and to what extent people are using these to create collectively multiple values. This investigation will result in different types of urban environments, which possibly lead to a typology.

On the practical side, a self-investigating tool will be developed for urban environments to measure their potential on collective value creation based on local idle capacity.

1.4 Objective and research question

The aim of this study is to investigate whether it is possible to create a typology on urban business models based on configurations of the types of idle capacity. The research question is as follows:

"Which types of neighbourhoods can be distinguished in the typology on urban business models, based on configurations of the local idle capacity?"

The following sub-questions are applicable:

- *Which types of idle capacity can be distinguished, and how could these be recognized in urban environments?*
- *Which types of urban environments exist, based on configurations of the idle capacity?*

The following question is designed for the practical side of the research, relevant for urban environments, and can be interpreted as a by-product of this study.

- *What should be a good protocol for doing the self-inventory, which measures the potential on collective value creation, based on the idle capacity?*

1.5 Outline of the rapport

This report starts with some literature on collective value creation and on (urban) business models. To start in chapter two, the concept of collective value creation is explained, followed by the shift, within companies, from firm centric towards co-creation. Then more attention is paid on creating collectively multiple values by different authors. The chapter ends with the principles of self-governance.

Within the literature on business models, chapter three, it is first explained, in general, what these are and how these are built. Then it is getting more specific towards urban business models. Based on different theories a conceptual model is created.

Chapter four includes the methodology. After explaining how the project is organized, chapter five provides the descriptive results and chapter six shows the creation of the typology on urban business models. The report ends with the conclusion, discussion, and recommendations on further research.

2. Collective value creation

This chapter includes the theoretical background on the first main concept, collective value creation. It starts with the basic elements of value creation. Followed by a bridge to companies and how they create value. Then some deeper insight is provided on different theories on the collective creation of multiple values.

2.1 Value creation

Value creation can be described shortly as the actions made by someone or something leading to a higher value of that phenomenon. Value is created through the business model of an organization. Within the business model, inputs will be transformed through business activities and interactions and therefore outputs are produced that create value for the organization, their stakeholders, and society, in the short, medium, and/or long term (Prahalad and Ramaswamy, 2004). Within the perspective of this study, the city is seen as the business model. By the activities the residents organize, the resources will be transformed in valuable outputs.

Within the literature, some themes exist which best describes value creation. The first one is that it takes place within a context. Value is created by diverse interactions, activities, and relationships, and together takes place in a specific context. The second aspect is the financial value for assessing value creation. Companies create value by investing capital from investors to generate future cash flows. This is the value seen in quantitative terms, but the qualitative value is also important. This is the utility value; the value in the eyes of consumers in satisfying their human needs. Then, as third one, value is created from tangible and intangible assets. Value is created and measured more and more by intangible assets, as brands, patents, and reputation. Mostly these are quite unique and difficult to replicate. Followed, value is created from private and public resources. When using the public resources it is important to take the 'tragedy of commons' into account. Solutions to protect these are all based on transparency and clear information. As fifth characteristic, value is created for different parties. Shared value is an important aspect. Therefore people never operate on their own in the process of value creation. The last one is innovation, which is a central concept within value creation. By innovation the organization can distinguish itself and can make the organization capable of adapting to new circumstances. The resource-based theory confirms that value is created or maximized through innovation which gives it the ability to reconceive their sources of strategic advantage (IIRC, 2013).

Taking this theory into account the value creation of this study can be described as follows: The value creation takes place in the urban environment, within neighbourhoods, so that is the context. The financial value is just a small part within the whole value creation, besides the social and ecological values (Jonker, 2018). The asset which creates the value is the idle capacity, and can be both tangible and intangible.

The idle capacity has to be used by residents working together and therefore creates value. The value is created for the whole urban environment, for different parties, through connections and interactions with each other (Jonker, 2018). Then the last aspect, innovation is also used in the resource based view and will lead to some advantages (IIRC, 2013)

2.2 The resource based view

In seeing the city as a business model and using their resources to create value the resource based view is used. Nearly no information is available on how to do this within urban environments. Therefore companies will be used as example. For a long time, companies were using the firm-centric perspective to create value. Within this perspective, value creation occurs inside the firm and outside the market. Meaning that this was a process within the company, without any interaction with other parties (Prahalad and Ramaswamy, 2004).

The resource based view is criticized by several authors and perspectives. The first provided here is that the resource based view lacks managerial implications. It is only stated to develop and obtain VRIN resources, but the applicability and how to do this is not unambiguously clear (Conner, 2002; Miller, 2003). It also gives the illusion to the managers that they have full control over the resources and can predict their future values. This is not always the case (McGuinness and Morgan, 2000). This first criticism can be refuted by the fact that the resource based view never had the intention to provide managerial prescriptions (Barney, 2005). For this study, it is really important to provide insight on how to apply the resource based view on the urban environment, to the residents. Although this is not really the task of the resource based view, it has to be provided as an extra task. The city is seen as a shared resource with capabilities which can be used in providing value. Because of this new perspective within urban environments, it is important to help the residents on how to apply it.

Another concern is the applicability of the resource based view. Suggesting that this view is too limited, because it is all about resource uniqueness and therefore no chance to generalize it (Gibbert, 2006). Other authors stated that the insight was overly academic and motivate that some degrees of resource uniqueness are useful in order to generate (Levitas and Ndofor, 2006). Another criticism on the applicability is the argument that the resource based view is only relevant for big firms with some market power. According to Conner (2002), small firms cannot be based on their static resources. Again this criticism is not fully true, since small firms have unique competitive advantage generating capabilities when the intangible resources are admitted (Kraaijenbrink et al., 2010).

Another criticism also in the concern of the applicability, but not yet refuted, is that the resource based view only holds as long as the environment is relatively stable and fixed over time. When the circumstances are unpredictable, the values of the resources can change drastically. Therefore it is needful to look further than only to the own resources (Kraaijenbrink et al., 2010).

This is also of importance when applying the resource based view on urban environments, because these environments are dynamic. This makes it important to constantly innovate in new projects and ideas on value creation. Another factor which could reduce the negative effects of the fast changing environment is to have someone in the neighbourhood, who continuously look after the environment, in order to make suggestions for new projects on value creation when the circumstances are changed (PBL, 2018).

Most of these criticisms can be disproved or reduced. Over the last years people became more aware of the fact that they can extract values at the traditional point of exchange, they are subjecting the traditional value creation process. Consumers are more informed and can choose the firms they want to have a relationship with, based on how they experience the created values. The created value became the result of a negotiation between different parties. Therefore the resource based view is challenged by groups of connected, informed, empowered, and activated people (Jonker, 2018). Within this change at companies, co-creation became the basic element for value creation. According to this new theory value is jointly created by different parties (Prahalad and Ramaswamy, 2004). This perfectly matches up with the literature by Jonker (2018) on his statement that people become more self-organized.

Although the criticisms, the resource based view is used within this study. The different kinds of idle capacity are seen as resources, and used to collectively create multiple values. So the resource based view is combined with the co-creative perspective to make it work. In conclusion, first the resource based view is used, to see the city as a business model, and the idle capacity as the resources. Then the co-creation comes in play for actually creating the value together with a group of local residents. The process of co-creation will be further explained in the following paragraph.

2.3 Collective multiple value creation

According to Figueiredo and Scaraboto (2016) the process of collective value creation within networks can be shown by four sub-processes. It starts with the enactment of value creation actions. Value creation actions are the performance by a participant in the network, which has the potential to create value. This process generates value potential by the performance of participants. All actions can create value if they trigger the process of value creation. During this process circulation connects actions to create value and promotes interdependencies. The second sub-process is transvaluation, therefore the first process will be objectified and gets the form of an indexical value. The more an object circulates the more indexical cues its profile contains and the more value it has. So indexical value includes two important properties, storability and durability. The third process is the value assessment. This is an ongoing process were the indexical value is assessed by participants in the network. The last process in value creation is the alignment of valuable outcomes (Figueiredo, Scaraboto, 2016).

Within collective value creation the central management function is challenged by decentralized management (Figueiredo, Scaraboto, 2016). Several authors support this kind of self-organization (Jonker, 2018; Figueiredo, Scaraboto, 2016; Prahalad and Ramaswamy, 2004). Therefore decentralized management is used in the study.

Some suggestions were made on the governing and managing of interactions between different actors. Therefore Ostrom (1990) studied the rules which govern the behaviour of individuals in their interaction with nature and with each other. She did several studies on local public economies and stated that it was possible to collaboratively manage common resources for economic and environmental sustainability. She yields an optimistic message about the power of self-governance to succeed. The collaboration between people is an important point (Boettke, 2009).

Ostrom (1990) showed that decentralized groups could develop systems that enable cooperation to emerge through voluntary associations. Self-governance and decentralized decision making enable to go deeper into the local social dilemmas that people face, mobilize incentives within the local rule structure and utilize local knowledge. Ostrom stated that a society of free and responsible individuals, who are able to form voluntary associations, will solve the social dilemmas they confront through various means of self-governance (Boettke, 2009). Therefore, again self-governance would be the solution. In doing this, she made principles on how commons could be governed sustainably and equitably in a community. These were widely applied on different 'common pool resources', only the application to the urban environment was not studied before. Therefore the study of Foster and Laione (2017) came in. They argued that the eight principles of Ostrom needed significant modification to make them applicable on urban commons. The research they did enhance the collective knowledge about the various ways to govern urban commons in different geographic, economic, and social contexts (Foster, Laione, 2017).

When using those principles the city is seen as a 'shared resource'. Therefore the city has some of the same problems as a common pool resource, but the design cannot be used in the same way, because they are different in several ways. The first difference, cities are neither exhaustible nor non-renewable. A big part of the city consists of urban infrastructure which can be effective in different uses and by different users. This is very different from the common pool resources of Ostrom (1990). Second, cities are not natural, but constructed commons. Those are the result of emergent social processes and institutional designs resulting from a collaborative process of bringing together different actors to co-design and co-produce shared common goods and services. The third difference is that cities are highly regulated, therefore the commons confronting the law and politics of the city. This makes experimentation on legal and property a core aspect in constructing different kinds of urban commons. The last difference, cities do not only bring together many types of resources but also many types of people. This makes the city a very complex and socially diverse system.

Because of the diversity within the city and the presence of often thick local politics, conflict occurs in much higher frequent than in most natural environments. Also the governance of the commons cannot be just about communities governing themselves because of the complexity. Mostly they involve forms of nested governance and cooperate with other urban actors (Foster, Laione, 2017).

By taking this together, five principles are made for the 'co-city'. A co-city is an urban environment in which people work together to create value. Some of these are coming from Ostrom's principles, but all are adapted to the construction of common resources in cities. The principles will be mentioned and criticized underneath.

1. Collective governance
2. Enabling the city
3. Social and economic pooling
4. Experimentalism
5. Tech Justice (Foster, Laione, 2017).

Together these principles make clear how value can be created by working together. The five principles can be taken into account within this study by collective creating multiple values. The first principle is 'Collective governance', and refers to the presence of multi-stakeholder governance. Therefore the community is an actor and cooperates with at least three other urban actors. This can also be seen as decentralized management, what is supported by authors as Jonker (2018) and Prahalad and Ramaswamy (2004). This collective work is the basis of the study in which people have to work together in order to create value for their city. The second principle is to 'Enable the city', by facilitating the creation of urban commons and support collective action arrangements for managing the urban commons in a sustainable way. Here again the collective work and management is highlighted. The urban commons are the resources of the city; the local idle capacity in this study. The third principle, the 'Social and economic pooling', refers to different forms of resource pooling and cooperation between different actors within the urban environment. It shows the importance of different actors in creating value for the city. This was also seen at companies and explained by Prahalad and Ramaswamy (2004), who showed the importance to co-operate with customers, but also with rivals and suppliers. Meaning that value cannot be achieved by a firm, institution, or a human themselves. Therefore value only becomes valuable in the interaction with other parties (IIRC, 2013).

'Experimentalism' is the fourth principle and is the adaptive and iterative approach to design the legal processes and institutions that govern urban commons. The last one is the 'Tech Justice' and focusses on the access to technology and works as an enabling driver of collaboration and the creation of urban commons (Foster, Laione, 2017). Technology was earlier seen as important element to create value within the resource-based view (IIRC, 2013)

3. The city as a business model

This chapter first takes a look at business models in general, followed by some theories on how (urban) business models could be built. Then literature is provided on urban business models and the different ways of how to create them. By taking all the literature together, a conceptual model is drawn in the last part of the chapter.

3.1 General business model

Some concepts in literature explain what a business model is. The first concept is that the business model is considered as a new, distinct unit of analysis. This one bridges traditional units of analysis, e.g. firms and networks, but also people within the same environment. Second, business models mostly adapt a holistic and systemic perspective on 'what' and more important 'how' they do it. Thus it involves the simultaneous consideration of the content and the process of doing the business. Third, the activities are part of the conceptualization of the business model, sometimes direct, but also indirect by pointing to processes, functionalities, or transactions. A business model can be seen as a system made up of components and therefore uses the activity system perspective (Zott, Amit, Massa, 2011). An activity system is a set of interdependent organizational activities centred on a focal firm, conducted by different parties around the focal firm. Within this perspective close collaboration is suggested with the partners, but still using the firm-centric approach. The interdependencies also play a central role and provide insight in the processes that enable the evolution of a focal firm's activity system over time as the environment changes (Zott and Amit, 2010). This perspective is in line with the resource based view, as both using their own resources in order to create value. The interdependencies within this perspective could be seen as the close collaboration within the project in order to co-create value. Thus the business model is a new unit of analysis, on system level, centred on activities within their own environment, and therefore a resource based view is used. The whole process is focused on the creation of value.

These themes can be criticized by the work of Shafer et al. (2004). He argued that value creation does not take place in a vacuum, but always in connection with the outside world, the network. Making the right choices to be part of a specific network is really important. Therefore, this perspective is in line with the new perspective on co-creation earlier seen at companies (Shafer et al., 2004; Figueiredo, Scaraboto, 2016).

A business model can be split up in four components, which includes the value proposition, the method, the customer segment, and the revenue model. The first component, the value proposition, makes clear which products or services will be delivered, what the functions and values are, and how it will help the people within the environment. The second element, the method, shows how the value is created. It makes clear who and what is part of 'how' the value is created.

The last segment, the revenue model, shows what the costs and revenues are (Remmerswaal, S., Hanemaaijer, A. & M. Kishna, 2017). Sometimes other names are used for the components, but the explanation is mostly the same, e.g. customer value proposition, profit formula, key resources, and key processes. (Casadesus-Masanell and Ricart, 2010).

Researchers can apply these elements to their work, and give their own meaning on it. Within this study the application by Jonker (2018) is used; ´New Business Models´. This application distinguishes itself from the others in the customer segment by not just focussing on the customers, but on the whole community structure. Therefore it takes all the persons involved in the process of business modelling into account. Another difference is the revenue model, which is not only focussed on the financial aspect, but also on the economic, ecological and social costs and profits. Therefore it takes all the (negative) side effects of an action into account (Jonker, 2014).

3.2 Ways of building business models

The resource based view is a perspective which companies use to create competitive advantage by making use of their own resources. The resources include all assets, skills, processes, attributes, knowledge et cetera, controlled by the firm. These improves the efficiency and effectiveness, and are the strengths of the firm (Barney, 1991). In having a resource based view on the urban environment, the types of idle capacity are the resources to create collective value with. Within this perspective it is important to look at the question: What is available within this urban environment? So what are the resources within this neighbourhood? This question could be answered by making an inventory of the type's idle capacity within an urban environment. Five types can be distinguished and theoretically recognized as follows (Jonker, 2018):

<u>Material idle-capacity</u> is the easiest to recognize and includes the flows of waste in plastic, paper, glass and other garbage. Food which is not consumed and put away is also part of the material capacity. Material idle capacity are all the goods, materials, drinks, and food that are putted away.

<u>Spatial idle-capacity</u> are the places within the urban environment which are unused. An example of a spatial idle-capacity are the rooftops which could be used for urban agriculture, but also for putting solar panels on. Another example are the vacant buildings, e.g. unused offices. These can also be used for other purposes and are seen as spatial idle-capacity. In conclusion, all unused places, which could be used to create value, are forms of spatial idle-capacity.

<u>Social idle-capacity</u> exists when people have some competences or skills, and have the willingness and are able to help other people. This capacity can exists within an exchange system, but that is not required. For example, someone prepares a meal for an old person, who cannot do that her-/himself.

Institutional idle-capacity is all the idle capacity made by institutions, e.g. public transportation which is not fully utilized or tickets from concerts or theatres which are not sold out.

Financial idle-capacity, is the last one, and exists when people within the environment have money which they are not using at the moment. They could invest in e.g. the shared car-system, urban agriculture, windmill parks, solar panel areas et cetera (Jonker, 2018).

The idle capacity are the building blocks for the typology on urban business models. The use of the idle capacity is not the only manner in which value can be created. Underneath two other methods are described.

In the previous chapter it became clear that collaboration is important in the creation of multiple values. Co-creation can also be used in building urban business models. Within the study of Frow, Nenonen, Payne, and Storbacka (2015) twelve types of co-creation are distinguished. These are forms of collective value creation. All those forms include two or more actors. The leader should focus on a co-creative solutions. An engagement platform is used to share the resources and to adapt the processes from each other, and it enables efficient and effective co-creation (Frow, Nenonen, Payne, and Storbacka, 2015). Also in using the idle capacity, collaboration between residents is of high importance. Those people have to work together and need each other in the process of value creation (Prahalad and Ramaswamy, 2004; Jonker, 2018).

Casadesus-Masanell and Ricart (2010) look at business models from another perspective. They argued that a business model only consists of two set of elements. The first one are the choices made by the management about how the organization has to operate, and the second part are the consequences of these choices. This perspective is both intern and extern based. Business models mostly generate virtuous cycles. Those are feedback loops which can strengthen some components of the model at all the iterations. These cycles are not part of the business model, but they are crucial in getting their operations successful. Because of the cycles the consequences become more important (Casadesus-Masanell and Ricart, 2010).

When looking at all individual choices a company made, it will result in a business model that is way too complex. This makes it important to create a tractable representation of a business model, by simply 'zooming out' and look at the business models from a distance. Therefore larger constructs are made of all the choices and consequences. Within this process the analysist selects the important key choices and then observes the main consequences of those choices. The resulting map, a business model representation, is used to connect the choices to the consequences. The choices the firm makes within policies, assets and governance together with their consequences are the business models of the firm. These describe the logic of the firm, the way it operates and how it creates value for its stakeholders (Casadesus-Masanell and Ricart, 2010).

3.3 The urban business model

The core of urban business models is that people within the environment together form a community. The residents should organize the whole process, with some supportive help of professionals and/or civil servants, but the initiative should always be taken by the residents. To form one it is required that there are some forms of idle capacity present and the result should lead to multiple value creation. If this is present, an urban business model exists within the property of the involved parties. Therefore no central leader exists; everything is decentralized organized by the parties within the urban environment (Jonker, 2018).

In the previous paragraph different ways for creating business models are provided and explained. These insights will be combined, and are useful by the creation of an urban business models. The resource based view is used and the city is seen as a shared resource. This theory is supported by Ostrom (1990), Jonker (2018), and Foster and Laione (2017). Therefore the idle capacity is seen as the basic element in creating urban business models. This view can be complemented by the theory based on co-creation. Within the co-created models it is all about what people, firms, and organizations can do together to add more value (Prahalad and Ramaswamy, 2004). People in the urban environment have to work together too, to create multiple values. These theories make the collective work and the idle capacity important concepts in order to create urban business models.

Another theory explained that business models are seen as clusters of similar choices and consequences. This theory can also be applied to and combined with the theory on idle capacity. People make both conscious and unconscious choices for using the idle capacity to create multiple values. These choices always have consequences, e.g. share their skills, reuse or recycle materials, invest the money, and all have consequences on social, financial, and/or ecological aspects. When all choices are individually interpreted, the business models become way too complex. Therefore the choices and consequences are grouped in clusters and got overarching concepts. These concepts have to be representative for all the choices made. These concepts could be seen as the five types of idle capacity. Therefore the combinations of choices and consequences have to be grouped in material, spatial, social, institutional, financial and possibly more aspects.

3.4 Conceptual model

Based on the literature, a conceptual model can be drawn (figure 4). Different relationships are shown within the model. Starting with the choices people make and their consequences to create value. Those have to be grouped within the different types of idle capacity. Which types exactly exist is unclear, but the five already investigated will be taken into account with an open view for other types. Within the used types of idle capacity, configurations could be made in order to create collectively multiple values. Possibly a typology on urban business models could be created based on the configurations.

The interested part of this concept is the section of het types of idle capacity, and what configurations are made in order to see whether it is possible to create a typology on urban business models.
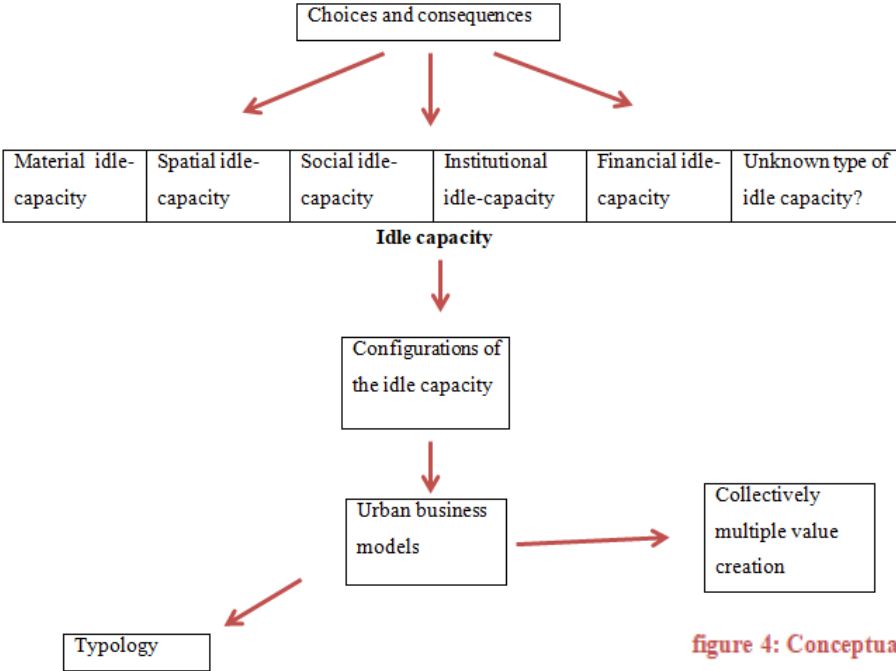

figure 4: Conceptual model

4. Methodology

The methodology of this project shows how this study is organized and carried out. It starts with information on the research design, theoretical operationalization, methods, data, data analysis, and typology. Then the role of the researcher and the quality of the research will be explained.

4.1 Research design

This study involves a qualitative, inductive case study by an explorative design. The Grounded Theory approach is used to analyse the data.

4.1.1 Qualitative, inductive research

The purpose of this study is about finding a typology on urban business models by looking at which configurations of the idle capacity, or other resources, are used. Qualitative research is chosen, because of several reasons. First this project is in line with the two elements of qualitative research: inductive and the social constructivism. There is not yet a theory available which explains this phenomenon. This has as consequence that deductive research cannot be used, and that the research will start with the empery, showing an inductive research. The second element is the social constructivism, meaning that social influences play a huge role in the process. It is not just objective to study a phenomenon, but everybody has their own interpretation influenced by history, culture, society and other factors on their learning process and personality. This constructivism is all about what the individuals know, think, and do. Research within this orientation will result in social constructed knowledge (Smaling, 2016). Another reason qualitative research is used is the small amount of information available on this phenomenon and its appropriateness to develop a tool for measuring it (Lendemeijer, 2000). Qualitative research has a focus on meanings, experiences, and opinions of all people involved. It is about systematic gathering, organising, and interpreting of textual materials, and about the development of concepts which help to understand a social phenomenon in their natural environment (Ruijs et al., 2012).

Three principles are important within qualitative research. The first one is the constant comparisons. When the researcher has gathered new data, he can stop the searching for a moment to analyse what he has found. Then they can find new categories, can change the content of the category, and can develop new questions and assumptions on the relationships between the categories. This will be done between the analyses of the different neighbourhoods. The second principle is the analytical induction. Meaning that also the literature plays an important role. A hypothesis is made in advance and will be tested and adjusted based on the empirical data. This will be done by constantly switching from data gathering to analysing. Analytical induction consist of four phases: incubation, confrontation, generation, and closing. In the incubation phase the researcher develops a theoretical framework based on the literature. In the confrontation phase, the provisional framework will be adjusted on the empirical data. In the generation phase new assumptions will be made, based on what is important.

These assumptions will be tested and compared again with new gathered information. In the closing phase a provisional answer is given on the research question. The third principle is the theoretical sensitivity. This is the power of the researcher to think about the data with a theoretical view (Bosch, 2012) e.g. 'sensitive to think about data in theoretical terms'. Sensitizing concepts help to do this. When researchers look at their data, they have to take the literature into account, showing that they are theoretical sensitive (Strauss, 1987).

4.1.2 Grounded Theory approach

The interpretative variation of qualitative research is used because the study has the purpose to understand the social truth from the eyes of the people who are researching it. This is in line with what the researcher and the participants in the self-inventory are doing. It is their interpretation of what they hear and see. Within the interpretative version there are different versions (Smaling, 2012). The Grounded Theory is originated as a reaction on the social-scientifically research those days, wherein the everyday reality was missed according to Glaser & Strauss (1967), to much descriptive and to less focussed on the declaring of a social phenomenon through theory forming (Have, 2004). Glaser & Strauss provided a methodology in which data became the most important in order to reach a theoretical description and declaration of a phenomenon (Glaser and Strauss, 1967). Within this process a theory would be developed based on systematic gathered and analysed information. The formed theory is suitable for the researched phenomenon, because it was derived from and supported by the empirical data of that specific environment (Have, 2004).

The Grounded Theory approach is derived from data, systematic collected, and analysed in the research process. In this method the data collection, analysis, and literature are in close connection (Bryman, 2008). Two elements are central within this approach: inductive and iterative. Inductive is already explained and aspired to form a theory of the gathered data. Iterative means that the process of gathering the data and the analysis of the data falls together. Meaning that after the data is gathered and analysed, the approach can be changed and then further data will be analysed (Bryman, 2008). For this project it means that after analysing the first case, the feedback gathered at the groups discussion will be used to change and improve the self- inventory tool before starting with the next case. These constant adjustments help to improve the inventory of the neighbourhoods, and also the self-inventory tool what in the end results in a decent tool for residents to make a self-inventory of their environment based on the idle capacity. The Grounded Theory is able to present a theory formed by data gathered during the research process. This process takes place in three steps; open, axial, and selective coding. This will be explained in the paragraph on data analysis (De Boer, 2011).

Not the full Grounded Theory approach will be used within this study, because it does not start without any theoretical considerations. There are already some theories available which are taken into account before looking at the empirical results.

So the Grounded Theory approach is used in a different/special setting. It starts with the theory, the research based view is used on how the city is seen and therefore the resources within the environment should be used in order to create collective value. The idle capacity are the resources and are described in the provisional concept. The types of idle capacity are used as the categories in the coding process. Interviews, group discussions and documents are used to gather new information on this topic. Within this respect the provisional concept can be changed/expanded. In the end both the provisional concept and the new information, will be connected and used to form a typology on urban business models.

4.1.3 Explorative research

The form of this study is explorative, because the results are unclear in the beginning. The results and feedback within each case will be taken into account to improve the setting for the next case. Meaning that the way to follow, in order to reach the end result, cannot be outlined within the start of the project (Bleijenbergh, 2015). Early literature on explorative research stated that reading literature of other researchers on that topic first, was not common. The same applies for a specific statement; only a global direction was appropriate. This perspective was changed over time, because of the goal of contributing on scientifically knowledge. The criticism of not taking the existing information into account is that researchers do not really gather new information (Boeije, 2016). To disprove this criticism, different approaches can be taken into account which use the information which is already gathered before the field research takes place. Within this project the literature read in advance is used to increase the theoretical sensitivity of the researcher, because knowledge of theories and expertise within the field of research is used in order to study the topic which improves the theoretical sensitivity (Timmermans and Tavory, 2012). Meaning, in this study, the resource based view and the idle capacity is used. The idle capacity is the sensitizing concept and will be used as the theoretical lens which gives direction to the researcher, but can also be changed or expanded (Bowen, 2006). Besides the used theory it is important to explore if there are other/new important phenomena or concepts to take into account and to explain (Lareau, 2012).

4.1.4 Case study

Explorative research can be done in different settings. In this research the 'case study' is used. This one takes different techniques into account to investigate a social phenomenon. It takes place in real life situations within an uncontrolled environment. It emphasizes a detailed contextual analysis of a limited number of events and their relationships. Case study is often used to examine contemporary real-life situations and provide the basics for the application of ideas and extension of methods (Yin, 1984). Applying to this study, different techniques are used within the investigation, namely interviews, focus groups, and document analysis. It takes place in neighbourhoods, which are uncontrolled urban environments. The research units are the five selected neighbourhoods, which gives a limited number of cases to investigate. These characteristics make this technique appropriate for this project.

The case study is criticized by the believe that the study of a small number of cases cannot offer grounds for establishing reliability or generality of findings. It is also criticized because of its use. It is only seen as an exploratory tool, but that is exactly the purpose of this study. So the criticism can be disproved by the use of this case study, namely explorative (Stake, 1995).

Case studies start with determining and defining the research question. Mostly these questions start with 'how' or 'why' and target a limited number of cases and their inter-relationships. A literature review should be used to assist in targeting and formulating a good research question. In the next step the cases are selected and the data gathering and analysis techniques are determined. Within this project multiple cases are used, and each case should be treated as a single one. The conclusion of each case separately can be used as information contributing to the whole study and will be combined in the end. In selecting cases a useful step is to repeatedly refer back to the purpose of the study and answer the research question. In this study cases are selected based on the accessibility and the requirement that they include collective activities (Soy, 1997). The criteria on the cases are shown in appendix 1 (Phases of the project – Phase 0).

Case study research is flexible, but when something is changed is has to be documented systematically, therefore the whole process is described in appendix 2 (Process description). After collecting, the data should be evaluated and analysed. Linkages between the research object and the outcomes with reference to the original research question should be made. The researcher should remain open to new insights. In the last step the report will be prepared (Soy, 1997).

4.2 Theoretical operationalisation

The analysis of this study has a inductive approached, by the Grounded Theory, with a deductive analysis scheme. Therefore a theoretical operationalisation is designed (Appendix 11: Theoretical operationalization) and can be used as the starting point of the analysis. The different types of idle capacity should be used as categories within the coding process.

The main concept of this project is the collective creation of multiple values within an urban environment. This will be done by taking the five or more different kinds of idle capacity into account and whether these are used within neighbourhoods. Configurations between some types of idle capacity could show a category to create a typology on urban business models. In operationalizing these, the last column of the operationalization, shows the indicators of how to measure them according to the literature of Jonker (2018). This is the only source of data and cannot be used as a scientifically proven theory.

4.3 Methods

For this project linguistic materials of people from the neighbourhoods are used, because they know the best what is happening there. The linguistic material will be generated by making use of interviews and focus groups. Besides these two primary data sources, one secondary data source is used, namely document analysis.

4.3.1 Qualitative interviews

Within interviews the interviewer is the measurement tool, which makes the interviewer an instrument of data collection. Therefore the data is mediated through this human instrument (Denzin & Lincoln, 2003). It is important that both parties, the interviewer and the interviewee, can benefit from the interview (Boeije, 2014). Semi-structured interviews are used. Meaning that the questions and topics are noted, but the structure is not fixed. When a question is answered it is important to go deeper in to what the interviewee has said (Emans, 2003). Listening to the interviewee is really important, the answers can be checked on three criteria: Was the answer complete, was it the answer to the question, and was the answer clear? (Gorden, 1980). Qualitative interviews are a good way to gather detailed information. The topic can be explored in much more depth than within almost any other method. The participants are able to share information with researchers in their own words and can form their own perspectives. They can also elaborate in a way that is not possible in other methods. Another aspect of the qualitative interviews is the body language which can be observed and the time it takes to answer a question which can give useful information (Denzin & Lincoln, 2003). Qualitative research also has some drawbacks. The most important drawback is that these interviews rely on respondents' ability to accurately recall any details about the circumstances, thoughts, opinions, or behaviours that are being asked about. What they say they do is frequently different from what they really do. Besides, it takes a lot of time for both the researcher and the participant (Esterberg, 2002).

The criteria for selecting the interviewees can be found in appendix 1(Phases of the project – Phase 1) and the questions of the interview can be found in appendix 4 (Interview questions). How the participants are gathered can be find in appendix 2 (Process description, persons involved) for all cases.

4.3.2 Focus group

A focus group is an interview with a group of residents about a specific topic and uses the social interaction between participants (Kitzinger, 1994). Although participants individually answer the questions, they are encouraged to talk and interact with each other. This technique is made on the notion that the group interaction encourages respondents to explore and clarify individual and shared perspectives (Tong, Sainbury and Graig, 2007). The participants discuss under the lead of the researcher. It is useful to have an assistant who is not part of the discussion, but takes notes and does observations (Gibson, 2007).

This study is done by only one researcher, an assistant is not available. Therefore the discussion is recorded and transcribed afterwards by the researcher, notes are not made during the discussion.

The instructions and the tool for the group discussion can be found in appendix 6 (Protocol group discussion). Within this study a self-inventory protocol is used. This one should be filled in by the participants individually. The tool will be used as direction for the discussion and can be found in appendix 5 (Protocol of the self-inventory). The group should consist of 4 to 12 people, making it small enough so everybody can do their saying, and big enough to exchange information and to get a good discussion. A physical meeting between the participants and the researcher, and not for example a skype meeting, is chosen in order not to lose non-verbal information (Boeije, 2014). Within the analysis it is important to take the process of the discussion into account. This will show on which topics was agreement and which topics were arguable. This is shown by the transcripts of the focus group (Carey, 1995) (appendix 9: Transcript focus groups).

A group discussion is a social phenomenon, and therefore gives a good representation of the social reality. Also needs to be taken into account is that the composition of the group, which can influence the outcomes (Boeije, 2014). This risk will be reduced by forming diverse groups of people. The criteria on the people involved can be found in Appendix 1 (Phases of the project – phase 2). How the participants are chosen within the cases can be found in appendix 2 (Process description, persons involved).

4.3.3 Document analysis

Document analysis is a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning around a specific topic. The analysis incorporates coding contents into themes and should be the same as how the focus groups and interview transcripts are analysed (Bowen, 2009).

Document analysis is a social research method and can be seen as an important tool of triangulation which provides a confluence of evidence what breeds credibility (Bowen, 2009). How many documents are needed cannot be said, the quality is more important than the quantity. Two issues should be considered before starting to analyse the documents. The first one is the issue of bias, in the author or creator of the document and the researcher as well (O'Leary, 2014). Within the interpretation subjectivity is always present and should be taken into account. This can be done by evaluating the original purpose of the documents (Bowen, 2009). The second issue is the latent content, referring to the style, agenda, tone or opinions that exist in the document which have to be kept in mind. Questions should be asked as: Who produced it? Why? When? (O'Leary, 2014). Also important is that 'documents should not be considered as necessarily precise, accurate, or complete recordings of events that have occurred' (Bowen, 2009, p. 33).

Two major techniques can be used for analysing the documents. The first one is noting the occurrences of particular words, phrases and concepts. This is the 'quantifying method', but is not used within this study. Here the 'interview technique' is used. Therefore documents are treated as respondents or informants which provide the researcher with relevant information (O'Leary, 2014). Thematic analysis is a form of interview technique and takes emerging themes into account and order them in categories used for further analysis. This is a useful form for the Grounded Theory approach and will be used within this study (Bowen, 2009).

Document analysis is chosen, because it is an efficient and effective way of gathering data, because these are manageable and practical resources. Documents are stable data sources, so these can be read and reviewed multiple times and remain unchanged by the researcher's influence or research process. In this project documents provide supplementary research data, making it a beneficial method (Bowen, 2009). It provides background on the projects which already exist in the neighbourhood. A drawback of document analysing as a method is that it is not primarily developed as answer to the question to investigate. So it will not perfectly provide all the necessary information required. Some provide only a small part and others define more than is useful. Another drawback is the subjectivity, this should be taken into account in order to preserve the credibility of the research (O'Leary, 2014). The criteria on the documents can be found in appendix 1(Phases of the project- Phase 3).

4.4 Data

The research units of this project are the urban neighbourhoods with interest in a different way of organizing their environment by working closely together and creating value with each other. The residents have to be closely involved with their living environment. When they have a strong connection, they are more motivated to invest in their neighbourhood. The data is gathered from the five selected neighbourhoods. To select the cases 'opportunistic sampling with accountability afterwards' is used, also known as 'convenience sampling' (Boeije, 2014). The cases are chosen on accessibility, with some small requirements. The convenience sampling is also the result of practical reasons as accessibility and feasibility of the neighbourhoods. It is easier to select one when there are already contacts inside the organization or neighbourhood, or links between what they are doing and the project, so it creates value on both sides. When using this method it is really important to be clear on how the participants are selected afterwards in order to estimate the value of the results (Matthews, 2005). This is done in appendix 2 (Process description, persons involved).

The extent of the sample depends on different factors. The first to take into account is the scope of the research question, which is the whole country within this study and thus asks for a big sample. Another factor is saturation. The research will be stopped when saturation is reached, meaning that analysing new cases do not lead to new information.

This is a requirement of the Grounded Theory approach, but this one is not used in their full definition. Leech and Onwuegbuzie (2015) give some guidelines on the extent of the sample based on the type of research. Within this project the case study is used and therefore three till five cases are appropriate. Because of the scope of the research question five appropriate, complete cases are chosen.

4.5 Data analysis

Analysing data by the grounded theory method is *"an intricate process of reducing raw data into concepts that are designated to stand for categories. The categories are then developed and integrated into a theory"* (Corbin, 1986). The analysis consist of three elements:

1. Unravelling of data and to order it in themes/ Open coding

This first element is to find out which topics exist in the data. Within the interviews and focus groups participants do not give just an answer to the question and do not think about the construct of how they give the answers. Sometimes they explain something in the beginning, what is going to be asked later. So the gathered data is disorganized, much more than within documents. The documents already have a well thought out underlying construct. To analyse these, the researcher will divide the documents in smaller pieces and then combine the ones, fragments or quotes, which belong to each other through the eyes of the researcher (Boeije, 2014). Based on the comparisons between the interviews, discussions, and documents the researcher decides that some fragments explain the same topic or theme. Sometimes different words are used, but the interpretation is the same. These fragments are summarized within one label, what is called the code for the research. Within this study literature is used in advance to the categorization of the coding process. It has to be kept in mind to be open to new codes and themes besides the ones coming from the literature (Boeije, 2014). This phase will result in a list with codes.

2. Elaboration of the themes and to discover what is important/ axial coding

The themes have to be clear before relationships can be made. The themes will be described based on the interpretations of the researcher. In the end of this step a provisional framework can be made (Boeije, 2014). The axial coding process is a set of procedures were the data are put back together in new ways after open coding by making connections between the categories (Strauss & Corbin, 2007). The goal is to integrate the codes around the central categories. Here it shows which categories are important and which will be described. New data will be gathered and the ideas of the former step will be tested by the new material (Wester, 1995). This phase is finished when it is clear which categories and sub-categories exist in the data, and what they mean. Themes or sensitizing concepts will appear (Miles and Huberman, 1994).

Within this study the themes were already known before by the idle capacity. Appendix 12 (Coding schemes) shows the coding process on these first two levels. Chapter five, the descriptive results, shows the meaning of the categories/concepts per neighbourhood.

3. Searching for patterns and integrating themes/ selective coding

This step is described as "*Selecting the core category, systematically relating it to other categories, and filling in categories that need further refinement and development*" (Strauss & Corbin, 2007). The focus is on the integration of the findings by making connections between the categories described in the axial coding. Different elements can be used as guideline for the selection of important findings (problem statement, literature and theory, research data, fascination, and actuality). Within this study the literature and the data is used in order to select what is important. Within the literature the sensitizing concepts, the idle-capacity, is used and can be criticized and adjusted with the gathered data. The use of the literature shows that the research is theoretical sensitive. The themes which will play a role in the research are not fully clear in advance. Researchers constantly check if their view on the topic is correct or if they are might be missing something (Wester, 1995). This step results in a description of the most important concepts. Different techniques and models can help to integrate the findings within the selective coding. One of the techniques to integrate and show the findings is to create a typology (Boeije, 2014). In creating a typology the researcher develops characteristics or criteria on which the types can be distinguished systematically (Zijderveld, 1990).

Within this study the first two steps of the coding process (open, axial,) will be done on level of the cases individually. The selective coding is done on an overarching level of all cases together. The first two steps are applied as follows: First the interview is coded, these open codes will be subdivided in the types of idle capacity so a ranking order exists. Then the focus group is coded and the codes of the interview are revised with those codes. The same applies for the codes of the documents, whether these are available, meaning that the documents are coded and the codes of the previous step are revised with these new codes. By doing this for all cases, each case gets its own coding scheme. These schemes are used and explained in chapter five 'descriptive results'. Later, in the analysis, the descriptive results will be compared to each other and an overarching scheme will be provided on level of the selective coding (Appendix 12: Coding schemes, selective coding).

4.6 The typology

A typology is an analytical tool in social science, also defined as an organized systems of types that breaks down an overarching concept into dimensions and types (Collier, 2012). This study has the purpose to create a typology on urban business models. This typology can be categorized as an explanatory typology, because it is all about exploring the urban environments on their resources, and not many information yet exists. Besides, only one dimension is constructed: the idle capacity. Therefore an unidimensional typology is used (Collier, 2012).

4.6.1 Interpretations of a typology

Typologies are traditionally seen as classification systems rather than a theory. Therefore Rich (1992) argued that a typology is a classification scheme and provides a use for ordering and comparing organizations, and clusters them into categorical types (Rich, 1992). Another theory defines typologies as essentialism, which is a theory of classification (McKelvey, 1982). Bacharach stated that typologies are more abstract than theories and are therefore limited to addressing the primary question asked by descriptive research. Therefore it is concluded that organizational typologies are theoretical devices which are mainly useful for categorization (Bacharach, 1989). This conclusion can be refuted by the statement that typologies are complex theories that are frequently misinterpreted. Most criticism is applied to the existing typologies and not to the typology on theory building. The problems with the existing typologies are the result of a misunderstanding about what typologies are, improper development, and a failure to take full advantage of the unique form of theory building (Doty and Glick, 1994). A proper definition of a theory is "*a series of logical arguments that specifies a set of relationships among concepts, constructs, or variables*" (Bacharach, 1989). Given this definition it is understandable that many theory building experts argue that typologies are not theories, but this can be refuted by the three arguments underneath.

First, typologies are different from classification systems. The terms classification systems and typologies are used interchangeable in many literature researches. This confusion has helped to conceal important differences among these tools. It is important to see these as different concepts. The classification scheme refers to the categorization of phenomena into mutually exclusive sets with a series of decision rules (McKelvey, 1975). A typology refers to conceptually derived interrelated sets of ideal types, and do not provide decision rules. Instead it identifies multiple ideal types, which all represents a unique combination of the attributes that determines the outcome (Doty and Glick, 1994).

Second, typologies meet the three criteria required for calling it a theory, these are as follows: The construct must be identified the relationships among these constructs, the construct must be specified, and the construct must be falsifiable. Starting with explaining the constructs in typologies, these contain two different kinds. First the ideal type, these are complex constructs that can be used to represent holistic configurations of multiple unidimensional constructs.

Those are intended to provide an abstract model (Blalock, 1969) and offer guidance to the construction of hypotheses (Weber, 1904). Each ideal type represents a unique combination of the dimensions. Then typologies also include unidimensional constructs, also known as the building blocks. These are the dimensions used to describe each ideal type in the theory (Doty and Glick, 1994). The second criteria is that a theory must hypothesize relationships among the constructs in the theory (Bacharach, 1989). The last criterion for considering typologies as a theory is the falsifiability. This means that the predictions associated with a typology must be testable and be subjected to disconfirmation (Cook & Campbell, 1979).

Third, typological theories are more complex than traditional theories, because they incorporate two levels of a theory, the grand theory, generalizes to all cases, and the middle range theories, restricted to the individual types. The grand theory is often forgotten, because this one is mostly implicit stated (Pinder & Moore, 1979).

4.6.2 Guidelines for developing typologies

The following guidelines should be taken into account in creating a typology:

1. It should explain the typologies grand theoretical assertion. This helps to clarify the intended goal of typological theories and reduces the level of confusion which now exists in the literature.
2. Typologies must define the set of ideal types completely. This one is difficult when it is about hybrid types, or a combination between the specified types are possible and may also be effective. The last one is of interest within this research. Five types of idle capacity are identified which are effective in creating collectively multiple values, but it is also possible that combinations between types could be valuable too. This threatens the falsifiability of the typology unless all of the additional types are identified.
3. The typology must provide a complete description of each ideal type using the same set of dimensions. So the typology should describe each type in terms of all of the constructs included in the theory and provides an estimation of the level on each construct that represents each ideal type best.
4. It should clearly state the assumptions about the theoretical importance of each construct used to describe the ideal types.
5. The typological theories must be tested with conceptual and analytical models that are consistent with the theory. An appropriate test to do this is to examine the extent to which deviation from the ideal types predicts the dependent variable which is specified in the grand theoretical assertion (Doty and Glick, 1994).

4.7 The role of the researcher

The researcher has an important role within qualitative research, because the researcher itself is part of the measurement instrument (Denzin & Lincoln, 2003). This means that data is mediated through this human instrument. To fulfil this role it is important to give information about the human instrument in order to understand their interpretation. Relevant aspects of the researcher himself, e.g. his assumptions, his expectations, and his experiences should be described (Greenbank, 2003). The role of the researcher is etic within this project, meaning that there is no participation. An outside view is used which makes the researcher more objective (Punch, 1998). In the data collection the researcher has to ask probing, open questions, he then listens and thinks, and then asks more questions to get to a deeper level of the conversation (Simon, 2004)

Qualitative research uses a flexible method of data gathering. By using a flexible method, the researcher is better able to adjust to the situations of the research, so that the researcher can investigate what he wants to investigate better. This has a positive effect on the validity, but a negative effect on the reliability. It is difficult to do exactly the same field research for a second time. It is also practically difficult, because the situation and circumstances in which the research is done, mostly changes after some time (Seale, 1999). It is the role of the researcher to notice and justify all decisions and choices made, in order to get the reliability as high as possible. Another point of attention within the role of the researcher is the way in which data is analysed. The process is not standardized and the analysis is not ordered in a linear way towards the conclusion. The involvement of the researcher can make it easier to get to know the meanings and interpretations, but it can also interrupt the critical and theoretical view. This together makes it difficult to check whether the interpretations are correct and do not distort the subject. Because of the high influence of the researcher, it can push the research into one direction, unconsciously, and makes it possible that observations, findings, and interpretations systematically go into one direction. This forms a threat for the validity of the research. It is difficult to control this, because there is not something or someone who is controlling the researcher, and what he or she is doing is generally accepted as a requirement for calling the research scientifically (Boeije, 2016).

The last attention point is that people mostly change their behaviour when they know that they are part of the research. This is called reactivity (Patton, 1999). When this happens the phenomenon under research changes as result of the research and forms a threat for the validity. This threat is quite low within this project, because people will not be observed, but only questioned. Besides, the researcher can control this by comforting the people involved. This is especially important in the focus group, because it is common to give socially responsible answers within groups. Therefore it is important that the researcher and the people involved are trustworthy, that the researcher observes how the people react on each other, and that they say what they want to say and not get affected by other people opinions (Boeije, 2016).

In conclusion, the role of the researcher is valuable and really important within qualitative research. For making the role of the researcher as reliable as possible it is important to record all actions, decisions, and choices made, and explain and justify these in detail. This is done in appendix 2: Process description.

4.8 Quality of the research

In science, a good research is about objectivity. Objectivity can be seen as justifying the object of the research. Meaning that researchers strive to gather as much information as possible on the topic of research within the context of the research question (Smaling, 2012). Thus the findings and conclusion have to be a good representation of the social reality (Tijmstra & Boeije, 2011). Objectivity can be received by reliability and validity.

4.8.1 Reliability

Reliability is the precision of the methods of data gathering and the measuring instruments. When the research is reliable, a repetition of the process should lead to the same outcomes. Thus reliability means that the research should be influenced as little as possible through faults by chance or by non-systematic faults. High reliability can be achieved by giving a good explanation of the decisions made in the research (Boeije, 2014).

Feedback by the participants gives the chance to check the information on correctness, and results in higher reliability. This can be achieved in different ways (Cutcliffe & McKenna, 2002). In this study transcripts are sent to the interviewees, so they can check if the interpretation was correct. If that is not the case, they can add and/or change some information until it is recorded what the person wants to tell. This will not work for the focus groups, because these groups consist of around five people and it will be way to complex when they all make adjustments or change some information. Besides, this is also a group process and cannot be checked by persons individually. Reliability is also met by transcribing all interviews and group discussions so there should be no doubt about completeness and correctness. Besides, the coding processes and analyses should be clear outlined. This helps people, who are not involved in the process, to get a good picture of the project according the interpretations, conclusions, and findings (Netwerk Kwalitatief Onderzoek, 2002).

4.8.2 Validity

Validity is measuring what you want to measure. It is about systematic faults which can influence the results of the study. In this case, the interpretation of the researcher can be a big issue. To score high on validity, researchers have to stay in close contact with the field of research, and have to get knowledge of the field in the right manner. When doing this, they can study meanings and interpret these as good as possible (Boeije, 2014). Validity exists in different forms. For internal validity, it should be checked if the differences between the neighbourhoods are not influenced by factors outside the research, thus systematic faults should be limited.

To get the internal validity as high as possible, it is important to set strict boundaries within the project and be sure that all the elements of the research are operationalized, to get a complete overview. The participants of the focus group have to give a good representation of the urban environment where the conclusions will be drawn from (Yin, 2014). The internal validity is challenged within this study by constantly changing the protocol for the self-inventory of the neighbourhoods. These adjustments and improvements are required within exploratory research and appropriate in order to develop a self-inventory tool. To get the internal validity as high as possible, all changes and decisions made in the study will be recorded and explained properly (Appendix 2 : process description).

External validity is met when the collected information can be generalized to the whole population. Within this study, the selected cases are randomly chosen within The Netherlands, and consist of only five cases. Only the ones investigated are taken into account. Therefore the generalizability/ external validity is low for this study. This should not be seen as a big problem, because of the exploratory design. Therefore the research is not generalizable to the whole population, and statements and conclusions should be made carefully (Baarda, de Goede & Teunissen, 2005). External validity is often replaced by transferability within qualitative research (Netwerk Kwalitatief Onderzoek, 2002). This will be achieved by a detailed description of the research context. The role of the researcher and how the context provides the ability to answer the research question should be outlined. Within the project, this will be done by writing down the thoughts and actions of the researcher, so the role of the researcher would be outlined within the project.

Construct validity is met when it really measures what you want to measure (Baarda, de Goede & Teunissen, 2005). This is covered by really thinking out about what you want to know first, before making the questionnaire and protocol. Therefore ask yourself what is important for the research. During the interviews the questions should be asked in a clear way. Suggesting, emotional or ethically loaded questions should be avoided. Within the interviews, some requirements are set in order to meet construct validity: Ask open questions, listen carefully, build in silence-moments to let the interviewees think and give them the chance to go more deeply in a specific aspect. Besides, ask further on what the interviewee says, but keep holding on the theme within the talk (Bleijenberg, 2015).

4.8.3 Triangulation

Within using the three methods of data gathering, triangulation is used. Concretely meaning that there are more measurements from different perspectives. For this research 'method triangulation' is used, therefore more than one data source is taken into account (Bryman, 2008). All methods have weaknesses. By using different methods, the weaknesses will be compensated. This is a form of getting a higher reliability in which the measurements will be repeated with other methods.

It also gives a higher score on internal validity. Different methods show different elements and points of view on the topic and thus give a broader insight what improves the validity (Boeije, 2014).

A negative effect of triangulation is that different methods result in different kinds of data which makes the comparisons difficult. This is the case when one method goes in a whole other direction than the other one. It is important to think about what this means exactly for your analysis and which method should be seen as most important and thus as decisive (Mason, 2002). When this happens in this project, the focus group always should be seen as decisive. This one is chosen as most important, because these groups consist of people who live in the neighbourhood. It is assumed that they know best what is happening in their environment. The interview with the district director can be seen as an introduction and the document analysis as a supportive tool.

4.8.4 Limitations and ethics

In this chapter the limitations, criticisms, and difficulties appeared during the study or the difficulties found afterwards will be explained, followed by some guidelines to guarantee an ethical manner in which the study is done.

Limitations

Within this research some elements became difficult to gather or difficult to do in practice. To start with the document analysis. In only three of the five cases some documents, regarding this subject, were available, mostly in small extent. The thought, which is also confirmed, is that the reason for this is that it is about resident initiatives and they are not required to organize anything by protocols and according to strict rules, like the government or companies have to (Appendix 8: Transcript interviews, Oranjewijk, A. van der Steen – M. Komcuk). Therefore papers are not that important here, but when it is documented what the neighbourhoods do, much more oversight is gathered and the residents will better know what happens in their environment and better connections can be made between the different activities and projects (Appendix 8: Transcript interviews, Sparrenburg, Boschveld).

Another limitation appears within the gathering of the cases. Most managers were afraid that they could not get the cooperation of the residents. Most of them explained that there were already some projects within the neighbourhood and therefore the pressure on the residents was quite high, therefore completing the protocol seemed to take too much time. Time investment was nearly always the reason that neighbourhoods did not want to participate. Afterwards when the participants were asked, nobody complained about the time it took them to participate.

Ethics

The first important guideline to handle ethically, is the informed consent. This means that people involved have to give permission for their participation after the researcher has informed them clearly and correct. Participants always can stop their participation on the project (Boeije, 2014). Debriefing also plays an important role. When the project is finished, all people involved will get the results of the study. In this way they will be informed about the information they have given and how it was used within the project. Another important guideline is about the confidentially and the guarantee of privacy. There should be no access to information for unauthorized people and the anonymity of the people participating in the project has to be discussed with the participants (Boeije, 2014).

The interviewees and the participants of the group discussions will be questioned. The information they give is not really personal or sensitive, but the involved people always have to be protected. So before the interviews and discussions start, the interviewees will be asked if it is ok to make a sound recording and to make notations of the conversation. If that is ok, all information they give, will come in the appendix. In this study the participants are anonymized by only using the first letter of their first- or last name (Yin, 2014).

5. Descriptive results

Within this chapter all analysed neighbourhoods will be discussed regarding their existing types of local idle capacity. The demographical and general description of each neighbourhood can be found in appendix 3 (Information of the neighbourhoods). Open and axial coding is used to analyse these neighbourhoods separately from each other (Appendix 12: Coding schemes, open and axial coding). This is done by the information gathered from appendix 8 (Transcript interviews), appendix 9 (Transcript focus groups) and the available documents.

5.1 Appeltern

The general information of Appeltern can be found in Appendix 3 (Information of the neighbourhoods, Appeltern). The following results are based on the interview and focus group within the neighbourhood, shown in Appendix 8 (Transcript interviews, Appeltern), Appendix 9 (Transcript focus groups, Appeltern), and the report 'Dorpsplatform' (2017).

Material idle capacity - Material idle capacity consists of all flows of waste in the environment. All garbage in the village Appeltern is separated including paper, plastic, glass, green garbage and clothes. However, for the leftover food there is no separate initiative within the village, but in the nearby village of Rivierenland, a foodbank exists. According to S. (Appendix 9: Transcript focus groups, Appeltern) individuals can donate their (leftover) food, e.g. their Christmas gift or something else, and the foodbank gives it to poor people. To what extent the residents of Appeltern are using this initiative and to what extent they still waste their food remains unclear (Appendix 9: Transcript focus groups, Appeltern). Therefore it is unclear to what extent there is still waste, although there is not an initiative within the village to minimize this. So the use of the material idle capacity is normal, because the separation is well organized nevertheless the lack of initiatives.

Spatial idle capacity - Different locations could be better used in Appeltern. The first one are the unused building blocks of two locations. These cannot be used at the moment, because of issues with the owner of one location. When the times come that the locations can be used, the planned houses will be built according to the preferences and needs of the residents of Appeltern, explained A. (Appendix 8: Transcript interviews, Appeltern). There are also places which are only used part-time, e.g. only mornings or evening. In Appeltern, different buildings are only used by evening like the De Schuur. De Schuur is a community building and is used for different activities like meetings of local sports clubs and other local gatherings. During the day, De Schuur is closed and so it has some potential for creating more value when using it also by day. The same applies for the tennis club, which is only used a couple of hours in the evening. This also gives some potential to do something else there, the tennis building is quite new and in very good condition (Appendix 9: Transcript focus groups, Appeltern).

Two buildings in the village are old and unused. This is the old school, but there is already a plan to break it down and build some new housing with the ideas of the residents (Dorpsplatform, 2017) (Appendix 8: Transcript interviews, Appeltern). The second unused building is the old concrete factory. Besides the buildings there is also a grass area around De Schuur which is still unused. According to I. (Appendix 9: Transcript focus groups, Appeltern), this area could be used for different outdoor activities. Although not realized at the moment, there are some ideas to organize sport activities by the after-school care service. A second place, mentioned by one of the participants of the focus group, is 'De Gouden Ham', an area on the river Meuse. This beach was very popular many years ago by mothers who wanted to swim with their children on a hot day. Nowadays, part of this location is already in use by an outdoor company, but there is still unused potential to accommodate other initiatives (Appendix 9: Transcript focus groups, Appeltern).The roof of the sport hall has the potential to serve as a community solar panel.

All these unused or not fully utilized places create high potential for more value within this type. Besides, they really take into account the needs and wishes of the residents. Appeltern also has an active group on spatial planning which makes the environment nicer and more attractive (Dorpsplatform, 2017). Furthermore there are already some buildings used for other purposes; the church is used for apartments and offices, and the steam pumping engine was changed into a museum organized by local citizens with disabilities (Appendix 9: Transcript focus groups, Appeltern). Although there is much potential, this idle capacity is utilized rather well.

Social idle capacity - The third type of local idle capacity is the social capacity. The potential, but also the use of this social capacity is quite high, due to the aging population and the village platform. The largest group of the population consist of the older people and only 10% of the population in Appeltern is young. This aging trend will continue the coming years (Dorpsplatform, 2017). Therefore the seniors form a large group in this village, the positive side of this phenomenon is that it creates a high potential to do volunteer work. This potential is already proven by the village platform, also the younger people are highly involved here. There are many groups and all the participants join in freely (Appendix 9: Transcript focus groups, Appeltern). At the moment there are six active theme groups in Appeltern, namely: building and living, youth, landscape, safety, services, care and marketing, PR and communication. All these groups are organized by and consist of residents of Appeltern, who are active within their specialization (Dorpsplatform, 2017). An explanation of the different tasks the participants perform in this platform can be found in Appendix 8 (Transcript interviews, Appeltern) and in the rapport of the village platform (Dorpsplatform, 2017).

Both the focus group (Appendix 9: Transcript focus group, Appeltern) and the interviewee (Appendix 8: Transcript interviews, Appeltern) indicate that they are surprised whenever, new initiatives are organized, people always show up with good knowledge of that topic because it is related to their study or work, and they can use their competences within the project. This happens over and over again so it can be assumed that the residents in Appeltern have knowledge and competences, derived from their study and work, which they want to share with others. I. (Appendix 9: Transcript focus group, Appeltern) also explained that in the field of sports, there are also volunteers who want to share their competences and teach children or youth, e.g. gymnastics or football. she also explained that there is an initiative for disabled persons who have poor access to the market, 'The Doederij'. The Doederij is a day care facility for disabled persons. It is located in the steam pumping museum and in exchange for using that building they run the museum (Appendix 9: Transcript focus groep, Appeltern).

As seen above, the social aspect is highly used within this village. The large number of volunteers working in different theme groups of the platform, show that they are willing to do something for the environment and for the other residents.

Institutional idle capacity - Public transportation, represented by the local bus, is the only example of institutional capacity. This means of transportation is almost unused by the residents. Within the focus group different statements were made about this subject. An important one is that almost all people in this village have their own car, and therefore they do not need public transport. I. (Appendix 9: Transcript focus groups, Appeltern) also explained that the bus does not fulfil the needs of the villagers, because the bus route has the endpoint in the municipality 'West Maas and Waal'. According to A. (Appendix 9: Transcript focus group, Appeltern) the public transport will be used more often when it goes towards Druten, but still, almost all people have their own car. Therefor it is questionable whether a neighbourhood bus is needed in Appeltern.

Another form of public transportation in Appeltern is the sharing car project, tested in a pilot. V. (Appendix 9: Transcript focus group, Appeltern) explained that, on average, this car was used only 11 times a month, which is a really small utilization of the car. It could create much more value when it is more utilized. If this is possible is questionable, it seems impossible to make a success of the sharing car (Appendix 9: Transcript focus groups, Appeltern). No initiatives exist in utilizing the institutional idle capacity to a higher extent.

Financial idle capacity - The residents in Appeltern invest in their village by indirect growth funding. This is done by the possibility to buy, for a small amount of money, a year subscription for 'De Tuinen'; the biggest garden park of The Netherlands. The money the residents pay is then sponsored to the village platform and they can do with it what they think is best for the village.

This is not mandatory, but most residents participate, according to I (Appendix 9: Transcript focus groups, Appeltern), because of their willingness to help and support their village. Another phenomenon in the past that showed the willingness of the residents to invest in their environment was with the distribution of bonds. The residents invested in a project and received their investment back the years after the investment (Appendix 9: Transcript focus groups, Appeltern). This shows that there is some kind of financial idle capacity in Appeltern and most people are willing to invest in their environment.

Conclusion - The descriptive results of Appeltern show that this village is actively participating in nearly all aspects and is especially focussed on the social aspect. Their use of the social idle capacity is extremely high, as shown by the high participation in the theme groups of the village platform. Besides, the material, spatial, and financial idle capacity is also used within the village.

5.2 Sparrenburg

The general information of Sparrenburg can be found in Appendix 3 (Information of the neighbourhoods, Sparrenburg). The following results are based on the interview and focus group within the neighbourhood, shown in Appendix 8 (Transcript interviews, Sparrenburg) and Appendix 9 (Transcript focus groups, Sparrenburg)

Material idle capacity - Within the neighbourhood the flows of waste are separated, including paper, glass, plastic, and green, but it is really diverse to what extent people are doing this. H. (Appendix 9: Transcript focus groups, Sparrenburg), stated that plastic is not separated, but then the result of the focus group show that the residents have to do this individually. People have to collect it by themselves and then take it to a central collecting point at the supermarket. Besides, T. and M. (Appendix 9: Transcript focus groups, Sparrenburg) explained that they have so much plastic waste that it should be better to have a container for the plastic waste instead of the normal grey container. They are convinced that when all people separate their waste appropriately, the grey container becomes unnecessary. It will then be more efficient to bring that small proportion of house hold garbage to a collecting point. Especially M. is convinced that the material waste could be much better organized by the residents, he states that too often the grey containers are overloaded and that is a sign of bad separation of waste. In his opinion, Sparrenburg can improve much more on that aspect (Appendix 9: Transcript focus groups, Sparrenburg).

A collective initiative to minimize the food waste is not present in the neighbourhood, but individual initiatives exist. R. (Appendix 9: Transcript focus group, Sparrenburg) highlighted that, in her part of the neighbourhood, it is considered normal to give your food to your neighbours when someone goes on holiday.

This indicates that the residents of Sparrenburg are quite economical. A. (Appendix 8: Transcript interviews, Sparrenburg) explained in the interview, after Christmas, the neighbourhood children collect the Christmas trees and an event is organized where nearly the whole neighbourhood is present.

Objects like tables, BBQs and other practical materials which are not continuously used by the residents, can be shared with other people in the neighbourhood through the local app 'borrow and share.' A. (Appendix 8: Transcript interviews, Sparrenburg) sees this as a good way to share materials/object/items instead of everyone buying those items and only using it once a week or month. Unfortunately, the ambassadors of the neighbourhood explained that this app is not used very often by the residents (Appendix 9: Transcript focus groups, Sparrenburg). Therefore it is shown that there are some initiatives, but still improvements could be made.

Spatial idle capacity - Sparrenburg is the greenest neighbourhood of 's-Hertogenbosch with approximately 5.000 trees (Appendix 8: Transcript interviews, Sparrenburg). These trees also have some negative side effects. Their presence reduces the light intensity, causing the rooftop solar panels to function ineffectively. Also, the proximity of the trees to the houses can be dangerous. According to B. and H. (Appendix 9: Transcript focus group, Sparrenburg) most residents think it is a good idea to cut down the trees. Then, more value can be created by the solar panels on the roofs and the places where the trees were cut down can be used for other purposes.

An natural phenomenon what Sparrenburg has in overcapacity, is rainwater. This results in flooding and nuisances, due to the urbanisation and all the threes which are obstructing the gutters and the sewage system. This problem can in part be resolved by cutting down the trees. Besides, T. (Appendix 9: Transcript focus groups, Sparrenburg) added that a project is just started, within her part of the neighbourhood, with the aim of returning the rainwater to the local environment

In the neighbourhood there are no unused places, because all places which were previously unused are redesigned as playing fields. Now every part of the neighbourhood has its own playing field which can be used for different sport activities by the children and adolescents living within that part of the neighbourhood. Looking at places and buildings in the neighbourhood, all are fully used except for the roofs (Appendix 8: Transcript interviews, Sparrenburg). In some parts of the neighbourhood there are lots of roofs with solar panels due to the ideal circumstances. In other parts of the neighbourhood, no solar panels are found, mainly, because it is too expensive for the people living there. Apart from this financial aspect, the trees are preventing the sunlight from reaching the solar panels. As such, they are not effective (Appendix 9: Transcript focus groups, Sparrenburg). A. explained in the interview that the plan is to organize this collectively at the waste landfill (Appendix 8: Transcript interviews, Sparrenburg). In de focus group M. came up with the idea to make green roofs of the flat roofs.

By doing this, it creates value for the neighbourhood with the following advantages: it purifies the rainwater, it isolates the houses and it perks up the environment (Appendix 9: Transcript focus group, Sparrenburg). In conclusion, the roofs can potentially create value in different ways.

There is one old school which is not in use anymore and therefore can be used for other purposes. A. stated that he wants to have this building, or a part of it, to create a community centre for the residents. By doing this, different social activities can be organized (Appendix 8: Transcript interviews, Sparrenburg). The participants of the focus group stated that, in their opinion, this is an impossible project (Appendix 9: Transcript focus groups, Sparrenburg). At the moment, Sparrenburg is occupied with a large project what takes place once every forty years, the revitalisation of the neighbourhood. The residents will participate in this project; by giving their opinion on elements that need to be changed of must be available in their neighbourhood. In that way, their neighbourhood will be vitalized.

In conclusion, in this neighbourhood the spatial idle capacity is quite well used, since there are almost no places which can be used more effectively. Besides, there are different projects present to improve the environment like the rainwater project, the revitalisation, and the playing fields which are created from unused places.

Social idle capacity - The income of the residents in the neighbourhood is above average (Appendix 8: Transcript interviews, Sparrenburg), but also poorer people are living in the neighbourhood, e.g. the rental social housing in de Meijerijhoeve. People with distance to the labour market are living there and could participate in volunteer work or in projects within their environment. H. (Appendix 9: Transcript focus groups, Sparrenburg) stated that the participation of those people in projects never succeeded in the past, showing that there is a lack of support or willingness to participate. Besides, Sparrenburg is a diverse neighbourhood with both younger and older people. Apart from the people in the social rental housing, senior citizens are potentially an important group to participate in projects and volunteer work. M. (Appendix 9: Transcript focus groups, Sparrenburg) concluded that older people have the willingness to do something, but there are no projects to participate in. When looking at spontaneous actions and help, e.g. preparing food for people who are ill, or helping others with transport or something else, R. and M. (Appendix 8: Transcript focus groups, Sparrenburg) concluded that this definitely exists in almost all parts of the neighbourhood. Only in the Bremhoeven area, some organized initiatives, like walking tour at night, creative groups and computer lessons are organized by the residents. Also, an initiative on neighbourhood care assistance is present (Appendix 9: Transcript focus groups, Sparrenburg).

Many connections exist within Sparrenburg. There are connections between the residents and their ambassador and between the ambassador and the neighbourhood council, who has a wide and diverse network in organizations and businesses. Sparrenburg is also connected to the school, because of lectures the residents give to the children about their work and experiences. These lectures are organized four times a year and are also a manifestation of volunteer/ social work (Appendix 8: Transcript interviews, Sparrenburg). In conclusion, there is not much organized on the social aspect, since there are almost no projects, only some small initiatives in some parts or by some residents themselves. The number of initiatives differs in the neighbourhood. Although the connections, the small initiatives, and the projects in the Bremhoeven show that this type is utilized.

Institutional idle capacity - The only form institutional idle capacity which exists in Sparrenburg is the public transportation. This is a bus route which is underutilized (Appendix 9: Transcript focus groups, Sparrenburg). Most of the time, only three or four people are using this bus line, mainly because nearly all residents have their own car or are using the rail system, according to R. (Appendix 9: Transcript focus groups, Sparrenburg). M. came up with a solution for the underutilisation, namely to use smaller busses to optimize the capacity (Appendix 9: Transcript focus groups, Sparrenburg). However, there is not yet an initiative for using the institutional local idle capacity, so the application does not exist.

Financial idle capacity - The willingness of the residents to invest in their neighbourhood is present, according to some participants of the focus group. H. and B. stated that they are willing to invest in cutting down some trees in their environment. Also, B. stated that he thinks that, when a good project or initiative is organized, there will be enough people in Sparrenburg who are willing to participate, especially if it adds value to their living environment. The other ambassadors agree with this (Appendix 9: Transcript focus groups, Sparrenburg). Therefore the assumption can be made that the willingness to invest is present, but the financial idle capacity is unused in Sparrenburg.

Conclusion - The description of the results of the focus group and interviews of the residents of Sparrenburg show that this neighbourhood is active with regard to several different aspects. The material idle capacity is used a bit more than just separating the materials, because of the 'borrow and sharing' app and the Christmas tree combustion. The spatial idle capacity is used to a high extent. There are almost no places which could be used in a more effective way, and there are already several projects present, planned or completed, with the aim to improve the environment. The social idle capacity is used, but to a relatively low extent. In conclusion, Sparrenburg is active in utilizing the spatial local idle capacity, but also uses the material idle capacity and the social idle capacity to a lesser extent.

5.3 Oranjewijk

The general information of the Oranjewijk can be found in Appendix 3 (Information of the neighbourhoods, Oranjewijk). The following results are based on the interview and focus group within the neighbourhood, shown in Appendix 8 (Transcript interviews, Oranjewijk) and Appendix 9 (Transcript focus groups, Oranjewijk).

Material idle capacity - All garbage is separated, some are organized by the municipality and others on individual basis, as stated by H. (Appendix 9: Transcript focus groups, Oranjewijk): batteries, cartridges, garden waste and so on. In some places, people dump their waste on the street, especially in the playing fields. Y. (Appendix 9: Transcript focus groups, Oranjewijk) explained that, once a month, a group of residents, including some children, walk through the streets together and pick up the waste and by doing so, are cleaning the neighbourhood. Looking at the food, it is not obvious to what extent it is wasted, but it can be assumed that the amount of food waste is quite low. This was stated by M. (Appendix 8: Transcript interviews, Oranjewijk) based on the assumption that the income of the residents is below average. As a result of this, they only buy what they really need. Also, because of the number of residents of Turkish and Moroccan origin, who not allowed wasting any food, because of their religion, H. explained in the focus group (Appendix 9: Transcript focus groups, Oranjewijk). These residents give their left-over food to animals, such as geese and ducks. However, this is forbidden by the municipality.

On the other hand, a foodbank is present in the neighbourhood. Residents of Veghel, as well as people not living in the municipality, can make use of this provision once a week (Appendix 9: Transcript focus groups, Oranjewijk). Another initiative present in the neighbourhood, is the jumble market where goods, which are not used anymore, get a 'second life'. This means that they generate more value because it is used for a longer time. Instead of putting it away it is sold and others can use it again (Appendix 8: Transcript interviews, Oranjewijk).

So the material idle capacity is quite well used within the neighbourhood. There are different initiatives used to clean the streets, collect the garbage and separate it, to make the food waste as low as possible, and to use toys and other goods once again.

Spatial idle capacity - The Oranjewijk is a new built neighbourhood and consists for 95% of rental housing (Appendix 8: Transcript interviews, Oranjewijk). Nearly all the places and buildings are functional and almost completely utilized. At the centre of the neighbourhood, the community house is located, but because of issues with the previous neighbourhood council, it is now owned by the municipality. The Oranjewijk is fighting hard to regain ownership of this community house (Appendix 8: Transcript interviews, Oranjewijk).

H. (Appendix 9: Transcript focus groups, Oranjewijk) also stated that he represents all residents when he says that the residents want it back as a community house and use it to connect the residents, organize events, also for the elderly. By doing this, they hope to create more cohesion within the neighbourhood. This community building is now for 75% in use by the foodbank. This means that the community house is almost completely used, but in another function, and therefore it does not create much value for the environment (Appendix 9: Transcript focus groups, Oranjewijk).

During the restructuring phase, it was discussed to place solar panels on the roofs of the rental housing. However, this plan was not executed because of the high investment costs (Appendix 9: Transcript focus groups, Oranjewijk). Instead of solar panels, solar collectors were used and placed on the rental houses. These houses are built within A++ isolation and therefore economical and energy-efficient. The old school was not part of the restructuring, because it was built by a well-known architect from Veghel. The old school will have a new function by making 21-22 apartments within it. This project should be realized in the end of 2019 (Appendix 9: Transcript focus groups, Oranjewijk). Right in front of the old school, a playground for children is situated. This playground can also be used for outdoor activities but this playground has to be restructured because of the new housing facility. H. explained that, on this playground, eight new parking spaces are foreseen (Appendix 9: Transcript focus groups, Oranjewijk). Some residents of the Oranjewijk participated in the decision procession restructuring. During that process, they tried to maintain the playground in its original function. (Appendix 9: Transcript focus groups, Oranjewijk).

It can be concluded that the spatial idle capacity exists in the neighbourhood to a low extent, but it is quite well utilized. Except for the community house, all buildings and places are used to its full extent and as such creates, as much as possible, value for the neighbourhood. The optimal utilization is also achieved by the restructuring of the neighbourhood some years ago.

Social idle capacity - As stated before, residents of this neighbourhood are mostly quite selfish, they do not feel connected to each other and it is difficult, if not almost impossible, to find volunteers for projects or initiatives (Appendix 9: Transcript focus groups, Oranjewijk). Lately there has been a research project to study the knowledge and experiences of the residents with the aim to develop an inventory on the willingness to share their knowledge and help others, but the municipality was unable to reproduce the results of this study concluded H. (Appendix 8: Transcript interviews, Oranjewijk).

The residents of the Oranjewijk have a background of more than fifteen different cultures. This could be used to organize multicultural events like a food festival. This is just an example of how the multicultural diversity could be used in creating value and bringing the residents together. However, until now, this diversity is unused (Appendix 9: Transcript focus groups, Oranjewijk). Currently, every event and activity in the neighbourhood is organized for children. These events are mostly organized by the same people.

Only last year, some residents from the neighbourhood had organized 'Koningsdag', a public holiday to celebrate the Kings birthday, explained M. (Appendix 8: Transcript interviews, Oranjewijk). The Foundation Oranjewijk wants to organize more social events, also for the elderly, but this seems impossible without the full utilization of the community house (Appendix 9: Transcript focus groups, Oranjewijk).

With the description of the social aspect it could be concluded that it is quite impossible to organize activities or projects within this neighbourhood, because of the absence of full utilization of the community house and the absence of willingness and motivation of the residents to connect and participate as volunteers.

Institutional idle capacity - There are no existing institutions in the Oranjewijk, therefore it is obvious that the institutional idle capacity cannot be used.

Financial idle capacity - For now there are no initiatives based on the savings of the residents and it is expected that residents are not motivated to participate. Also, H. explained that the investment will be high-risk in this neighbourhood without any connections or cohesion and for people with a lower than average income (Appendix 9: Transcript focus groups, Oranjewijk).

Conclusion - It can be concluded that the application of the spatial idle capacity is quite high within this neighbourhood, partly because of the restructuring. Besides this high application, the material idle capacity is also used to a high extent, because of the different initiatives around this subject. The application of the social idle capacity is present, but only to a low extent and is present by a small group of the whole neighbourhood. It could therefore be qualified as negligible.

5.4 Boschveld

The general information of Boschveld could be found in Appendix 3 (Information of the neighbourhoods, Boschveld). The following results are based on the interview and focus group within the neighbourhood shown in Appendix 8 (Transcript interviews, Boschveld) and Appendix 9 (Transcript focus groups, Boschveld), and the reports: 'Jaarverslag 2017' (Buitink, 2018) & 'Maatschappelijk aanbesteden in Boschveld'(Copernikker, 2017)

Material idle capacity - Within the neighbourhood, all waste is separated by the municipality, but only not the garden waste. The residents have to bring it to the bio organic waste recycling area and by doing so it creates value to the local ground, as explained by K. (Appendix 9: Transcript focus groups, Boschveld). Looking at food, it can be concluded that bread is the most wasteful item of food.. The residents give it to ducks and other animals, but by doing so, a big me is created. When looking at shops, there are some initiatives to discourage this waste of food, mentions H. (Appendix 9: Transcript focus groups, Boschveld) the owner of the Turkish supermarket places the food, almost passing its expiration data, in front of his shop where people in need can take it for free.

Besides the waste, Boschveld recycles a lot of different things, e.g. repairing old items. For this purpose, the co-operation Copernikkel collects books in order to give it to other interested readers, gathers wood from the trees in the city(called city wood) and used it to make furniture for the BBS (Bossche Brede school). The sewing club, 'Naai Meet-up', uses old cloths, clothes and other items to make, e.g. new clothes or bags. Making bags from old clothes was a special project which was initiated in the project 'Bags against plastic'. Another project is 'De Vrije PC' where people donate their old, broken down computer to this group. The members of the group will repair the computers and afterwards, the computers are donated to the poor people in the neighbourhood. A similar project, but with bicycles, is 'De Fietswerkplaat'. Old cycles are repaired and then donated to the refugees in the neighbourhood. This project also has an important social aspect, what will be explained in the next part (Appendix 9: Transcript focus groups, Boschveld).

Overall, the neighbourhood uses the material idle capacity to a high extent, especially the items such as books, clothes, cycles, computers et cetera. Because of the repairing and reusing, those materials and goods are more completely used, having a longer lifespan than they normally would have.

Spatial idle capacity - In the whole neighbourhood, there is only one terrain which is unused, the Michelin terrain. It is unused, because it is polluted. The rest of the terrains and buildings in the neighbourhood are in (temporary) use. There is also urban agriculture in the neighbourhood, within the Boschveldtuin K. explained in the focus group (Appendix 9: Transcript focus groups, Boschveld). This garden is also more completely utilized by organized activities such as BBQ's and workshops. A number of buildings had different uses over the years or will be used for other purposes in the future. The old school will be demolished and on this site, new apartments will be built. The parish house is not used as such and in the future new houses will be built on that spot. At the moment, the building is used by the theatre and the 'Wereldkeuken' The old factory in the neighbourhood is now used as a craft centrum, and for the social project, 'Wijk aan het werk'. This project is mentioned in the pages before. The initiative 'Fietswerkplaats' makes use of an unused garage. Besides these buildings, which are used for different purposes than initially intended, 'Copernikkel' temporary uses every building that is not used. Therefore, there is no unused building in Boschveld (Appendix 8: Transcript interviews, Boschveld) (Appendix 9: Transcript focus groups, Boschveld).

Because of the poverty present in the neighbourhood, the houses in Boschveld do not have solar panel. Also the housing corporation does not have the capacity to install solar panels. A. explained during the focus group interview (Appendix 9: Transcript focus groups, Boschveld) that only one part of the neighbourhood has solar panels, namely within the 'Collective private clients project'. In this project, the owners of these houses built their own houses with a shared garden, green house, and solar panels. This is considered as an example of how to live in an urban environment and yet at the same time keep the environment healthy.

Also, it can be concluded that the residents in Boschveld nearly use their entire environment. Only one terrain is unused, but this is due to pollution of the ground. The roof on the apartment buildings could be used for solar panels, but that is quite difficult in such a poor neighbourhood. It could be an option to choose green roofs, this would also be eligible for higher public funding. Besides these small points of attention the whole environment is quite good utilized.

Social idle capacity - Boschveld is a diverse community with people from all over the world. Within this neighbourhood, a large community of refugees come from an emergency shelter (Autotron). 2,5 years ago, the neighbourhood wanted to do something for those people and started 'De Fietswerkplaats'. They gave cycling lessons to the refugees, with old bikes, and learned them how to repair these. When the refugees passed their bicycle exam, they were given a bike for free. W. (Appendix : Transcript interviews, Boschveld) explained that this project is still going on for the refugees living in Boschveld. This should make the integration easier. Another element of the integration of the refugees is learning the Dutch language. Three people in Boschveld give lessons to immigrants from other countries, mostly refugees, three times a week (Appendix 9: Transcript focus groups, Boschveld). Also, a resident from Boschveld, gives homework support to some children who need that. Another educational project is 'Maakplaats073'. This educational event , organized and executed by residents, takes place twice a month. At this event, children and adults learn everything on technics . In order to combat poverty, another project 'Wijk aan het werk', was initiated with the aim to enable people without a job, to experience different professions and crafts in the old factory, with the purpose to get them back to work. Another project which was useful for some people to get a job was the 'Wereldkeuken'. This is an initiative by a small group of Moroccan women, who started by preparing meals for low prices. Now the concept has expanded into a real catering service, run by women from different nationalities. This concept also encourages the integration of the foreign women. It often happens that women come to Copernikkel to join Dutch language lessons and then found work at 'De Wereldkeuken'. 'De Wereldkeuken' also gives workshops in preparing meals from different cultures (Buitink, 2018) (Appendix 9: Transcript focus groups, Boschveld).

The neighbourhood also has a handyman service, called 'Klussendienst'. They help people in the neighbourhood with small services. This is especially useful for the older people, the single moms, and the foreign people. Another initiative is called the 'Reparatiestraat'. In this project, broken household appliances can be put up for reparation. The members of the Reparatiestraat will then try to repair the item and at the same time, teach the owner how to fix it themselves. By doing so, knowledge is shared (Appendix 9: Transcript focus groups, Boschveld). So the amount of social activities in Boschveld is overwhelming. . Another important social activity is 'Buurtvrouwen project'. Two female residents started this project , go by the houses to talk with the residents, make an inventory of what the people need and, if needed, they reach out to professional services for help. This is especially important for lonely or physical sick people.

They also try to make a connection with them and try to get them involved in one of the initiatives, just to give them the social connection and let them feel worthy. Another initiative to increase the social cohesion is 'De Open huiskamer', this is a facility for old or foreign people where they can talk and drink some coffee. The yoga class in the garden given by Ilse is also an initiative in the social domain to let the residents experience and relax together. The BBS organises different sport activities, and everyone in the neighbourhood can participate in these free activities such as boxing and Zumba (Appendix 9: Transcript focus groups, Boschveld).

Boschveld has its own theatre group, choir and band. F. leads this group, the participants are all residents of Boschveld and they perform in the parish and on the streets of Boschveld. F.(Appendix 9: Transcript focus groups, Boschveld) explained that this theatre has the purpose to connect all the people within the neighbourhood, no matter where they come from. The last initiative is 'Boschveld Actief'. This group organises activities in Boschveld, especially on national holidays. Taking all this into account, it can be concluded that Boschveld is a very active neighbourhood and it uses the social idle capacity to a high extent.

Institutional idle capacity - Boschveld does not have much institutional idle capacity. The theatre group is not institutional and the activities in the BBS are also organized by residents. Therefore these two are grouped under the social idle capacity. Boschveld does not have public transportation, but it has transport for the seniors to the shopping centre. This means of transportation is a bus service which runs once a week to the shopping centre, where the shops like the supermarkets, fishery et cetera are located. According to the members of the focus group, this service is well utilized (Appendix 9: Transcript focus groups, Boschveld). So the institutional capacity does exists, to a low extent, but there is no idle capacity in this category and therefore it cannot be used.

Financial idle capacity – The investment of the residents from Boschveld and other surrounding neighbourhoods helped create the Windmill project. This is a project on wind mills near the A59. Residents of the surrounding neighbourhoods can invest in that project, L. and A. from the focus group did so, but generally it could be assumed that Boschveld will invest only for a really small part in the wind mills, because of the poverty (Appendix 9: Transcript focus groups, Boschveld). Therefore, the financial idle capacity is low. Some financial well-to-do residents, invest in the wind mills what represents the only application of the idle financial capacity. Because of the fact that this is such a small part of the population it could be neglected.

Conclusion - When considering all the aspects of the idle capacity, it can be concluded that three out of five types are used to a high extent, the other two can be neglected. Therefore within Boschveld, the material, spatial, and social idle capacity is used to a very high extent.

5.5 Maashorst

The general information of the Maashorst could be found in Appendix 3 (Information of the neighbourhoods, Maashost). The following results are based on the interview and focus group within the neighbourhood shown in Appendix 8 (Transcript interviews, Maashorst)and Appendix 9 (Transcript focus groups, Maashorst), and the report 'Een open boekje over de wijkraad' (Stichting wijkraad De Maashorst, 2018).

Material idle capacity - All waste is separated by the municipality of Uden, only the collection of paper is carried out by some neighbourhoods themselves. By doing so, they are generating money. Another waste flow which is collected are the dirty diapers. This was explained by L. (Appendix : Transcript focus groups, Maashorst) The residents of the Maashorst can collect the diapers in a special bag and then bring it to the collection point, a container near the childcare facility. Also, some initiatives exists on the reuse on items such as e.g. toys. Those are sold on the jumble- or trunk market. The sellers are not professional traders , but residents who want to dispose of their old unused items. By doing so, this results in a longer lifecycle for those goods (Appendix 8: Transcript interviews, Maashorst). Then E. (Appendix 9: Transcript focus groups, Maashorst) explained that the goods which are left on the end of the jumble market can be collected and then be send to countries like Romania, Meaning that as little as possible will be put away. Also the used goods and materials, privately owned, will be utilized as much as possible by sharing it with each other. This is not considered to be a project, because of the close connections between residents, this is possible on individual level (Appendix 9: Transcript focus groups, Maashorst). The participants within in the focus group expect that food is wasted to a small extent, because most residents keep animals which can eat the left-over food. (Appendix 9: Transcript focus groups, Maashorst).

In conclusion, the neighbourhood makes use of the material idle-capacity. Because of the different projects and initiatives, almost nothing is thrown away. Also, the lifecycle of the goods are extended and fully utilized.

Spatial idle capacity - The only spatial idle capacity which is unused, are some pieces of land. This land is already bought by the municipality in order to use it for the development of new housing, so it has already a destination (Appendix 8: Transcript interviews, Maashorst).

A lot of buildings within the Maashorst have been given a new function. Most of these buildings were farms and now have a new function as campground at a farm, care farms (home care facility at a farm) for people with a disability, visitor centres, caravan storage place, and as a bed & breakfast. Besides, a horse riding facility was changed into an activity hall (Appendix 9: Transcript focus groups, Maashorst). Urban agriculture is also present in the neighbourhood. This is located at the childcare facility next to the hospital.

L. (Appendix 9: Transcript focus groups, Maashorst) explained that the childcare facility, called 'Het Groene Huis', has its own greenhouse for producing fruits and vegetables for the children. It also has an educational function (Appendix 9: Transcript focus groups, Maashorst). Some places are utilized to a higher extent by adding an extra function to the original one. The Maashorst has five places with an extra function (Appendix 8: Transcript interviews, Maashorst), (Appendix 9: Transcript focus groups, Maashorst).

It can be concluded that the spatial idle capacity is fairly well utilized, especially by giving new destinations for the old buildings and the extended utilization of different places. The roofs could create more value by using the solar panels in higher extent.

Social idle capacity - Within the Maashorst the social cohesion is fairly high and therefore the social spontaneous initiatives occur regularly. For example when someone is sick, the neighbour will prepare a meal for him/her and will look after him/her (Appendix 9: Transcript focus groups, Maashorst). Another example, as emerged in the interview, is that at this moment one of the residents of the neighbourhood is really sick. He can only be at home during the weekends, so the men in the neighbourhood have made a plan to enable this person to return to and stay at his home every weekend, to bring him home and back to Eindhoven (Appendix 8: Transcript interviews, Maashorst). Also, every year, many activities are organized for people of all ages, or for special age classes like children, youth, adults or elderly (Appendix 8: Transcript interviews, Maashorst). There are no activities targeted at persons with a disability, but the activities that are organised, will be adjusted for them in order to enable their participation. For people with a disability, there is a special care facility at a farm where as part of the provided activity, the handicapped people perform duties on the farm. Besides, they can work in the garden and/or kitchen of 'De Vrije Teugel'. There is also a residential facility, where residents who need care with the daily activities of life, added G. to the discussion (Appendix 9: Transcript focus groups, Maashorst).

The competences and skills of the residents are mostly not used in helping or teaching other people. The only initiatives with regard to this aspect, is the homework assistance service. However, this is not a centrally organized initiative, but just takes place when someone asks for it (Appendix 9: Transcript focus groups, Maashorst). In taking care of the residents in the neighbourhood a prevention app exists. In the interview, it was stated that this app is hardly used at the moment, what appears to be a good thing. It is expected that when it is needed, it creates value for the residents and the safety in the neighbourhood (Appendix 8: Transcript interviews, Maashorst). Also when changes are required and imposed top-down, the residents will always be asked on their thoughts and needs. Some examples are the following; they were asked on their thoughts about their living environment and the functionality of it, and what their thoughts on the development plans were.

The Maashorst is part of an area platform which consists of residents of that area and takes care of the liveability in the entire municipality (Stichting wijkraad De Maashorst, 2018).

In conclusion, the social idle capacity is utilized to a high extent in this neighbourhood, mainly because there is a high social cohesion among the residents in this area.

Institutional idle capacity - The institutional capacity in this neighbourhood consists of the hospital and the open-air theatre, but it is unknown whether there is idle capacity within those institutions. Due to the fact that this is unknown, it cannot be used (Appendix 8: Transcript interviews, Maashorst) (Appendix 9: Transcript focus groups, Maashorst).

Financial idle capacity - Within the financial aspect, there is no project organized in the past which asked for the investments of the residents. It is also not clear if people have the willingness to invest in big projects within their environments. G. (Appendix : Transcript focus groups, Maashorst) thought that it depends on what kind of project it is, but for now this remains unclear.

Besides the big investments, which do not exist, there is a small investment by all residents, who are member of the neighbourhood, in the form of a annually contribution. This contribution is used for organizing activities and projects. It may be concluded that the financial idle capacity is only used to a small extent.

Conclusion – This neighbourhood uses nearly all types of the idle capacity, except the institutional one. Especially the social idle capacity is utilized to a high extent, and the financial one to a really low extent.

6. Creating a typology

This chapter starts with giving a complete, theoretical and empirical, definition of the types of idle capacity, followed by the creation of a typology and the relevance of the created types of neighbourhoods.

6.1 Ideal types of the idle capacity

An oversight is provided on how the types of idle capacity ideally can be used in an urban environment, this is the first step in creating a typology (Doty and Glick, 1994). This consists of a combination of all investigated cases and the theoretical operationalisation. Therefore it represents the 'perfect' use of the idle capacity within an urban environment. Appendix 12 (Coding schemes, selective coding) shows the complete schematic representation, the operationalisation, of the types of idle capacity.

Material idle capacity - The material idle capacity is highly used in neighbourhoods of urban environments. Within the literature it is seen as the waste of materials and food (Jonker, 2018). Within the empirical situations this was applied as follows: In all neighbourhoods the materials like plastic, paper, glass, and garden waste are separated on level of the municipality in order to recycle it at a later point of time (Appendix 8 and 9). Only the waste flow of paper and garden waste is sometimes organized by the neighbourhood itself (Appendix 9: Transcript focus groups, Boschveld, Maashorst). Projects against garbage are rarely seen, but they do exist in some neighbourhoods, e.g. cleaning the streets together (Appendix 9: Transcript focus groups, Oranjewijk) or making bags of old clothes to reduce the use of plastic bags (Appendix 9: Transcript focus groups, Boschveld). Projects to reduce food waste exist by foodbanks or by giving it to animals (Appendix 9: Transcript focus groups, Sparrenburg, Oranjewijk, Boschveld, and Maashorst).

A new aspect is the reuse of materials, by selling it, giving it to other people (Appendix 9: Transcript focus groups, Oranjewijk, Boschveld, Maashorst), or by repairing it and therefore making the lifecycle of the materials longer (Appendix 9: Transcript focus groups, Boschveld). In some neighbourhoods, the individual goods are shared with other residents. In this way, the goods create more value by utilizing them to a higher extent by different people in the same environment (Appendix 9: Transcript focus groups, Sparrenburg, Maashorst).

Spatial idle capacity - The spatial idle capacity was theoretically operationalized as 'all the unused places in the urban environment which could be used valuable', e.g. by urban agriculture or solar panels (Jonker, 2018). The assigning of different functions to the buildings and places also has a large role in the use of the spatial idle capacity in the urban environment. In building new facilities or by giving new purposes to places and buildings, the need and wishes of the residents play a large role.

They are participating more and more in the process, what was already expected within the gathered literature (Appendix 9: Transcript focus groups; Jonker, 2018; Foster, Laione, 2017). The full utilization of the neighbourhood is another important aspect in creating more value. This is done by giving the buildings and places more functions than they originally have (Appendix 9: Transcript focus groups).

Also, natural factors can be used to improve the local environment. An example of this is that rainwater is used locally to improve the environment (Appendix 9: Transcript focus groups, Sparrrenburg, Maashorst).

Social idle capacity - The social idle capacity is again used frequently in the urban environment. In looking back at the theoretical operationalization, it is defined as helping other people with their own skills and competences, mostly used in an exchange system (Jonker, 2018). In reality, not only the sharing of knowledge and competences is often seen, but also the help of other people in general (Appendix 9: Transcript focus groups), e.g. on the technical aspect (Appendix 9: Transcript focus groups, Boschveld). Some neighbourhoods also have organized a social care network by a 'first aid' and 'automatic external defibrillator' group, which come in action when an emergency situation occurs, e.g. resuscitation of a resident (Appendix 9: Transcript focus groups, Appeltern, Sparrenburg). Besides, all urban environments have some kind of assistance for, and taking care of, the elderly and the once with a disability (Appendix 9: Transcript focus groups).

Social meetings and activities for the children, youth, adults, and elderly are really important for making all the other things work. When this is not happening or functioning, cohesion does not exist. Without this, it will be really difficult to work together and create value. This is seen at Oranjewijk, where the people do not feel connected to each other, there is no cohesion, and therefore it is very difficult to organize things in order to create value (Appendix 8: Transcript interviews, Oranjewijk) (Appendix 9: Transcript focus groups, Oranjewijk). Therefore the use of the social idle capacity could be seen as the most important factor and a requirement to make the collective value creation work. Because of the residents, who become more knowledgeable, are more involved and mostly 'in the lead' by organizing activities and projects. This is in line with the literature of Jonker (2018).

Institutional idle capacity - The institutional idle capacity as described in the literature, is all the unused capacity made by institutions, e.g. the public transportation and the sales of tickets for theatres and concerts (Jonker, 2018). Looking at the empiricism it does not exist. For the most part, there are no theatres, concert buildings or anything comparable to these, in the neighbourhood. In some neighbourhoods, institutional capacity exists by the sharing cars project, the hospital, an open-air theatre, and public transportation (Appendix 9: Transcript focus groups, Appeltern, Sparrenburg, Maashorst), but mostly it was not visible whether there was also idle capacity.

Even if there was, no initiative appeared to use it, to create more value (Appendix 9: Transcript focus groups, Appeltern, Sparrenburg).

Financial idle capacity - The financial idle capacity is quite rarely used within the urban environment. In the literature it is described as the unused money invested in their own environment (Jonker, 2018). In the empiricism a good use of this capacity was the growth funding, were people annually pay an amount of money that is invested in the neighbourhood. This is more or less an identical concept as the annually contribution to the neighbourhood for membership (Appendix 9: Transcript focus groups, Sparrenburg, Maashorst). Other applications present in the urban environment are the large projects where the residents have a mutual investment, e.g. windmill- and solar panel project , and projects which are made possible by bonds (Appendix 9: Transcript focus groups, Appeltern, Sparrenburg, Boschveld).

6.2 Typology on Urban Business models

The previous chapter, chapter five, showed the descriptive result of the neighbourhoods under investigation and the previous paragraph, chapter 6.1, showed the complete operationalisation of the types of idle capacity. In combining these, different types of neighbourhoods can be distinguished. The operationalization of the types (Appendix 12: coding schemes, selective coding) is used as measurement tool to measure in what extent the types local idle capacity are represented by the neighbourhood and by doing this for all different types in the neighbourhood, a name is given on that type of neighbourhood.

Table two shows the use of the types of idle capacity by the different neighbourhoods. The use of these types are already descriptive explained in chapter five, but visually showed in table two. This visualization is based on the characteristics of the types of idle capacity (Appendix 12: coding schemes, selective coding).

	Appeltern	Sparrenburg	Organjewijk	Boschveld	Maashorst
Material	+	++	++	+++	++
Spatial	+	++	++	+++	+++
Social	+++	+	-	+++	+++
Institutional	-	-	-	-	-
Financial	+	-	-	-	+

Table 1: Visualization of the use of idle capacity

* -: No use of the idle capacity or the idle capacity is not represented by the neighbourhood

\+ : Normal use of the idle capacity – includes 1 characteristic of the operationalisation

++: High use of the idle capacity – includes 2 or 3 characteristics of the operationalisation

+++: Really high use of the idle capacity – includes at least 4 characteristics of the operationalisation

As seen in table 2, Sparrenburg and Boschveld making use of the same types of idle capacity, only the extent in Boschveld is much higher. Oranjewijk only makes use of the material and spatial idle capacity, and Appeltern and Maashorst uses all types except the institutional once. The extent is of importance, but for the distinguishing in types it does not matter. Only the presence is taken into account, and therefore three types can be distinguished (table 3). The overarching concept is shown as the title, and the characteristics on which the types are distinguished are placed in the column on the left. Those are the characteristics of the dimension 'local idle capacity'(Boeije et al., 2002).

Typology on Urban Business models, in order to collectively create multiple values

types Characteristics	Platform neighbourhood	Efficient neighbourhood	Selfish neighbourhood
Material	Used	Highly used	Used
Spatial	Used	Highly used	Used
Social	Highly used, for connecting the others	Used	-
Institutional	-	-	-
Financial	Used	-	-

Table 2: Typology on urban business models

 Platform neighbourhood - The platform neighbourhood is busy with using nearly all types of idle capacity. They are using the three types material, spatial, and financial idle capacity, at least in normal extent. They do what is needful, but do not organize big projects for making it much better. The social idle capacity is used in high extent, because this one could be seen as a platform which connect all the other types in order to keep the oversight and that it not results in lose pieces.

Appeltern is accommodated to this type of neighbourhood, because this village is active within these four types of idle capacity and these are connect by a platform, which is represented by the social idle capacity. The social idle capacity is of high importance within this neighbourhood. Maashorst is also accommodated to this type, because of the same reasons as Appeltern is. Only the material and spatial idle capacity is represented by a higher extent than it was in Appeltern, but also here the social idle capacity is represented as most important type of idle capacity and seen as the connector and enabler of the other types.

It is questionable if this type is represented by the urban environment, because both Appeltern and Maashorst are not urban environments. Therefore these deviate from urban environments regarding the demographic characteristics, especially when looking at the size and the population. The population is much smaller and the size is much bigger than in an urban environment (Appendix 3: Information of the neighbourhoods).

Efficient neighbourhood

This type of neighbourhood includes three characteristics, the material, spatial, and social idle capacity. The material and spatial idle capacity should be presented by at least a high extent. Therefore they have to include minimal two characteristics of these types of idle capacity (appendix 12: Coding scheme, selective coding). The social idle capacity also exists, but the extent diverse between the two cases characterized to this type.

In this type of urban environments it is important that the three types of idle capacity are represented by the neighbourhood. The extent of the material and spatial idle capacity should be higher than the social aspect in order to be efficient. Therefore the utilization of the social idle capacity can vary between the neighbourhoods, but should never exceed the other two types.

Selfish neighbourhood

The Selfish neighbourhood is one in which only the material and spatial idle capacity is used in normal or high extent. This means that maximum three characteristics of the material and spatial idle capacity exists within this type of urban environment. Those neighbourhoods are characterized by selfishness, and cohesion does not exist. The social aspect is not represented, therefore the two types cannot exist in really high extent, because the social one should be seen as the enabler of the other types.

6.3 Relevance of the types of neighbourhoods

The first type, the Platform neighbourhood, is explained by two cases, Appeltern and Maashorst. The research is on urban environments and that is directly the critical point of choosing these neighbourhoods. Appeltern is a small rural village. However, this one was chosen because of their 'Village Platform' with lots of activities and projects on resident initiatives. Therefore this was a good starting position to investigate what is possible in creating value, starting from the perspective of the residents. The outcome was on nearly all types of the idle capacity. This can be partly explained by the fact that it is a whole village instead of a neighbourhood. Afterwards such a village has more facilities and a more diverse environment than urban neighbourhoods have. Also the social cohesion in such a village seems closer than in urban environments. The same applies for Maashorst, which is part of the city Uden, but located in the entire municipality. Therefore this neighbourhood cannot be considered as a genuine urban environment. This neighbourhood was chosen to see how the institutional idle capacity can be used within a neighbourhood. This fails because the institutional capacity was not visible for the residents. Again this case represents, as also Appeltern does, a more diverse environment than the urban ones. In comparing these cases to the literature it can be concluded that they have some important similarities with the gathered literature. As stated in the literature people become more capable and partly take over governmental tasks (Jonker, 2018).

They become more self-capable, but therefore they have to work together in order to create value, so co-creation is important, even as the decentralized leadership to make it possible. This is theoretically substantiated by different authors like Jonker (2018), Figueiredo and Scaraboto (2016), and Prahalad and Ramaswamy (2004). Taken this into account, the cases have some similarities with the literature according to the subject of this research and therefore it is possible that this type, the Platform neighbourhood, which is represented by Appeltern and Maashorst can be seen as an useful type of the typology on urban business models. So the possibility is present, but it is not proven by a real urban environment. Therefore more research is needed to draw the conclusion that this type is part of the typology on urban business models.

The second one, the Efficient neighbourhood, is empirically good represented by two urban neighbourhoods, Sparrenburg and Boschveld. Those two investigations were reliable and representative (Appendix 2: Process description, selection of the persons involved). Both are using the idle capacity to collectively create multiple values for their environment. This is based on the theoretical operationalisation of the idle capacity (chapter 3.5 theoretical operationalisation). Therefore it can be both theoretically and practically concluded that this type shows an appropriate one for the typology.

The third one, the Selfish neighbourhood, is represented by only one case, De Oranjewijk. This neighbourhood is located in an urban environment in Veghel. The results of this study must be interpreted with caution, because of the focus group (Appendix 2: Process description, persons involved). Due to this, there is be some doubt about the relevance of this type of neighbourhood. Another point, the residents do not collectively work together in creating values for their environment. So this case is not in line with the literature on co-creation (Jonker, 2018; Figueiredo, Scaraboto, 2016). Although, it makes use of some types of idle capacity, material and spatial, to create values with.

7. Conclusion, discussion and recommendations

In this chapter the conclusion will be provided on the sub- and resource question. Followed by a discussion on the methodology and the end result. Then the contribution on the literature will be provided, including recommendations on further research.

7.1 Conclusion

The aim of this research study was to create a typology on urban business models in order to create multiple values for their environment. Therefore the sub-questions, as formulated in chapter one should be answered first.

Which forms of idle capacity can be distinguished and how could these be recognized?

Within this research the five types of idle capacity, which were already investigated before, can be distinguished within urban environments. These are the material, spatial, social, institutional, and financial idle capacity. These types were represented and used by at least one neighbourhood, except the institutional idle capacity. This type was represented by some cases, but never used to collectively create values. The material and spatial idle capacity exist in all cases. When some kind of cohesion exists within the neighbourhood the social idle capacity is also present. The one which occurs in really low extent, is the financial idle capacity. The possible explanations for this phenomenon are already given in chapter 6.1. The complete definitions and the empirical use of the idle capacity is also explained in chapter 6.1 'Ideal types of the idle-capacity.' The operationalization, with the specific characteristics, on which the types of idle capacity can be recognized, can be found in appendix 12 (Coding scheme, selective coding).

What types of urban environments exist, based on configurations of the idle capacity?

In this study on urban environments, five neighbourhoods were studied. Those neighbourhoods can be divided in three different types, namely the Platform neighbourhood, the Efficient neighbourhood, and the Selfish neighbourhood.

The configurations made within this research are as follows; the first one is the configuration of all types of idle capacity, except the institutional idle capacity. This configuration is called the Platform neighbourhood. Another configuration is made by the material, spatial, and social idle capacity. When this type of configuration exists, it is called an Efficient neighbourhood. Finally, the last configuration is shown with the material and spatial idle capacity, and is called the Selfish neighbourhood. The explanation and characteristics of those types are explained in chapter 6.2 'Typology on Urban Business models'.

What should be a good tool for doing the self-inventory, which measures the potential on collective value creation, based on the idle capacity?

This results in a by-product of the study. At the start of the research study a protocol was developed in order to make an inventory of the urban environments by the residents themselves. This protocol is constantly improved by the insights of the researcher and the feedback given by the participants of the focus group. This process is accurately described in appendix 2 (Process description, changes in the self-inventory tool). The consequences of this process are that all cases used different, yet improved tools. By the end of the research study, the improvements of the tool became smaller. Therefore it can be assumed that the last protocol shows a relevant tool for the self-investigation. All the protocols used within this research can be find in appendix 4 (Protocols of the self-inventory). Protocol 5.0 can be considered as the most appropriate tool for making a self-inventory of an urban environment based on the idle capacity. Therefore all questions were clearly understandable and measured what they had to measure.

Research question: 'Which types of neighbourhoods can be distinguished in the typology on urban business models, based on configurations of the idle capacity?'

In combining the first and second sub-questions, the research question is answered. Therefore three types can be distinguished, based on the different configurations of the idle capacity:

1. The <u>Platform neighbourhood</u>, consisting of the material, spatial, social, and financial idle capacity.
2. The <u>Efficient neighbourhood</u>, consisting of the material, spatial, and social idle capacity.
3. The <u>Selfish neighbourhood</u>, consisting of the material and spatial idle capacity.

Only the Efficient neighbourhood is well substantiated. Both the Platform- and Selfish neighbourhoods need further research, because of their limitations in design. Therefore more in-depth research is needed to validate the findings of this study.

7.2 Discussion

In this paragraph the results of the study are critically appraised, as well as the methodology. Most of the discussion points are due to the short time available for completing this study

7.2.1 The methodology

This study was conducted in five neighbourhoods in The Netherlands. Because of the small number of cases, which were taken into account in comparison to the whole urban environment, it cannot be fully excluded that the same study would have different results if other neighbourhoods are used. Another factor why this cannot be fully excluded is because of the dynamic environment wherein the study took place. The urban environment is in development, new projects and challenges come in, and the role of the residents is changing (Jonker, 2018).

The way of how the cases were selected could be criticized too. To get a good oversight, it is important that the sample gives a good representation of the whole urban environment in The Netherlands. Therefore a good dispersion over the country should be used (Bleijenberg, 2015). Within this study, cases were selected by convenience sampling. Some requirements were set, but the accessibility was used as most important factor for the selection of cases. This resulted in the phenomenon that all investigated neighbourhoods were placed in the South of The Netherlands. Besides, less urbanised environments were part of the research. Although, those gave a good oversight of what residents can do in order to work together to create value.

Another criticism of the design is that it was studied and analysed by only one researcher. Having the coding process checked on consistency and completeness by another researcher, is preferred (Yin, 2014). Therefore the coding process is briefly described in appendix 12 (Coding scheme's).

As last point, the use of the resource based view could be criticized. The urban environment changes over time, but a requirement for using the resource based view is that it has to take place in an static environment (Kraaijenbrink et al., 2010). This makes it challenging to take only the own resources of the neighbourhood into account, and not the other influencing factors.

7.2.2 The end result

In this part the relevance of the, in chapter six created, typology will be discussed. One of the guidelines of Doty and Glick (1994) have to be criticized for this study; according to the guideline a typology must define the complete set of ideal types. This is impossible within this study, because of the many possible combinations and the dynamic environments (Doty and Glick, 1994). To meet this requirement, the research should be studied in a larger sample of neighbourhoods.

The five cases are representing three types of neighbourhoods. Meaning that these types are only explained by one or two cases. Therefore it is really important to have trustable, appropriate cases, suitable for this study. As explained some pages before (6.3: Relevance of the types of neighbourhoods) only one type is well represented, and the others need further research. Although, the outcomes can be used as the start of some more deeply research.

The outcome of the study is just exploratory for urban business models. Therefore it only gives some insights in the neighbourhoods and their local idle-capacity, and a caution stated typology on urban business models is created. Therefore, this study could be a good start of further research on a typology on urban business models.

7.3 Contributions and Recommendations

The results of this study add to the existing knowledge in various academic fields. Besides, some recommendations are made on whether future research should be organized.

Firstly, this study is started with testing the theoretical operationalisation. Within the theoretical operationalisation the types of idle capacity were operationalized by an earlier study based on theory (Jonker, 2018). Therefore, the study adds to the existing knowledge of the practical side of those types, whether and how these are used in urban environments. By comparing the theoretical operationalization with the outcomes of this study (Appendix 12: Coding schemes, selective coding), it can be concluded that four of the five types of idle capacity were used in the cases, and thus empirically confirmed. This means that the utilization of the institutional idle capacity was not proven by the empirical research. Besides, many other characteristics were added to the different types of idle capacity in order to recognize them. Therefore the operationalisation is getting more specific. First, all types of idle capacity were generally described in the theoretical operationalisation and now, after this study, these general descriptions are getting more specific by clear characteristics (Appendix 12: Coding schemes, selective coding).

Noteworthy is that the first three types, material, spatial, and social idle capacity, are represented to a high extent in most cases, but the institutional and the financial idle capacity are mostly not or only in really small amount present in the neighbourhoods. This can be partly explained by the cases under research. The small amount of financial idle capacity is explained by the fact that two of the five cases are disadvantaged neighbourhoods, where they do not have savings to invest in their neighbourhood.

In other neighbourhoods, the willingness was sometimes present, but there were no projects to invest in. A factor which determines the willingness to invest collectively, is the cohesion within the neighbourhood. If the residents do not feel connected to each other and to their neighbourhood, cohesion does not exists, and the residents do not see the added value they could create. Therefore the first important factor is the amount of savings the residents have, if that is present, it is important that cohesion exists.

The institutional idle capacity is hardly represented at all the neighbourhoods. It seems that this type of idle capacity was relatively hard to measure, because the research was done by the residents and often they did not know how it was organized at the theatre, hospital or other institutions. Therefore they did not know whether the idle capacity was present. Another factor is that in most neighbourhoods institutions do not exist, therefore this type of idle capacity could not be used in the neighbourhoods.

Further research should still take into account the institutional idle capacity, because this study explored that sometimes this idle capacity was present, but it was unclear whether it was also idle capacity (Appendix 8, Transcript focus groups, Maashorst). Therefore it is important to further study this specific type of idle capacity. In order to do so, it is advisable to question those who are involved in the institutional capacity.

As reaction on those findings, it is advisable to use more selection criteria's on the cases, e.g. all cases should include at least one institution, at least one of the participants should be connected to an institution, the cases should present a diverse composition of incomes 'above, on, and below average' et cetera.

This study had the intention to create a typology on urban business models. Therefore the city was seen as a business model and the resource based view was used. In the current literature resources were represented by five possible types of idle capacity (Jonker, 2018). Those five types create value for their environment by working together (Foster and Laione, 2017; Figueiredo and Scaraboto, 2016). Therefore collective multiple value creation should be reached (Jonker, 2018). This study did not meet the requirements for creating a typology, partly because of a typology should include all possible types to make it exhaustive (Doty and Glick, 1994). To meet this requirement all possible configurations should be explored, including the three types of neighbourhood already known. Therefore, this study should be seen as starting point for further research to make a more substantiated typology and/or theory on urban business models. Due to the limited number of study objects, caution should be used upon drawing firm conclusions.

Furthermore, the utilization of the idle capacity and the creation of urban business models are difficult to study theoretically, because utilization of these models happens mostly on a unconscious level(Casadesus-Masanell and Ricart, 2010). Also, the opinion of the district director can differ in high extent from the reality as perceived by the residents (Appendix 8: Transcript interview, Oranjewijk, Sparrenburg) (Appendix 9: Transcript focus group, Oranjewijk, Sparrenburg). For this reason, the study of the models should be based on daily practices. A good design for further research, can be a quasi-experiment (Yin, 2014) to study how people create urban business models by working together and what resources/idle capacities they use. One of the ideas is to formulate an experiment to test the hypothesis whether some configurations of the idle capacity are exhaustive within the urban environment in The Netherlands. The quasi-experiment takes place in a natural environment. Therefore it should be organized in twelve neighbourhoods, one in every province for a good dispersion over The Netherlands. Besides, other characteristics should be taken into account, e.g. the diversity within the neighbourhoods and the welfare. Because of the magnitude of the study, it can be done by a team of researchers.

In conclusion, although this study may have some shortcomings and methodological issues, this is the first study to create a typology on urban business models. Therefore it is a good starting point for further research.

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