UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

How to close the circle

The role of social capital in a circular economy

A case study

Fredrika Germundsson

Mikaela Gernandt

GM1360 V19 Master Degree Project in Knowledge-Based Entrepreneurship

Course Coordinator: Ethan Gifford

Supervisor: Ryan Rumble

Graduate School, Department of Economy, and Institute of innovation and Entrepreneurship (IIE)
University of Gothenburg, School of Business, Economics, and Law

Acknowledgments

The authors would like to give their thanks to all who have supported us in the writing of this thesis. Friends and family have been invaluable during this process.

Special thanks go to the company Juteborg AB, Östergren, Malmek and Hossain who has allowed us to take part of their knowledge and time.

We would also like to thank our supervisor, Ryan Rumble, for the many bits of wisdom that has helped us along the way.

Last we would like to thank Gothia Towers, in Gothenburg, for allowing us to use their hotel lobby as our personal office while writing. We will miss the sandwiches.

Abstract

The purpose of this case study is to investigate how a company utilizes social capital in order to close loops in its circular economy. The circular economy model has in recent years gained popularity mainly due to the rising concern surrounding the environment. The model offers solutions to how materials can flow in a circle in order to minimize waste and therefore the need for new non-renewable and virgin materials. This research looks behind this flow, specifically at how the main actor, the case of this study, has used their social capital in the process of creating and closing their material circle.

In order to do this, the authors will investigate a company's network based on Nahapiet and Ghoshal's, (1998) different dimensions of social capital. This paper will also go further by discussing relevant downsides on social capital and the implementation of ethical perspectives. The conclusion of this paper is that understanding how to use social capital plays an essential role in the creation of circular economies. It is especially true when a company, such as in this case, has strong ethical and environmental core values connected with ethical business perspectives, which creates favorable conditions of closing the circle. It can be facilitated through transparency, trust, and understanding when managing present and potential future stakeholders connected with the circle.

1. Introduction

The first part introduces the field of interest by presenting a more in-depth presentation on the topics of the phenomenon of circular economy and the theory on social capital. Linking the theory and phenomenon together, a gap in research can be found in which the research question is built upon and presented at the end of the chapter.

1.1 Circular economy and social capital

Since the start of the industrial revolution over 150 years ago, the primary business model used has been linear. The use of raw materials to create products are sold, used, and thrown out as trash (Ellen MacArthur Foundation, 2014). Since 1989 when Pearce and Turner published the first concept of the circular economy, the circular business model has gained traction. To a large extent, due to the fact, many policymakers have started to lift the model again as a potential solution to issues related to sustainability Ghisellini, Cialani, and Ulgiati (2016). Examples of these policies are the European Circular Economy Package (European Commission, 2015) and the Chinese Circular Economy Promotion Law (Lieder and Rashid, 2016). In order for a company to belong in the circular economy category, they will need to close their circle or circles. It includes a need to eliminate or significantly reduce the amount of waste that they produce, as is the case with linear business models. Instead in a circular economy, this waste would be seen as assets and is brought back into the circle of production and made into new products. The need for bringing in new unsustainable raw or virgin materials is significantly less once the circle is complete. Materials can move either in a biological circle or in a technical circle. In the biological circle, particles can by the end of their life be broken down and returned to nature. While in the technical circle, materials need to be recycled, reused, prolonged, and shared. In both cases, the idea is to minimize the leakage of materials from the circle, lowering the need to use new virgin materials in order to make new products (Ellen MacArthur Foundation, 2014).

With the rise of interest of companies who are working with the circular economy model as a way to address sustainability, the researchers see a need to investigate the importance of social capital further. What companies utilizing this model can do in order to close their circle through their social capital. Understanding the values and implications of social capital provide opportunities for organizations and managers. Since circular economies require collaboration between different stakeholders (Ellen MacArthur Foundation, 2014), taking the critical element for human and economic development in network theory as social capital into account.

"Some reasons that contribute to the interest in Social Capital are the value of the social relations in social and economic discussions, the transformations of the society and the role of the state, the importance of network relations to improve economic performances and the necessity of concepts to understand the complexity of human being."

Vallejos, Macke, Olea, & Toss, 2008

Social capital is unique compared to human and financial capital because the resources can be concluded as jointly owned by the relationships between or among actors; it cannot exist individually. (Coleman, 1988; Putnam 1995) There are wide ranges of different representative definitions of social capital.

"The sum of the resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition"

Bourdieu & Wacquant, 1992

Another definition explains social capital as:

"The ability of actors to secure benefits by virtue of membership in social networks''

Portes, 1998

This paper will base its concept on social capital from the scholars Nahapiet and Ghoshal (1998) who outlines social capital as;

"The sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by individuals or social units"

Nahapiet and Ghoshal, 1998

Many scholars agree on the importance of studying social capital in a firm in which network ties constitutes opportunities for managers to achieve a better understanding of its environments, achieving access to knowledge, resources, markets, technologies and enhance firm performance. The links between social capital and firm innovation are evident. Through social interactions, certain conditions are created such as trust, learning, and sharing knowledge, which in turn becomes a determinant of innovation and achieving competitive advantage. (Nahapiet and Ghoshal, 1998; Burt, 1997) The links between social capital and closing the circle are less explored in academia. This research does not aim to elaborate on the outcomes of social capital in circular economies and their effects. Instead, the paper will examine a primary social phenomenon, understanding the profound links of the necessary conditions, experiences, and interactions, how social capital is utilized to close a circle. The paper takes into account the aspects when endorsing social capital of the downsides and ethical perspectives as well.

1.2 Gap in research

As of today, studies have only indicated the importance of utilizing social capital when building circular economies (Sarkis, Ni, & Zhu, 2011) (Perey, Benn, Agarwal, & Edwards, 2018). However, there are not enough comprehensive studies on the subject of this critical relationship. In most cases of linear economies, where companies produce products but do not take care of the waste once the product has been used, social capital plays a large part in creating value. The circular company investigated in this case has many collaborations with different actors. Their goal is to close the circle around their products, it is especially important for them to have a strong social capital in order to identify and build strong relationships with the stakeholders that they are working with. Imagine the circular economy as a machine, where all the cogs help make the machine move. If one of the cogs is not working or is missing, then the machine stops. Therefore all of the parts that get chosen are important in the long term perspective since a break in the circle would be like just like a missing cog in a machine, troublesome and costly to repair.

The company chosen for this case study is named Juteborg. The choice of Juteborg was determined because the authors found it to be a typical representative case for a developing circular economy, in the process of closing their circle. The company Juteborg was founded in 2013 by Christina Östergren and Else-Marie Malmek. In their search for the most sustainable material in the world, they found that jute is a great and versatile material to work with as a fibre. It can be implemented in everything from textiles to buildings and vehicles, while it is lightweight, durable, and highly ecological to grow. The company's main paths are to implement jute into the architectural and the vehicle industries. The two industries the two founders have their main backgrounds. To their help, they also have a full-time employee, Abir Hossain, who is helping them with their international and national relationships.

The case company, the time the thesis is written, is working with the ambition to become fully circular. The company has not achieved its goal of being a company that uses a fully circular economy model in practice as of yet. However, they know how they would like to achieve this in theory. Each of the products that they are developing is with the mindset that it should be able to break down and that the components could either be made into the same product again or be put to use in a new product. In this way, the finished products will have a natural or technical life cycle after they have served their first purpose. This company does not work on their own to close the circle on the products that they are producing. Instead, they have many different actors involved and work more as a facilitator between different experts, manufacturers, farmers, universities, companies, and others. Naturally, this makes their network comprehensive and the need to facilitate the different relationships that they create along the way.

One other aspect that is important to this company, besides manufacturing different products based on jute, is that they also want to help improve the conditions of the people who are working with growing and refining the jute in Bangladesh. According to Juteborg, in Bangladesh, around one-third of the population, over 50 million people, are connected to the jute industry. Jute today is mostly used for simple products such as bags for coffee beans. However, by developing more high tech products Juteborg sees a chance to not only produce products that are better for the environment than current options but too also help create social benefits to the people who in a linear system would be automatically at the bottom of the pay ladder. All of this makes Juteborg a fairly representative company when it comes to the usage of a circular economy.

1.3 Purpose & Research question

The academic objective of this study is to investigate how companies that work with the circular economy model utilize social capital in order to close their circle. Therefore researchers have focused on the external relationships a company manages rather than the internal relationships found between the different actors within the company. Internal relationships are only discussed when there is a need for context in order to answer the research question. Furthermore, this research is not outlining all of the outcomes or values created or destroyed by social capital, or whether or not the outcome of utilizing the company's social capital will turn out to be positive or not in the end. This will, therefore, not be covered in this study. Many studies have already covered that social capital leads to increased innovation and the creation of intellectual capital. The focus of this study will be on how social capital is used in order to create a circular economy.

With the complexity of networking needs and the challenges of doing sustainable business succeeding through circularity the following research question is defined;

How does a company working with circular economy utilize their social capital in order to close the circle?

2. Theoretical background

In order to understand the research field, relevant theories need to be evaluated and presented. The chapter starts with a more profound presentation of the theory existing on circular economy. Then the concept of social capital in which the research is based upon is outlined. It follows with a discussion on potential downsides and ethical perspectives on social capital.

2.1 Circular economy

The circular economy focuses its attention on how to making sure that materials used in production, can flow sustainably. It is different from the linear economies where materials are usually discarded after usage, even if there is nothing wrong with the product that they make up or the materials themselves. In circular economies, however, there are two main paths that materials can move through (see figure 1). One path is biological, and one is technical. These two paths form their circles with some commonalities in between them. The thing both circles have in common is that the materials will go through a parts manufacturer, a product manufacturer and finally a service provider before going out to the consumer or the user. After this, the materials go their separate ways. The goal is to maximize their usage before returning them to the different stages of production. In the biological circle, this can be done through things such as the production of biogas, regeneration, or farming. While the technical circle involves steps such as sharing, prolonging use, and remanufacturing. Through this system, there will be a minimization of leakage of the materials used, as well as a focus of having low adverse effects from the leakage. Since there is not a significant loss of materials that are going through the production, then there is also not an immediate need to bring in new raw, virgin, or finite materials into the circles. In the end, this system is designed to be as efficient with materials as possible. Companies that use the circular economy model need to close their circle when it comes to the material that they are using. This is to say that they need to eliminate or significantly reduce the waste that they produce, as is the case with linear business models. Because of this, the materials are not seen as waste but as resources that can be used again and again (Ellen MacArthur Foundation, 2014).

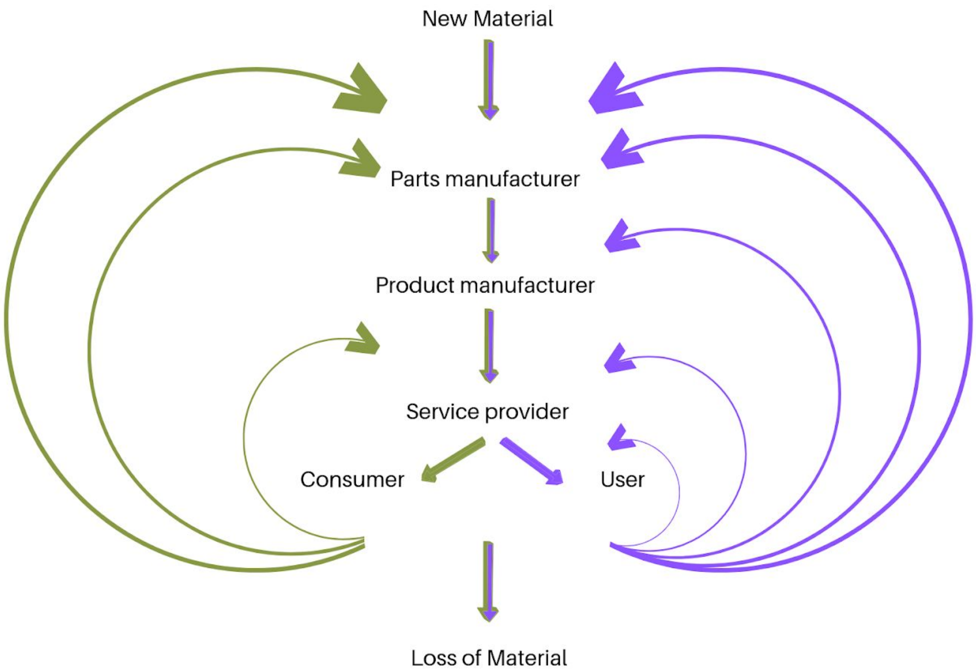


Figure 1: Circular economy model, adapted from the Ellen MacArthur Foundation, 2014

Ghisellini, Cialani, and Ulgiati (2016) identify in their literature review that three main actions define the circular economy. These are the 3R's: Reduction, Reuse, and Recycle. Reduction refers to making sure that production systems are optimized and therefore as efficient as possible. The input needed from virgin materials and energy, and the output of waste are all lowered. The reduction action also applies to the stages the finished products go through before being used, such as transportation and packaging. By reusing products after they have been made is beneficial because there is a lower need for producing new products. To recycle is the action that is most strongly connected to the circular economy by most people, even though the other actions hold higher importance from an environmental sustainability perspective since they are more energy efficient and should, therefore, be the first choice. Recycle refers to the action to reuse materials after they would otherwise be considered waste. This means to implement them into new products if possible. Even though it should be noted that achieving 100 percent circularity is never possible, these principles aim to significantly reduce the amount of waste produced by reusing the materials (Ghisellini, et al., 2016). According to the Ellen MacArthur Foundation (2017 a) circular economy utilizes three main principles. The first is to preserve and enhance natural capital. By this, they mean that it is the manufacturer's responsibility not to overuse the natural resources that are available to them, and instead of finite resources, they should focus on renewable resources. The second is to optimize resource yields. This means to both circulating the products being made as well as making sure that they maximize the usage of those products before the materials get recycled, regardless if this is through a technical or a biological circle. The third and last principle is to foster system effectiveness. This is to make sure of and continuously work for improving the system by removing negative aspects, such as excessive energy usage, in favor of positive once.

Inside the topic of circular economies, there are several different schools of thought, such as; Cradle to cradle, performance economy, biomimicry, natural capitalism, blue economy, regenerative design, and industrial ecology (Ellen MacArthur Foundation, 2017 b). In a circular economy, the focus on not only on minimizing the amount of waste created but the different school also takes into account how feasible it is from a societal and economic perspective. For example, connected to industrial ecology, recycling is mentioned as having three main benefits, it lower need for virgin materials, reduced pressures on waste disposal services, but also the fact that the waste has an economic value. This is, of course, the case when it comes to any case where materials have been recycled rather than disposed of. This value can then have societal benefits that should be considered, especially that there is a lower need for the usage of virgin material (Andersen, 2007). Since not all school of thought focuses on not just the technical aspects of the circular economy but also the non-technical, it makes them more innovative, there is also a stronger need for synergy, meaning the need for different parts of the circle to work together to reach the goals buy for example form ecological partnerships (OECD, 2009).

2.1.1 Linear economy

Since the beginning of the industrial revolution, the linear system has been the dominating way to conduct business. It has contributed to prosperity and growth in many parts of the world (Jørgensen and Pedersen, 2018). The linear system builds on the idea that products are being produced, used and then discarded, without consideration for the effects or the waste of resources that contributes to (Ellen MacArthur Foundation, 2014), (Jørgensen and Pedersen, 2018). It is connected to the neoclassical economics theory, which assumes that economic development is due to the efficient allocation of resources towards the market. However, this ideology fails to take into account that resources can be finite. The circular economy model, however, bases its premisses on the natural laws, and questions otherwise strong pillars of neoclassical economics, such as the assumption that ownership is the favored way to utilize products, and instead offer the option of services and renting (Ghisellini, et al., 2016). Ayios, Jeurissen, Manning, and Spence (2014) connects the neoclassical economic theory to similarities found in neo-capitalism. Neo-capitalism will be discussed later under the downsides of social capital, section 2.4.2 Ethical aspects. The traditional linear model has been the essence and standard in much of the existing management and organizational theory in management. In comparison to the circular economy and business management, the field lacks accepted theoretical perspectives and only has few peer-reviewed scientific works besides web-articles and textbooks. Social capital, as one of the fundamental building blocks of products and services, needs to be better understood through these shifts from linearity to circularity (Lahti, Wincent & Parida, 2018).

2.2 Circular Economy and Social Capital

It is important to note that when using the circular economy as a term today mainly focuses on the natural sciences and business model structure of closing the circle and ignores other aspects. This means that focus from science related to these businesses has mainly looked at the materials used inside the product production and how that material moves in circularly either in an ecological circle or in a technical circle (Ghisellini, et al., 2016). While some scholars argue that sharing economies, have a more significant impact on social capital than what circular economies have. This is since using services like Uber or Airbnb requires substantial social capital to work (Hobson, Lynch, 2016). It does not mean that there is no value when it comes to circular economies. One study found that for circular economies in China, it was important for the companies to build a strong social capital with governments, communities, and others. While the article does not go into specifics about the value created thought these activities, it is clear that much money goes into them (Sarkis, Ni, Zhu, 2011). Other studies have found that companies can focus on further building social capital from primary connections once the circle has been completed. This study, which focuses on green economies, to which circular economies can be seen as a subcategory, also underlies the values provided by social capital was critical in order to build win-win situations between actors and create further value (Perey, Benn, Agarwal, Edwards, 2018). The Ellen MacArthur Foundation (2014) specified that:

"The economic gain [of circular economies] can be realised only if multiple players across business and research communities come together and reconceive key materials flows and manufacturing processes, supported by policymakers and investors. The transaction costs of shifting the status quo are extremely high: no single entity can make this happen on its own. A large-scale, business-led collaboration is required."

Ellen MacArthur Foundation, 2014

This quote shows the importance of being able to collaborate with different actors in order to achieve circular economies. The section below, Network theory and Social capital, will further develop the connection between collaborating with different actors and the value of social capital.

2.3 Network theory and Social Capital

The following section presents the central works of the relevant authors examining the concept of network and ties towards social capital. A social network consists of several different ties between different actors. Ties can come to be out of different kinds of relationships such as friendship, family or co-workers. Networks are, however, different from groups in the sense that they have no definite boundary, which would have the effect of clear insiders and outsiders to the group. Networks, in turn, can transcend these barriers and include ties over several groups Borgatti, and Halgin, (2011). Granovetter argues in the article Strength of weak ties (1973) that in the relevance of sociological theory and understanding patterns in network structures. Not enough emphasis is put on micro-level interactions, small scale personal experiences, in relation to macro-level patterns, larger scales of social structures. Granovetter investigated information flow in social networks and clarified the importance of understanding the processes of interpersonal networks and their impacts. A tie could either be strong, weak, or absent. Absent ties are the non-existent relationships which have no substantial significance, for example, neighbors who are only nodding to each other or the local postman delivering mails. A strong tie includes more substantial time commitments, mutual feelings (through cognitive congruence between friendships as one example) and more resemblance in the personalities of the people involved can be found in stronger ties.

In the paper from Granovetter, the author explained the strength of the tie as;

"combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie"

Granovetter, 1973

Between weak ties, the psychological compatibility is not as critical and fewer sentiments are involved in the interactions. Granovetter (1973) declares that by looking at the mechanisms and links between ties that the indirect, or weak, ties are more likely to be a source of novel information and are of equal importance as strong ties. Behind this statement lies two premises. First bridging, which provides the only path between two points, most likely occurs between weak ties, since multiple short paths already are linked between the strong ties. Second, because bridges are the sources of novel information and weak ties are bridges, he concludes that weak ties being the best potential sources of novel information.

Burt (2000) has through his research on network theory continued to develop the concepts around social capital and ties. He built further on Granovetter's theory on the strength of weak ties by examining the mechanisms responsible for social capital and its effects. He introduces the concept of social structural holes and shows how weak ties in a network structure creates structural holes in a market. A structural hole according to Burt (2000) could be two social groups, regardless if they are aware of another or not, doing their own activities, circulating in their "flows of information" not engaged nor focused on the other group. These types of weak connections allow actors to acknowledge those and act as" brokers" and use them as an advantage. By adapting to these holes, which separates “non-redundant sources of info” which are accessing unique information rather than recognized, facilitates new benefits and information flow by bringing people together from different groups. Creating value is not possible through interactions or connections alone among actors. Rather this is enhanced in the structure of networks and the specific network mechanisms responsible for social capital (Burt, 2000). Burt and other authors citing social capital and its advantages agree on individuals or groups who do better are somehow better connected. Social structure can be seen as capital and create a competitive advantage when succeeding to access information or connections available outside of their own network. Concluding it is not about the size and hierarchy of the network which is important instead it is about the relevance of density, not being too dense, and its conditions and being able to access structural holes in the network. The author devotes attention to the efficiency of different relationship structures, arguing, in particular, that the sparse network, with few redundant contacts, provides more information benefits. The dense network is inefficient in the sense that it returns less different information for the same cost as that of the sparse network. The benefits of the latter derive from both the diversity of information and the lower costs of accessing it. This aspect of diversity is important because it is well established that significant progress bringing together knowledge from diverse sources and disciplines. Networks and network structures, thus, represent facets of social capital.

Social capital is a complex phenomenon that can be studied from many different perspectives and at different levels in societies. A few of the many definitions of social capital is shown in the introduction of this paper. As explained in the introduction the authors have chosen to use the definition of social capital as;

“The sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by individuals or social units”

Nahapiet and Ghoshal, 1998

Explained in further simple terminology as the social interactions between actors and how the interactions offer potential resources through these relationships. The social capital studied in this paper takes a socio-economic view of the processes in a business context based on the earlier work of Granovetter's and Burt's works, investigating the sociological and individual aspects of social relationships, with the essence of social capital from an organizational perspective through the acknowledged model of its dimensions presented below.

2.4 Three dimensions of social capital

Impacts of social capital on an organizational level is explored by Nahapiet and Ghoshal (1998) outlining a model presenting three dimensions of social capital. The scholars describe how these dimensions allow the combination and exchange of intellectual capital and facilitate the creation of new intellectual capital. The three dimensions of social capital are presented as structural, relational, and cognitive (See figure 2). The structural dimension is based on Granovetter's (1973) earlier work on weak ties and Burts (2000) work on the structural holes. The authors explain the structural dimension as network ties, network configuration, and appropriable organizations. The cognitive includes shared language and codes, shared narratives. Last, the relational dimension constitutes of trust, norms, obligations, and identification. The following paragraphs present the three dimensions further in-depth.

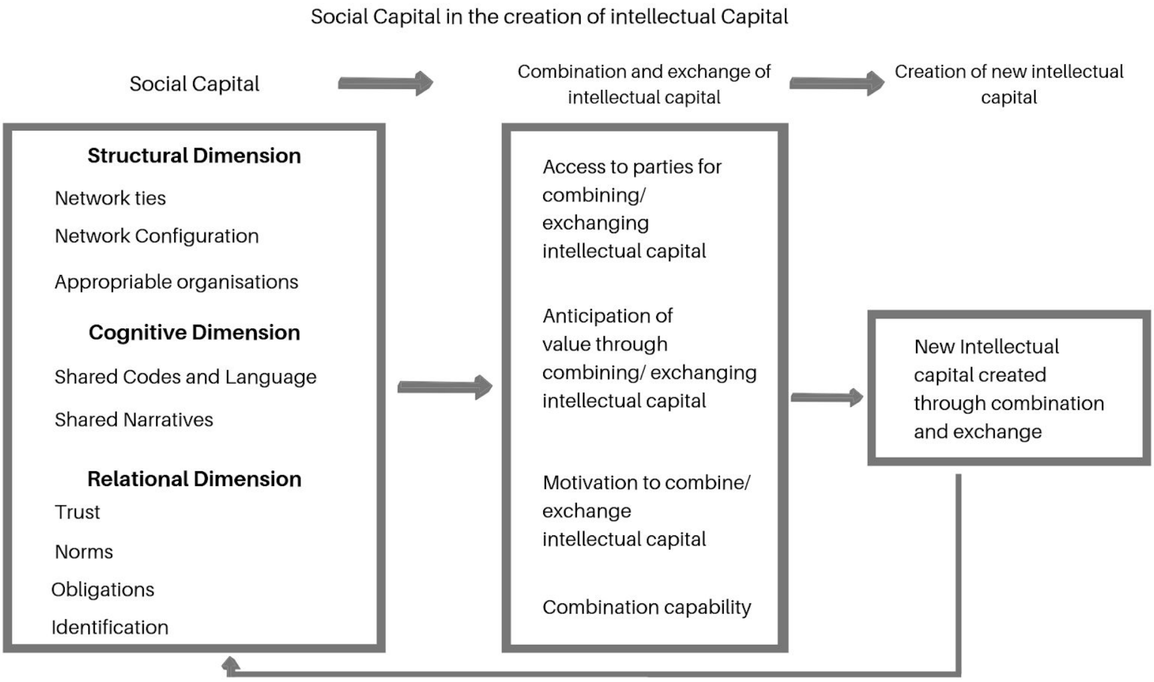


Figure 2: Social Capital and its three dimensions together with its usage and effects, adapted from Nahapiet and Ghoshal, 1998

2.4.1 The structural dimension

The scholars define the structural dimension derived from Granovetter's terminology of structural embeddedness, which includes the properties of the social system and the network of relations as a whole. It is the outlining of the overall pattern of connections between actors. These are applied as the impersonal linkages between people or units and who and how they are reached. In the different conditions for exchange and combination of knowledge, the facets presented under this dimension can also be closely associated with the conditions of the relational and cognitive dimensions of social capital. However, the scholars elucidate them as associations deriving indirectly since the structure influences the development of the other dimensions. (Nahapiet and Ghoshal, 1998)

2.4.1.1 Network Ties

The first important facet included in this dimension is the network ties. The network ties are the social relations developed which allows for a source of information benefits and access to resources. Network ties are specified according to Nahapiet and Ghoshal (1998) through three characteristics access, timing, and referral. The members of a network through the levels of information screening and distribution efficiently access valuable information. Timing includes accessing relevant information sooner than for those not having these contacts. Lastly, the stakeholders' network provides a broad base of referrals to customers, suppliers, alliances, and alternative business models (Nahapiet and Ghoshal, 1998).

2.4.1.2 Network Configuration

The second network configuration includes the structure of the network as a whole taking into account its density, connectivity, and hierarchy. The structure will showcase differences in flexibility, diversity, and the ease and flows of information exchange. Sparse networks with few redundant ties have more opportunities for diversity in information flow and easier for accessing it. Weak ties facilitate search but also has some disadvantages. It is harder to succeed with a transfer since the knowledge has to be codified or understood first. When the information is uncertain or ambiguous, the exchange becomes less problematic when the ties are strong. (Nahapiet and Ghoshal, 1998)

2.4.1.3 Approbiable Organisations

Last, the appropriable organization relates to social capital being transferred between different contexts due to certain "affiliations or aggregations". In other words, a network that is created in one purpose but could be used for others as well. Information and knowledge can be accessed through these appropriable social organizations which can provide a potential network of access to people and their resources. The motivation and capability for such exchanges are ensured through the relational and cognitive dimensions (Nahapiet and Ghoshal, 1998).

2.4.2 The cognitive dimension

Knowledge and meaning embedded in a social context are created and sustained through ongoing social relationships. A meaningful communication requires sharing of context between the parties in such exchange. Certain important conditions facilitate social interactions and how information is shared and understood. These include shared language and codes and sharing collective narratives. (Nahapiet and Ghoshal, 1998)

2.4.2.1 Shared language and codes

Language and codes have a direct and important function in social relations. Through discussions, exchanging information, asking questions, and conducting business in society it affects the abilities to gain access to people and information. The language also influences individuals perceptions when processing and interpreting received information. When observing an environment, codes and languages organize the sensory data to provide individual frames of references. The scholars explained between parties there must be an overlap of knowledge, that is to say, identifying the importance of both perspectives during knowledge creation. Explained as the abilities to combine different knowledge for beneficial purposes. (Nahapiet and Ghoshal, 1998)

2.4.2.2 Shared narratives

The shared narratives elucidate the myths, stories, and metaphors which provide powerful meanings, both imaginative and literal observations and cognitions that facilitate information exchanges. There are two different modes of cognition; the pragmatic mode and the narrative mode. The first is based on rational arguments and analysis. The second includes synthetic narratives. These involve fairy tales, good stories, or metaphors which can cut across different context when communicating and understanding each other. Practice and tacit experience can easily be improved through full stories and significant details. (Nahapiet and Ghoshal, 1998)

2.4.3 The relational dimension

One of the essential aspects of succeeding with best practice within an organization, the major obstacle of tedious relations between source and recipient has to be overcome. The relational dimension of social capital becomes significant and crucial in the conditions for beneficial exchanging and combining of knowledge. The relational embeddedness in opposite to the structural, describes the personal relationships historically being developed through earlier interactions and learnings. The levels of this dimension include trust and trustworthiness, norms and obligations and expectations that facilitate the processes. The advantages include utilizing the assets already rooted in the relationship based on earlier experiences and exchanges. In, for example, friendships, family relations, or earlier colleagues, certain qualities already exist in the relationship such as trust and respect. These contacts and relationships, in turn, affect the behaviors within the organization and affect the ongoing fulfillment of social motives. The motives could be sociability, approval, and prestige. (Nahapiet and Ghoshal, 1998)

2.4.3.1 Trust

The first of the four facets in the relational dimension is trust, which inclines the greater of its existence between people, the more is the willingness to collaborate and engage in social exchange. The scholars describe the conditions of two parties interacting from confidence and accepting a type of vulnerability. The confidence arises from four building blocks; the belief of their good intentions, belief of their competence and capability, belief in their reliability, and lastly the belief of their perceived openness. People who experience trust are more willing to take risks and become more open to comprehend all types of information, ensuring communication and dialogue. (Nahapiet and Ghoshal, 1998)

2.4.3.2 Norms

The second facet is norms, which are the collective expectations of actors in a social system, forming a level of mutual consensus. If norms exist and function effectively, it accounts for social capital and constitutes a strong base in the creation of intellectual capital. For example, openness and teamwork as key building blocks and prioritizing cooperation rather than competition are a few social norms. Another includes norms of interaction when acceptance and adoption to diversity, criticism, and failure are emphasized. (Nahapiet and Ghoshal, 1998)

2.4.3.3 Obligations and expectations

Obligations and expectations in opposite to norms are the specific expectations existing in a personal relationship between two actors to be fulfilled in the future. In cooperation between two parties in different companies, the collaboration goes beyond written contractual agreements leaving the “self-interest” due to a more profound commitment to the collaboration and helping each other out. (Nahapiet and Ghoshal, 1998)

2.4.3.4 Identification

Lastly, identification allows individuals to associate themselves with other people or groups through common values or standards. This, in turn, enhances concern for collective processes and outcomes, increasing the opportunities for exchange and creation of knowledge. All of the facets mentioned above create conditions for social capital to facilitate the combination and exchanging of knowledge or intellectual capital. (Nahapiet and Ghoshal, 1998)

2.5 Downsides to Social capital

On one extreme, a common comprehension exists between scholars; several positive results can be achieved through social relationships. There are evident values to be created for involved key parties and broader society. On the other hand, there are downsides to discuss in social capital as well. It is crucial to emphasize the existing critique from researchers when doing these types of studies on social relations. In the following part, reservations on social capital based on the three-dimensional model are presented, as well as the ethical concerns connected to social capital. The ethics and morals of social capital compared in this paper will be from a *neo-capitalist* approach versus a *network* approach.

2.5.1 Reservations on social capital from the three-dimensional model

Nahapiet and Ghoshal (1998) present in the dimensions of social capital what is beneficial for organizational value creation and firm effectiveness through fostering of intellectual capital, i.e. knowledge. Locke (1999) wrote an article responding to the authors model having individual reservations about social capital. There can be two sides of managing social capital not necessarily assuming only favorable conditions and determinants through these social relationships. Locke argued on three principles which cannot be disregarded by firms since not all of our knowledge is “socially constructed”. These are objectivity, knowledge creation, and causality.

The first principle refers to companies lacking objectivity becoming too embedded through only linking business with social relationships. Objective communication is giving information to those who need it, regardless if they are close or not. If the emphasis only is put on social relationships, certain ties can become isolated, resulting in a wrong focus by creating a “whom you know culture” which divorces the reality. Secondly, knowledge creation cannot be associated as knowledge created by a social entity, several minds or a “group mind”. The basics are wrong since idea discovery originates from one single individual mind doing mental work to make knowledge useful. Therefore before knowledge can be communicated and combined, an organization has to assure primarily individuals to take steps to discover ideas before stressing knowledge communication or combination. Lastly, Locke (1999) clarifies through the causality Nahapiet and Ghoshal’s base their basic premise that social capital can be generated in new knowledge and competitive advantage is not ideal for management and organizations. He argues it should go the other way around originating in constant discovery of new knowledge followed by communication and later utilization of the new knowledge. In turn, he implicates managers should proactively search for new knowledge and create intellectual networks based on who can see the values of it. Then mainly the development of trust of competence is the only relevant condition independent on certain relationships are evolved during the process. Summarizing what Locke believed is besides passion in which move people to create, not having the most ruthless dedication to facts, objective knowledge and reasoning when running a business will neither be saved by its social capital. (Locke, 1999)

2.5.2 Ethical aspects

Ayios, Jeurissen, Manning, and Spence (2014) presents and adds moral elements to the social capital theory. There are certain risks for managers or scholars endorsing social capital while overlooking the ethical aspects resulting in certain values and good causes potentially being lost on the way. The downsides presented in the article reflects upon how social capital can become highly selective, lead to the unintended exclusion of others; some people become and are seen more privileged and great inequalities can occur. In networks, certain people are enabled in their position while others are constrained. The authors conclude the downsides as;

"To sum up the arguments regarding social capital's 'dark side', it is a resource that can be subject to high levels of selectivity and manipulation by actors using it and those subject to it, and this can lead to great inequalities and perverse outcomes in the attainment of optimum 'economic outcomes'."

Ayios et al., 2014

The authors aim of the paper was to understand the nuances of social capital and its downsides better, applying ethical theory to certain approaches of social capital. Two of the approaches will be elaborated in the section below, the *Neoclassical* and the *Network and Reputation* approaches. The related ethical theories are; consequences of actions, *Utilitarianism*, the fairness of actions, *Justice*, principles and duty, *Kantianism*, and lastly relationships, *Ethic of care*.

The first approach to highlight in this paper is *Neo-capitalism* connected with the four prominent ethical perspectives. The capitalist approach on social capital is when the focus lies within the investment of resources achieving expected returns in the marketplace. The goal of an action is the pursuit of high profits through invested and mobilized resources. Neo-capitalism includes society as a whole in which the population's abilities in the country are seen as social capital. The downsides of this approach are heavily criticized and from business perspectives when social capital is favored for utility maximization, and particularistic interests go before the goal of doing general good. It is when individuals are reduced to forms of capital, and mainly thoughts of rational choice are the crucial criteria.

There is a close alignment between neo-capitalism and the *consequences of actions*. This is when social capital is seen as aggregate welfare and providing collective social goals. On the other hand the *fairness of actions* with problematics of the justice in Neo-capitalism is not evenly distributed; usually, to achieve greater good, it results in that disadvantage people pay the price for the advantage. The *principles and duty* show that people is regarded as capital rather than persons. Lastly, in the ethics of *relationships* in Neo-capitalism, people are viewed as rationalists basing their choices on economic actions rather than of empathy and care. (Ayios et al., 2014)

Moving on to the network and reputation approach connected with the four ethical theories shows certain different dilemmas. First, in *consequences of actions*, the pursuit of greater good is not necessarily proportional to the individual goals, the former is although dominant. Secondly, in *fairness of choice*, closed networks can prevent an open flow of social relations which forum inequalities and social exclusions instead. Similar to what Locke (1999) mentions about becoming too embedded in their existing network. In *principles and duty*, the instrumentalization of social relations can be utilized to one's own end only. Networks studies transform the phenomenon of individuals and groups interactions into mechanical assets instead. Associating networks with nepotism, favoritism, intolerance, in-breeding, and non-transparency clearly can be discussed. In comparison to the ethics and morality of universiasability, that all people must be treated the same way, or on it's extreme treating the stranger the same way as the friend, gets disputed in the principles. Not respecting others and using others for means only is highly unethical in this approach. This goes close in hand with the *relationships* and ethics of care and the last theory elaborated. Relations developed or "utilized" in network theory is closely associated with personal gains and undermines the values of genuinity. This creates a rule of behavior promoting obligations and future reciprocity rather than respecting others under all circumstances. (Ayios et al., 2014)

3. Research method

The outline of this chapter aims to fully display, and critically reflect on the choices made in the methodology and research design. Clarifying the framework adopted when doing network studies and arguing how and why specific strategies were chosen in the data collection and analysis. A specific set of criteria when doing qualitative research is also presented.

3.1 Research strategy

The paper aims to answer the research question by obtaining a deeper understanding of the research area, choosing to do so through a qualitative research strategy. To be able to discover predictions about relationships, perceptions, and patterns within the complexities in specific context and settings, in-depth interviews at a single point of time is required. Due to limitations of time, a longitudinal research design will not be possible. To understand the set of individual perceptions shared among members of an organization and managing the external network, a qualitative approach is advantageous rather than examining quantitative variables aiming for generalized results. Many qualitative and quantitative pieces of research have been done within the subjects of sustainability or network or social capital or value creation, mainly to distinguish what leads to a successful business. This research, on the other hand, aims to contribute with novel insights over ongoing processes in an entrepreneurial firm utilizing social capital in order to close the circle. This paper will generate a deeper understanding of the existing conditions, contradictions, and difficulties in managing their network. The level of difficulty in the subject and the need to look from the eyes of the interviewee to grasp perception and reasoning in social organizational settings probate a qualitative research strategy. Also, a subjective epistemological position is taken to understand words rather than numbers. (Bryman and Bell, 2015)

3.2 Research design

In this study, the method for collecting the data will be through a single case study according to recommendations from Yin (2014). The company chosen for the study is representative in the field of circular economy. This makes the case covered in this paper a so-called common case. The objective of using such a case is to understand everyday situations since the social process of this case will be of interest to further understand and develop the theory around social capital under different circumstances, as well as understanding the creation of circular economies from the perspective of networking. The goal of this study is to use a descriptive single case study, which is ideal for gaining the wanted results since it allows the researcher to look deeper into and fully understanding one case. It is also the hopes of the researchers that this study will be used as a foundation to facilitate the building of future theories, within the field of social capital and its relation to circular economy which is the nature of inductive qualitative studies.

3.2.1 Single case study Juteborg

Since the topic of how networks and social capital influence the building of circular economies and that this topic is largely unexplored, the usage of a single case study is an ideal place to start to collect the data needed.

"Whatever the field of interest, the distinctive need for case study research arises out of the desire to understand complex social phenomena."

Yin, 2014

Since this study is using a *how* question, it does not require control over the events or the environment being researched in order to answer the question. Since it is also focusing on contemporary events, there are three different research methods recommended by Yin (2014), survey, archival studies, or case study. Since it is a relatively new field of study, more inductive studies are recommended before making a larger deductive one, to understand the topic given to its fullest. Therefore a survey is not to recommend. Moreover, the same goes for archival studies, since there has not been a lot written on the topic, it could not be done successfully. This leaves case studies as a method as the best viable option for investigating this research question.

The company Juteborg AB was selected since they are currently in their process of closing their circle. They have an idea of how they could do it theoretically and are currently working with making it happen practically. Since this is an interesting contemporary event, it was one of the main reasons that they were chosen for this study. Other reasons are that they are a small company, allowing the researchers to cover a fuller view of the network. They are also the central force in the creation of their circle since they are the once connecting the different partners, this allows the researchers to gain a holistic view of the circle's creation without speaking to all stakeholders. The reason this was not conducted as a is not a multiple case study is first that network studies are complex and time-consuming to investigate due to the many participants in networks and the complexity of their relationships. Secondly, there are not too many companies on the market available to the researches that work with circular economies. They have, therefore, not identified a second company that would be interesting to investigate. The people sampled for the interview are all part of the daily management of the company and are all responsible for dealing with the network. The research is one-sided in the sense that the people within the network have not gotten a chance to reply and give their views on the relationship that they have with Juteborg. However, this was a conscious decision from the researchers since it once again would be highly time-consuming and difficult to determine who in the network should be included in such a part. Even with the closest partners, it would be hard due to time, language and culture differences, etc. Instead, the researchers have opted to use thick descriptions of the relationships and to give as much context as possible.

3.3 Methodological Framework for Network studies

When using the three-dimensional model and in order to map the existing social capital within Juteborg, certain constructs and defining measurements will be presented in the following part. This paper aims to adapt to the methodological challenges that a network study implies, the following sets of prerequisites of a qualitative network study. It is crucial in network studies to understand and present a relevant scope of limitations and how to conduct the study through clarified assumptions increasing the validity and reliability.

One of the significant obstacles network researchers has to overcome is the lack of methodological literature. Halinen and Törnroos (2005) examine several challenges existing within case research when developing theory in network studies partly the problem of network boundaries, network complexity, and the role of time. The authors introduce tools as frameworks in order to solve these issues in network studies. Since a business network involves a lot of different actors, at least more than one, in a loosely coupled system increases the problematics and intensifies the workload of data gathering. The identification of a firm's formal or informal agreements, its flexibility and inherent characteristics of constant change obstruct the research. The embeddedness and temporal dimensions allow a network to be unique and context-specific. The work of Halinen and Törnroos will aide the study through practical methodological propositions without epistemological and ontological viewpoints (Halinen and Törnroos, 2005).

The first challenge with the problem of network boundaries includes defining the network itself, what is forming the network, and what belongs to its context. One can question if it is even possible to study an entire industrial network based on the structural outline per se or of the perceptions of the involved actors. The authors provide certain concepts to serve as a method to delimit the boundaries (Halinen and Törnroos, 2005). This study will look at the organizational network level or the meso level also called as the egocentric view (Provan, Fish, & Sydow, 2007). The concepts of *network horizon* and *network context* are useful clarifications when studying the perceptions of an actor when defining the network boundaries. Network horizon is how expansive the actors' view of the network is. In other words, the actors experience of the outer boundaries. The network context includes the actors' perception of how relevant the horizon is. Which relationships are more relevant than others and the activities performed within it. (Halinen and Törnroos, 2005) The emphasis will be on the role of executive leadership, co-founders, and the main responsible for developing and maintaining external relationships with Juteborg. The indicators will be adopted to outline the external social capital bounded by perceptions and their relevance.

The second challenge is the problem of complexity emphasize the difficulties in understanding network embeddedness, which involves spatial, social, political, and technological and market structures dependencies between the actors. The relations and the embedded structures can be complicated to outline, understand, and question whether holistic network studies are feasible at all. The authors propose that in order to receive the relevant information to outline the network avoiding important missing characteristics, relevant limitations has to be set. However, using a too narrow scope, the inherent nature of the network could be lost. Acknowledging the concepts of *horizontal* and *vertical* dimensions of the business environments involve other relations than of the embedded social or spatial ones.

There are connections and dependencies at different levels and structures in the business environment; for example are geographical level (global to local levels), value chain levels (different stakeholders) and business setting (industry to individual levels) (Halinen and Törnroos, 2005).

The third challenge is with the problem of time include the dynamic and changing nature of a contemporary network, depending on the value they create and problems needed to be solved accordingly evidently networks will be reconfigured over time. The authors explain network and case research can be characterized as a process or longitudinal research. The scholars present the process research as Pettigrew (1997) defined it; "a sequence of individual and collective events, actions, and activities unfolding over time in context". The task of a researcher in a processoral study is to search for patterns in a process and its underlying mechanisms shaping them. (Halinen and Törnroos, 2005) This study does not allow the possibility to use a longitudinal method due to time constraints. Therefore a *process-oriented* approach is adopted with the framework of *relational time* instead. The framework is based on relations investigated from temporal perspectives of past, present, and future relative to its different contexts. The three temporal modes of time are viewed in connection with each other. How networks evolve, develop, dissolve or expand and contract over time. Also, the visions and future scenarios affect the evolution of the network. The *future loadeness* will be taken into consideration where the network actor wants to be and what they want to achieve with the relations in the future (Halinen and Törnroos, 2005).

3.4 Data collection

3.3.1 Collection

The data collected in this case comes from primary sources. This primary data was collected through a series of individual semi-structured interviews with the three people who make up the central management of Juteborg AB, as well as data collected from the company send-outs on their blog. Semi-structured interviews are recommended by both Bryman and Bell (2015) as well as by Yin (2014) when conducting case studies. This is because it allows for a deeper understanding of what is being investigated. Two interviews were held with each worker, an initial interview around one hour and a follow-up interviews between one hour and 30 minutes (as shown in Table 1). Because of the time frame together with the number of questions that needed answering a semi-structured interviews were preferred over a fully unstructured interviews, since it still ensures a level of focus during the interview (Bryman and Bell, 2015). The outline of the Interview Guide is shown in Appendix I. The interviews were continued until the point of theoretical saturation. This was when the researchers found that they had collected answers from the participants that confirmed the answers that they had already been given. In order to help triangulate the network, the researchers also looked at data from other sources. This consisted of looking through published posts from Juteborg on their blog and using these to help map out their network of stakeholders. This list was then given to two of the workers, to check for incorrectness and visualize how their network had developed. After the data was collected the interviewees were given the chance to read through the empirical data to confirm its correctness. Due to the request of the interviewees, they have chosen to be public and are therefore not anonymized in this paper.

Name	Role	Date	Time	Place
Christina Östergren	Co-founder, CEO	2 May 2019	75 min	Their office
		13 May 2019	45 min	Phone
Else-Marie Malmek	Co-founder, Chairman	12 April 2019	50 min	Their office
		8 May 2019	30 min	Phone
Abir Hossain	Manager	12 April 2019	58 min	Their office
		7 May 2019	62 min	Phone

Table 1: Data collection: Interview collection table

3.5 Data analysis method

The analysis of the collected data will be done through coding using a thematic analysis. This was done manually by categorizing different abstracts from the interviews to the theory being used for analysis. This is also known as theory-related-materials since the themes used for the coding comes from already established science (Bryman and Bell, 2015). The first coding from the first set of interviews was done before the second set of interviews. This has allowed for theoretical saturation to occur, since any gaps in the collected data could be identified early and new questions could be made until all the data needed was collected. This means that the researchers found that no more data where needed in order to conclude the research (Bryman and Bell, 2015). For the themes used for the coding the researchers used the three dimensions of social capital model, since the idea was to identify how the different measures of social capital, structural, cognitive and relational dimensions, could be connected to the closing of loops in circular economies. It is of importance to mention that the collection of data and the choice of separating the empirical findings into the three dimensions is to facilitate the analysis. But as Nahapiet and Ghoshal (1998) mentions the dimensions in themselves are deeply interconnected, what exactly represents structural, relational and cognitive can sometimes be difficult to fraction. Even though the empirical presentation and analysis are divided into the three dimensions, the contributions are in the end a broad representation of the social capital being used within Juteborg while they are trying to close the circle.

3.6 Quality criteria

This section brings up the necessary quality assessments and criteria to acknowledge in order to bring validity and reliability to the chosen research connecting with the methodological framework presented earlier. Designing and outlining relevant research strategy and methodology also includes considering and adapting to criteria for the relevance and validity of the research. By using and stating appropriate conventions and principles to minimize the possible negative fractions in the process will affect the quality, rigor, and wider potential of research. The criteria usually used in research are external reliability, internal reliability, internal validity and external validity. The two main problematics when doing qualitative research are achieving and corroborating higher external reliability and external validity. First due to the difficulties of replicating an exact same study again whilst receive the same results at the same time. Second, the findings cannot be generalized since a small sample size does not correspond to a larger group in society. (Bryman and Bell, 2015) Reliability deals with the issue of being able to make sure that the data presented is reliable and can be trusted as being representative of the study that it covers.

According to Bryman and Bell (2015), there are three main aspects of reliability that researchers should consider: Stability, internal reliability, and inter-observer consistency. Stability is the question of whether the research is stable over time. As is known when it comes to networks, they are in a constant state of change. Bryman and Bell (2015) suggest using a longitudinal study in order to check if the data holds true over time. In this study, however, the researchers have decided to use another method based on an article by Halinen and Törnroos (2005) that is further explained in the third challenge under the framework. This means that while the study is conducted under a shorter time frame than what is ideal, it should still be reliable. To further support the stability of the data being presented, the researchers will interview several people connected to the case multiple times as well as looking at other sources such as publications on websites. Internal reliability is looking at that the data that is used is measured in a way that they use the same scales and can easily be compared to each other (Yin, 2014). In this case, the researchers will be using the framework based on the three-dimensional model of social capital. Inter-observer consistency is dealing with the issue that much of qualitative studies are dependent on the researcher for interpretation of the data and it is common that when there are multiple researchers, such as in this case, that there may be inconsistencies when it comes to how they e.g., how they collect the data or interpret the collected data (Yin, 2014)

In qualitative research, an alternative set of criteria is used for evaluating which in turn is closely connected with the four earlier criteria presented at the beginning of this part. The following two sets of primary criteria which are presented aligns more accordingly to the requirements for assessing and accomplishing qualitative research (Bryman and Bell, 2015). This research paper takes theses criterias into account. Trustworthiness and authenticity have nine sub-criteria in which trustworthiness include credibility, transferability, dependability, and confirmability. Authenticity covers fairness, ontological authenticity, educative authenticity, catalytic authenticity, and tactical authenticity. To achieve transferability accuracy and careful consideration of the sampling and thick descriptions are used to allow findings of the research to be understood in other situations or milieus. The interview will be recorded and transcribed, and the sensitive network will be presented anonymously. Dependability comprises saving and keeping full records of all the data, information, and analysis during the research, and everything should be well managed during the different processes to facilitate structured auditing. After the conducted research, the researchers will ensure credibility by sharing the data with the participants to confirm the findings of the research equals the perspectives of participants. If some parts lack correspondence, the collected data will be revised and followed up. The researchers have the motivation to be unbiased and strive for high objectivity. Acknowledging it is not possible to achieve total objectivity in subjective research no personal values or biased reflections are allowed in conformability. Triangulation and respondent validation will be used to detect any weaknesses of theses biases and possible unwanted angeling in the process of data collection and analysis. The last criteria of authenticity aim to address the problematics around the political impact of the research. The research should help members to understand their social setting better, appreciate other member perspectives as well as engage in the necessary steps for action. Various and different viewpoints among the interviewees will be collected to shape the study. Concluding the last criteria, the research aims to generate debate, transparency, awareness, and possibly engage action by stakeholders.

Lastly, the researcher's interpretation, which can be defined as the researcher's unsystematic views of what is significant, may challenge retrieved information and can result in generated bias in the research. The structuring of the interviews and questions has to be well managed, described, and thought over. Choosing the proper coding to transcribe the collected data is evident. If another study on Juteborg's network had been conducted in the same time frame and using the same methodology, it would not be possible to replicate the same study. The collection of data, the analysis of data, and consequently, the result would have ended up showing differences. This is also due to the researchers being the instruments for interpretation of the data. To minimize the aspects of human error, allowing others to validate the processes and conclusions allow the interviewees to take part and question impressionistic differences can help amend this issue. Taking notes in the thinking process and reasoning will also help the level of objectivity. Another important implication of the data collected is dependent on transparency when interviewees share information. What information is shared or not, sensitive facts and secrets kept within the company are expected to be excluded in the findings of the research.

4. Empirical findings

In the following chapter, the findings from the collected data will be presented from the interviews at Juteborg and their three core employers. The data will be outlined through the background contexts and the three dimensions of social capital.

4.1 Case study context

In the following section, the companies core team will be presented. The three main employees explain their history, earlier experiences, and background before leading up to their work in Juteborg. There will also be a short presentation of the other people directly involved with Juteborg and their board. Also, more in-depth background on Juteborg is depicted and their perspectives on closing the circle.

4.1.1 Core employers

Christina Östergren

Christina Östergren is the first co-founder of Juteborg together with Else-Marie Malmek. Östergren is today 62 years old, and the two of them started Juteborg back in 2013. While Östergren is the CEO of Juteborg, they both insist that they share equal responsibility. Her main business field is construction and interior since she has a background as an architect. She founded Archidea in 1991, an architect office and 2015 she decided to sell it in order to focus on Juteborg. She describes her network as large; this is relating to her background as a company owner for over 25 years and working with city planning and innovation. Besides Juteborg, she is a co-founder of an innovation platform called Intersection Point. Intersection Point is a meeting place for people where diversity drives innovation from different sectors who want to work with innovation and sustainability solutions. Back in the 1990s, she was one of the founders that started an organization in Gothenburg called Göteborgs Stenstad, and Archidea was an early member of Business region Gothenburg (BRG). These organizations involve different kinds of networking possibilities.

Else-Marie Malmek

Else-Marie Malmek, a parallel entrepreneur, is the other co-founder and head chairman in Juteborg. Her main business area is automotive and transportation. Malmek is 58 years old from Gothenburg. She took her Bachelor of Science in Information Analysis and has been running her own company Malmeken AB since 2006. Previously she had another management company between 2000 and 2006. Malmek has 33 years worth of experience in the automotive industry. Working 15 years for Volvo cars and 19 years as a management consultant towards the industry. Malmek describes her passion for entrepreneurship and innovation, and it has always been an important part of her life. She invented “The Network Concept Car”, a connected vehicle with the business case car sharing. It became the embryo of Sunfleet, the Volvo Car Sharing company. During the last ten years, Malmek has been a project manager for several research triple helix projects related to the Innovation Platform SEVS.

Abir Hossain

Abir Hossain comes originally from Bangladesh and is today based in Gothenburg. Hossain has a Bachelor in Business Administration and took his Master in Managing in a Global Context program from Jönköping University in 2017. Earlier work experiences include business development, project management, trade marketing, retail distribution, partner management, business analysis. He is now at Juteborg with the role as a sustainable business development manager. Considering his internship period, as well as his employment at Juteborg, his time working for the company a bit over three years. Hossain is the bridge between Bangladesh and Juteborg in Sweden. Specifically, his role is to take the innovation the company has from the Jute and introduce it to the market. Starting from the marketing, sourcing the machinery, finding and assessing the right partners to work within Bangladesh and help set up the factories. He is also an integral part of the negotiation and engagement with probable partners, collaborators, and customers both in Bangladesh and western markets. Beyond this, Hossain manages the investor pitches to get more funding and arrange investments for the production setup and connecting with the interested people in the work of Juteborg.

Others

Besides the core team, several other actors are directly involved in Juteborg even if they are not there full time. These are the board of directors: Otto Frommelt, who has previously worked in the automotive industry for Volvo and is today part of the Liechtenstein government working with vehicle legislations. Professor Mohamed El Sioufi, an architect, he as amongst other matters, had a leading position in UN-Habitat for 25 years. Peter Andeby, is a lawyer at MAQS and has experience as a bank and business advisor. Östergren and Malmek also have their husbands, Thomas Östergren and Lars Malmek as part of the board. Outside of the board, two other people are important for the branding of the company: Magnus Rosén, who is their jute ambassador, one of the top 10 bassists in the world who has been a member of such bands like Hammerfall, Avalanch and Shadowside. Other ambassador missions that he holds are for the hunger project (hungerprojektet) , RSK against violence towards women, etc. Solaiman Shukhon, media influencer in Bangladesh with over 550.000 followers.

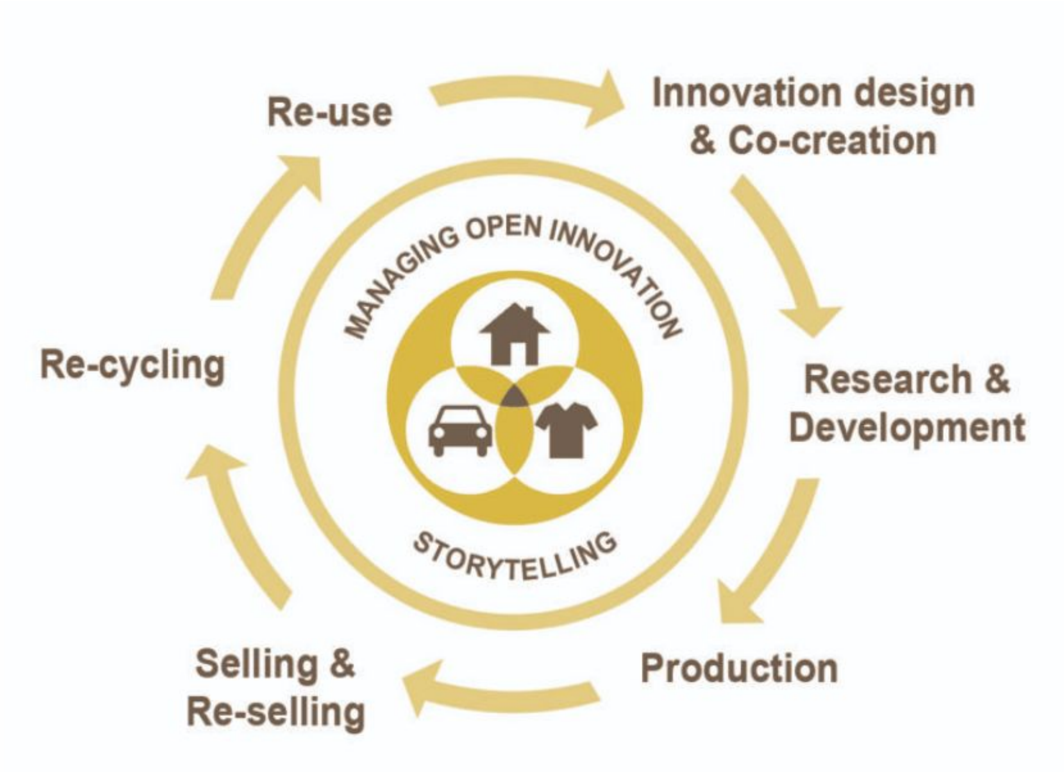
4.1.2 Juteborg deeper background

In 2013 Christina Östergren and Else-Marie Malmek founded the company Juteborg AB. It was a result of Östergren's search to find the most sustainable material in the world to build affordable and sustainable housing structures, eCon. When she found jute, she was amazed to discover that not only is it out of natural materials superior to, for example, bamboo when it comes to growth time and impact on the environment. However, the technical properties of jute are also compatible with other conventional building materials. According to Juteborg jute has a tensile strength comparable to steel, is about 30 percent lighter than glass fibre, has low density and insulating properties, it is 100 percent natural, biodegradable, recyclable and combustible, has anti-static and has UV protective properties, is CO2 neutral, and it is antibacterial and antiseptic. All this makes jute as a material highly useful. When Malmek heard this about jute from Östergren, she saw the benefits that this material not only in the building industries but also for vehicles, an industry where she has done most of her work with sustainable IT, entrepreneurial and intrapreneurial development. As with every innovative idea, much work was needed before entering the market.

Jute is mostly known for being used for ropes, in burlap for coffee bags, and other low value and traditionally weaved products. The fibres are coarse, making it less desirable for making clothes out of without refining it. Jute is also one of the main cash crops of Bangladesh. Almost over one-third of the population, or over 50 million people, are depending on the jute income. Since the products made from jute does not hold a high-value today, this is where Juteborg comes in. They want to be able to make more technically advanced products incorporating jute, also giving a chance to make this plant more valuable for the people who work with it in Bangladesh. One main product that is currently in their pipeline is jute reinforced plastic granulates (JutePP) which can be used for making any plastic product by reducing the amount of virgin plastic. Other jute innovations in their development stage are denim fabric, packaging, and many other things.

4.1.3 Juteborg on closing the circle

Juteborg has from the start been focusing on sustainability, and their circular model has developed along the way. The circular model that the company is using as a guideline has seven different steps: Innovation Design and Co-Creation, Research and Development, Production, Selling, Reselling, Recycling, and Reuse, and back to Innovation Design and Co-creation. They also have a core aspect of their circle that reflects other facilitative aspects, which is managing open innovation and storytelling. Managing open innovation is about their innovation process, while storytelling is about being open and showing the value, physical and emotional, that has gone into the product production to all who are interested.



Source: Juteborg, 2019

This model was developed naturally through interactions and customer requirements and demands. It means that the products that they make are not only more sustainable than, for example, pure plastic products. They also make sure their products are made and designed for reuse and recycling, either into the same product or into a whole new product. However, although Juteborg says that the circle can theoretically be defined as closed, even though the solution is there, they have not put all this into practice yet since it largely depends on the customer's requirements. Incorporating jute and especially mixing it with other materials makes recycling more complicated than using pure materials. Their tested solution as of now is to use a Swedish innovation, using an air vortex to liberate the jute fibres from the plastic so that the different materials can be separated and used once again. It is a better environmental option than to use, for example, chemicals dissolving the plastic so the materials can be separated and reused. Another option is to crash the old products in order to make new or different products. Malmek points out that one has to consider all the loops of the circular economy from the beginning, and that it needs to be part of everything they do. It is not enough to consider that a product can be recycled after it has been used, the recycling needs to be recognized already from the start. This means that one does not only have to consider how the product is going to be used and what requirements that this specific product will have when it comes to materials. Also what can be done with the product after it has been used, how will they get the product back from the clients, and understand which is the best way for the client to collect them. Will getting it back contribute to less environmental impacts due to transportation. Can you use the materials to make the same product again or do you need to make them into something different or new? These are essential questions Juteborg takes into account from the start.

"You really need to look at the full system when considering something as designing for sustainability".

Else-Marie Malmek

What can be stated is in everything they do Juteborg aims to close the circle. What they see as unique compared to other companies who work with these models is their holistic approach for managing their business. According to Östergren, not only do they see interactions between them and the people directly inside the circle as relevant, but also the people who surround it. An example of this is their initiative Farmer to Factory (F2F) jute supply chain, certify jute and make it traceable from the seed to the ready product. However, also to support farmers and encourage better pay and more rights. It also helps to secure, and aid traceability and certification of their supply chain of jute, since farmers may turn to grow other crops, such as tobacco if they cannot afford to sustain themselves and their families on the jute production. By taking care from the seed stage until the finished product, once having the finalized product, the recycling mechanism in it over time they see this leads to them becoming better in terms of circularity.

4.1.4 Changes in western culture

Fifteen years ago is the importance of sustainability was not at all what it is today in the western world. Juteborg has a window of opportunity as of now; it is possible to make money by being a good company and doing something beneficial for the world. Östergren says in the past, people thought it was odd to have that specific focus and only a particular dedicated group of people managed. Instead, today, it is part of everyone's everyday life.

"*You have to be there, if you are not, you will fail with yourself or the business. But this is not why Juteborg is there, it's because we're passionate about it and see a substantial business opportunity.*"

Christina Östergren

In Sweden, this is an evident market factor. Malmek brings up an example from the car industry, where these changes in mentality are taking place. One prominent car manufacturer decided that going forward to choose environmentally friendly solutions even though these solutions were somewhat more expensive. Traditionally these choices have always been to prioritize the cheapest option in relation to the quality.

4.2 Bangladesh context

Since Juteborg's main partners are located in Bangladesh, it becomes important to understand the cultural gap that exists between this country and Sweden, where Juteborg originates from. The information in this section is collected from the interviews and therefore reflects the companies view of the conditions they face there.

4.2.1 Importance of Jute

Bangladesh is one of the fastest-growing countries in the world, even as the country is developing the products that are made from the jute fibre usually still of burlap bags and ropes and similar products. The jute material is a good natural fibre and is an extremely important part of the Bangladesh economy. Bangladesh became a free nation in 1971. Back in the 70s, or 80s jute was the highest export earning product for the country. However, over the years, due to the invention of other cheap materials, like plastic, the value of jute declined. At the end of the 80s, early 90s, the jute export fell. At that time the readymade garment industry came into place, leading to jute dropping even more. Now, after China, Bangladesh is the second-highest supplier of readymade garments. However, because of jute is still such a significant contributor to the Bangladesh economy, Bangladesh has a dedicated ministry for jute. The information that they got from the jute ministry is that out of the 163 million people in Bangladesh, at least one-third of them are dependent on the jute industry in some way. There are around four million Jute farmers and considering their family members; then it would, in turn, affect at least 20 to 22 million people. Adding to it many factory workers and the whole value chain altogether at least 50 plus million people are involved with jute. This is why jute is still relevant and important for Bangladesh and why policymakers focus on getting jute more involved in the industries. Decisions and policies are being made, which has a direct business impact. A product, including jute, will receive an incentive from the Bangladesh government. If the product is made out of at least 50 percent jute, there is a five to twenty percent incentive on the sales value, making the business even more lucrative.

4.2.2 Graduation - Developing nation status

According to Hossain, Bangladesh was one of the least developed countries in the world, but in 2018, Bangladesh got recognition from the UN and the global leaders. This meant that they approved Bangladesh graduating from a Least Developed Country (LDC) status into developing nation status. It is a long process that is planned to be finished by 2024 or 2025. This process will have many important implications, but one challenging part is that once the graduation process is finished, then Bangladesh will lose some of the trade benefits with the European Union and other countries like Canada or Australia. Bangladesh is provided a generalized system of preferences (GSP) which gives the tax-free entrance of the products produced and imported from Bangladesh to the EU. This tax break is not possible to get if the production is done in other competitive countries, such as China or India, where taxes can be 25 or 30 percent (variations depending on the product). The kind of bilateral agreement or trade agreement from the EU gives companies, especially Western companies, an increased edge to do business in Bangladesh and get products from there. After graduation, these benefits will not exist anymore.

Bangladesh largest export to date is the readymade garment industry. Right now, exports conclude around $39 billion US dollars in earnings per year for Bangladesh. At least 85 percent of these earnings are from the readymade garment industry. After graduation, there is a possibility that the garment industry will lose its competitiveness in the world market.

Having one single product focus for export when the industry could lose its competitiveness in 2026 is not secure. Therefore this will become a challenge from Bangladesh perspective, and the country will need to diversify their exported products. The second biggest export is leather, which is not sustainable, and the third is jute. That is why it is important at the policy-making level to make the Jute industry lucrative from an economic point of view and encourage businesses to make investments in jute.

4.2.3 Culture differences

Working between some very different cultures in order to close their circle can have a variety of different challenges. One example of this, according to Hossain, is their work with informing people in Bangladesh about climate change. While this term is well known in western countries, not as many know about it in developing countries. This is despite them being in many cases the most affected by it. Talking about the importance of environment Juteborg has managed to convince and incorporate the value of sustainability into their collaborations. This does not mean that Juteborg ignores the business side of the process, but that they see a higher value of having a business together with the sustainability aspects. Juteborg also makes it clear that they are not a charity (NGO) and that the work that they do is a profitable business and at the same time have an impact on changing the world. Being able to build relationships on the right foundation is why making this distinction, so clear is critical for them.

"Whatever we are doing, we're doing it through business. Sometimes people gets misguided, because they think when we talk too much about sustainability and social responsibility, people start looking, okay, they come here with lots of grant funding. They will try to do the good work for the society and that's it. But that's not what we are doing. We're doing it with the business. "

Abir Hossain

To see the mindsets of the individual or the business organization is important for Juteborg. In relation to the partnerships developed in Bangladesh understanding the mutual norms are crucial. There are two primary reasons for this. First, since Juteborg is doing their production in Bangladesh certain suppliers have different mindsets. Hossain divides these into two categories, either they have a Supplier mode mindset or a Production mode mindset. If in supplier mode mindset is focused on supplying a product to someone and to do it fast. In supplier mode, the main concerns are on how to reduce costs, how to negotiate, and how to win short-term in order to make quick money. Cooperating with somebody in a supplier mode complicates the situation since they easily remain in that state without understanding the benefits of value-added production. Another vital difference in supplier mode, the focus of sustainability are non-existent main interest is the factory prices. Instead of having the production mode mindset means creating something by yourself. For example, the goal is not to sell the product as soon as possible, but also to have a long term perspective since the future is equally important. In the long term and ethical mindsets, the thought process becomes completely different. This is why Juteborg is trying to graduate the people that they are working with from supplier mode to a value-added production mode.

Secondly, in developing nations like Bangladesh, it is nearly impossible to do innovation according to Hossain. The conditions are not set up to deal with innovation in Bangladesh and manage innovative products or services is new there. In order to shape innovation, large investments are needed as well as time for research and development. For Juteborg making sure that people to understand the value of the innovation, its effects and the efforts needed to put into the process are crucial. From their partner's side, they need the understanding that the product is not anything simple and cannot easily be made without the six, seven years of effort behind this development. When they do the assessment, Juteborg tries to understand whether the partner is able and willing to see the value behind the innovation or not. Juteborg aims to continue to create partnerships in Bangladesh and to develop their products with the customers and increase the circular thinking. Looking together with the customers where are the best opportunities or the biggest risks. Then there might be a need for making certain changes or focus on research projects. In Sweden strategy comes first, this allows time before action. With these two extremes of managing a balance between strategy and fast execution is challenging. Not only by following the norms and cultural differences but also achieving the right thing in the right context.

One of the way that Juteborg has strategically managed to handle the cultural differences between them and stakeholders in Bangladesh, is with the strategic invention of Hossain. His strategic acumen supports to best use the social, cultural, language barriers to come up with an ultimate win-win solution for the parties. As Malmek points out, doing business in Bangladesh, is not as straightforward as in Sweden. In general, she feels that progress means going two steps forward and one step back. While in Sweden an agreement would be fixed from the start. One thing that Juteborg is firm on is that they will not accept being treated in a way that they find not 100 percent respectable, regardless if it is ill-intended or not. For example, one isolated incident since Malmek and Östergren are females it happened that one person was not willing to shake their hand. While she understands that this is a cultural perspective, it also eliminates the possibility for them to feel understood as equal and to go forward with future collaborations. However, usually, they are treated very well when visiting Bangladesh, in many cases, they feel better treated than in Sweden. Another way to manage the culture differences besides often visiting Bangladesh themselves have the F2F workshops, which was mentioned in the last section. Before Juteborg started the workshop, they were hesitant about if the farmers would open up and talk about everything, their conditions, and what is relevant for them. By putting Magnus on stage and playing his guitar made the workshop start successfully with a lot of applauds filling the room. It made people open up, and this united everyone.

4.3 Structural

Östergren and Malmek have both long careers behind them that have allowed them to develop vast networks. One way that Juteborg look at sorting and explicitly targeting their network is by using the triple helix model. Meaning that they focus on Government, Academia, and Industry when trying to close their circle.

4.3.1 Government

In Bangladesh one strategy that Juteborg use is to engage with policymakers since this helps ease access in the country and influence potential regulations relevant for them. It is therefore important to have a good relationship with policymakers in order to secure their business. In

Bangladesh, they have, for example, been able to establish a connection with the minister of jute. Juteborg has also been influential in the sense of helping the policymakers to understand the potential of jute as an important future export, also in their local market. In Hossain's opinion, before the last three and a half years, the government did not fully understand the potential of jute. However, since Juteborg has done lots of engagement with many policymakers, the industry and the business environment, through the help of those, the government has now begun to understand the full potential to have jute as the best-diversified export product. Since there is a need to diversify from the readymade garment industry jute is now seen as a valid option. The company is however careful not to engage with politicians. This is because that would mean aligning oneself with a political party and having to deal with the insecurities of politics. Since Juteborg is engaging a lot with policymakers, with that high-level stakeholders, it passively makes people realize that one cannot easily do something bad with Juteborg. Hossain explains it is difficult to define this formally, but it is a passive and impactful advantage ensuring and securing the trust issues. This relationship with the Bangladeshi government has also had impacts in Sweden. The Bangladesh embassy in Stockholm specially invited Juteborg to present themselves during a celebration they were holding connected to the graduation. Juteborg presented the challenges of Bangladesh future and how jute could fit in as one of the solutions. The Swedish government aims to help Bangladesh with the graduation process. The event, in turn, connected Juteborg with a contact from the Swedish National Board of Trade, responsible for the Bangladesh market, working with trade and policies with Bangladesh. Later the connection went to Bangladesh to meet a lot of stakeholders, in which he mentioned Juteborg, their work, and products. This might allow Juteborg to reach more people with a greater impact.

In Sweden, the company has engaged with government in different ways; one is as mentioned through interactions with Swedish government employees working towards Bangladesh. Another is through funding support that they have received for different projects through government agencies and collaborations with Swedish government-owned companies. Östergren also mentioned that they have been talking to the city of Gothenburg since the city has a goal of becoming fossil-free by 2040. The city is going to pilot a fossil-free preschool, the aim is to build it using only sustainable materials. The city knows this to be unattainable at this time, Juteborg was chosen as one of the 17 companies that they will partner with on this. Both for their particle boards as well as their JutePP plastic components. They got this opportunity through connections in their network since they needed an invite to be able to apply for this opportunity in the first place. Other opportunities are that they were asked to speak at an event where most of the municipalities in Sweden were present; this included both politicians and civil servants. Even though this event focused on culture meets industry, as with most things in Sweden presently, there is an unofficial focus on sustainability. Worth noting here is that many cities in Sweden have issues regarding lack of housing, this makes Juteborg's building solutions especially interesting for the market. Juteborg sees meetings like this as a great way to connect to the market and to scale up by putting themselves on the map in more cities.

4.3.2 Academic

Juteborg has many partners when it comes to academia. These have foremost become important for their work with research and development. Amongst these are universities, science parks, and innovation centers. It can be essential to note here that some of these are also covered in the governmental parts since they are usually started as initiatives to promote innovation and support the creation of new companies. They also had a meeting with Muhammad Yunus, recipient of the Nobel Peace Prize 2006 for his work with microcredits, where they discussed the importance of the Jute industry for Bangladesh. One clear example of how an academic connection has helped them close the circle is through the innovation for the air vortex; a new technology originally developed to recycle car tires. The machine allows for mixed materials that are put into it to be separated so that they can be sorted and recycled as pure materials. This would be especially important for Juteborg to be able to do if they wish to be circular. They have to make sure that their products can withstand the changing requirements that their customers put on the products without having to bring in too many virgin materials.

4.3.3 Industry

One of the largest groups that Juteborg interacts with is the industry. Juteborg works directly with several different companies in order to make and care for their products. One of their most important connections is with their partner in Bangladesh. Since this is their partner that they plan to open and co-own their factory with and is, therefore, going to help them manufacture their products as well as helping them implement their initiatives, such as Farmer to Factory (F2F), jute supply chain and for women's empowerment in the factory. In Sweden they are working with for example Clean Motion, for a research project the result being the test vehicle Jutebee, an electric three-wheeler where they have reinforced the roof and back part with jute instead of glass fibre, one of their inventions. The results were successful, and they are now planning on investing in setting up a factory in Bangladesh to produce electric vehicles. They also use their offices at eCon (the building that started the search for jute for Östergren) as a showroom for other companies working with sustainability in different ways, such as wind turbines and solar cells.

4.3.4 Placement within the network

When it comes to how Juteborg sees competitors, Östergren says that she does not know any other companies that do what they do, and in that sense, they are unique. Instead, she sees themselves as being a spider in the net between the different industries, academics, and governmental parts that influences their circular economy. Malmek points out in one of her interviews that they prefer being a small organization working with many different experts to make their products come true than to be a big company with everything in-house. She also mentioned that there is a lack of prestige, that sometimes they might be the one who has the customer and needs a partner to work with, and that sometimes the partner might have a customer that they need help with. One way that they are actively working with positioning themselves better within their network is through the creation of JuteLab International. By gathering different groups who are interested in jute as a material and innovations that can be made with this material, they become central in a network of other companies, people, NGOs, academics, and others with this common interest.

4.3.5 Networking events

While the three main people in Juteborg all do a lot of networking, they have differentiating opinions of the value when it comes to the value that they can get out of organized events. Malmek finds that these networking events are perhaps useful when you are starting out and if your goal is to find others that you can discuss your challenges with. But not when it comes to new potential customers, she instead prefers to rely on using her current network since she finds it more efficient. Östergren has a different approach towards events but also states that it is a question of priorities whether you can attend them or not. If they have a lot of other things going on at the same time, then she prefers only going to events that have a more specific relevant agenda. She also points out that it is always beneficial for them if they have a chance to speak at the events since that gives them more relevance. For example, when they went to Uddevalla in Sweden to speak at a conference that hosted a lot of different Swedish municipalities. Another such ideal situation was as Hossain mentioned when they got invited to speak at the Bangladesh embassy in Stockholm. Where they got to speak about jute and the role it will take when Bangladesh is doing their transition into a more developed country while making themselves more well known in the process. As mentioned above, Juteborg has also started its own initiative called JuteLab International. This is a chance for them to start their own specific network for both companies, scientists, and governments to be able to discuss the possibilities of jute and to make new connections.

4.4 Cognitive

The communication and languages used are an important basis when understanding stakeholders, managing their relationships and the connections made. The cognitive aspects are presented below.

4.4.1 Connecting with different levels of their network

According to Hossain, the way that Juteborg utilizes its networks usually comes down to two different main stages. The first stage is that they all have the extensive network that they talk to within the different industries. They mainly meet these at different meetups, through their network or different types of media. The second stage is that once they have identified different people or organizations that they believe could be a part of their future circle, at least the three main people running the company but usually also somebody from the board, will meet with them together to evaluate them. In this way, the connections do not only stay relevant for one person but will become everyone's responsibility and focus.

Juteborg also has different levels of how often and what they communicate with the different stakeholders within their network. For their main partners and people whom they have a project that they are working directly with they talk with them regularly, through the mail, Skype, flying to meet them, etc. Then some people are relevant for them to know in the different industries that can be future partners, back-ups if partnerships go wrong or potential clients. They try to meet with these people in person when the chance is given. Then there are the policymakers, keeping a good relationship with them is also seen as necessary. Juteborg often receives several different collaboration offers, proposals, queries, and interests from companies in Bangladesh and India. They might invite them to workshops and talks, or Juteborg will be invited to them, such as when they spoke at the Bangladesh embassy in Stockholm. The last way they communicate is mostly towards the general public and as a way to expand their future network. Here they use a lot of social media but also by traditional media such as radio or TV. Through this, they sometimes get offers for collaborations that they can take into consideration. Sometimes the collaborations are not caused by any activity that Juteborg continuously engages in, but there have been occasions where they happen to meet the right person at the right time. This has lead to them being able to book meetings with especially important potential clients that it might otherwise have been hard to gain access to.

One of the main things that Malmek shared is that you have to consider to whom you talk about what. Not only in the sense of being able to trust the other person, but also in the sense that they have to be able to understand what you want to communicate. This is especially true when it comes to more complicated matters such as systems since they require an ability to have a holistic approach.

"I also learned that you can never talk about systems with people that do not think about or understand systems, regardless of what position they hold."

Else-Marie Malmek

4.4.2 Special language of Juteborg

It is impossible to speak about the way that Juteborg communicates without acknowledging the specialized vocabulary surrounding the word jute that they have adopted. This is everything from jutefied, jutePP (pronounced you-tepp), juteLab, c-jute (a cotton jute blend - pronounced cute), Juteborg'sposten and most importantly Juteborg itself, a play on words of jute and Göteborg the city where the company has its main office. According to Östergren, the creation of these words is a way to work with branding. Jute, according to her, is also a thankful word to play around with since it can go with many different things. Malmek points out that by making and using these playful words, they also lift the perspective of jute from being a low tech product to one that has high technological potential; Jute Tech. It also shows that jute has a large field of use.

4.4.3 Language barriers

Another difficulty that they face is being able to communicate with people from different countries. English is their primary way of communicating, and in most cases, it works well. However, there is the case with their partner in Bangladesh who does not speak it. Here they have worked out the solution that Hossain will work as a translator during their visits, together with one of the partner's employees, to make sure that the translations are as accurate as possible. In Bangladesh, they also have to consider how they communicate with other stakeholders such as the farmers, since many are analphabetic they cannot communicate through text, and the skills needed from the interpreters become once again important. To instantly understand and verify they are communicating the same information is extremely important, and from a business point of view, comprehend it is a sensitive process as well. Therefore understanding the context and frames and translate accordingly for mutual comprehension is crucial for Juteborg.

4.5 Relational

In the following part, the relations built and future ambitions are presented through the aspects of trust, agreements, and the values of Juteborg and their partners when aiming to close their circle.

4.5.1 Trust

The challenges of working with developing economies a lot of things might happen. Therefore unless Juteborg is wholly assured, undertaking collaborations will not happen quickly. Hossain describes the importance of assessing each offer or company rigorously, evaluating through due diligence. In Bangladesh, Hossain is able to take advantage of his own personal network. This allows Juteborg to understand their potential partner's background, their business reputation, the people, their reputation in the local area and from the customer's point of view, transactions, etc. Once satisfactory answers are procured, the next level of sharing information and strategies is facilitated. If encountering the wrong person, regardless if they are technically in a good position for them to collaborate with, it does not secure anything. The balance is finding out how much Juteborg should disclose until they are absolutely sure of the relationship established. To establish this connection, Hossain says that it is all about being personal and that this very important in Bangladesh. They do this by having a kitchen discussion or discussion around the dining table. Whatever Juteborg is evaluating potential partners in Bangladesh, there is an emphasis on spending time in the kitchen. Not solely, the connection will influence the level of confidence. Still, certain precautions have to be taken into account.

”*[W]e try to spend time with them in the kitchen. That plays a really crucial role, because then you do not discuss only about your business, you meet the family members also, and you talk about a lot of other things. And that gives you clues about the person sitting on the next side. This is an informal way of doing assessment about your probable partner or collaborator, if your heart connects or not.*”

Abir Hossain

Hossain continues with that managing and achieving trust is extremely difficult. Partly because when working with innovation and new ideas protecting intellectual property rights is challenging. Since the business model of Juteborg is to work through lots of networks and different collaborators, it becomes even more complicated. Whenever Juteborg connects with people, everyone is friendly and seems trustworthy. However, eventually, when it comes to real business, the truth will show. In the beginning, they believe that it is the ethical responsibility for each of the parties to keep information safe and secure. Evaluating and seeing where the relationship is going in the future is essential. Most importantly, Juteborg does not share anything outside of their relationship. Hossain mentioned that it had happened sometimes when trusting relationships have altered. Breaching the nondisclosure agreement or the ethical agreement. Depending on the mutual work done, if it fits the partner's vision and from their perspective if their needs are not fulfilled quickly enough, their patience can be lost. An example is brought up concerning innovation in Bangladesh when developing a new product it takes time in which many do not have an understanding.

"*A quick gain drives them all the time. And when they see it's taking too much of time, they lose trust, confidence, and they try to do the same thing with others without letting us know. When we discovered that, definitely, we feel bad. And we don't want to be in that kind of relationship. So that's why we opt out.* "

Abir Hossain

Östergren describes how she looks at achieving trust between collaborators. She attributes many of their decisions that they make when it comes to partnerships towards hers, and the others, gut feeling. Beside a gut feeling, Östergren confirms it also depends on the person itself and the company's reputation and background. The fact that one has a particular type of passion for what one does, and believes in what one does is important.

"*The older you become the more you can trust your gut feeling. How does it feel? Does it feel good then it is good, on the other hand does it feel bad then it is bad.*"

Christina Östergren

Juteborg also works by aiming for transparency between them and their collaborations both in Bangladesh and in Sweden. Malmek finds that this is important in order to secure agile and cross-border collaborations in order to create solutions. This is since solutions will not come from only working with one industry or company but over many. Therefore the work that they do will have to be more transparent.

4.5.2 Formal agreements

One way Juteborg tries to protect their idea is whenever they meet new people, or potential new product collaborators is often to sign a nondisclosure agreement between the parties. It is not a strict partnership agreement, but it is an agreement that whatever is being discussed between them and the other party should not be discussed elsewhere. It almost functions like a legal safety net, but it is not possible to entirely rely on states Hossain. In more severe business deals, a detail partnership agreement is signed which has gone through Juteborg's lawyer. Also, the pre-assessment that Juteborg makes plays a crucial role, especially when collaborating with partners from Bangladesh. By using Hossain's network, it gives Juteborg increased confidence, learning whether and how much can be disclosed to different kinds of people. Another solution is doing IP rights on their innovation. This is extremely expensive, has lots of requirements to fulfill and can easily be changed by making simple alterations he continues. Quickly the value becomes nothing and hard to protect at all. They have received a sum granted to make an IP strategy in order to find a way of how to deal with these difficulties. Right now the law firm MAQS is helping Juteborg.

"*It's not easy which paths to choose sometimes. Because if you don't say anything then nothing happens. You have to be open to a certain extent, but not saying everything. It is a balancing act. Then these NDA's non disclosure agreements comes into the picture. You learn more and more, you cannot sit and keep everything a secret because then nothing happens. On the contrary, acting is our principle. Trying to get to market as fast as possible with a know brand*"

Christina Östergren

When entering an agreement with someone, it is essential to know where that person stands right at that moment, Östergren explains. Otherwise, to go around and just to guess or assume what will happen. Writing soft agreements such as MOU, LOI, or NDA is beneficial in order to understand each other, rather than seeing it from the legal aspects. Juteborg's expectations are that the collaborators keep their part of the agreement. Other than this, the importance lies within loyalty and having values that match. In the end, it needs to be a win-win economically, both having an understanding of each other's economies.

Malmek describes how Juteborg has communicated and talked a lot about their inventions, also on social media. She clarifies you have to be open and share; otherwise, you will regret holding it to yourself. Even though some people do not believe in the possibility, others might. No matter what it is possible to get used anyway since certain people or organizations do not care about it becoming disrespectful. She found that especially in large companies, information is easily shared in a way that is disrespectful towards the small companies. That big companies do not respect the small companies IP, or their rights, and it is usually copy-pasted classified information and share it. Knowing this, they keep the mindset that if anything is agreed upon it is beneficial having it written down, avoiding misinterpretations if something goes wrong.

"In some way there are no amount of deals in the world that can protect you, never. If somebody wants to damage or take then they will regardless."

Else-Marie Malmek

Malmek finds that the mentality to what is shared when it comes to other IP different in small companies. She finds that other small companies are usually more likely to refer to Juteborg if they get questions about the products or offers to collaborate, even if they have not signed any formal agreements yet. She thinks that this is because the small firms have a different mindset, making them understand Juteborg's position of how it is being a small company owner. While at a large company, she thinks that this level of understanding is not present because they do not know what it is like to run their own business.

4.5.3 Values and expectations

According to Östergren, one of the most essential things that Juteborg needs to communicate is their values and codes of conduct. Currently, they are working on these clarifications. These include an emphasis on that they do not accept child labor in their production process, corruption, or inequalities. While many of these practices are more pronounced in Bangladesh than Sweden, she points out that they can still be found everywhere. She also mentioned that it is not enough that Juteborg talks about their values, but they also need to hear them from their partners as well. Östergren explained they will from Juteborg's side talk about their values a lot. However, it is equally important for them that they hear their partners talk about their values. Somethings their partners will need to accept if they wish to work with Juteborg is for example when it comes to their women empowerment initiative, which entails that there should be 50 percent women and 50 percent men working in the factory and that both sides should have equal opportunities to advance. Anything else is not negotiable from Juteborg's side. Therefore the importance of knowing that they are on the same page when it comes to the different values with their partner is crucial. Similarly, when the cooperation starts, there is a need to see loyalty and knowing that they both pull in the same direction. But the influences do not only come from Juteborg, but one of the main points of recently holding a large workshop in Bangladesh was also for them to understand their full supply chain from the farmers, who grow the jute, to the jute mill owners that process it and the ministry of jute. If they fail to understand this chain and what is essential for the farmers, then their supply of jute could get compromised.

Having clear values are becoming more important for consumers as well if Juteborg had tried to do what they do only ten years ago, then the time might not have been ready for it. Östergren said that previously nobody prioritized the mindset of being sustainable and now everybody is talking about it. By being circular Juteborg makes sure that no material should have to be thrown away but instead able to be converted to a new product in one way or another. She makes clear that this way of thinking about sustainability and circularity is also something that they expect from their partners. While they make sure not to have too high expectations in the beginning, especially when it comes from their work in developing countries where they already have to catch up with these concepts, it is all about striving for the same goal. Even if she recognizes that this is not something that will never be perfect, this is also why it is important to choose partners who might not be able to initiate the work themselves are interested in it.

4.5.4 Failed collaborations

Before they started their collaboration with their current partner in Bangladesh, Juteborg went through a bad breakup. They had previously been working with another partner for several years, Hossain describes this relationship as having gone through a long period of dating, engagement, and eventually, a marriage that only lasted a few weeks. The reasons it did not last from the perception of Juteborg, was partly because their values did not match, and they did not have the same view on how their mutual business should be run. While Juteborg wanted to focus on things that will bring long term value, their former partner seemed to want quick returns and profits. In any company, when a similar situation arises, it can be a challenge to find a new partner after many years. For Juteborg they had five potential new partners already in their network they had talked to but had not previously worked with. They took these five potential partners and evaluated them and found the right partner in the end. Today the people in Juteborg are satisfied over the development since they have now found a perfect collaboration.

When partnerships do not work out for Juteborg, a replacement is needed to be found. They believe Juteborg has a strong network, not limiting themselves, by having other available options on the table. They regularly meet and evaluate potential partners. Although they are a few people in the company, they also have the advisory board helping them. In the later stages, Hossain explains that if one enters the conversation with the thought of becoming real partners, then it is vital to be transparent with each other. There cannot be anything too hard to talk about. Entering a partnership is the equivalent for him of getting married. If there is no communication, then the relationship will become less fruitful. Being able to talk about difficulties and expecting challenges in the process to overcome is important for Juteborg. Communication allows for opportunities to find a solution or a relevant action needed. Therefore, Juteborg takes transparency and loyalty seriously in their relationships.

5. Analysis

In this section, the analysis begins with a comparison of the circular models presented, the academic definition and Juteborg's definition. It is followed by how Juteborg is using social capital in order to close their circle by relating to the three-dimensional model. The downsides of social capital are elucidated by relating the critiques on the three dimensional model relating to the case of Juteborg. Last, the implementation of ethical aspects in the studies will be connected with Juteborg aim for circularity.

5.1 Circular economy

When comparing the circular academic model presented by the Ellen MacArthur Foundation (2014) with the one that Juteborg is utilizing, there are some apparent differences in the structure of the circles. The academic model focuses on the manufacturers, service providers, and even the customers and users as being key actors for making sure that the materials will continue to move in circles and not become lost materials. Juteborg's circle is comprised of: innovation design and co-creation, research and development, production, selling and reselling, recycling, and reuse. They have also included a core of managing open innovation and storytelling. Therefore it becomes evident that these circles have some differences in them. Innovation design and co-creation, as well as research and development, are not directly involved with the physical process of moving the materials in order for it to complete the circle. The same goes for their core of managing open innovation and storytelling. However since Juteborg needs different kinds of innovation to be able to create their customers' products, which are ever-changing depending on their needs, these parts become crucial to have in their circle in order to facilitate the movement of materials. The remaining parts of selling and reselling, recycling, and reuse are natural parts that are found in both circles. Another noticeable difference is the comparison of having two verses one circle. In this case, the products made are deliberately created to be more technical. This is to say that they do not make products that are pure jute but connect this material with for example plastics, in this sense, they are naturally more connected to the technical circle than the biological one, even if jute is a biodegradable material. The result for Juteborg's circle does not contradict the effects of the academic circular economy model since both have the same end results. By using, reusing and recycling, there is automatically a lower loss of materials, and therefore, a lower need for virgin materials. The main difference is that the Ellen MacArthur Foundation (2014) model focuses solely on the movement of materials and therefore ignores the different aspects that facilitate this very same movement of the materials, while Juteborg's model chooses to take these into account.

When considering the three principles presented by Ellen MacArthur Foundation (2017a), to enhance and preserve natural capital, optimize resource yields, and to foster system effectiveness, as well as Ghisellini, Cialani, and Ulgiati, (2016) 3R's: reduction, reuse and recycle, there are secure connections of these principles and the ethical aspects found inside Juteborg. These principles can function as a guideline for making sure that the circles do not only move materials around but that they consider doing this in an environmentally sustainable way as possible. Once again, Juteborg chooses to go further by having strong core principles of not exploiting the different people who can be found along the value chain and instead include them in every aspect of their circle. Whether this is the farmers, who produce the jute or the companies whom they collaborate with.

5.2 Networks and social capital

Much as Granovetter (1973) argued it is vital to view network structures not only from a macro level but also from a micro one. In the case of weak ties, there is a strong correlation between this and what Juteborg is doing. They have used their broad network in order to connect to essential partners that they have then brought into their circle at different stages. This also fulfills different sets of needs that they have in order to maintain the circle. Some of the most notable examples of these are their partner in Bangladesh and the owners of the air vortex invention. In this sense, the company has been able to source valuable information from these partners that without they would not have been able to close their circle. Juteborg has also been able to use Granovetter's (1973) concept of using bridging to connect to different partners in order to utilize their weak ties in order to gain new information that has helped them. Such as getting recommendations for new utilities of jute.

When looking at Burt's (2000) concept of structural holes, this is also something that we can see Juteborg taking advantage of in their work. Since Juteborg is in a sense a broker between several different industries and the jute industry in Bangladesh, they are in an excellent position to make deals, as long as they can maintain the interest for jute. It is clear that in several decades the jute industry has not been able to develop and find new innovative solutions where they can use their product, and industries such as vehicles and building are screaming for sustainable solutions. Juteborg has used its technology in multiple places at one, not limiting themselves to the creation of only one circle where their products can be valuable. Instead, they have several circles that they can utilize, and the materials can move in. This works well with the model for the circular economy that the Ellen MacArthur (2017) foundation has presented. The authors can also see that by being a broker (Burt, 2000) they have been able to bring people together from different groups, that would otherwise not have met, in order to close their circle. This is also notable since they have a specific focus on targeting the triple helix: Government, Academia, and Industry agreeing with what the Ellen MacArthur Foundation (2014) states as essential stakeholders.

Furthermore, the researchers also agree that in this case, the network that Juteborg is utilizing is not too dense, but mainly spread out, agreeing with Burt (2000), since they are trying to target many different industries. However, they also have areas of a dense network that they have access too, this comes from being in the automotive and construction industries for so many years. Since they are able to target the individuals they find relevant amongst these people, they do not necessarily have to spend too much time or effort reaching them. Furthermore, by having multiple ties in the same field they have been able to build trust for their name since they are personally recognized by all, this has in return opened doors of opportunities for them. Thus, in this case, since the parts of the network that Juteborg utilizes that could be seen as dense were already established, it holds high value to them.

5.3 Three-Dimensional Model

5.3.1 Structural

5.3.1.1 Network Ties

As discussed in the last section in 5.2 were a short reflection on Juteborg’s relevant and different ties of network structures was presented. What can be outlined in their network structure is that their network is diverse, broad, and partly dense. Nahapiet and Ghoshal (1998) write about the concepts of access, timing, and referral. The researchers have found that Juteborg has been intentional in building a network that includes a diverse group of actors, who are all important in their vision of closing their circle. In this sense, they have focused on gaining access to the triple helix groups. What can be seen as interesting within this is as far as the researchers have found that they have not put effort into connecting with NGOs in their work. This is interesting since it is important for them to implement several different initiatives, and a collaboration with the right NGO could help facilitate this change into their partners and therefore benefit and strengthen the relationship. Instead, the researchers have found the opposite that they are assertive about not being seen as an NGO but a company with strong values. When it comes to timing, the researchers found it highly connected to the referral, since this has helped Juteborg, for example, in the case of getting on the project for the Gothenburg preschool. If they have not been referred through their network at the right moment, it would have been harder for them to find and access this opportunity. Another example is the creation of JuteLab International since this is a network specifically created to help them access, as well as spread, information regarding jute inventions quickly. The authors, in this case, found reasons to agree with Nahapiet and Ghoshal (1998) when it comes to network ties, in the sense that it is hard to dispute the need for a network with different levels of access, timing, and referral opportunities.

5.3.1.2 Network Configuration

This section has in large been discussed above. We, therefore, know that the density of Jutebrog's network varies between the connections made before the start of the company and those who have been acquired after. Juteborg practices regular connectivity with their partners and people that they find essential for future collaborations. By having regular contact with the different partners, we can see that they have been able to form healthy relationships with those that they find most important. They have also been able to keep back-ups to contact if they need to find a new partner to collaborate with. In this way, the regular contacts make sure to build a stronger circle and to also secure the circle in case of brakes. From the hierarchy perspective, Juteborg does not enforce a strict system for this. They see value both from taking knowledge and innovation from the lowest levels in their supply chain, the farmers, as well as prestigious Nobel winners. This could be because they are based in Sweden, a country well known for being a flat society when it comes to hierarchy. This has also influenced their ability to choose partners, opting for those with a similar perspective on this. This all has meant that Juteborg has a very open view of the information shared and with whom. They can be highly flexible and agile with the information flow as needed.

On this point, the authors question the general theory on social capital and the relevance of sparse densities in networks. While this case has shown that the company works with a sparse network spreading over several different areas, it has also shown that the company has used the denser parts of the network to their advantage, for example in the automotive industry. Regarding the information flow, it is hard to before or against the theory presented. They are aware that not everybody that they meet will be able to understand what they are talking about, such in the case of speaking about systems with people who are not capable of understanding them. However, at the same time, they also engage and educate, regardless of if the ties are strong or weak, as seen in the example of educating farmers about climate change.

5.3.1.3 Appropriable Organisations

One of the clearest examples where Juteborg utilizes appropriable organizations is through the creation of JuteLab International. This is a specific attempt to collect all the possible interested parties in order to develop the jute industry further. In this way, they will be able to connect with the groups that are the most interested in this field without having to sort through those who are not. By allowing these people to meet, there is also a chance for the other parties to develop further innovation without having to go through Juteborg, which is the case today. Other examples include Intersection point, where the networking activities are focused on innovation and sustainability. This is not to say that other networks and networking events are not relevant to Juteborg. Since they wish to interact with several different industries, being able to connect to them is crucial. If only focusing on one kind of interaction such as JuteLab, then this strategy would not work. This is since their innovations are primarily built on being a bridge to the sustainable jute solution for companies who have not considered jute as an option before. This is one of the reasons that Juteborg is not only attending social events that cater to the sustainability issue but on many different once.

5.3.2 The Cognitive Dimension

5.3.2.1 Shared Language and codes

In order for Juteborg to be able to close their circle, there are different ways that they manage their social relations and language in order to be understood. When conducting their business, discussion, and exchange of information is necessary in order to access relevant people and knowledge. Three interesting approaches can be highlighted in the work they do. First, the managers aim to give the word jute better recognition. Already jute is a playful word to work with, but by choosing the right vocabulary, jute can be shown having a larger field of use than what is usually known. Implementing jute with high technologies is possible, and Juteborg wants to raise that question. Secondly, the managers are well aware that when communicating with others, from different industries, backgrounds, or contexts, they choose their language based on whom they are talking too. When complicated matters are discussed, a holistic mindset will increase the possibilities of mutual understanding and interactions. Third, looking at the language barrier that exists between the partners, farmers, or potential collaborators in Bangladesh, understanding each other can be a problematic challenge for Juteborg. Hossain ensures that communication functions relatively and effortlessly. Juteborg wants to be assured that no faulty perceptions or interpretations are made during the discussions.

5.3.2.2 Shared Narratives

Both shared languages and codes, and shared narratives are closely interconnected with each other. Looking at cognition broadly from the context of Bangladesh, both the cultural differences and language barriers impose crucial communication to be able to adapt to and understand each other. Not only through making as accurate translations as possible but also understanding existing differences in perspectives and narratives. One clear example is the simple word and the meaning of climate change. In western countries, it is known that action is needed now in order to increase chances that allow the planet to be maintained. In Bangladesh, they are deeply affected by climate change, many still cannot understand nor avoid the negative effects short term profits does for society. For Juteborg to close their circle, their partners in Bangladesh need to understand the values of sustainability in order to be able to collaborate. Another example in Bangladesh when Juteborg had a workshop with different stakeholders and different farmers, some being analphabetic, a straightforward adaptation was presenting their musician who played for all of them in the beginning. This created a joint base for everyone, opening up even though there were differences in experiences, cultures, and backgrounds. Everyone, in the end, heard the same music tones and saw the same performance. The shared narratives united them.

5.3.3 The Relational Dimension

5.3.3.1 Trust

In the case of Juteborg, the authors found a strong need for trust. This is what the authors of this paper would say is one of the most reliable indicators that influence the company when it comes to them choosing to work with a partner or not. This can be seen as somewhat contradictory since the company is relatively open to discussing ideas with different people. However, their tactic is to give individuals a chance to prove that they are trustworthy. If they stand by their words and do not, for example, share sensitive information with others, then they know that they can trust them with more information. One of the reasons that the authors have identified trust as being so important, is because of the lack of trust in written agreements that they found in this case. While written agreements were made, they mainly served the purpose of making sure that all parties were aware of what had been agreed on, in order to avoid confusion in case of a breach of trust. Also, the reason that Juteborg prefers to have smaller partners rather than large partners in their circle mainly comes down to whom they feel like they can trust. They see the small partners as being more reliable when it comes to keeping information private. This shows a presumption that smaller companies will have more understanding of their situation and therefore wanting to be treated in the same way in return.

Juteborg's emphasis lies within having confidence and being open to taking risks, which increases their willingness to engage in exchanges and interactions in order to find ways to close the circle. Extensive evaluations are done learning the backgrounds about potential partners by trying to understand their levels of competence, capabilities, and reliability. Juteborg tries through their fundamental values and priorities to find similarities with their collaborators, having good intentions in all aspects of a value chain. Lastly, the belief of their perceived openness is mirrored in the way they choose to be open and, expect openness back in return

5.3.3.2 Norms

That the companies that Juteborg chooses to collaborate with follow the same norms as they do are highly important to them. Even if they say that there is no need to act perfectly in the beginning, they still need to see that there is a willingness to adapt, and an inner will to follow the same values as Juteborg. Without this, it is highly unlikely that Juteborg would choose to work with a company. The authors cannot, however, confirm if this has lead to them gaining more intellectual capital. They have also not developed several ideas with just one partner. Instead, they have opted to spread out their innovation to a multitude of partners and says that they prefer to find solutions for problems when needed. However, it is interesting to consider that all the companies that Juteborg works with have the same mindset since they are already limited in what options that they can choose from when finding solutions to closing their circle. For example, they choose to use the air vortex instead of a chemical component that could do the work but would have a negative sustainable impact. Another way that this can be seen is with their partner in Bangladesh they have chosen to work with one that has many of the same values and low levels of cultural differences, compared to other options. When the values have not aligned, then this has previously lead to breakage in their circle. Lastly, another essential reflection showcases how Juteborg expects and aims for openness and clear communication. When working with the complexity of changing mindsets, if there is no communication, then the relationship will become less fruitful. Being able to talk about all the things and expecting difficulties along the way to be solved is important in the process management for Juteborg.

5.3.3.3 Obligations and Expectations

One thing that Juteborg speaks about is the mutual understanding that needs to exist between them and their partners. If a partner cannot understand their need to make long term investments and wait with the profit, and instead tries to make money as soon as possible, then this is an example of a problem with the mutual expectations. In this section, we once again see the need for the contracts, this is because they provide a structure for what is the minimum expectations that can be found within the relationship. Even more important that the contracts for Juteborg are the codes of conduct. This document entails strong expectations that they hold to their partners to, that they will not bend on. This reflects the importance that they lay on having the ethical aspects covered when it comes to whom they include in their circle.

5.3.3.4 Identification

As mentioned previously in the analysis, Juteborg has strong core values and identification on who they are and what they want to accomplish. It is only natural that they therefore value and identify with others that hold similar values. Once again, this is not to say that they identify with NGOs who also try to implement some of the same initiatives that they are working with. It is therefore clear that they will choose the people that they collaborate with because they can identify some of their own ideology within the other company. If they cannot do this, then it is not likely that they will be able or willing to start a collaboration regardless if it from a business perspective might be a logical choice. The authors believe that this stems partly from previously failed collaborations where they stopped because they no longer identified with the other partner. The same went for choosing a new partner to work with, they had several different viable options but decided on the one that they felt aligned more with their values.

5.4 Other aspects of Social capital

5.4.1 Reservations

In the article from Nahapiet and Ghoshal (1998) it is argued there are three dimensions of social capital such as the structural, cognitive and relational are the basic premises of accessing and exchanging knowledge allowing for new knowledge. Locke (1999), on the other hand, questions these assumptions in his reservations on social capital contradicting certain premises made in the three-dimensional model.

The first opposing statement highlights the risks of becoming too embedded in an existing network only linking business with the developed social relationships. Those who need specific information should get it, regardless if they are close or not, which should be the basis of objectivity in information sharing. In the case of Juteborg objectivity is important, but if not understood the balance between social capital and managing their businesses, certain conditions would not be there, if they kept to the "whom you know" culture in their process of closing the circle. Their emphasis is not only put on their social relationships. Although this research cannot ensure that certain of their ties have not become too "isolated". Although, what can be verified is that Juteborg in the end always tries to adapt to their changing environments. One example is the broad and constant development of the network they have.

Juteborg understands that independently of the level of connectedness or closeness, any type of exchange could be beneficial. The networking events and F2F workshops are just two examples. Allowing to deeply involve and interact with the important potential future stakeholders or actors in their value chain. Juteborg believes that through their ties and openness, certain favorable conditions have been enabled. New ties have been connected and relevant new processes have been learned to achieve parts of their circular model. Through this process, the managers are not solely dependent on trust since every encounter seems to matter to them, as long as their values are aligned. In turn, this shows, even though Juteborg can be deeply embedded in their network, there is not much information they are not willing to share in different social relationships or between weaker ties for example. The values deriving from being open and work for a more sustainable world seems to be more important than keeping all of the secrets inside the company. They choose to share information with diverse groups of people or individuals who also could benefit from their business model or vice versa, in order to contribute to the society as a whole in the end, aiming to make it a win for every stakeholder involved.

The second premise is that idea discovery originates from one single individual's mind, who uses their own thoughts in order to make external new knowledge useful. Idea generation is most certainly dependent on the individual mindset to combine different knowledge. Juteborg's knowledge creation is partly reliant on their internal capacities. In contrast, the way Juteborg utilizes its network to allow different actors to help and interact with each other would not have been possible solely from one individual input from their ties and relationships. Looking at the triple helix model, they try to engage with different people from different contexts with different hierarchical backgrounds, experiences, and knowledge. They believe systems have to function cross-borders and correlate through collaboration. The more of specialization, either existing in a specific entity or of what an individual possesses, the more crucial it is to be able to have an absorptive capacity within the company. Therefore the managers responsible in Juteborg has essential individual responsibilities to understand and utilize the knowledge themselves as well to find further ways to close their circle. However, on the other hand, when certain individuals possess specific knowledge in order for others to take advantage of it, sharing and understanding information between different actors are necessary. Especially when managing the difficulties from the environmental threats and because R&D is time-consuming and costs much money. With existing resources solely the likeliness of Juteborg, for example, developing on their own version of the air vortex for being able to separate jute and plastics is low. More specialization demands more understanding of the functions of networks and the complexities of bridging knowledge. This is one of the reasons Juteborg aims to be small and collaborate with a diverse network.

The last reflections go hand in hand with Locks last premise of the questioning of casualties; to focus on social capital to generate new knowledge and competitive advantage is not ideal for organizations. Locke (1999) on the other hand argues that the discovery of new knowledge should be the constant basic building block followed by the necessary steps of communicating and utilizing that knowledge in turn leading to its advantages. Taking these two contrasts and questioning what should be emphasized from the beginning and what companies need to prioritize, is the same as asking what came first, the chicken or the egg? Relating this friction to the case study of Juteborg managing a circular business model and their broad dispersed network, the reasonings and nuances are worth being emphasized.

Juteborg believes through their ties certain favorable conditions were enabled, such as access to new relevant ties and finding the right knowledge to achieve circularity. The managers are not solely dependent on trust since every encounter seems to matter to them, as long as their values are aligned. In turn, this shows even though Juteborg can be deeply embedded in their network, there is not much information they are not willing to share in different social relationships, regardless of their level of closeness. Objectivity is important, but if not understood the balance between social capital and managing certain business conditions would not be facilitated during the process of closing the circle. The values deriving from sharing and contributing to a more sustainable world seems to be more important than keeping all of the secrets inside the company. Lastly, idea generation is most certainly dependent on one individual mindset combining knowledge. In contrast the way Juteborg utilizes its network to allow different actors to help and interact with each other would not have been possible solely from one individual input through ties and different relationships. All these main aspects show how combining new knowledge and social capital allows Juteborg to try closing their circle. What came first of the chicken and the egg is not of relevance in this case, rather acknowledging what can be enabled or not striving for new knowledge through beneficial interactions with different existing or nonexistent ties.

The case study shows how Juteborg is combining new knowledge and social capital trying to close their circle. This paper, in the end, can question both Locke (1999) and Nahapiet and Ghoshal (1998) in their prerequisites as discussed above. From this case study analysis, it is not of relevance to challenge what comes first; it is about how companies can earn money and also being fully sustainable. Oppose linear thinking and becoming circular simultaneously as producing profits. If both new knowledge and social capital are needed, then new theory has to be evolved from this semi-social and semi-sustainable business mindset on how to prioritize certain business conditions. In the end, in order to undertake and manage such ambitions as closing circles what is needed is relevant collaboration and cooperation between networks. However, if not facts and basics reasoning of running a business are prioritized as Locke (1999) explained it, then, in the end, a sustainable circular business model will most evidently not be saved by Juteborg's social capital. It is evident from Juteborg's perspective that there is a window of opportunity to make profits on sustainability with this issue becoming increasingly important. The trends in society for an answer to the demands of creating a less negative impact as a company. Therefore, accessing new forms of investments and capital aimed at these issues broadly represents the evident transformations of the existing or emerging markets.

5.4.2 Ethics

In the essence of reservations on Social capital, a new approach to the complexity of networks needs to be highlighted. To understand the nuances of social capital and avoiding its downsides ethical theory can be applied by proposing moral elements to it (Ayios et al., 2014). What is of interest is how ethics could matter in the case for Juteborg trying to close the circle.

After the industrial revolution, the linear economy has dominated the general mindsets of organizations and businesses, leading to prosperity and growth. The linear model uses resources leading to large quantities of waste through the "take-make-dispose". If the linear model closely can be linked to the neo-capitalist approach, then the downsides of social capital can be seen as many. In consequence of actions, social capital can contribute to aggregate welfare, enhancing collective social goals. On the other hand, the problematics lie with the fairness of actions the justice is not evenly distributed, the costs of achieving greater good the disadvantage people have to pay the price for it. Because of the principles and duty, people are seen as capital rather than persons. In these relationships, the choices are based on rationalistic thinking of economic actions rather than based on empathy and care. In these cases, in a linear model with the capitalistic approach expected returns in the market place are the priority when investing resources. The pursuit of high profits can alter the good of social capital only becoming linked for utility maximization and particularistic interests.

What can be seen from the perspectives of Juteborg and how they manage their social relations, many of the ethical perspectives can be connected to their work. They seldom take any relationship for granted and are truly promoting openness with and to everyone. They willingly work for a greater cause than a singular self-interest. Juteborg surely works for a win-win-win concept; this is to say a win for Juteborg, their buyers, and their stakeholders in Bangladesh. The ethics framework exists naturally in their core business. On the other hand, they try to make money out of it, challenging the typical capitalist mindset. The outcomes of their work if they genuinely succeed or not will be ascertained in the future. Because of their existing value frame, managing relations, and the mission to create a more sustainable world, the downsides in the utilization of social capital naturally are mostly avoided. This shows new ways of utilizing social capital, which benefits every person involved in the different contexts than the two approaches of neo-capitalism as well as network and reputation. In a circular economy when the social and environmental values are highly prioritized, the reasoning of social capital becoming highly selective, leading to the unintended exclusion of others, some people are seen more privileged and other inequalities should be challenged in future research. Individuals are not seen as forms of social capital and the rationalist choices are indeed needed, but the ethical aspects are naturally deeply embedded in their choices as well.

6. Conclusion

The final section aims to present a resume of what has been covered in the case study, the main important empirical findings and its implications providing more in-depth insights into the phenomenon of circular economy linked with social capital. The summary will highlight the study's practical contributions and propose potential future research on these subjects.

The paper investigated individual perceptions shared among members of an organization managing the external network and its ongoing processes utilizing social capital in order to close the circle. It discusses the lack of social aspects in the circular economy model and why it may be interesting to include these in the future. It shows how the company investigated have managed their social capital to close their circle related with the theoretical downsides and ethical perspectives on the subject.

While looking at the literature, the researchers have identified a field that has so far been overlooked, the connection between social capital and how it can be utilized in order to build circular economies. The current research has indicated that social capital has an important value in the process, but it has not previously been able to explain how. By using a single case study, the researchers have looked deep into this field in order to try to understand this social phenomenon. While this means that it can be hard to apply these results toward other cases since each case is unique. The researchers hope the results will either be used as guidance to other companies or as a baseline for future research. This through answering the question:

How does a company working with circular economy utilize their social capital in order to close the circle?

In Social capital and Network theory social interactions between actors and how the interactions offer potential resources are studied. Through these relationships, certain advantages or possible disadvantages can be distinguished. Examining causalities between reasons and effects was not the purpose of the paper. This paper has investigated individual perceptions shared among the managers of Juteborg utilizing the external ties and its ongoing contemporary network utilizing social capital in order to close the circle.

The methodology chosen was a qualitative inductive study. The company investigated in this case, Juteborg AB, was mainly chosen because they work using a circular model that they are currently trying to close. They can be seen as a representative company amongst other companies working with circular economy. It is not possible to declare their case is applicable in all instances. Doing network studies implies having an understanding and adapt to the methodological challenges to increase validity and reliability. The study followed a particular set of prerequisites and assumptions, taking into account the network boundaries, network complexity, and the role of time. The core-employers set the network boundaries of Juteborg, their perceptions of relevant relationships and ties when closing the circle. Network complexity acknowledging the concepts of horizontal and vertical dimensions of the business environments involving either different connections at specific levels or other relations than of the embedded social ones. Lastly, a process-oriented research approach was undertaken with the investigation of relational time, through the three perspectives of past present and future. Due to the scope of the study, a longitudinal research design was not possible to accomplish. The empirical part has been compiled from the interviews with the three individuals who are most responsible for the day to day running of Juteborg. The empirical data present their thoughts and ideas when it comes to how they individually view their network and how that connects to Juteborg's mission of closing the circle.

6.1 Practical contribution

In the study several contributions can be drawn based on the investigation of the topic. The authors have selected the ones that they see as most important in order to make a clear distinction between existing theories and the discoveries made through the presented case.

The case has shown there is a need to not only have a model looking at how the materials flow in circular economies but also investigating the aspects facilitating that movement. The facilitation is an essential segment of building circular economies.

The diversity and sparsity of the network have helped the company to bridge knowledge from different industries and people. The dense part of their networks has opened doors and allowed for strong collaborations. By keeping multiple connections within the same field, they have backups in case of breaks inside the circle, making sure to keep their circle intact at all times. By having low levels of hierarchical tendencies, through developing innovation in collaboration over several levels, this shows strong ethical thinking that directly influenced the building of a circle. Through both actions and communication, the company embraces a holistic perspective, including and understanding all the existing and potential stakeholders.

Having an openness and willingness to share information with others are central in developing innovation and putting it into practice. Although achieving and maintaining trust between partners is crucial in order for the work to continue. In order to be able to achieve common goals together with a partner, the presumptions of having mutual understanding are crucial. One of the most important aspects of a complex business environment is transparency in communication.

For selecting whom to work with, sharing the same norms and values is highly important. If the company cannot identify with the group or individual when it comes to values, then it is also highly unlikely that they can continue with developing the collaboration needed to fulfill the circle.

Acknowledging the downsides and existing oppositions towards social capital the findings show when balancing openness, utilizing knowledge and doing favorable businesses the relevance of studying and managing social capital is evident. Because of their existing value frame, managing relations and the mission to create a more sustainable world the prerequisites of social capital are different when implementing an environmental and social perspective to it.

In a circular economy model the ultimate objective is to reuse, but adding a stakeholder perspective conforming to earlier, present, or future ties are needed to increase accessibility of flows. The equilibrium of being a business with the goal to make money and also being fully circular changes the presumptions. Already the resources are scarce, finding new ways to make money without impinging negative impacts, innovations and collaborations are most definitely needed. A social adaptation of closing circles is to allow materials and products to be equally right and relevant utilized as network ties formulating a new value basis and incentive for further investigation.

6.2 Future Research

Examining causalities between reasons and effects was not the purpose of the paper, but the interesting nuances, questionings, and further gaps in research are presented below as contributions for future theoretical studies in the subject.

The researchers see a need to investigate through a quantitative study what are the most critical conditions within the three-dimensional model that can be connected to the creation of circular economies. The circular model as of today is very simple mainly taking into consideration the way material flows, but not all of the actors that makes this flow possible. It is today difficult to find any articles that connect the circular flow to other values, and none that looks more closely at this area, despite social capital being of high importance within any business model. One can question if it is possible to find academic constructs on closing circles through the utilization of social capital, not solely by looking at the circulation of products or materials. Further studies looking into the value creation or destruction of value creation through the utilization of social capital within circular economies could be interesting.

In the end, this paper shows that taking the ethics of social capital into account is relevant concerning the phenomenon on circular economies, environmental and societal priorities are at least of equal importance as to the financial ones should add a necessary level to the analysis on social capital. As a company trying to closing their circle, ethics contribute to certain conditions for the firm during the processes of managing their social relations. As a recommendation for future research, it would be interesting to learn more about the existing relationship between the ethics on social capital and circular economy. What natural advantages or disadvantages exist in a firm working with social entrepreneurship or circular economy. Specific benefits and conditions of social capital are probably already existent or quickly developed. Since finance and the social aspects are equally important, knowing what the possible evident downsides a manager needs to acknowledge in a firm implementing circular economies are, and if the ethical aspects are in the center then what causalities can be outlined and distinguished from the original social capital approaches.

This, in turn, formulates an interesting opposition; If a linear economy generally can be linked with the Neo-capitalist approach on social capital, then what is the counterpart to circular economy? Fulfilling and understanding relevant ethical mindsets on social capital when closing the circle must have certain constructs than those presented in the article of Ayios et al. (2014). This paper could challenge the presented theory on social capital and circular economy and propound further research on this subject. A new approach undermining the importance of conditions and implications when being a firm closing the circle, increase environmental and social well-being still earning money. The up- or downsides in the utilization of social capital cannot be contradicted and altered based on how Juteborg utilizes social capital in order to close their circle. Evidently, a natural social capital exists in their moral framework of managing their business.

7. References

Andersen, M. S. (2007). An introductory note on the environmental economics of the circular economy. *Sustainability Science*, 2(1), 133-140.

Ayios, A., Jeurissen, R., Manning, P., & Spence, L. J. (2014). Social capital: a review from an ethics perspective. *Business Ethics: A European Review*, 23(1), 108-124.

Bryman and Bell. (2015). Business research methods, fourth edition. Oxford: *Oxford university press.*

Borgatti, S. P., & Halgin, D. S. (2011). On network theory. *Organization science*, 22(5), 1168-1181.

Bourdieu P and Wacquant, L. (1992). An Invitation to Reflexive Sociology, Chicago, IL: *University of Chicago Press*

Burt, R. S. (1997). The contingent value of social capital. *Administrative Science Quarterly,* 42: 339–365.

Burt, R. S. (2000). The network structure of social capital. *Research in Organizational Behavior,* 345-423.

Coleman, J. S. (1988). Social Capital in the Creation of Human Capital. *American Journal of Sociology*, 95-121.

Ellen Macarthur Foundation, 2014. Towards the Circular Economy volume 3. Available: http:// www.ellenmacarthurfoundation.org/business/reports [accessed 10.3.2019].

Ellen MacArthur Foundation. (2017a). Circular economy system diagram. Available: https://www.ellenmacarthurfoundation.org/circular-economy/infographic [Accessed 5.3.2019]

Ellen MacArthur Foundation. (2017b). What is a Circular Economy?. Available: https://www.ellenmacarthurfoundation.org/circular-economy/concept/schools-of-thought [Accessed 7.3.2019]

European Commission, (2015). Closing the Loop - an EU Action Plan for the Circular Economy, Com (2015) 614 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. European Commission, Brussels.

Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: the expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner production*, 114, 11-32.

Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology,* 1360-1380.

Halinen, A. & Törnroos, J.A. (2005). Using case methods in the study of contemporary business networks, *Journal of Business Research*, vol. 58(9): 1285-1297.

Hobson, K., & Lynch, N. (2016). Diversifying and de-growing the circular economy: Radical social transformation in a resource-scarce world. *Futures*, *82*, 15-25.

Juteborg. (2019). Circular Model – Juteborg Sweden AB. [online] Available at: http://www.juteborg.se/circular-offer/ [Accessed 7.2. 2019].

Jørgensen, S. and Pedersen, L. J. T. (2018). RESTART Sustainable Business Model Innovation. Palgrave Studies in Sustainable Business In Association with Future Earth, https://doi.org/10.1007/978-3-319-91971-3

Lahti, T.; Wincent, J.; Parida, V. A. (2018). Definition and Theoretical Review of the Circular Economy, Value Creation, and Sustainable Business Models: Where Are We Now and Where Should Research Move in the Future? *Sustainability*,10, 2799.

Lieder, M., Rashid, A., (2016). Towards circular economy implementation: a comprehensive review in context of manufacturing industry. *J. Clean. Prod*. 115, 36e51.

Locke, E.A. (1999). Some reservations about social capital. *Academy of Management Review*, 24,1: 8-9

Nahapiet, J., & Ghoshal, S. (1998). Social Capital, Intellectual Capital, and the Organizational Advantage. *Academy of Management Review*, 242-266.

OECD, 2009. Sustainable Manufacturing and Eco-innovation: Framework, Practices and Measurement. Organisation for Economic Cooperation and Development.

Perey, R., Benn, S., Agarwal, R., & Edwards, M. (2018). The place of waste: Changing business value for the circular economy. *Business Strategy and the Environment*, *27*(5), 631-642.

Pettigrew A. (1997). What is processual analysis? *Scand J Manag*;13(4): 337 – 48.

Portes, A. (1998), ‘‘Social capital: its origins and application in modern sociology’’, *Annual Review of Sociology*, Vol. 24, pp. 1-24.

Provan, K. G., Fish, A., & Sydow, J. (2007). Interorganizational Networks at the Network Level: A Review of the Empirical Literature on Whole Networks. *Journal of Management*, 33(3), 479–516.

Putnam, R.D. (1993). The prosperous community: Social capital and public life. *American Prospect*, 13: 35-42

Sarkis, J., Ni, N., & Zhu, Q. (2011). Winds of change: Corporate social responsibility in China. *Ivey Business Journal*, *75*(1), 1-4.

Vallejos, R. V., Macke, J., Olea, P. M., & Toss, E. (2008). Collaborative networks and social capital: a theoretical and practical convergence. In Working Conference on Virtual Enterprises (pp. 43-52). *Springer, Boston, MA*.

Yin, Robert K. (2014) Case study research : design and methods / Robert K. Yin. — Fifth edition. *SAGE Publications, Inc.*

Appendix

I. Interview Guide

Introducing and general questions

1. Name
2. Age
3. Specify your role in the company?
4. How long have you worked with Juteborg?
5. Tell us shortly about your background?
    - Origins
    - Educational background
    - Earlier work experiences
    - Non profit engagements

Dimensions

Structural;

1. Describe the network that juteborg is using?
   - Demographics
   - Locations
   - Ethnicities

2. Personal contributions to the network.
   - What is your expertise in the network?
   - Do you have any personal bonds brought into Juteborg?

3. Who are the most important connections for Juteborg (outside of the inner company) when aiming to close the circle?
    - Why are those important?

4. How have you chosen the companies you work with today in order to close the circle?

5. Which relationships, actors or organisations do you want, or aim, to collaborate with?

6. How do you keep in touch with your stakeholders?

Cognitive;

1. What expectations exists in the industry?

2. What expectations exist working with circular economy?

3. How does your vision and/or goals affect your relationships and collaborations?

4. In your communication how do you use language?

5. Are there any language barriers? Bangladesh vs Sweden?

6. How does language affect the collaborations?

Relational;

1. What forms of contracts are you using and with whom?

2. What situations are you not using contracts and with whom?

3. How do you manage trust? How do you know?

4. What is your attitude on trust?

5. Can you give us examples of any specific expectations you have today with your collaborators, partners or projects?

6. What expectations do you have in general on the actors in your network?

7. What values do you have in the company?

8. Have relationships failed when trying to build the circle?
   - Why
   - Have you acted differently towards different partners?