

Accelerating the energy transition through corporate venturing at Dutch distribution system operators

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Preface

This report describes my thesis project on corporate venturing at Dutch distribution system operators. This thesis is written in fulfilment of the requirements for the Master's degree of Management of Technology with a specialization in entrepreneurship and innovation within the energy domain at the Delft University of Technology. This project is done in collaboration with Accenture, which facilitated the research project. In this preface I want to thank my entire graduation committee. First of all, many thanks to Victor, who guided me from start to finish as my first supervisor. He always helped me to find my area of focus and kept me going in the right direction. Additionally, Victor was always available to help me, which made the process really enjoyable. Also, I want to thank Bert, my second supervisor. Feedback from his point of view, seemed to be very helpful. Next, I want to thank Marina as the chair of my committee. She always provided critical feedback that helped me improve my project on different aspects. Paul, I want to thank you for your support during my graduation internship at Accenture. Your support proved to be very helpful for bringing this project to an end. You introduced me to people that have helped me further, shared your knowledge and let me experience the way of working at Accenture. Due to Accenture, more specifically your help, I was able to take this project to the next level for which I'm very grateful.

Folkert Roorda

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Executive summary

During the United Nations Climate Change Conference in Paris in 2015, members of the United Nations agreed to limit the global warming to a maximum of 2 degrees Celsius, with an even more ambitious objective to aim for a maximum of 1.5 degrees Celsius. This goal impacts energy systems worldwide, including the one in the Netherlands. From its generation, transport and to the consumption of energy, change in all of these areas is necessary. Creating momentum in this energy transition requires energy retailers, distribution network operators and others to reorganize their current way of doing business. One of the possibilities is to explore new business areas by corporate venturing.

Corporate venturing emphasizes the creation of new business within or outside the organization. Scholars found that it is an important tool for firms to develop breakthrough innovations, achieve future growth and maintain a competitive advantage. Corporate venturing can be done either internally, externally or jointly. This research is focused on venturing activities at Dutch DSO's. The goal is to find perceived success factors that are important for the performance of venturing units. Success can be defined in different ways. For the one DSO it's about not losing their position within the market, for the other it's exploring new possible ways to shape the energy system of the future. DSO's operate in a unique market context. Such DSO's are publicly owned companies that are strictly regulated, have a societal role, a natural geographical monopoly and thus no commercial driver to innovate.

The main research question that this research seeks to answer is: *What are the factors that are perceived to be important for the performance of venturing units at Dutch distribution network operators?* Factors found in the literature that impact the performance of this venturing units can be divided into three parts: factors from an organizational perspective, factors related to the venturing unit and factors that relate to the venture itself. Interviews were conducted at the three largest DSO's (Alliander, Enexis and Stedin) to assess whether these organizational and venturing unit related factors influence their corporate venturing performance. At four ventures (Allego, Hoom, EXE and LOCOL) that were initiated by Alliander interviews were conducted to find venturing unit related and venture related factors that are perceived to be important for the performance of venturing units from their perspective.

This research pointed out that there are no external factors (outside the organizational domain) that influence the venturing activities at DSO's, which notably differ between them. They all have to operate under the same kind of external conditions. From the organizational domain, the most important factors are: top management support, a supportive corporate culture, corporate strategy profile and timing. Medium important is the organizational structure and process and least important is the reward structure. From the venturing level, the most important factors are: goal clarity, long-term commitment, adjacency, autonomy and the experience, contacts and reputation of the parent company. Not important is critical mass; having a certain amount of ventures in a portfolio to have success on the entire portfolio. This is due to the strategic motive of Alliander and Enexis to engage in corporate venturing. From the venture level, the most important factor is unmistakably the team and the leadership qualities. The development process is important, definitely during the early stages of the venture. Of medium importance is the product/process. All ventures have the goal to create a positive impact on the energy system. Therefore, their actions are explorative of nature during this early phases. When the venture become more mature (Allego and Hoom) the product plays a significantly more important role. Market surroundings play an important role as highlighted by Hoom. The energy industry is currently in a transition and legislation and rules need to be changed accordingly to optimally facilitate this. Therefore, having an influence on this legislation is important.

There are a lot of things that have to be done to reach the goal agreed upon at the COP. DSO's have a societal role to create momentum in this transition. One of the ways to do that is through corporate venturing. This study gives an insight in the factors that are perceived to be important to these activities. It can be the reason to initiate a dialogue at DSO's where there is little or no activity within this field at all. Next to that, DSO's can learn from each other in order to improve on such activities and thereby increase the momentum.

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1. Introduction

During the United Nations Climate Change Conference in Paris in 2015, members of the United Nations agreed to limit the global warming to a maximum of 2 degrees Celcius, with an even tighter objective to aim for a maximum of 1.5 degrees Celcius (Ros, 2016). This has a serious impact on energy systems worldwide, including the one in the Netherlands. To reach this ambitious goal, (fast) change of the Dutch energy system is necessary.

The Dutch energy market was liberalized in July 2004 due to regulations of the European Union (Van Damme, 2005). Before liberalization, the energy market was dominated by a couple key-players. The production, distribution and retail of electricity was all done by one company. This resulted in an oligopolistic market in which a couple of key-players operated divided by region. The customer could only choose to buy energy from the company that owned the energy distribution infrastructure in that given region. After liberalization, this value chain was separated after which different actors were responsible for different parts of the system. This resulted in increased complexity of both systems (de Vries & Correljé). The idea of liberalizing this market is that, under the pressure of competitors, companies would become more efficient which would benefit the customer. Distribution system operators (DSO's) that are responsible for the distribution infrastructure were forced to separate from their retailer due to this new legislation. Since this market was liberalized, there are more internal and external factors that cause this market to be disrupted. Factors such as the energy transition as a result of global climate agreements, new technologies, policies and many more resulted in a window of opportunity for new players to the market. Consumers can now choose from more than dozens of retailers from which they would buy their energy, they could choose their energy source and they could choose from a range of appliances to measure (and interact) with their energy consumption.

On the one hand, the incumbent retailers have trouble to follow this pace of disruption in the market. If they wouldn't react, it would be a matter of time before they are replaced by others. These commercial companies have to fight to exist. The three biggest (in terms of revenue) energy retailers in the Netherlands: Vattenfall/Nuon, RWE/Essent and Eneco have faced declining returns since the market was liberalized. Nuon, for example, had a net-revenue of almost 5,5 billion euro's in 2010 (Nuon, 2010) which declined to little under 3 billion in 2015 (Nuon, 2016). On the other hand, the DSO's that were now in control of the government (ownership divided under provinces) operate under completely different dynamics. These companies don't fear competition because they have a regional monopoly. Because of this monopoly, DSO's have no economic drivers to innovate but rather the societal responsibility and urge to become increasingly sustainable as a country are their drivers for innovation.

While incumbent DSO's find it difficult to follow the pace of disruption of the market, start-ups enter the market due to the factors that create windows of opportunity. These small-sized companies are the drivers of radical innovation and are therefore highly interesting for both incumbent retailers and DSO's. Corporates try to tap into this pool of innovation through corporate venturing (CV). Corporate venturing emphasizes the creation of new business within or outside the organization (Sharma & Chrisman, 2007). This can be done either internally (business created and owned by the company itself – within the organizational domain), externally (investments that facilitate the founding and/or growth of external businesses – those outside the organizational domain) or jointly (form of external corporate venturing in which the organization co-invests with another organization in the creation of a new, external business) (Covin & Miles, 2007). Leveraging this pool of innovation can help accelerate the energy transition, which is one of the societal responsibilities DSO's carry.

Accenture, a global consultancy firm and partner for this research wants to help their clients as good as possible. Therefore, a broad understanding of the marketing dynamics, corporate venturing within the energy domain and perceived factors that lead to high performing venturing units according to the interviewees is very important. This research is for Accenture focused on giving them these insights by

which they can help their clients within the energy industry as other clients that engage in venturing activities.

This research is focusing on the different types of venturing at DSO's; more specifically on the factors that are perceived to contribute to the performance of a venturing unit. The goal is to research how this can help to accelerate the energy transition. The first part, the introduction, will describe the scientific and societal relevance of this research. It also contains the objectives, corresponding research questions, definition of the core concepts and a research flow diagram. In the second part of this research, insights of a literature will show the dynamics of the Dutch energy industry. Part three will discuss the research methodology in which the data collection method and analysis method will be discussed. Part four will give answers to the research questions after analysis of the data collected. The final part contains the conclusion, discussion, implications and suggestions for further research.

1.1 Problem statement

DSO's are as mentioned before, owned by provinces in which they are or have been operating. Therefore, you could say they are owned by the government and thus all Dutch citizens. Their goals are to provide reliable, affordable, customer-oriented and sustainable services to their customers (Enexis Holding N.V., 2016) They want to help accelerate the energy transition. To realize these goals innovation is necessary. In contrast to commercial retailers, DSO's carry social responsibility towards the society. Therefore, they have to make very deliberate choices concerning their expenditures. They can't (socially) afford big net losses due to high investments with a low rate of return. On the other hand, they have to be highly innovative in order to accelerate the energy transition. That's exactly where the problem is. How can DSO's innovate on such high pace but within such narrow boundaries? At the very least they want to be on the road to a society fueled by sustainable energy. To do this, DSO's are collaborating with many parties. They gain and share knowledge with similar companies operating in another region, universities, corporates, startups and other institutes. Contrary to closed-innovation or the stage-gate approach of Cooper, this is so called open-innovation (Chesbrough, 2003). This open-innovation is a strategy tool divided into several distinct phases (the front end which resembles the beginning of the funnel, the development phase and finally the commercialization phase).

Startups face difficulty getting their innovative ideas to the market. For many of them, it is rather hard to move from development phase of the technology to the commercialization phase. This gap is often called the 'chasm' which resembles the gap between the early adopters and early majority (Moore, 1991). For eco-innovations in the Netherlands, this gap is harder to cross than for other innovations (Van de Vooren, 2015). This can be traced back to several reasons. First, it's harder to finance eco-innovations than generic innovations. There is an extreme unbalance between the available capital and the capital needed. Benefits of the innovation are not (sufficiently) taken into account, eco-innovations regularly need more capital than generic innovations and investors often lack specific industry knowledge which results in bad risk-assessments. Secondly, in the Netherlands, eco-innovations are harder to finance compared to other EU-countries (Van de Vooren, 2015). Unstable policies, especially policies on renewable energy resulted in high uncertainty among startups and investors. Additionally, when comparing the Netherlands with other North-western EU-countries, the ratio venture capital available as a percentage of the GDP is low. Besides that, Dutch starters possess a lot of technical knowledge but often lack managerial skills. The last thing to add here is the difficulty for startups to finance their commercialization phase (Van de Vooren, 2015). For startups in the energy industry, it can be valuable to work together with corporates and large organizations to improve the chance of successful commercialization of innovations.

Currently, interest rates are at an all-time low which could make it interesting for consumers to get involved with renewable energy themselves. Consumers can now become their own energy producers,

as well as their own retailer, which invokes independency from current retailers. Consumers can now monitor and control their energy consumption, choose their energy supplier and even become their own independent energy supplier. This changing customer involvement in energy households implies a different role for incumbent energy retailers in the future. This fast changing energy landscape forces DSO's to innovate according to the pace of disruption. Because of their natural (regional) monopoly, DSO's don't feel the economic urge to innovate like many other companies. If the Netherlands want to oblige by the UNCCC agreements and become increasingly sustainable, they have the social responsibility to innovate. They can't be the bottleneck in this fast changing environment. The problem is that they aren't able to innovate at such a high pace without the use of corporate venturing activities. These drivers for innovation makes this study on DSO's increasingly interesting.

This research is done in collaboration with Accenture, a global consultancy company. Accenture helps clients that operate in every part of the energy industry. In order to help their clients as good as possible it is important to understand the market dynamics as good as possible. Therefore, it is necessary to understand what DSO's perceive as important factors in corporate venturing activities. Accenture can help these DSO's with difficulties they face with innovation and their respective companies. They have broad knowledge and experience about this market as well as a worldwide network of partners. This can benefit the DSO's and other clients in the energy system and thus stimulate the energy transition. Accenture is able to help these companies better when they have an overview of these market dynamics and perceived factors that lead to high performing venturing units.

As mentioned, looking at open-innovation there are many parties a DSO collaborates with but the focus of this research is primarily the different types of venturing and the perceived factors that lead to high performing venturing units. What are the external, organizational, program and venture factors that positively influence the outcome of such activities?

1.1.1 Scientific relevance

There are a lot of studies that use the approach of the open innovation model of Chesbrough. There are studies on open innovation from both corporate and SME's perspective. Most studies are from the perspective of the large firm (Chesbrough, 2003), while not many attention has been given to open innovation within SME's (Van de Vrande, De Jong, Vanhaverbeke, & De Rochemont, 2009). Studies on open innovation primarily focused on the front-end process of externally sourcing innovation, but the integration and commercialization of such leaves major gaps for research (West & Bogers, 2014). Especially within the boundaries the network operators operate to make it an interesting dynamic environment to research.

This research can contribute to this gap in the literature by researching the different kinds of venturing and factors that lead to high performing venture units. Further research can build upon this with a quantitative approach. Next to that, this research only focuses on the energy industry within the Netherlands and can be broadened by a longitudinal scope as well as other industries. The scientific relevance is high if factors are found that inhibit the venturing activities. Recommendations can be given that can improve the output of these activities which can benefit the acceleration towards a sustainable society.

1.1.2 Societal relevance

Recommendations that follow this research can invoke change that can benefit the road to a society fueled by sustainable energy. If recommendations can be made on how to improve corporate venturing activities this could foster the outcome of such. Secondly, outcomes of this research could foster the entrepreneurial climate in the Netherlands.

Finally, Accenture can benefit from the insights this research will produce. They can play a facilitating and supporting role in the value creation part between DSO's and their ventures. In other words, this means Accenture can help these companies while the energy transition is picking up more and more momentum.

1.2 Research objective

This study contributes to a better understanding on how to commercialize and integrate ventures in corporate's business. It contributes to the literature on open innovation and corporate venturing in such that it's interesting to research how the dynamics in which the DSO's operate influence their innovation strategy scoped to the collaboration with ventures. This directly includes the assumption that there are certain barriers for networks operators to innovate at a high pace. Therefore, the first objective is to research if these barriers exist and how these might have an impact on the before mentioned. The second objective of this qualitative research is to increase the understanding of the dynamics of collaboration between DSO's and ventures within their corporate venturing unit (CVU). Results of this study could indirectly result in DSO's that are more efficient in their venturing activities which may indirectly lead to an acceleration of the energy transition. However, if that will be an actual result remains to be seen.

1.3 Research questions

The main research question is deduced from the research objective and is formulated as:

What are the factors that are perceived to be important for the performance of venturing units at Dutch distribution network operators?

To answer this main research question, several sub-questions are posed from which an answer to the main research question can be given. These questions are:

1. *What are the motives for DSO's to engage in corporate venturing?*
2. *How is performance/output of the corporate venture unit measured and how does it relate to the overall strategy?*
3. *Are there any external factors that influence the corporate venturing process that differs per DSO?*
4. *What are the perceived success factors in the different types of venturing units?*

1.4 Definition of terms

This paragraph will define important terms that are of high relevance to this research. It is necessary to be consistent in maintaining the same definition for terms throughout this research to secure the validity of its results. It avoids ambiguous thoughts in a later stage of the research. Finally, it can be of good use to readers that are not familiar with terms used during this research.

Corporate venturing: Corporate venturing emphasizes the creation of new business within or outside the organization (Sharma & Chrisman, 2007). This can be done either internally (business created and owned by the company itself – within the organizational domain), externally (investments that facilitate the founding and/or growth of external businesses – those outside the organizational domain) or jointly (form of external corporate venturing in which the organization co-invests with another organization in the creation of a new, external business) (Covin & Miles, 2007).

Corporate venture unit (CVU): A distinct entity which is in control by the parent firm and which is responsible for investing in and developing new business opportunities (Block, 1995)

Distribution System Operator (DSO): a natural or legal person responsible for operating, ensuring the maintenance of and, if necessary, developing the distribution system in a given area and, where applicable, its interconnections with other systems and for ensuring the long term ability of the system to meet reasonable demands for the distribution of electricity or gas (Kaeding, 2011).

Open-innovation: the use of purposive inflows and outflows of knowledge to accelerate internal innovation and to expand the markets for external use of innovation” (Chesbrough, Vanhaverbeke, & West, 2006).

Internal corporate venturing: entrepreneurial initiative that originates within a corporate structure and is intended from inception as new businesses for the corporation (Garrett, 2015)

External corporate venture: creating and developing ventures together with external partners through venture capital investments, alliances, and acquisitions (Keil, 2002).

Startups: an institution created by humans that is designed to create new products or services under conditions of extreme uncertainties (Ries, 2011).

1.5 Report Structure

This thesis is divided into three main parts: the literature study, collection and analysis of data and the discussion & conclusion. An overview of the report structure is shown in figure 1.

Part 1: Literature study

This part contains three chapters starting with formulating the problem and scope of the research. To really understand the problem, different expert interviews were conducted. Next chapter contains a literature study in which factors that contribute to a high performance of venturing activities are discussed. All of these factors are brought together in a conceptual model used as a guide throughout this research. The last chapter of this part discusses the methodology: the method with which the researcher wants to answer the research questions.

Part 2: Data collection and analysis

This part contains one chapter that covers the results of the data collection. Interviews are being held at the relevant companies after which a transcript is made. The interviewees are asked in which way the factors found in the literature contribute to a high performance on venturing activities. Important parts of the transcripts are highlighted and a corresponding factor is added for the analysis of these results. For validation, the analyses of the interviews are being sent back to the interviewees. A cross case analysis is made for the ventures as well as the DSO's.

Part 3: Discussion, conclusion and future research work

This part contains two chapters: discussion and conclusion. In the discussion the results and cross case analyses are discussed. In the conclusion the main research question will be discussed. Finally, implications of the research and suggestions for future research will be discussed.

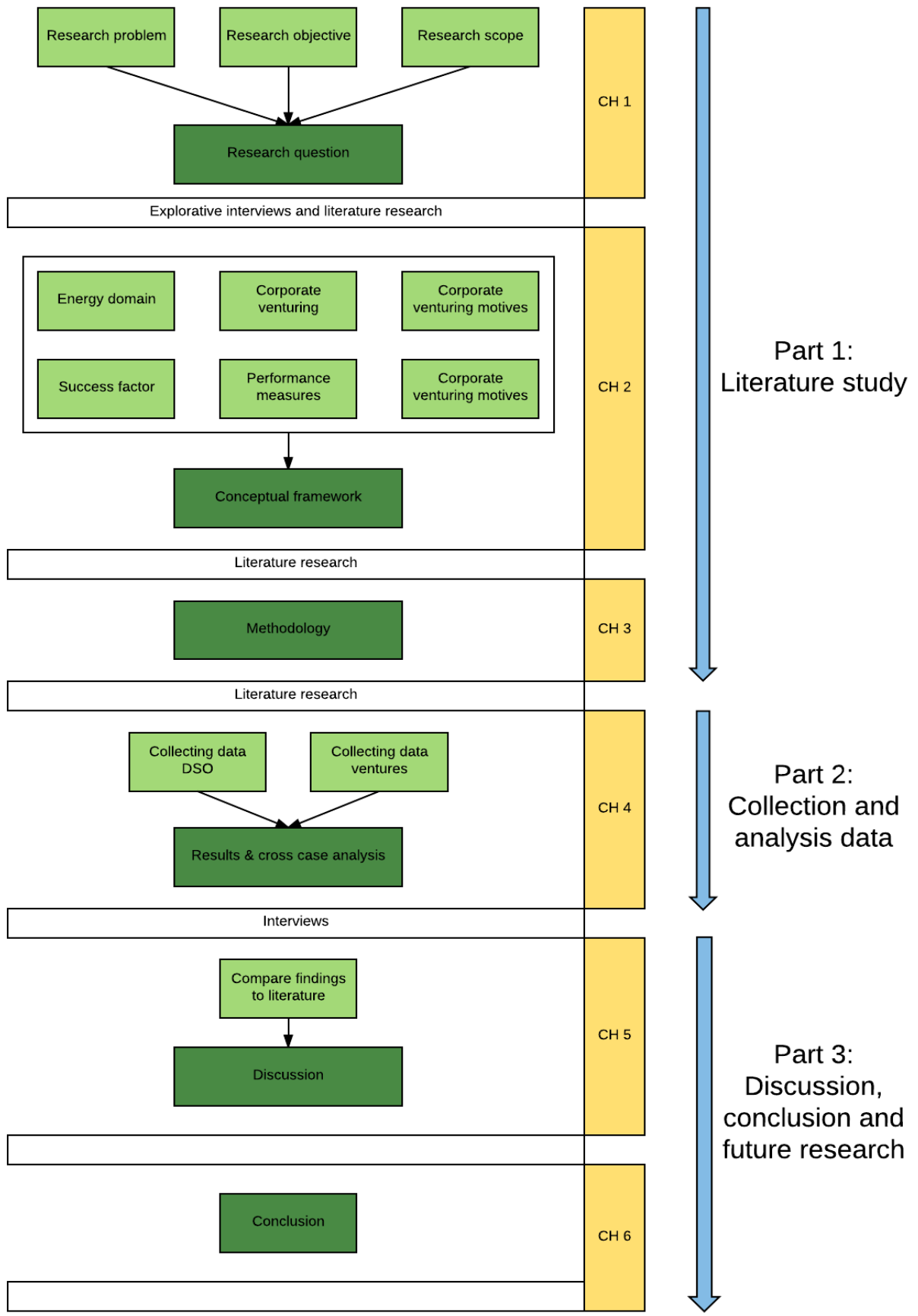


Figure 1: Report structure

2. Literature

2.1 The energy domain in the Netherlands

The electricity production companies are responsible for the supply side of the system and meet the customer in the wholesale market. Most of the electricity, around 85%, is sold in the bilateral market which means directly from the generating companies to the customers. These customers are either large customers or supply companies which deliver it to small and medium-sized customer. The other part of the market is the APX, which is the only Dutch power exchange (see figure 2). Responsible for the transmission of electricity is the Dutch Transmission System Operator (TenneT). The distribution of electricity is done by distribution system operators (DSO's) such as Enexis, Alliander and Stedin. The Dutch government is the majority stakeholder of all distributing companies and privatization of them is prohibited by law (de Vries & Correljé).

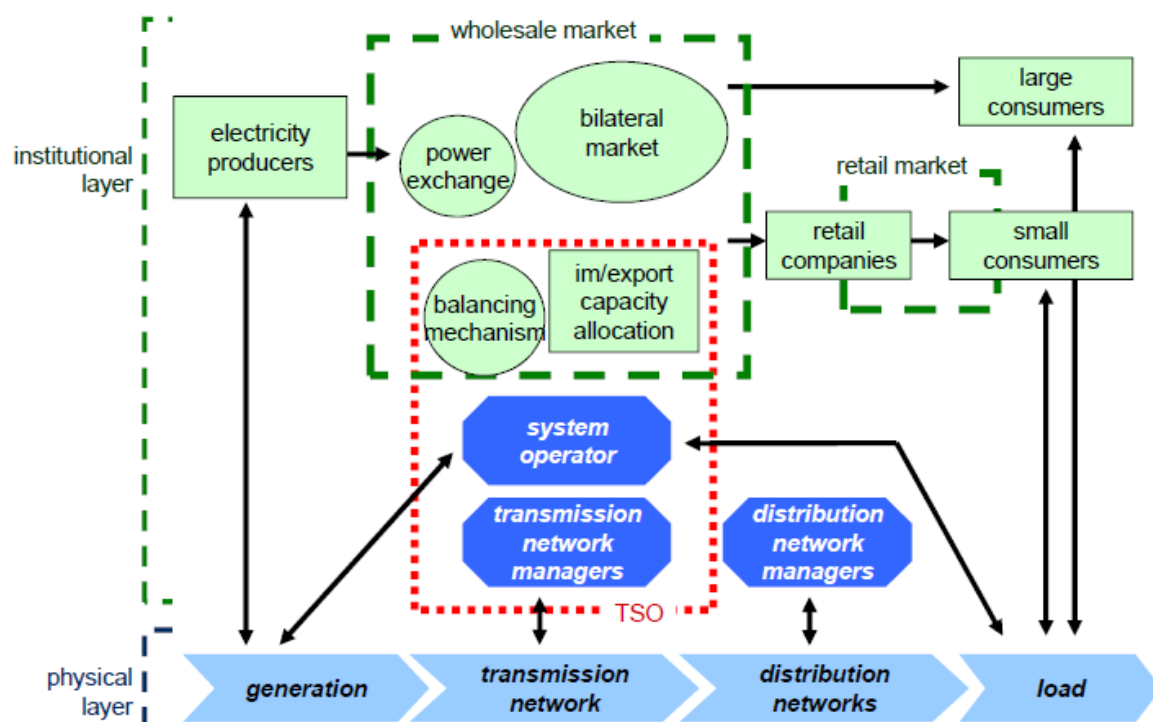


Figure 2: Overview of actors in electricity market

2.2 Innovation in the energy industry

The energy industry is changing rapidly across different actors in the system. DSO Stedin N.V. has acknowledged this in their annual report. Their main drivers are societal importance, their legal tasks, safeguarding their independency and accelerating the energy transition. Stedin N.V. wants to strengthen their facilitating role by supporting initiatives that accelerate the energy transition and contribute to an affordable, accessible and sustainable energy system. Their aim is to collaborate with existing and new companies that develop new services that make use of the full potential of the (new) energy system (Stedin N.V., 2017). The mission of DSO Alliander is an energy system that gives everyone, under the same conditions, access to reliable, affordable and accessible energy. By actively investing in new activities, Alliander tries to get new insights into current and future energy issues. With these insights, they build an energy system of the future that will still be reliable, affordable and accessible (Alliander N.V., 2017). The strategy of DSO Enexis holds the same drivers: an affordable, reliable and sustainable energy distribution (Enexis Holding N.V., 2017). Due to the fast changing technological landscape, these shared mission between DSO's invokes strategic risk on every part of

the statement (reliability, sustainability and affordability). To anticipate, learn and steer their companies, DSO's collaborate with exiting and new partners. The biggest changes in the energy industry that could strategically risk DSO's' mission are categorized along the entire energy chain- from energy generation to energy consumption.

2.2.1 Generation

Energy has always been generated by large centralized units. However, since the beginning of this era, a new trend developed towards distributed energy generation. Next to generating power at centralized units, power is also generated at decentralized units. These autonomous units have no interaction with other units (this has already been applied in hospitals that are very dependent on the reliability of the energy supply). The energy system becomes very interesting if these units do interact with each other. This is known in academic literature as distributed energy systems. A distributed energy system means the reallocation of decision-making, expertise, ownership, and responsibility in terms of energy supply. In practice, the energy system in the future is going to be a mixture of centralized and distributed sub-systems, operating parallel to each other (Alanne & Saari, 2006). These hybrid systems are combined with technologies in which the energy can be stored to use at a later moment. We can see this in de 'Prinses Alexia Windpark' where Dutch energy retailer Nuon will be placing 1000 battery packages to store energy during peak hours of supply. Another research between the Technical University of Delft and Nuon is focused on storing seasonal supply surpluses into ammonia – creating a giant battery (Energie-Nederland, 2017).

Conventional fossil fuels are the primary driver of current energy systems. Due to the growing global energy demand and the depletion of the fossil fuels, many organizations encourage research for creating greener and more efficient power plants that make use of advanced technologies. Renewable energy markets have been growing quickly over the last five years. Deployment of current and new technologies like hydro, wind and solar has risen fast which increased the confidence in these technologies, reducing costs and opening up new opportunities. Global electricity generation is expected to grow 2.7 times between 2010 and 2035, accounting for 31% of the energy demand in 2035 (Ellabban, Abu-Rub, & Blaabjerg, 2014). Technological advancements make the use of renewable sources cheaper and more efficient. In an interview with Jydske Vestkysten, the CTO of Energinet, Torben Glar Nielsen, said that Europe needs to find new methods to increase its renewable energy output. Therefore, the three parties responsible for the transmission of electricity in the Netherlands, Denmark and Germany signed a contract to explore ways of building an artificial energy-island in the middle of the North Sea that can generate energy for up to 80 million Europeans (Postma, 2017, March 8).

2.2.2 Transmission and Distribution

Due to the transition towards a distributed energy system, the grid should be ready to support this. Powerpeers, a Dutch company, makes it possible to buy the surplus of energy by one of your neighbors that is delivering its surplus to the grid. Because of the high barriers to entry the energy markets, new initiatives have reduced chance of success. EXE, another Dutch company makes it easier for these new initiatives to enter the market with smart software solutions.

Technologies like blockchain could support (energy-) transactions between different nodes in the system. Dutch energy transmission company Tennet and retailer Vandebron are setting up a pilot where 200 batteries of EV's of Vandebron' clients are used to test the technologies for balancing supply and demand by making use of blockchain (Postma, 2017, May 2). Another option, instead of using EV batteries, to balance the supply and demand of energy is the combination between generating energy and storing it to supply one's home or to put it directly to the grid during peak hours. An example of such batteries are Tesla's Powerwalls. Storing energy on a large scale would drastically reduce the dependency on giant centralized power plants.

2.2.3 Consumption

From the consumers' point of view, there are several areas that can be highlighted. First, there is an increasing amount of organizations, tools and products that make the energy consumption increasingly tangible. Goal is to make people more aware of their energy consumption by letting them interact with it. Examples are Google's NEST and Eneco's TOON. Both are smart meters that provide real time energy consumption to the customer. From there, the customers can easily find appliances that consume a lot of energy and replace them by a newer more energy efficient product or shutting it down while they're not being used. Another company provides a tool where people can compare their energy consumption with others- making them more aware and alert. There is another energy retailer that provides a prepaid model instead of a subscription model, also aiming for increased awareness on energy consumption. A second area that can be highlighted is the reduction of energy consumption by using different energy-saving products such as: new isolation material, ventilation boxes, sun-powered boilers and LED-lighting. There are different players within the energy industry that offer such products and/or services. Finally, there is the continuous transition from the use of internal combustion vehicles (ICV) towards plugin-hybrids (PHEV) and full electric vehicles (EV). An increasing amount of new charging stations are being placed. Tesla, an electric car manufacturer, announced that it will release a full EV for the mainstream market in 2018. Next to that, the manufacturer announced its plan to start a taxi company in which the autonomous vehicles could drive themselves. This would reduce the initial cost of purchase for the owner, could benefit the adoption of this type of EV and again revolutionize the entire taxi industry.

It could seem a bit far-fetched for DSO's that these type of advancements in technology will impact the current energy system, but the contrary is true. These advancements will directly shape the energy system of the future. To learn about these technologies and explore possible future paths, DSO's should collaborate and keep an open dialogue with all actors involved to successfully shape the energy system of the future together.

2.3 Corporate venturing

Nowadays, firms can't build upon their existing knowledge and capabilities to be successful on the long-term. They have to explore new technologies and business models to stay at least competitive and defend their market position. Firms that are able to continuously explore and exploit new opportunities faster and cheaper than competitors can avoid lock-in effects in times of disruptive change (Leten & Van Dyck, 2012). Belderbos et al. (2010) analyzed the financial performance consequences of technology strategies categorized along two dimensions: explorative versus exploitative and solitary versus collaborative. Results of this analyses confirmed the existence of an inverted U-shape relationship between the share of explorative technological activities and financial performance. That means, that up until a certain point, increased explorative activity will positively influence financial performance. However, too much explorative activity can lead to diminishing financial performance. Next to that, findings show that most firms don't reach the optimal level of explorative technological activities (Belderbos, Faems, Leten, & Looy, 2010). Firms have difficulty organizing themselves as an ambidextrous organization (O'Reilly & Tushman, 2008). This problem is better known as 'the innovators dilemma' (Christensen, 2013). That means organizing companies operations such that they can be successful at both exploiting the present and exploring the future (O'Reilly & Tushman, 2004). A reason for this is that incumbent firms' existing products and process can be cannibalized by technological and market change (Reinganum, 1983). Another reason is that incumbent firms have routines in place, innovation process and customer centered value networks that help them exploit current competences but which are counterproductive in exploration activities (Leten & Van Dyck, 2012). Firms can develop a semi- or quasi-autonomous organization within the company to learn new competencies and to acquire the required technologies (Burgelman, 1983b) (Tidd, Pavitt, & Bessant, 2001). One of these methods is to engage in corporate venturing. Corporate venturing (CV) is said to be most productive as a path to superior corporate performance when

practiced in a strategic manner (Covin & Miles, 2007) or as Burger, Scholten and Shah (2009) state: 'Corporate venturing is an important tool for firms to develop breakthrough innovations, achieve future growth and maintain a competitive advantage' (Burgers, Scholten, & Shah, 2009).

Corporate venturing emphasizes the creation of new business within or outside the organization (Sharma & Chrisman, 2007). This can be done either internally (business created and owned by the company itself – within the organizational domain), externally (investments that facilitate the founding and/or growth of external businesses – those outside the organizational domain) or jointly (form of external corporate venturing in which the organization co-invests with another organization in the creation of a new, external business) (Covin & Miles, 2007). Corporate venturing is an activity which in literature is part of corporate entrepreneurship. This is approached by Ling et al. as: 'corporate entrepreneurship is the sum of a company's innovation, renewal, and venturing efforts' (Ling, Simsek, Lubatkin, & Veiga, 2008). Under this definition, innovation (which is concerned with introducing something new to the marketplace), strategic renewal (concerned with organizational renewal involving major strategic and/or structural changes), and corporate venturing (entrepreneurial efforts that lead to creation of new business organizations within the corporation) are all important and legitimate parts of the concept of corporate entrepreneurship (Morris, Kuratko, & Covin, 2010).

Hill and Birkinshaw (2008) developed a typology of corporate venture units, based on their strategic role in the corporation with an emphasis on exploration versus exploitation and the internal or external locus of opportunity they pursue (Hill & Birkinshaw, 2008). These authors have found that corporate venture units improve their performance when they are focused on one single objective. Burger, Scholten and Shah (2009) extend this argument and suggest the creation of multiple venture units (MVU), whereby each unit can provide tailor-made support for the specific needs of corporate ventures in certain phases of their development (Burgers et al., 2009). They developed a conceptual framework and a set of guidelines on how to use this approach in corporate venturing to enhance the success of such programs.

2.4 Corporate venturing motives

This part of the literature study discusses the different motives for venturing activities that organizations can have. Findings of this part will help to answer the first sub-question of this research:

What are the motives for network operators to engage in corporate venturing?

During the interviews at DSO's questions will be posed in order to find the motives behind these venturing activities. Corporate venture units (CVU) can have different motives exploring and exploiting ventures for its parent company. These motives can be either financial or strategic. CVU's created with a financial motive only don't have the intention to exploit the firm's current business or build new businesses. It's only goal is to diversify into the private equity business and thereby become a corporate venture capital firm with success only being measured in financial returns. Although profit can be made from utilizing underused assets, this financial motive is focused on taking minority equity stakes in innovative companies outside the firm (Leten & Van Dyck, 2012). Chesbrough (2002) calls this type of corporate venturing passive investments that are loosely linked to operational capabilities. Corporate venture capital investors tend to exit their investments when markets turn down (Chesbrough, 2002). Another financial motive for CVU's is to engage in harvest venturing (Campbell, Birkinshaw, Morrison, & van Basten Batenburg, 2003). This purpose of this CVU is to monetize brands, intellectual property, product- and process technology or underused fixed assets not representing any commercial value to the firm but being an opportunity for other companies (Leten & Van Dyck, 2012). This can be either done by selling or licensing the resource. Key is to fully exploit this resource by creating a new venture in a CVU (Campbell et al., 2003). CVU's created with a strategic motive can engage in innovation venturing which entails the surfacing of ideas from within the firm. Employees

are rewarded for value that they create. Innovation venturing is a strategy to revitalize the firm through the introduction and exploitation of new business activity (Covin & Miles, 2007). One example is the Royal Dutch Shell Group's GameChanger program which was established to increase innovation in the technical function of Shell's exploration business (Campbell et al., 2003). CVU's created with a strategic motive can also engage in Ecosystem venturing where the purpose is to develop demand for the main business' new products or to support its main business operations (Leten & Van Dyck, 2012). Companies can sometimes improve the vibrancy of their ecosystem (suppliers, agents, distributors, franchisees, technology entrepreneurs or makers of complementary products) by providing venture-capital support (Campbell et al., 2003). CVU's that have a strategic motive can also entail navigating towards new environments that can be interesting for further development of the main business or to explore these and stay ahead of competition. CVU's following this motive engage in technology scouting, creating windows of opportunity on new technologies relevant for further development of the parents firm' main business or to find new businesses (Leten & Van Dyck, 2012).

Because DSO's are publicly owned companies, their investments (above a certain level) have to be approved by the state. DSO's don't aim for high profits. Their goal is to distribute energy as reliable, sustainable and affordable as possible. Therefore, their motives to engage in corporate venturing will most likely only be strategic. Due to technological advancements the energy industry is changing rapidly. DSO's want explore what's coming and how they can steer and adapt their company towards this changing industry in order to keep up with their goals in the future. Additionally, venturing activities can be used to show that a DSO is modern and keeps up with the latest technologies. A change of name of the organization to show that they are modern can be invoked by being active in corporate venturing.

2.5 Success factors for corporate venturing activities

2.5.1 Contextual organizational factors

There are factors influencing venturing activities from a different level of analysis: parent, program and venture, but let us first define success. DSO's are into venturing due to a strategic motive. They want to explore how advancements in technology can help them shape the energy industry of the future. Next to that, DSO's can define success as maintaining their market position. However, due to the fact they are publicly owned organizations the first is more likely. Factors concerning the parent will be extracted from literature. Intra-organizational context factors will be reviewed from literature after which the external environment that both have an impact on venturing activities will be discussed. Besides motives for corporate venturing scholars found different internal organizational factors that thrive corporate venturing. Narayan et al. (2008) organized literature using 'context-CV characteristics-outcome' framework and found six different internal organizational context factors that positively influence corporate venturing (Narayanan, Yang, & Zahra, 2009): The role of top management (Antoncic & Hisrich, 2001; Elenkov & Manev, 2005), corporate culture (Badguerahanian & Abetti, 1995), the organizational structure and process (Antoncic & Hisrich, 2001; Brody & Ehrlich, 1998; Burgelman, 1983a; Keil, 2004), the use of rewards and controls (Antoncic & Hisrich, 2001; Franzke, 2001), corporate strategy profile (Carrier, 1996; Hitt, Ireland, Camp, & Sexton, 2001) and timing (Zahra & Covin, 1995).

Top management support has shown to be essential for stimulating intrapreneurship, new business creation and realizing the potential for corporate venturing (Antoncic & Hisrich, 2001; Narayanan et al., 2009). For venturing activities to be successful, the corporate organization and processes have to be well organized to ensure their effective and timely implementation (Narayanan et al., 2009). This include a supportive corporate culture (Badguerahanian & Abetti, 1995), organizational structure where there is the ability to make quick decisions (Brody & Ehrlich, 1998) and organizational process like open and quality communication (Antoncic & Hisrich, 2001), the use of corporate champions (Burgelman, 1983a) and appropriate venture controlling (Brody & Ehrlich, 1998). Another important

factor that has an impact on the outcome of the venturing unit are rewards that can be seen as an incentive for employees (Antoncic & Hisrich, 2001; Franzke, 2001). Several authors found that corporate venturing is an element of corporate strategy (Carrier, 1996; Hitt et al., 2001) and that the timing of an venture is important due to changing corporate goals, resources, skills and priorities (Narayanan et al., 2009). Zhara (1995) found that post-LBO companies increase their corporate venturing commitment (Zahra & Covin, 1995). This happens because upon going private, companies often change strategy and goals (Narayanan et al., 2009).

The following part of the literature study tries to find relevant factors that are external to the organization that could influence if there are venturing anyway or might influence the performance of such. It helps to answer the third subquestion of this research:

Are there any external factors that influence the corporate venturing process that differs per DSO?

There are several external factors that have an impact on venturing activities. Narayanan (2009) found technology-related factors and demand conditions to be systematically related to the potential of corporate venturing activities. However, DSO's are in an extraordinary position; they operate within the boundaries of geographical governmental-regulated monopoly. This means that DSO's don't have to fear competition because of their unique situation. Because the assumption is drawn that these external factors are similar for every DSO, no, except one, external impact factors could be extracted from literature which could be different between every DSO. After literature review, there is actually one factor that might have an influence on the venturing activities of a DSO, the 'tariff regulation'. In principle, this regulation invokes that if DSO's operate more efficient than the average company they are allowed by the regulatory agency to charge electricity consumers a higher price (Niesten, 2010). This invokes the assumption that in such cases, there is a larger budget available for venturing activities.

2.5.2 Characteristics of corporate venturing

This part of the literature study is focused on finding perceived success factors of corporate venturing from the perspective of the CVU itself. These factors are focused on the CVU where there is an overlap between both the parent company and the venture. Therefore, interviewees at both the DSO's and the ventures will be asked in which way the factors found in literature are perceived to be important for the performance of the venturing unit. Its aim is to answer the second sub-question:

What are the perceived success factors in the different types of venturing units?

There can be several factors found in literature that impact venturing activities from the program perspective such as goal clarity, long-term commitment, adjacency, autonomy and critical mass (Leten & Van Dyck, 2012). Another factor extracted from literature is the experience, contacts and reputation that the organization / CVU has (Narayanan et al., 2009).

There's broad agreement in the literature that, in order to be successful, a CVU needs to have clarity of goals and the distinctive organizational capabilities to deliver upon these goals (Campbell et al., 2003; Hill & Birkinshaw, 2008; Leten & Van Dyck, 2012). Strategic benefits and financial returns don't come along together and therefore there is the risk to become stuck in the middle (Birkinshaw, van Basten Batenburg, & Murray, 2002). Focusing on different types of corporate venturing (internal / external vs short-term / long-term) might confuse senior management about results resulting from the venturing activities. This could lead to abandonment of venturing programs before they had a chance to pay off (Burgelman & Välikangas, 2005). Therefore, making clear in which type of CVU the venture will fit is an important factor because these come with their own set of organizational challenges and performance measures. These different types of CVU's are discussed in the previous chapter.

Another relevant factor is the long-term commitment from companies towards its CVU's. Over the last decades there has been intense cyclicity in the commitment for parent companies towards their ventures. Important factors that influence the commitment parent companies show are the health of the main business and the availability of financial resources (Leten & Van Dyck, 2012). These ICV-cycles tend to have a horizon of ten to twelve years (Biggadike, 1989) and are caused by macroeconomic up- and downswings and managerial factors (Block, 1995). For a venture it takes the same amount of time to perform like a mature business. However, managerial budgets tend to have a one- to three year commitment. Therefore, it is challenging for a venturing unit to perform up to management's expectations (Leten & Van Dyck, 2012). Birkinshaw and Hill (2005) performed a longitudinal study on the survival rate of venturing units. They found that strategically motivated venturing units have a lower survival rate than financially motivated ones. This is because financially motivated CVU's generate early results from their investments while strategically motivated CVU's have long term objectives and don't generate a quick return on their investment This indicates short-term thinking in corporate headquarters (Birkinshaw & Hill, 2005).

Adjacency is an additional factor that impact the performance of CVU's. When CVU's invest in ventures that focus on technologies, products and markets that are adjacent to parent company chances are that the CVU will be more likely to be successful (Kuratko, Covin, & Garrett, 2009; MacMillan, Block, & Narasimha, 1986). Data from the study performed by Thornhill and Amit (2001) indicates that strategic fit between parent and the venture is positively associated with venture performance. They identified two different types of fit between parent company and their ventures: relational fit and economic fit. The first reflects organizational culture, while the lather reflects a function between the needs of the venture and the resources of the parent company (Thornhill & Amit, 2001).

Autonomy of a venture unit is another important factor. For parent companies it can be hard to resist to have some sort of involvement. Venturing activities require long-term support, while parent companies are focused on short-term results. Outcome of venturing activities are uncertain and ambiguous while parent companies are frequently risk-averse. Finally, the decision process in venturing is fast while parent companies tend to follow slow consensual decision making processes. Despite these differences between the parent company and their ventures, companies try to fit the venturing activities in the routine of the parent company (Birkinshaw & Hill, 2005). If there is low autonomy, chances are high that venturing units face the corporate hug of death. From a corporate perspective this hug relates to force fitting their standard behavior which instead needs a custom solution (Van Dort, 2016). Research of Birkinshaw and Hill (2005) suggests that venture units with substantial levels of autonomy performed significantly better. Autonomy in the context of their study implied two things: a separate fund of financial resources that has been made free for investments and that the decision rights for the choice of investments and managerial matters are located at the venturing unit itself (Birkinshaw & Hill, 2005).

An interesting finding from a study performed by Kuratko et al. (2009) is there is no significant positive influence of venturing experience on the success rate of a CVU. Because venturing activities generally focus on high-risk opportunities their chance to succeed is lower than that of general product development (Kuratko et al., 2009). As a result these low success rates of venturing activities need critical mass in the number of ventures pursued by the CVU (Leten & Van Dyck, 2012). Corporate venturing is about managing a portfolio of ventures in which some 'winning' ventures will make up for the ventures that don't succeed. This 'critical mass' is calculated from an study on the financial market and is believed to be somewhat the same for corporate venturing; a portfolio needs around 30 ventures to be successful over the entire portfolio (Birkinshaw et al., 2002).

Last factors that positively influence the performance of a CVU are the network of contacts and the use of the parent' reputation in order to succeed in bringing product/process to the market. Maintaining close contact with the VC-community for example can help a CVU in conducting due

diligence on investment opportunities or in sharing information of the investment opportunities. These contacts can help CVU's achieve their strategic and financial goal (Birkinshaw & Hill, 2005).

2.5.3 Venture characteristics

Halila and Rundquist (2011) performed a study on eco-innovation in Sweden and distilled several key success factors from the venture' perspective. They distinguished factors related to the innovator, innovation, development process and market surroundings (Halila & Rundquist, 2011).

Factors related to the innovator/team are the characteristics of each individual, their educational background, competencies and network (Halila & Rundquist, 2011). Teams that show homogeneity in their competency and education are less likely to be higher performing on the long term compared to the contrary (Steffens, Terjesen, & Davidsson, 2012). An innovator or team seldom works completely alone so it's more likely they work with others to engage in some kind of network (Johannisson, 2000). There are scholars that found that traits such as an innovators stubbornness and goal orientation are important factors in the early stages of development (Caird, 1994) while other scholars argue the importance of such (Halila & Rundquist, 2011).

Factors related to the innovation or product/process itself include its market newness, technological level and cost (Halila & Rundquist, 2011). Most successful products are those that fulfill a perceived but yet unfilled need (Zirger & Maidique, 1990). Product superiority is one of the key success-factor in predicting the success of a new product/process (Cooper & Kleinschmidt, 1993). Customers will soon realize superiority in the technologic level resulting in a product/process that fulfils their needs in a better way than incumbent products (Cooper, 2001). According to Porter (1985) the cost of a product/process compared to its competitors is a factor that relates to gaining customers (Porter, 1985). Factors that relate to the development process are distinguished by Halila & Rundquist (2011) as one that refer to the access to resources and access to capital. These factors are both are found to be very important in order for a venture to be successful.

Last there are the factors that relate to the market surroundings. Van de Ven et al. (1999) distinguished two different factors; the innovators' view on the regulatory system and the external support of the venture (Ven, Polley, Garud, & Venkataraman, 1999). Governmental regulations and institutional arrangements can be both inhibiting and facilitating. Governmental regulations prove to have a strong impact on the success of (eco-)innovations (Beise & Rennings, 2003). For (eco-) innovations forces of technological push and market pull are not strong enough in order to be successful in the market. Therefore, (eco-) innovations require specific regulatory support (Rennings, 2000).

2.6 Performance of venture units

This part of the literature study is focused on findings factors in literature that define the way performance within a venture unit is measured. It seeks to answer the second subquestion:

How is performance/output of the corporate venture unit measured and how does it relate to the overall strategy?

Interviewees at both the DSO's and ventures will be asked in which way performance is measured. Analysis of the results will compare findings with literature.

Performance of venturing activities can be measured at the parent and venture level. Narayanan et al (2009) distinguished different performance measures; economic performance measures, market performance measures and strategic benefit (Narayanan et al., 2009). Venturing activities can result in improving economic performance at the parent level after which it improves its (financial) market performance (Zahra & Covin, 1995). Strategic benefits from corporate venturing activities are learning,

successful integration of a company's operations, improved responsiveness and successful standard setting (Narayanan et al., 2009).

2.7 Conceptual Framework

Factors that contribute to a high performance of the venturing unit, which have been discussed in the literature study, are brought together in a conceptual framework (figure 1). Interviews held at DSO's will be focused on the organizational-, external environment- and venturing unit related factors (orange part in conceptual framework). Interviews held at ventures will be focused on venturing unit- and venture related factors (green part in conceptual framework). Interviewees will be asked which factors they perceive as important in order to be successful in corporate venturing.

First of all, corporate venturing starts with a motive in order to engage in such activities (subquestion 1). As discussed in literature these motives can be either strategic or financial. Because DSO's are publicly owned and their main goal is not to strive for financial gain, it will be most likely that DSO engage in corporate venturing activities because they want to explore the future of the energy system. However, if the motive is found to be different then strategic, a difference in factors that are important for the outcome of these activities could be found. Second, performance of CVU's can be measured in different ways (subquestion 2). There are the organizational factors from within the company, factors related to the venture itself, factors relating to the venturing unit (subquestion 4) and external factors outside the organizational domain (subquestion 3).

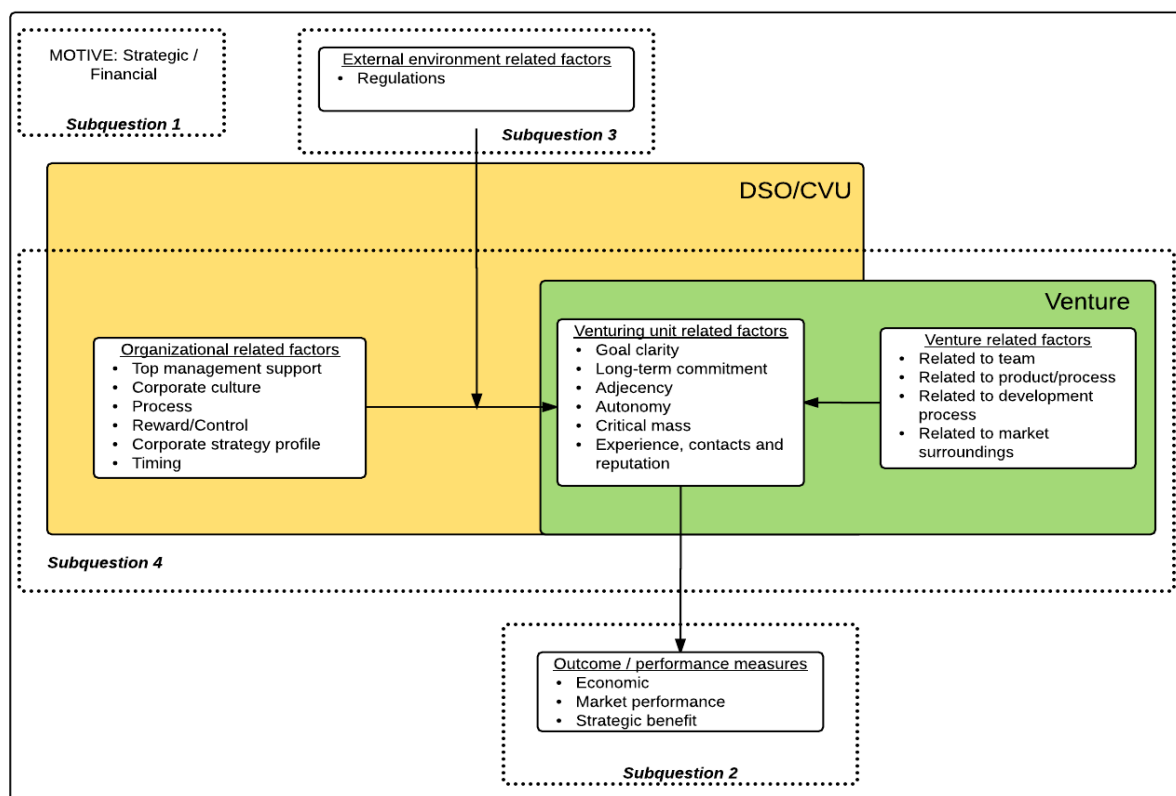


Figure 3: Conceptual model: Success factors corporate venturing at DSO's

3. Methodology

3.1 General research approach

This qualitative research is conducted by a multi case study research design (MCSR). The framework used is the one used by Robert K. Yin in his research on case study research methods (Yin, 2013). It has three different phases; first, the definition and design of the study; second, the preparation, collection and analyses; and finally, the cross-case analyses and conclusion (See figure 5).

There is another phase that can be distinguished and is not part of the figure above. This is the part in which extensive literature review, as well as secondary literature like annual reports combined with expert interviews have been conducted to give a broad understanding of the context, problem statement and direction of the research. The literature review helps to put this research into a theoretical framework. A common approach will be used to gather all relevant literature on corporate venturing, its success factors, case study research methods and related subjects. The same method will be used for all topics to assure coherency throughout the research. The six steps literature review guide (Machi & McEvoy, 2016) will be used for this review. Different sources are used for this study. Most important are scientific articles, books and journals found on Scopus, Web of Science, ScienceDirect and Google Scholar. The quality of the literature will be examined on basis of the topic, key words, number of citations and the reference list. The author will be examined on the number of publications of the author as well as impact of his work, also known as the h-index. This literature will be the foundation of the research that will contribute to answering the sub-questions as well as, together with expert interviews, helping to get a broad understanding of the problem.

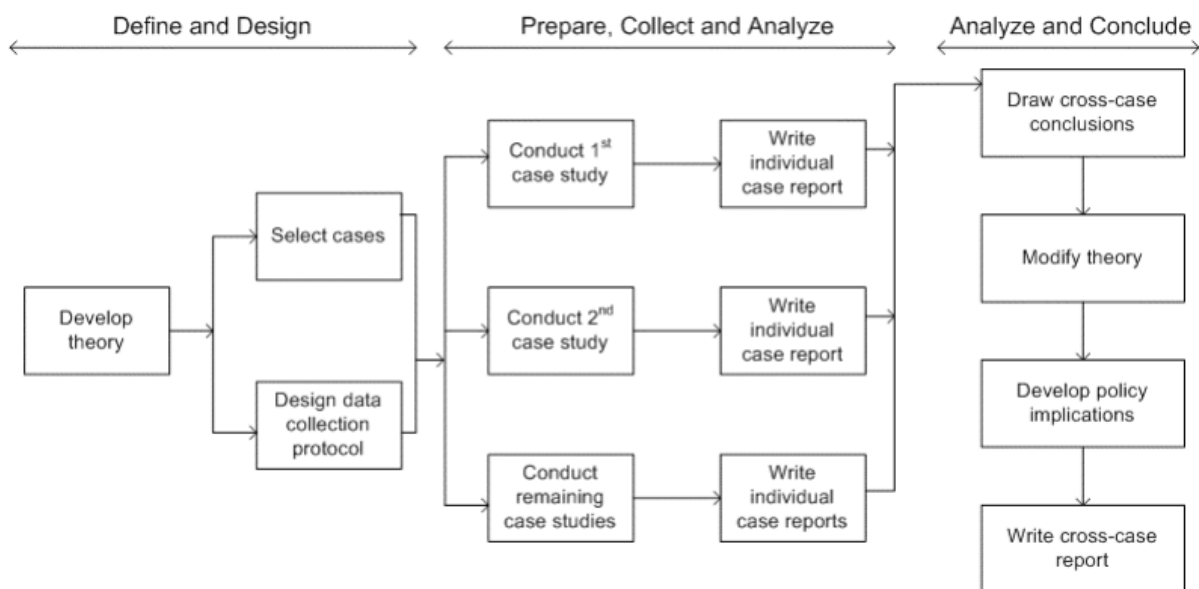


Figure 4: Case study method. Source: (Yin, 2013)

3.2 Sample selection

After having conducted the literature review and having a broad understanding of the topic an overview is made of possible candidates for the multiple case study research. The possible candidates are then assessed and picked using research criteria, the scope of the research, the time and the relevance. This results in picking the currently three largest incumbent distribution network operators (Stedin, Alliander and Enexis) and several ventures per DSO. Interviews are planned with one employee per DSO/venture. Employees from DSO's that have a role in venturing activities will be contacted. After some initial research Alliander shows to have many ventures while the other DSO's (Stedin and Enexis) appear to not have any. Therefore, the sample selection is reduced to the three DSO's and all of the

ventures of Alliander. All of the companies listed in table 2 were contacted to ask if they would be willing to cooperate with this research. All of the DSO's and some ventures were willing to conduct an interview for this research. An overview of the key characteristics can be found in table 1.

Name	DSO / Venture (parent)	Key characteristics	Interviewed (role)	Source
Stedin netbeheer B.V.	DSO	<ul style="list-style-type: none"> - Operate mainly in provinces of Zuid-Holland and Utrecht - 2,04 M electricity connections - 1,916 M gas connections - 20.013 GWH electricity transported - 4.436 M M3 gas transported - 2.717 employees - Net revenue 2015: € 1069.1 M - Net Result (EBIT): € 225.7 M - Little corporate venturing activities - HQ in Rotterdam 	Yes, the sustainability, renewable and innovation manager.	(Stedin BV, 2016)
Enexis N.V.	DSO	<ul style="list-style-type: none"> - Operate mainly in provinces of Groningen, Drenthe, Overijssel, Noord-Brabant and Limburg - 2,70 M electricity connections - 2,09 M gas connections - 34.121 GWH electricity transported - 5.530 M M3 gas transported - 4.299 employees - Net revenue 2015: € 1353.4 M - Net Result (EBIT): € 394.8 M - Little corporate venturing activities - HQ in Zwolle 	Yes, both a manager from Empuls and one from Enexis.	(Enexis Holding N.V., 2016)
Alliander N.V.	DSO	<ul style="list-style-type: none"> - Operate mainly in provinces of Friesland, Noord-Holland, Flevoland, Gelderland - 3,10 M electricity connections - 2,67 M gas connections - 29.882 GWH electricity transported - 6.012 M M3 gas transported - 7.240 employees - Net revenue 2015: € 1.586 M - Net Result (EBIT): € 339 M - Many corporate ventures - HQ in Arnhem 	Yes, innovation & realization manager.	(Alliander N.V., 2016)
Allego B.V.	Venture (Alliander N.V.)	<ul style="list-style-type: none"> - Initiated by Alliander N.V. in 2013 - Business: Charging infrastructure - 85 employees - Office in Arnhem (not at Alliander HQ) 	Yes, the CEO of the company.	(Allego, 2016)
MPARE B.V.	Venture (Alliander N.V.)	<ul style="list-style-type: none"> - Closed down end of 2016 	No	
LOCOL B.V.	Venture (Alliander N.V.)	<ul style="list-style-type: none"> - Initiated by Alliander N.V. in 2014 - Business: collective sustainable energy solutions - 9 employees - Office in co-working space in Amsterdam 	Yes, the general manager of the company.	(LOCOL, 2016)
Smart Society	Venture (Alliander N.V.)	<ul style="list-style-type: none"> - Initiated by Alliander N.V. in 2014 	No	(Smart Society)

Services B.V.		<ul style="list-style-type: none"> - Business: Smart and Scaleable IoT Services for Critical Infrastructures - 16 employees - Office in Utrecht 		Services, 2016)
ZOWN B.V.	Venture (Alliander N.V.)	<ul style="list-style-type: none"> - Initiated by Alliander N.V. in 2015 - Business: MicroGrid development - 8 employees - Office in Utrecht 	No	(Zown, 2016)
Energy Exchange Enablers B.V.	Venture (Alliander N.V.)	<ul style="list-style-type: none"> - Initiated by Alliander N.V. in 2014 - Business: realtime energy exchange - 25 employees - Office in Alliander HQ (Arnhem) 	Yes, the general manager of the company.	(EXE, 2016)
HOOM U.A.	Venture (Alliander N.V.)	<ul style="list-style-type: none"> - Initiated by Alliander N.V. in 2013 - Business: energy saving solutions for residents - 47 employees - Office in Amsterdam 	Yes, the director of the company.	(Hoom, 2016)

Table 1: Key characteristics Sample selection DSO's and ventures

Most interesting will be to have contrasting cases in terms of the ways in which corporate venturing is organized. When having picked the candidates for this research, the data collection protocol will be clarified to help collecting the data. The case studies will be conducted using in-depth semi-structured interviews with employees working at the corporate venturing department of such network operators and the managing directors at each venture. When the interviews are transcribed, the data is analyzed using the criteria that were made explicit before conducting the interviews. Further, a cross-case analyses will be made by comparing the findings of all individual case studies, and results will be linked back to theory development. Finally, conclusions will be drawn which will be part of the final cross-case report.

3.3 General data issues

There are certain areas where issues with gathering data can occur. These are construct, external- and face validity. This part will discuss possible constraint and drawbacks of the different types of research methods. For the researchers it is good to keep these in mind so they can be avoided if possible. The areas of occurrence of data issues are categorized into three different sections; the literature review, expert interviews and semi-structured interviews.

3.3.1 Literature review

First of all, it can occur that during the literature review certain literature is missed and will not be a part of the review. Thus, there is a chance that highly relevant literature is missing. However, a clear and structured literature research method will be used to reduce the chance of this happening. Next to that, reference lists of literature on a specific topic will be cross-checked to search for other (missing) literature. Also, members of the graduation committee can help checking references used to avoid missing out on highly interesting literature. Secondly, there is the limitation that only certain sources are used and that therefore relevant research will be omitted. However, the sources that are used will capture most of the relevant research and therefore it can be questioned if information from other literature would seriously alter conclusions that will be drawn. Finally, the interviews will be cross-checked with annual reports.

3.3.2 Expert interviews

Because this will be a qualitative research, it will be highly depended on the cooperation of the right people at the three DSO's, ventures, Accenture and TU Delft. First, it can be challenging finding the right people at the right companies. However, due to the large network of Accenture and her clients, this will not be a problem when the right amount of effort is put into finding them. Another problem that can be biased, giving socially acceptable answers or because they don't want to embarrass others (working for the same organization). For the researcher, it is good to keep this in mind when conducting interviews and act accordingly to prevent this from happening. How to act, depends on the situation (e.g. anonymity can be provided if it doesn't hamper the research). It can be a challenge finding a time slot to meet with one of the experts at Accenture due to busy schedules. However, because of length of this research this is not considered as a serious threat gathering information, Members of my graduation committee are carefully chosen regarding their background. They will all help and provide feedback which will improve this research on all aspects.

3.3.3 Semi-structured interviews

A semi-structured method for conducting the interviews will be selected. The interviews will take about 60 minutes each. There is a chance that the interviews that will be used to build the individual cases will not provide all required/incorrect data and thus have low construct validation. This construct validity is defined as identifying the correct operational measures for the concepts being studied (Yin, 2013). To reduce the chances of having a low construct validation, the structure and desired results of the interview will be discussed with members of my graduation committee and if necessary adjusted. Additionally, it can be questioned if the researcher interviews the right people. Interviewees from the ventures are managing directors at their venture so these are people are supposed to have the most knowledge on these subjects and are therefore the appropriate persons to interview. Interviewees from the DSO's lead or have a connection with the venturing program or are involved with the innovation process at their company. For this research it is believed that increasing the amount of interviews will not seriously change the results. Next to that, data gathered from interviews will always be send to the interviewees for validation. If there is insufficient data to build the case on, a second round of interviews can be conducted. This will have a negative impact on the planning and therefore selecting the right method and structure for the interviews is highly important. Finally, there is the issue of case-studies scoring low on external validity. Due to the specific scope, it can be questioned if the results of this study can be generalized. In general case-studies have limited generalizability due to the collection of too broad information or too detailed information making it hard linking it to the core of the research (Dul & Hak, 2007). Finally, it could be that some part of the DSO's innovation-process happens inside projects and/or experiments instead of CVU's. Therefore, it could be hard to assess the entire scope of innovation at DSO's. However, this study is focused on CVU's within the DSO's, more specifically the factors that are perceived to be important in order to be successful in corporate venturing. Interviewees are asked about innovation processes going on outside CVU's. However, it is expected that these will not directly alter the factors perceived to be important.

3.4 Interview structure

Former studies on corporate venturing are either from the perspective of the parent company, venturing program or the venture. This research is focused on all three. Relevant factors found in literature are put together in the conceptual framework (figure 4) Interviews will be conducted at the three largest DSO's in the Netherlands as well at their ventures, if they have any. Interviews at DSO's will be conducted to find the organizational factors, external factors to the organization and corporate venturing unit related factors that all have an influence on (the performance of) their venturing activities. Important to mention is that the interviewees are asked about factors which they perceive as important contributors to the performance of venturing units at DSO's. All interviews will start with an explanation of the factors retrieved from literature, so there is consistency among all interviews. Besides that, the interviewees are explained on which performance measures these factors are linked.

These performance measures have been discussed in 2.6. Next to that it will be questioned in which way the performance of such activities are measured. It might occur that a DSO doesn't have any venturing activities. In this case asking which venturing unit related factors are perceived as important is not applicable. Therefore, if this occurs, questions will be asked to find organizational related and external factors that contribute to the abundance of these activities. Ventures will be asked in which way the corporate venturing unit related- and venture related factors influence their performance. Next to that it is questioned in which way the ventures themselves measure performance. All of the relevant factors found are shown in the results chapter.

The interview structure for the DSO's can be found in Appendix A and the interview structure for the interviews at the ventures can be found in Appendix B. The researcher shows the relevant factors found in literature and explains the definition of them to the interviewees to have a positive impact on the face validity: are the factors going to measure what they are supposed to measure. Questions are asked what kind of impact these factor have on the performance of venturing activities (low/medium/high). In addition, the interviewee is asked to give the context of such factors from their perspective. This is done in the exact same way in all interviews. This reduces the chance that the interpretation of the researcher will seriously influence the results.

3.5 Analysis

All interviews that were conducted took approximately 60 minutes and were being recorded. From these recordings transcripts were made before the analysis could start. Yin (2013) highlighted the use of computer aided tools that can assist the researcher in coding and categorizing large amounts of text (Yin, 2013). However, only seven interviews were conducted so coding and categorizing this manually was doable in the given timeframe. This was done as follows:

1. Interviews were conducted and transcribed;
2. Transcripts were printed;
3. Important parts of the interview that contribute in some way to the factors from the conceptual framework were highlighted with a marker;
4. Next to every highlighted piece of text one or more factors were written down;
5. All of the parts that belong to the same factor were categorized as such;
6. From the different categories, the researcher was able to analyse if a factor was perceived to be of low, medium or high importance to the performance of the venturing unit;
7. The analysis was send back to the interviewee for validation of the results.

As can be seen in the interview structures (appendix A & B), questions are posed if the factors that were found in the literature are perceived to be important to the performance of venture units and in what way (low / medium / high). This type of questioning reduces the influence of the interpretation of the researcher. However, it might happen that the interviewee will not directly response to the question posed in such way the researcher wants. In these cases, it's highly important to have sufficient contextual data so the researcher can decide if one factor is of low, medium or high importance. Results are being send back to the interviewee so that these can be validated. This reduces the risk that the research might be influenced by the interpretation of the researcher. The factors are indicated in table 2.

Score	Description
Low	The score 'low' is given if a factor is perceived to be of very little importance to not important at all to the contribution of high performance of the venturing unit. Moreover, this score can also indicate if a factor works counterproductive if and only if the interviewee has mentioned this specifically. In that case this will be mentioned in the analysis and result.
Medium	The score 'medium' is given to factors that are perceived to have mediocre influence on high performing venture unit. This score is given if the factor doesn't score low or high.
High	This score is given to factors that are perceived as very important contributors to high performing venture units by the interviewees. If interviews for example mention that a certain factor is conditional to operate, this score is given.

Table 2: Different scores of factors and their description

4. Results

Seven interviews have been conducted: one at each of the three largest DSO's (Alliander, Stedin and Enexis) and one at four of Alliander's ventures (Allego, Hoom, EXE and LOCOL). Success factors found in the literature study are discussed. Two cross-case analyses are done: one across all of the ventures and one across all of the DSO's interviewed.

4.1 Case analysis DSO Enexis

Descriptive case analysis

This interview was conducted with an employee of Fudura combined with an explorative interview in the early stage of this research with an employee of Enpuls. Enexis Holding N.V. is divided in DSO Enexis B.V., which operates within the regulated domain, Fudura B.V. which accounts for the commercial activities and Endinet B.V. However, the last is incorporated in Enexis B.V. since 1st of January 2017. Enexis is one of the three largest distribution network operators in the Netherlands. They have around 2.7M connections to electricity and 2.1M to gas. They distribute electricity and gas to the Northeastern and southeastern part of the Netherlands: the provinces of Groningen, Drenthe, Overijssel, Noord-Brabant, Limburg and the region of Eindhoven (see figure 6). Enexis' net revenue for 2015 was around €1350 M with a net result of €223 M. During that year Enexis Holding had a total of 4299 employees (Enexis Holding N.V., 2016).

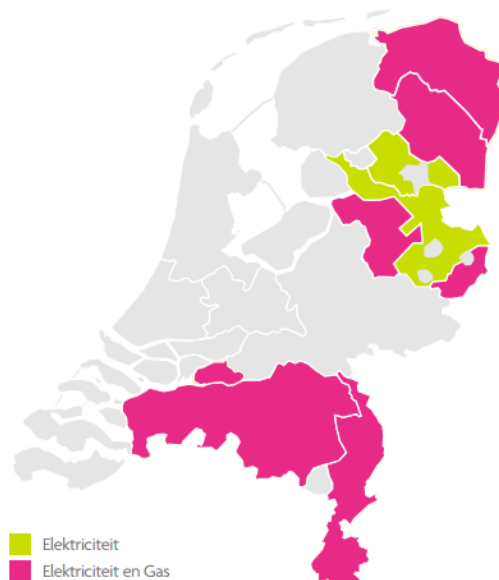


Figure 5: Areas where Enexis B.V. distributes electricity (green) and gas (purple). Source:(Enexis Holding N.V., 2016)

To accelerate the energy transition Enexis founded a separate entity in 2016 called Enpuls. Enpuls focuses on reduction in energy consumption and making energy more sustainable. They focus on four topics: sustainable area development, flexibility, energy saving and sustainable mobility. Enpuls is connecting all actors and together with internal- and external partners develops new, scalable solutions and realizes these innovations. With Enpuls, Enexis contributes to the energy goals agreed at the COP (Enexis B.V., 2016)

Interview results

Currently, Enexis is busy preparing for the law 'progress energy transition (voortgang energietransitie)'. This law dictates that the DSO should only be busy with the tasks of a DSO: maintaining the infrastructure and innovation for this network. 'We subject ourselves strictly to this law' tells the interviewee. Fudura is busy with commercial activities. They are operating close to the DSO, but are strictly divided and thus operating in the 'commercial domain (vrije domein)'. Enpuls is there to create

momentum in the energy transition. Enpuls has started an initiative called 'Buurkracht'. This initiative is focused on measures for energy saving within neighborhoods. Enpuls is also busy with new charging infrastructure, bio gas infrastructure which do not necessarily create impact or return on the short term. However, all of these initiatives are projects and not necessarily venturing activities according to the definition used in this research. When asked about the differences between projects and venturing activities the interviewee responded: 'We're shooting with precision rather than shooting around trying to hit something. We try to pick up initiatives that are very closely related to our core business, very adjacent.'

When the interviewee was asked if there were any venturing activities at either Fudura or Enpuls the response was: 'We look at external partners, because innovation is not a core competency of us. A while ago we started a program which was called 'Unplugged'. We gave startups the chance to pitch their idea, and if we thought that there would be some potential they could win a starting fund of €25K. This could encompass two things: we would get a part of the equity of the company or a slice of the revenue.' This program resulted in 5 initiatives. With 1 venture we explore future collaboration.' The motive of these initiatives is never a financial one. 'It's about exploring new ways to create momentum in the energy transition'. In the past this program fell under the supervision the sustainability department of Fudura but since the start of Enpuls, it's their responsibility.

Organizational context factors

From an organizational perspective, the interviewee was asked in which way factors influenced the performance of venturing activities. 'Corporate strategy profile is of course a very important factor and related closely to the corporate culture' pointed the interviewee out. 'Here at Enexis, a culture prevails of acting upon the status quo'. Therefore, the conclusion can be drawn that there is mediocre top management support: 'Here at Enexis, senior senior management operates within the regulated framework without looking up the boundaries.'

There are incentives to look around and think what other can mean for them. Especially within Enpuls and Fudura. According to the interviewee: 'We're always on the lookout for new possible partnerships. The incentives that are there definitely work as a stimulant.' However, when there are new possibilities for partnerships, reactions are a bit reserved over here. Let's take it slowly first before we deep dive into this is a common reaction.' About timing and process, the interviewee told that these factors are related to the top management and that he couldn't give an example of that.

When the interviewee was asked on which performance measures Enpuls kept track to make the decision to engage in further collaboration or to stop with the initiatives the response was: 'Sometimes it's financial because we have put in some resources and we want something in return. However, most of the time it's about the synergy between both companies. If that synergy is missing, it's reason for us to stop.' Enexis has a relative conservative strategy according to the interviewee.

External environment related factors

When asked about the external influences that impact a high performance on venturing activities the interviewee highlighted the difference in interpretation of the legislation: 'Here we look very carefully to the framework of legislation where we have to operate in and at the things which fit within the framework. We don't necessarily look up the boundaries of the regulatory framework.' Another external factor that has an influence according to the interviewee is the geographical location of operations. 'Other DSO's operates in the Western part of the Netherlands, where there is a lot of economic activity. That results in more opportunities than in the provinces we operate in.'

Venturing unit related factors

'Synergy is the most important factor' highlights the interviewee. 'Does the venture have synergy with our business, in every way possible? It has to strengthen our core activities or at least contribute to them.' In the context of this research is closely related to the adjacency of the venture to the business of the parent company. Autonomy is of high importance according to the interviewee. 'They have to operate autonomous from us, making their own decisions and that they're financially independent from us except from some initial funding.'

Long-term commitment is not very important explains the interviewee. 'In general we don't want to have long-term commitment. In some we're stuck because we have an equity stake. For commercial investments we account a return on investment of 8%. However, for new ventures we don't need a perfect business model. It's okay to have return on investment for them of 0%.' About critical mass the interviewee was clear: 'That's absolutely not the way we are looking at things.' You would probably see that more often when there are venturing activities with solely financial motives.

Goal clarity is important but is different between the former sustainability department of Fudura which is now Enpuls and Fudura. Fudura is commercially driven and Enpuls their goal is to create momentum in the energy transition. So goal clarity is important but it depends. The knowledge, network and reputation of Enexis can definitely help ventures. The interviewee explains: 'There is a venture that wants to lobby with the Ministry. They don't have any contacts over there, but we do. Next to that gaining knowledge, bringing people together and organizing meetings can definitely benefit.'

Table 3: Organizational related factors impacting high performance of corporate venture activities at Dutch DSO Enexis Holding N.V.

Organizational related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Corporate culture	High	The interview pointed out that this factor is very important. However, at Enexis there is a culture that is not necessarily extremely supportive because it acts upon the status quo which translates into mediocre management support.
Reward/Control	High	The interview pointed out that this factor is very important.
Corporate strategy profile	High	The interview pointed out that this factor is very important.
Top management support	High	Senior management at Enexis operates within the regulated framework without looking up the boundaries. If this happens at senior management this implies that support for these activities is missing. If there are new possibilities, reactions are often reserved / conservative. However, there is Enpuls where there is creation of new initiatives. This implies that support is not completely lacking.
Timing	-	The interview pointed out that this factor is related to top management and that he couldn't give an example. So it neither scores a low or a high.
Process	-	The interview pointed out that this factor is related to top management and that he couldn't give an example.
Venturing unit related factors		

Factor	Perceived importance (low/medium/high)	Explanation
Goal clarity	High	Goal clarity is important but is dependent on the motive of the venture.
Adjacency	High	The interview pointed out that synergy is the most important factor. It has to strengthen or at least contribute to the core activities of the DSO.
Autonomy	High	The interview pointed out that this factor is very important. Making own decisions and being financially independent is very important according to the interviewee.
Long-term commitment	High	The interview pointed out that Enexis doesn't want to have a very long-term commitment to its ventures. In some they are stuck because of an equity stake and in others they don't necessarily want a positive ROI. This implies that they are committed right now for the long-term but want to change this to a shorter period of time.
Critical mass	Low	This not the way Enexis look at things. Maybe this is the case if the motive for venturing are financial.
Experience, contacts and reputation	High	Very important. There was an example given of a venture that wanted to lobby with the Ministry of Economic Affairs but didn't have the appropriate contacts. Therefore, the network of Enexis can be highly valuable and is thus very important.

Table 4: Venturing unit related factors impacting high performance of corporate venture activities at Dutch DSO Enexis Holding N.V.

4.2 Case analysis DSO Stedin

Descriptive case analysis

This interview was conducted with an employee of Stedin. The role of the interviewee is leading the DSO to the eco-system of the future by creating and facilitating initiatives within this domain. Stedin is one of the three largest distribution network operators in the Netherlands. Stedin distributed gas and electricity to 2 million customers in 2015. These people are located in the provinces of Zuid-Holland and Utrecht next to the regions of Amstelland, Kennemerland, the Northeastern part of Friesland and Weert (See figure 7 & 8). Within these areas, big cities like Den Haag, Utrecht and Rotterdam are located as well as the port of Rotterdam. In 2015, Stedin had a net revenue of € 1.069,1 M with a net result of € 175,9 M. During that year Stedin had a total of 2700 employees (Stedin BV, 2016).



Figure 6: Areas where Stedin distributes electricity.
Source: (Stedin BV, 2016)



Figure 8: Areas where Stedin distributes gas.
Source: (Stedin BV, 2016)

There are several trends in the energy domain that will drastically transform this industry. Stedin acknowledges these trends and brings customers, governments and others from the market together to create a shared vision on the future local energy system. To accelerate the energy transition, Stedin requires a clear insight in the energy transition, an adaptable organization and a flexible energy system (Stedin BV, 2016).

Interview results

Stedin has several areas in which they run large experiments. There is Lomboxnet, where shared cars are being charged by solar panels while they can be discharged during the evening to use the energy to cook. Next to that there is neighborhood in Gorinchem where gas is stored decentralized and automated systems run laundry appliances when there is sufficient solar energy. There is the case of the fast charging EV station using second-life batteries at gas station Haarrijn. And Stedin has a running project in the neighborhood Couperus in which wind turbines generate heat and use homes as a buffer and thus creating some kind of flexibility in the energy system. However, Stedin doesn't have any serious venturing activities. The interviewee was asked which factors work inhibiting on venturing activities. These factors are shown in table 5. There are two small startups in which they are willing to invest. Both of these companies operate in the flexmarket – meaning controlling appliances on a large scale so that these appliances charge during periods when energy is relatively low priced, creating flexibility on the energy market. Next to these two companies there was one investment in the past in the startup Nutch. This startup created a toy in the form of a polar bear which was able to measure energy consumption and indicates if there was low or high consumption. Using an interactive story using kids to open up the dialogue with their parents. Stedin is not focused on profit so this was more

a social responsible investment that was initiated by the interviewee. Despite the success of this venture, the interviewee was called back many times to several managers to ask and explain this endeavor. They asked him the reason why he was ‘playing around with this money’. The response was that the big corporates should learn to give creativity, flexibility and dynamics all the space they need and facilitate this. ‘The mindset of Stedin is too slow to keep up with the pace of disruption’.

Organizational context

During the interview, the question was posed why Stedin doesn’t engage in corporate venturing activities and which factors are highly important in order to initiate such. The interviewee pointed out that the corporate culture is the most important factor why there are no venturing activities at Stedin. Board management just recently embraced (September 2016) a corporate strategy in which these venturing activities will play an important role. The interviewee explains: ‘The startup hype is almost over and just recently board management started to tune in’. Stedin is a capital intensive company with relatively sufficient cash. For external ventures, this is highly interesting. Next to that Stedin is for the long-term an interesting partner when looking at the energy transition and social responsibility. However, due to the corporate culture these benefits seem negligible. To give an example: ‘DSO’s are extremely arrogant companies since it has only been 10 years since employees here talk about customers instead of connections to the grid. Leave aside the dynamics of startups.’ There is no incentive to initiate activities focused on the new. The interviewee pointed out the importance of incentives. ‘Board management’ action points should be focused on the completion of these incentives’.

External environment

When asked about external factors influencing the venture activities that are different per DSO, the interviewee told about the differences per stakeholder. Stedin B.V. is owned by local provinces. Some of them want to boost employment during the energy transition and host different kinds of events that we facilitate. Others don’t organize a single event. The interviewee hosts these events with pleasure, even if it is only for the sake to wake up the internal organization. The tariff regulation, internal incentives and the benchmark are relatively small factors that influence venturing activities. ‘The entire regulation is the truth in hindsight while we have to move forward. If I negotiate with the Ministry of Economic Affairs, they tell me to put more copper into the ground. When I charge my electric vehicle I have to pay more tax than filling up an internal combustion vehicle’ the interviewee told. Stedin is kind of living in the past when comparing financial streams with Alliander (another Dutch DSO). ‘It is a ratio of a couple 100K euro to millions of euros.’

Organizational related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Corporate culture	High	The interview pointed out that the corporate culture at Stedin is the most important factor why there are no venturing activities. It is not supportive to venturing activities.
Reward/Control	High	The interviewee pointed out the importance of incentivizing employees but explained that it was lacking at Stedin.
Corporate strategy profile	High	Just recently, management embraced a new strategy where venturing will play an increasingly important role.
Top management support	High	Interviewee pointed out that the startup hype is almost over and that the board just recently tuned in.
Timing	Not mentioned	-
Process	Not mentioned	-

Table 5: Factors inhibiting corporate venturing activities at Dutch DSO Stedin B.V.

4.3 Case analysis DSO Alliander

Descriptive case analysis

This interview was conducted with an innovation realization manager of Alliander N.V. Activities of Alliander N.V. that can be divided into DSO Liander (the largest DSO of the Netherlands), Liandon (development of sustainable technologies and smart energy-infrastructures, Allego (charging infrastructure), Alliander DGO (realization of open energy infrastructures) and Alliander AG (DSO activities in Germany) (Figure 10). Alliander reported to have 5.7M customers connected to their infrastructure in 2015. Most of the customers are located in the provinces of Noord-Holland, Gelderland and Friesland (see figure 9). In 2015 Alliander reported a net revenue of €1600 M with a net result of €235 M (excluding €757 M of investments done that year). During that year Alliander had a total of 7240 employees (Alliander N.V., 2016).



Figure 7: Areas where Alliander distributes electricity (orange) and electricity & gas (green). Source: (Alliander N.V., 2016).

Activiteiten Alliander N.V.



Figure 8: Activities of Alliander N.V. Source: (Alliander N.V., 2016)

Alliander is responsible for the distribution of energy like electricity, gas and heat. Biggest part of the energy Alliander distributes originates from power stations and wind farms through international and national energy grids of TenneT and Gasunie. Due to the trend of decentralized power generation, customers supply their own generated power back to the grid which makes the energy chain increasingly dynamic. Alliander their role is to distribute this energy from the source of generation to consumer as safe and efficient as possible (Alliander N.V., 2016).

Interview results

The interviewee started 4 years ago at Alliander' internal consultancy department. For the last 2.5 years the interviewee is managing the department of innovation realization. This team of 25 project managers and consultants is occupied with innovation projects specifically focused on the energy transition. Next to that the interviewee is manager of the innovation funnel for sustainability and energy savings. Here new ideas and initiatives are discussed that can eventually lead to the design of the energy transition within the boundaries of Alliander' overall strategy. Outcomes of these initiatives can lead to new products and services within the existing business of Alliander. These outcomes can also lead to the creation of new business entities which are then become part of the startup holding. The existing ventures (and thus all of the ventures interviewed for this research) are a result of outcomes of this funnel. Finally, the interviewee holds a role as facilitator of the steering committee for sustainability and energy savings where large projects are discussed, approved and put into context in the overall innovation agenda. There is a venture which is not directly related to the energy transition, but which is promising enough to put into a separate entity outside the organization. This is controlled by the board.

All of the current ventures within Alliander' domain are fully owned by Alliander. The motives for these ventures are mutually different. Some were initiated because there are expected to contribute to the energy system of the future, as seen by Alliander. Some are started because they can facilitate the energy transition and because they can play a useful role in the development of this market. They are expected to be part of the main activities of the DSO on a short term. When the interviewee was asked when a project becomes a separate entity the response was: 'If we see that the market shows interest in something and we want to develop this proposition, but it doesn't fit within our current activities, we position it separate from the organization.' Motives for these venturing activities are thus very explorative but in the same time very strategic. When asked about the role of the Alliander in the venturing activities the interviewee explains that there are differences between Alliander and other companies. 'At other companies, employees working at ventures have different labor contracts compared to their parent. Here at Alliander everyone, working here or at a venture, has the same type of contract.' There is a steering role that is filled by the startup holding that steers the emerging business areas (EBA's). Since the summer of 2016, this holding increased their steering activities and is more focused on specific KPI's. There is a difference in how strictly these KPI's are pursued. This can be divided into ventures that are closer related to the market and other which are not but are strategically more important. 'On the contrary, some ventures are strategically more important because it shows that we are busy with these kinds of activities, that we think it's important and that it can effectuate a cultural change. For these venturing activities other than our existing profiles are needed. This affects the culture and is therefore a strategic move.'

When the interviewee was asked on how the performance of these EBA's are measured he told that is directly related the adjacency of the venture to the business of the parent company. It depends is a venture is strategically important or if it is fulfilling a role in the market where there are no other companies yet. When ventures become more mature, commercial success factors become increasingly important. About external factors, outside the organizational domain, the interviewee was clear: 'tariff regulation doesn't have a significant impact to be honest.' The DSO's cooperate within 'Netbeheer Nederland' and jointly decide on different topics and policies. 'Here there is a lot of synergy between all and there are many similarities on the different theme's the DSO's focus on. I don't think there is a huge difference in the reaction from DSO's to certain market surroundings.' On the influence of the geographical locations where DSO's operate the interviewee told the following: 'We work together with Amsterdam Smart City, but you see something similar happening with Stedin in the region they operate in. Every DSO has, and expands their own network. That's also a public and societal role we fulfil.' 'However, Alliander has some activities in Germany which shows we have a more international mindset.' What could be an important external factor is the way in which DSO's experiment with new technologies.'

Organizational related factors

Talking about factors from the organizational domain that impact high performance of the venturing unit, the interviewee pointed out the importance of top management support and corporate culture. 'These factors are both prerequisites. Starting ventures is also aimed at creating a culture change in the organization by attracting new employees.' About process as a factor the interviewee told: 'A good process is indeed needed and in the same time, making the right decisions within this process is also important. With top management support an appropriate process follows. There is a lot that precedes this. You have to get a lot of approvals to set things up.' About rewards for employees affecting the performance of venturing activities the interviewee was clear: 'Employees working at the parent company or at the venture share the same type of contract. You're not going to work for one of the ventures if your goal is a big exit. We have decided to incentivize employees which can be linked back to the culture.' Most important, the interviewee highlighted, is the corporate strategy profile. 'This is linked with the strategy you pursue. Are you going to any kind of venturing activities and if so, which?' Timing is also important. The interviewee highlighted this with an example: 'If you look at the market for EV's there is the classical example of the chicken and egg problem. If there is no charging infrastructure, nobody will buy an EV and if there are no EV's who is going to invest in infrastructure?' The societal role of the DSO is to create momentum in this market before its picked up by other companies that can make a solid business case. If the market picks this up without any help of us, then there is no reason for us to be part of that.'

Venturing unit related factors

'Goal clarity is highly relevant' highlights the interviewee. 'It is a part that receives special attention right now. We initiated something 3 years ago with a specific goal in mind and now we are evaluating this. Is this still the correct goal we had in mind, is the market changing or do we have to put our efforts somewhere else?' The interviewee highlighted that during the early phases of the venture this is also highly important but then it's slightly different. 'If the venture was initiated because Alliander thought it would be part of the DSO of the future, revenue is not very important. If a venture becomes more mature we have to think about how much we still want to spend on this strategic exploration. Then it is decided to pursue something more extensively or the opposite which means we have to change the goals.' This implies a more rational view on costs versus benefits (both financial and strategic). About long-term commitment the interviewee was clear: 'we are a long-term player. We have a long-term scope and vision and that implies that we give our ventures a lot of time to explore the market. We are not a private equity firm that pursues an exit within a 3 years.' Ventures can use of all of the corporate resources the parent has to offer; IT-systems, HR-systems or financial systems and others. 'However, we look how the products and/or services of the ventures can contribute to the cases we are trying to solve. As a DSO we are obliged by law to invite other companies than our own for solving a specific case. This is strictly separated. As a DSO we see our ventures as external market players.' All ventures are adjacent in the same way to the parent company but they have different roles. 'Energy Exchange Enablers (EXE) is building systems we, as a DSO, can definitely use in the future whereas LOCOL provides us with a lot of market insights. We will not initiate something in the media industry for example. All ventures are linked to the business of Alliander.'

'If a venture wants to operate autonomous to the parent organization it is their choice to do so. If you look at Allego, they are becoming increasingly becoming part of the parent company, as a separate business unit. They have a whole lot more autonomy compared to EXE and LOCOL. The governance structure is the same at every venture, which doesn't necessarily imply that choices made are the same.' In the definition held for this research critical mass is of low importance for high performing venture units. However, the interviewee told about his interpretation of critical mass; 'First, it could be useful to have employees working at ventures that could eventually effectuate a cultural change at the parent company, because there is a lot of contact between both. Second, the political arena. As a result of the activities of Allego and EXE the House of Representatives and the authority consumer and

market (ACM) start to ask questions. This is not always particularly easy, but it creates momentum in the market. In this example critical mass is seen as our activities and the impact as result of that.’ Using the experience, contacts and reputation is important according to the interviewee. ‘But it also works the other way around. Ventures are considered to create a new market, create their own network and build their own competencies that we as a parent don’t necessarily have.’

Organizational related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Top management support	High	The interview pointed out this factor is very important, a prerequisite.
Corporate culture	High	The interview pointed out that this factor is very important, a prerequisite.
Process	High	The interview pointed out that this factor is very important.
Reward / Control	Low	Employees working for either one of the ventures or the parent company all share the same type of contract. The choice has been made not to incentivize employees.
Corporate strategy profile	High	The interview pointed out that this factor is most important.
Timing	High	The interview pointed out that this factor is important. Highlighted with an example of creating momentum in the market until it is picked up by other market players. Timing plays a crucial role here.

Table 6: Organizational related factors impacting high performance of corporate venture activities at Dutch DSO Alliander N.V.

Venturing unit related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Goal clarity	High	The interview pointed out that this factor is very important and that it receives special attention. The interviewee highlighted the re-evaluation of goals after a certain period of time. This implies this factor is highly important.
Long-term commitment	High	The interview pointed out that Alliander is there for the long-term with a long-term scope and vision. Ventures get plenty of time to explore the market.
Adjecency	High	All of Alliander’ ventures are very adjacent to the parent company but have a different role. The interviewee highlighted the importance of adjacency.
Autonomy	Medium	Operating autonomous from the parent company is the choice of the venture itself. The governance structure is the same for every venture. This implies that from the perspective of Alliander, autonomy is not a prerequisite in order to achieve high performing venturing units.

Critical mass	Low	Critical mass (as used in the definition of this research) is of very low importance according to the interviewee.
Experience, contacts and reputation	High	The interview pointed out that this factor is important and that it also works the other way around.

Table 7: Venturing unit related factors impacting high performance of corporate venture activities at Dutch DSO Alliander N.V.

4.3.1 Case analysis venture: LOCOL

Descriptive case analysis

This interview was conducted with the managing director of LOCOL. This venture is initiated in 2014 by Alliander (ICV) and currently has eight people employed. Their office is located in a co-working space with many other startups in the city of Amsterdam. As a social business, LOCOL connects multiple actors to realize local collective sustainable energy solutions. Their goal is to accelerate the path towards a sustainable world by actively using existing technologies and share their knowledge and experience. LOCOL helps actors during their journey from ambition towards execution. They help local and regional provinces, housing associations, residents, energy corporates and land owners. LOCOL focuses on projects with land owners, informing them with technical and operational knowledge about the benefits of using their property for the installation of PV-panels. Second, projects that focuses on incorporating residents and housing associations to create communities fueled by renewable energy. Third, LOCOL is focused on the use of renewable energy solutions at Dutch festivals (LOCOL, 2016).

Interview results

Before DSO Alliander started with any kind of venturing activities they were shaping the energy transition by 'learning by doing'. This meant many partnerships, pilot projects new programs etc. One of those programs was the Amsterdam Smart City program in which the interviewee played a role by making people more aware within the energy domain. During this period Alliander initiated several ventures: HOOM, Allego and DGO. Learnings from the Smart City project formed the foundation for this particular emerging business area (EBA). The interviewee explained: 'The energy transition is way more complex than just selling a particular product to 1 person. Because there are many actors involved, things get more and more complex. That is the moment where people quit.' LOCOL is bringing all these actors together to share all the knowledge and experience possible to facilitate positive outcomes of such collaborations. 'Technology actors operating in this domain focus on technology and hope that the government will purchase their technology on a large scale.'

Venturing unit related factors

LOCOL sets their own purpose, milestones and KPI's. Every year these are discussed with the financial department of Alliander. In the early stages of LOCOL it was hard to set such performance measures due to a high degree of uncertainty that many startups face. Despite this uncertainty Alliander expects LOCOL to set goals for the coming 2 years. Alliander' departments themselves set their own goals for a period between 2 to 5 years. Despite this difference many of Alliander' investments do need commitment for a long period for time due to their long pay-back period. Therefore, Alliander keeps having faith in the purpose of LOCOL. They help LOCOL set goals such as how much impact they create on the market in combination with financial milestones. Both actors come together bi-monthly to discuss progress and things LOCOL needs. LOCOL' vision is that they way to create impact is by creating something repeatable, being able to scale. 'Really important is the intrinsic motivation of everyone working here to create such impact. When we create such impact, it means we are realizing something sustainable and we can operate (financially) independent from our parent company.' Complete autonomy from the parent company (Alliander) is for LOCOL one of the most import conditions that should be met in order for them to operate the way they want. With complete autonomy the

interviewee means being able to operate in a separate office, not one of Alliander' offices. But autonomy goes a step further here; 'Not at the expense of Alliander, but I don't want people working here with a solely corporate background, because it's a completely different way of working. When you work in a startup you need to get your hands dirty, fail, dare to fail and move on.' Alliander offers her venture access to all kinds of resources: legal advice, financial resources, recruiting and hardware. Despite all this help, LOCOL wants to operate as autonomous as possible; only seeking legal advice. 'HR of Alliander is used to recruit mechanics. They have no experience recruiting someone I need for my team.' Having goal clarity is a highly important factor but it depends heavily on the way these goals are set. 'Having a positive cash flow within 3 years, is a ridiculous goal. You can't translate that into impact that you're creating.' Switching to the next factor, the interviewee explains the importance of adjacency from the venture to the parent company. 'Energy consumer have to switch to sustainable energy. This will eventually impact the energy infrastructure and therefore has an impact on the role of the DSO and from a socially responsible point of view Alliander has to learn how to deal with this in order to change their own business and keep costs for society as low as possible.' Another important factor is the network, contacts and expertise of the parent company. 'If a parent company wants her ventures to be successful, they should bring them in contact with the people and expertise they need.' About critical mass the interviewee said the following: 'If Alliander wants to be successful in reducing the costs for the transformation towards a sustainable, accessible and affordable energy system, it is important to renew different aspects of the energy system whether or not that might be with ventures.'

Venture related factors

Most important factors, the interviewee highlights, is the team. 'Team is essential. Without a good team, a brilliant idea has no chance to succeed.' The development process towards 'to-the-market' is an obviously important factor. 'If you don't have an iterating process of trial, error, fail, learn and continue you should quit the venture immediately. This is key.' The product (service) is of very high importance and is of course very much dependent on the timing. 'Moving towards sustainable energy is not something that is on the top of the agenda of many consumers. However, there needs to be a sense of urgency before we can create real impact. Again, scale is essential here.'

Venturing unit related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Goal clarity	High	The interview pointed out that this factor is highly important.
Long-term commitment	High	The interview pointed out the importance of commitment for a long period of time due to their long payback period. Creating impact in the market takes time, and Alliander understands this.
Adjecency	Medium	The interview pointed out that this factor is important because Alliander has to learn how sustainable energy will transform the energy system. However, this is not directly relevant to high performance of LOCOL. Therefore, this factor doesn't score a high but a medium.
Autonomy	High	The interview pointed out that this factor is the most important factor and condition that should be met in order for them to operate the way they want.
Experience, contacts and reputation	High	'If a parent company wants her ventures to be successful, they should bring them in contact with the people and expertise they need.' This implies high importance of this factor.

Critical mass	Medium	Critical mass (as used in the definition of this research) is not very important according to the interviewee. However, If Alliander wants to be successful in reducing the costs for the transformation towards a sustainable, accessible and affordable energy system, it is important to renew different aspects of the energy system whether or not that might be with ventures.'
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Table 8: Venturing unit related factors impacting high performance of corporate venture activities at LOCOL, a venture of DSO Alliander.

Venture related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Team	High	The interview pointed out that this factor is essential. 'Without a good team, a brilliant idea has no chance to succeed.'
Product	High	The interview pointed out that this factor is highly important and that it is dependent on the timing.
Development process	Medium	Alliander offers her venture access to all kinds of resources: legal advice, financial resources, recruiting and hardware. Despite all this help, LOCOL wants to operate as autonomous as possible; only seeking legal advice. LOCOL has access to the corporate (financial) resources but doesn't make a lot of use of it. But it can't be completely independent from it. Therefore, this factor scores a 'medium'
Market surroundings	Not mentioned	Not explicitly mentioned by the interviewee

Table 9: Venture related factors impacting high performance of corporate venture activities at LOCOL, a venture of DSO Alliander.

4.3.2 Case analysis venture: Energy Exchange Enablers

Descriptive case analysis

This interview was conducted with the managing director of Energy Exchange Enablers (EXE). EXE is a venture initiated by Alliander in 2014 and is located within Alliander HQ. They currently employ 25 people. EXE offers three products/services: First is Enwire, which makes it possible for energy retailers that her customers can exchange energy among each other. Second is Realtime Energy Exchange (REX), which makes it possible for appliances to act autonomous on an incoming price signal. The third product is Entrance which is a kind of API for the energy domain. This part makes it possible for new entrants to go to market without worrying about how to tie all knots together in the back-end (EXE, 2016)

Interview results

The interviewee started the emerging business areas (EBA's) when working for Alliander strategy. In 2010 he started to develop new products while responsible for innovation. Two years later and 20/30 million euros further these efforts resulted in no new businesses. During a MBA on innovation at MIT, the interviewee learned how to change the holding' governance instead of influencing line functions from the staff functions. The interviewee controlled the process towards this new structure. A similar kind of transition was the one in the newspaper- and media industry: from paper prints towards digital.

These kind of companies made similar steps. Choice has been made within Liander to become a new company with a new strategy. 'This means we had to think about the position of Alliander within the society.' About politics the interviewee tells that Alliander doesn't want to much involvement. They rather do it (legislation) themselves.

Venturing unit related factors

EXE is located within Alliander HQ. About autonomy, the interviewee is clear: 'I don't see the added value of operating autonomous from the parent company. The idea is to incorporate EXE in a later stage within the parent company. Therefore, it is important is to keep a link with Alliander. My experience is whenever you operate from a distinct location, you more easy to be forgotten.' EXE their business is extremely adjacent to the business of Alliander. Both have a facilitating role in the market.

Goal clarity is extremely important and closely related to strategic fit. It's not about the money but about the believe one has. Commitment is a result of that.' The goal of an EBA upon founding is to reach a net worth of €1 billion within 5 years. The interviewee tells that the board of directors spends millions of euros a week and that EXE is peanuts within that budget. About long-term commitment from the parent company the interviewee was clear. 'If we want to survive, we have to grasp this window of opportunity, otherwise it's gone. If the CEO want to close an EBA it takes him less than 5 minutes. Alliander has a turnover of €1600 million. How important is an EBA with its 10 employees against the 7000 of the parent company?' This one of the reasons for EXE to locate themselves within the Alliander HQ. 'It's good to be seen around the office. As a startup, we need to satisfy our investor.' Commitment is a result of believe not a result of performing on some measures according to the interviewee. However, commitment is momentary. 'If the Alliander' strategy changes, it could be that we don't fit within that strategy anymore. Their committed now, but are they as committed in one year? If I can show a growing number of customers, money will follow. Line managers are responsible to perform upon their own KPI's. If you, as a venture, endanger those KPI's, these managers will not support you but rather work against you. You have to guard that this will not happen.' 'Another important factor is the person that is in charge of the EBA from the parent companies point of view. 'There are many employees from Alliander that want to run an EBA, but don't want to start it.'

EXE is responsible for their own balance sheet. They are commercially driven and they have to perform upon their KPI's. If they don't the window of opportunity closes. However, EXE was started out of believe of something new rather than measures only. Now and then there is an internal meeting where progress is discussed. The interviewee explains the difficulty of setting KPI's in an early stage venture: 'Once in a while we think about what the KPI's should kind of look like and how we are performing on them. If it's an upward trend, I know we're making good progress.' About experience, contacts and reputation the interviewee explains the following: 'These don't really matter. You automatically have that already.'

Venture related factors

A good team is important but the interviewee highlights the role of the leader. 'Leadership qualities are important not only at a startup, but a corporate as well.' Important is knowledge about the market they operate in. 'It is an extremely difficult market to operate in. You have to look in which direction you want to go and then check what is possible within the current legislation. Many people don't do that. They look at the impossibilities. That's the difference between the manager and the entrepreneur. The manager looks at a problem and tells his manager that it can't be solved. Then he has 'managed' the problem.' The product/process is part of the entire picture but is not necessarily extremely important the interviewee tells.

Access to resources during the development is highly important according the interviewee. 'If I need legal advice, I walk to the corresponding department. If I need financial resources, I walk to the financial

department. It's really important to profit from the knowledge and expertise from the parent company without being burdened by them.' 'If we have a IT-project, we are not obliged to put someone on that task from our parent company, avoiding a lot of internal struggles. For us it's an important issue how the board of directors position themselves.'

Venturing unit related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Goal clarity	High	The interview pointed out that interviewee that this factor is extremely important.
Long-term commitment	High	Commitment is very important to the interviewee, but it's very momentary. Commitment is a result of believe not a result of performing on some measures according to the interviewee.
Adjecency	High	EXE their business is extremely adjacent to the core business of their parent. The idea is to incorporate EXE in a later stage with Alliander.
Autonomy	Low	The interview pointed out the added value of operating autonomous from the parent organization. EXE is located in the same office as their parent Alliander.
Experience, contacts and reputation	High	EXE has those already and is not dependent on Alliander for this. However they think it's an important factor.
Critical mass	Not mentioned	Not mentioned by the interviewee

Table 10: Venturing unit related factors impacting high performance of corporate venture activities at EXE, a venture of DSO Alliander

Venture related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Team	High	Team is important but it is about the role of the leader.
Product	Medium	Not very clearly mentioned except the fact that there is a window of opportunity right now which could mean the product/service is important.
Development process	High	Access to resources during the development is highly important according the interviewee. 'If I need legal advice, I walk to the corresponding department. If I need financial resources, I walk to the financial department. It's really important to profit from the knowledge and expertise from the parent company without being burdened by them
Market surroundings	Not mentioned	Not explicitly mentioned except that Alliander wants to have a rather big influence on the legislation. However, this doesn't directly imply that this factor should score high.

Leadership*	High	* The interview pointed out the importance of leadership qualities next to the other factors mentioned before. However, in the definition of the term team used in this research, this is part of the factor 'team'.
Knowledge*	High	*Market knowledge is extremely important. It is an extremely difficult market to operate in. You have to check what is possible within the current legislation which requires a lot of knowledge.

Table 11: Venturing unit related factors impacting high performance of corporate venture activities at LOCOL, a venture of DSO Alliander

4.3.3 Case analysis venture: Hoom

Descriptive case analysis

The interview to support this case was conducted with the managing director of Hoom. Their office is located on the North-side of Amsterdam. Their mission is to bundle strengths of local energy cooperatives, resident' initiatives, municipalities, companies realizing solutions and organizations like 'Natuur & Milieu'. Hoom is a Dutch venture initiated by Alliander in 2013, realizing reduction in energy consumption. With their service they help people to make their residence energy friendly; reducing their energy consumption. There are many ways to reduce energy consumption and Hoom helps people to make a good choice for which solution(s) to choose. These include among others: isolation of cavity walls, floors and roofs, the installation of PV-panels and ventilation boxes. (Hoom, 2016).

Interview results

Dutch DSO Alliander started to pursue a strategy starting emerging business areas in order to accelerate the energy transition. 'There is a lot about to happen within the energy transition and as a DSO you need to be prepared for new emerging business rather than waiting until your own business becomes obsolete.' When the interviewee was asked about the role of ventures within this transition he replied: 'The energy transition becomes too expensive for DSO's if they keep working this way. You have to switch to new solutions. R&D-projects and innovation trajectories are important, but real acceleration is realized by doing things in practice; early stage testing with real customers in a lean-startup fashion.' Hoom started in 2013 with financial resources of Alliander. Every year Alliander expects Hoom to discuss an updated 5-year plan. Next to that there is a monthly meeting in which progress is discussed. Alliander' usual business operates for 95% in the regulated domain with Liander. The other 5% account for the unregulated domain in which ventures such as Hoom are operating in. 'Because these are relatively new concepts it's important to keep some distance between both. Due to this distance Alliander can choose to sell a venture, incorporate it or pull a venture into the regulated domain because new legislation demands this. 'It is important to create broad support for Alliander in order to attract new investors in a later stage. This could be municipalities or financial organizations that all have shared interest in making housing more sustainable.'

Venturing unit related factors

Hoom is in currently transforming from a startup into a scale-up. 'For Hoom this mean setting high goals, having some guts and incorporate that into your mission. We want to make 4 million residences more sustainable. This means we're shifting towards a more operational side'. Goal clarity is for Hoom an important factor. Long-term commitment is of high importance as well. The interviewee explains: 'Alliander didn't initiated this business if they want to quit and cash after a couple of years. They know our mission, making 4 million residences more sustainable, takes time. You have to convince every single one of them. That's a tough job which Alliander realizes.' Adjacency is of moderate importance. Hoom is not adjacent to the current business of Alliander but to the new strategy and their role in the energy transition. Operating autonomous to the parent is of high importance according to the

interviewee. Help during founding of the venture was highly important but one should never be dependent from another. ‘We are deliberately located far away from the slow machine which is called ‘Alliander’ where there is a lot of internal politics. You should keep away of that. If you don’t look out you’re hugged to death.’ Using the reputation of the parent company is very useful. This creates trust and getting early access. However, the interviewee highlights the importance of being pro-active and creating your own network of people surrounding you with knowledge and expertise. Critical mass is according to the interviewee an important factor for a venturing unit to have success on a broad scale.

Venture related factors

he interviewee explains the importance of culture at Hoom. ‘People working at Hoom share the same intrinsic motivation. ‘They want to be part of the energy transition. I’m very proud to have developers working here, who are literally flooded with job opportunities elsewhere.’ This team factor is obviously an important factor in order to succeed. The interviewee highlights the importance of leadership. He believes in holocracy; building responsibilities low into the organization, being transparent about goals and progress made on these goals. ‘Bringing these skills into practice requires a lot; as a manager but from the individual as well. You can summarize it as developing your culture.’ Regulation is not only an important factor from the perspective of the parent company but from the venture’ as well. ‘Regulation directly impacts my business. As a manager I definitely want to interfere with it. This is not something just to be handled by Alliander. If you don’t have the room to do so, it doesn’t matter how good things are arranged here.’ For Hoom, Allego and Energy Exchange Enablers these legislation has more impact than at Alliander DGO and Locol. It can make a difference if Alliander will keep investing in one venture or that it needs to sell it. ‘We don’t want to be dependent from Alliander were people have many more interests then only ours.’ However, during founding support from parent company Alliander was more than necessary. They helped with financial resources, legal advice, communication, office and other facilitations. ‘However, it is very important not to get too dependent from the support of Alliander.’

Venturing unit related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Goal clarity	High	The interview pointed out this factor is important.
Long-term commitment	High	Alliander knows that the mission of Hoom takes time and therefore they are committed for the long-term.
Adjecency	Low	Adjecency is of moderate importance according to the interviewee. Hoom is not adjacent to the current business of Alliander but to the new strategy and their role in the energy transition. In that way adjacency to the business of the parent company doesn’t necessarily result in high performance.
Autonomy	High	Operating autonomous to the parent is of high importance according to the interviewee.
Critical mass	High	Critical mass is according to the interviewee an important factor for a venturing unit to have success on a broad scale.
Experience, contacts and reputation	High	Using the reputation of the parent company is very useful. This creates trust and getting early access.

Table 12: Venturing unit related factors impacting high performance of corporate venture activities at Hoom, a venture of DSO Alliander

Venture related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Team	High	The team factor is obviously an important factor in order to succeed according to the interviewee. The interviewee highlights the importance of leadership. He believes in holocracy; building responsibilities low into the organization, being transparent about goals and progress made on these goals.
Product	Not mentioned	Not specifically mentioned by the interviewee.
Development process	High	Help during founding of the venture was highly important but one should never be dependent from another
Market surroundings	High	Regulation is not only an important factor from the perspective of the parent company but from the venture' as well. 'Regulation directly impacts my business. As a manager I definitely want to interfere with it. This is not something just to be handled by Alliander.'

Table 13: Venturing unit related factors impacting high performance of corporate venture activities at Hoom, a venture of DSO Alliander

4.3.4 Case analysis venture: Allego

Descriptive case analysis

This interview was conducted with the CEO of the Allego group. Alliander is active within the area of electrical transport since 2009. To accelerate these activities, they were put in a separate entity: Allego group. This was only allowed (by law) if these are activities were not related in any way with DSO Liander. Allego is located in Arnhem, separated from parent company Alliander. Together with many partners, Allego is working on a world where everybody that is driving electric vehicles (EV) can charge their battery everywhere in an easy and affordable way. They offer reliable, cost efficient and smart charging solutions that are part of the mobility of the future. Allego is responsible for the placement and management of this charging infrastructure. Their focus is not limited to the Netherlands. They offer similar services in Belgium and Germany. They have partnered up with energy retailer VandeBron to be the energy supplier (Allego, 2016).

Interview results

Alliander' goal is to have an open- and for everyone' accessible network. 'That's exactly what Allego is doing. In fact, we're building an EV-charging network where people can charge in an open and independent way' the interviewee explains. Included in Allego their business is storage, smart and progression management as well. Their customers are 'location-owners' (municipalities and companies) and mobility service providers (MSP's). This last party is responsible for the sale of mobility products and services: a charging subscription, the corresponding charge-card, an app and the payment of these charging sessions (Allego, 2016). Allego their business is bigger abroad than within the Netherlands. 'Within the definition of DSO's it is impossible to incorporate Allego in a later stage in the business of Alliander. It will remain to be seen in which proportions Alliander remains a shareholder'.

Corporate venturing unit related

Allego doesn't use any resources of Alliander. Talking about this 'shareholder' the interviewee explains: 'Alliander is just a shareholder. For the sake it could have been Philips for the same role.' Once in a while they have a meetup to discuss progress and every year Alliander has to approve Allego'

business plan. For investments above a certain amount Allego needs approval of their shareholder. One of the conditions on which Allego was started, was an agreement that Alliander would function as a shareholder and there wouldn't be any involvement, decision making, people, systems and policies. The interviewee explains: 'Currently we have to deal with Alliander in two ways. First there are employees working for Allego in the Netherlands that are still under the collective labour agreement of Alliander. Second is that Alliander, as a shareholder, has the right to perform an internal audit at any given time'. The reason behind Allego (for Alliander) is both strategic and financial. The market for EV is rapidly growing. 'If you want to have a share from something that is becoming very big (in terms of markets size) than it is important to grasp that opportunity from the very beginning.' When the interviewee was asked if the parent company, Alliander, learns a lot from Allego, the interviewee tells the following: 'I don't see a lot of that. There are not many questions coming from that side.'

There are different phases to be distinguished the interviewee explains: 'from the development of concepts, prototypes, product launch, paying customers and finally scaling and creating value. After about 5 years it's time to be profitable. We think that we will achieve that goal.' This means that there is a certain speed needed to go through these phases. 'This has everything to do with the initial choices at the very beginning. Are you going to do something as a certain sub-department of 'oil-tanker' Alliander including all the influencing factors from that side or are you really going to be a venture and only hold a relationship with Alliander as a shareholder? We have chosen this venture structure because else we're unable to set our own pace or structure everything in such way that it fits within the dynamics of the market we serve. If we would have done this with all the complexity of Alliander, we would have been not as big as we are right now.' This autonomy is for the interviewee the most important factor to be able to perform. The interviewee highlights an important difference about the reason of existence; 'Do you exist because you're an instrument of change for the parent company, or because you are there to start a new business? These two don't go together.'

Talking about performance the interviewee tells the following: 'It's always about the impact you have on the market with your partners. The complete organizational side of Alliander doesn't help me a single bit in realizing my position in the market in a faster or better way. On the contrary, it's working counterproductive.' In that way, it would be better if we wouldn't have an investor that is burdened by all kind of regulations.' Long-term commitment is an important factor the interviewee explains: 'long-term commitment is always important and you ask that from all you shareholders. Especially if you're operating with infrastructure where there is a long period before there is any return on investment. If you're operating within the services business, it's completely different. Therefore, your earnings potential and your investment should be match more closely. I would expect a short-term commitment at ventures that have a service as a business because they can easily be replaced. We on the other hand need a lot of investments on our assets and therefore commitment at such ventures is expected to be for the long-term.' Within Allego there are performance measures on different levels: financially, less miles traveled on gas, miles traveled on electric power, the amount of reduced CO₂-emission, market share in different segments and the presence and influence of standardization cycles (protocol between charger post and car). 'That's real impact. Alliander on the other hand, only checks financials. EBITDA. They are a shareholder in the end.' When the interviewee was asked from which topics Alliander could learn the response was: 'DC-technology, agile IT-development, service development, partner management and loyalty of employees. But it's not my task to learn them these skills, it's theirs.'

When adjacency to the parent company is discussed, the interviewee tells me that Allego is highly important for Alliander. 'We build upon the connections to the grid. Due to legislation, Alliander is forced deliver to everyone. This interaction is getting more and more important. All the information, knowledge, algorithms can be developed and tested here before these can be used for the European network. That's where the value is for Alliander.' From Allego's perspective this adjacency doesn't

matter. Knowledge is as important as autonomy: ‘It’s really important to have in-depth knowledge about the market you are operating in. That you will know what will work, and what not. If you’re going to do it the other way around (from a proposition), that’s complete nonsense. You have to know how the market develops and how your proposition can play a part in that.’ About critical mass the interviewee said it is completely dependent on the way you define your portfolio. ‘It depends how you define it and what you want to accomplish. The only thing I know is that in order to have impact in our business you need to operate on at least European scale.’ The interviewee mentioned the importance of the positioning of Allego within the market. ‘the message you carry out, the brand, your communication and your partnerships. If we profile ourselves as ‘venture from’, then you have no chance to get a seat at the table of possible partners.’

Venture related

When the interviewee was asked about employees, she responded: ‘most people that work here, earn a 30% lower wage than they did at their previous job. Despite this reduction in salary, I can say that on average people work more hours than they do at Alliander. That’s because they feel they are part of a movement.’ Team is the most decisive factor there is according to the interviewee. ‘In a new company that operates in a market where there are signs of a faster uptake than the acceptance of the mobile phone you have to co-operate. Internally and externally. Everything is about teamwork and that only works with the corresponding leadership and vision.’ There are 3 main teams within Allego: The R&D team, product development & product management marketing and service development & project delivery. These three are working closely together and are being fed by sales. The interviewee highlights the importance of operational excellence: ‘Everybody likes to do market research, R&D and to go outside but when a contract is signed these have to be realized. To realize this operational excellence is extremely difficult. Many companies fail because of this. It’s not that they didn’t had the knowledge nor the appropriate product or a combination of both. Being able to have a good balance between development, operations and sales and being in control of all is the key factor to success’.

It’s extremely important to know what the market is going to do. ‘What you need to do is to define where you want to be in this developing market. This can be different per technology. Do you want to be on par, 6 months ahead or a fast follower? Sometimes it’s spot on and the other times you know that the next time you have to be more accurate.’

Cross-case analysis ventures: Venturing unit related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Goal clarity	High	The interview pointed out that this factor is important.
Long-term commitment	High	Long-term commitment is an important factor the interviewee explains: ‘long-term commitment is always important and you ask that from all you shareholders. Especially if you’re operating with infrastructure where there is a long period before there is any return on investment. If you’re operating within the services business, it’s completely different.
Adjecency	Low	When adjacency to the parent company is discussed, the interviewee tells me that Allego is highly important for Alliander. However, from the perspective of Allego adjacency is irrelevant.

Autonomy	High	Autonomy is for the interviewee the most important factor to be able to perform.
Critical mass	Medium	The interview pointed out that it's completely dependent in the way you define the portfolio and what you want to accomplish.
Experience, contacts and reputation	Low	For Allego this factor scores low. 'If we profile ourselves as 'venture from', then you have no chance to get a seat at the table of possible partners.' Reputation works in the opposite way to high performance

Table 14: Factors influencing the venturing activities at Allego, an internal venture of Alliander

Cross-case analysis ventures: Venture related factors		
Factor	Perceived importance (low/medium/high)	Explanation
Team	High	Team is the most decisive factor there is according to the interviewee.
Product	High	There is a specific R&D department at Allego so it is assumed that the product is highly important to high performance of the venture. However, This has not been explicitly mentioned by the interviewee.
Development process	Low	Allego doesn't use any resources of Alliander. Talking about this 'shareholder' the interviewee explains: 'Alliander is just a shareholder. For the sake it could have been Philips for the same role.'
Market surroundings	Not mentioned	Not mentioned
Knowledge*	High	It's extremely important to know what the market is going to do. 'What you need to do is to define where you want to be in this developing market. This can be different per technology. Do you want to be on par, 6 months ahead or a fast follower? Sometimes it's spot on and the other times you know that the next time you have to be more accurate.'
Leadership*	High	The interview pointed out the importance of leadership: Everything is about teamwork and that only works with the corresponding leadership and vision.
Operational Excellence*	High	The interview pointed out the importance of operational excellence: 'Everybody likes to do market research, R&D and to go outside but when a contract is signed these have to be realized. To realize this operational excellence is extremely difficult. Many companies fail because of this. It's not that they didn't had the knowledge nor the appropriate product or a combination of both. Being able to have a good balance between development, operations and sales and being in control of all is the key factor to success'.

Table 15: Factors influencing the venturing activities at Allego, an internal venture of Alliander

4. 4 Cross-case analysis

4.4.1 Cross-case analysis on ventures

All of the interviews, related to the venture perspective on which factors are perceived to be important for high performing venturing units, are conducted at ventures initiated by Alliander. The four ventures are: Allego, Hoom, LOCOL and Energy Exchange Enabler (EXE). The following chapter will contain a cross-case analysis on the factors found at these different ventures on three different topics: factors that relate to the venturing unit, factor that relate to them venture itself and the ways in which the ventures measure performance.

Performance measures

All ventures highlighted their reason of existence: creating a sustainable positive impact on society and the energy transition in general. The goal clarity defines in some way how performance is measured. The interviewees highlighted the difficulty of measuring performance in an early stage venture due to the uncertainty they face. Despite the difficulty of setting these measures at some ventures, all of them mentioned the importance of creating impact and different methods to measure that impact. Allego measures their impact by financials, the amount of miles less traveled on gas, the amount of miles traveled on electric power, the amount of reduced CO₂ emissions, market shares in different segments and the presence and influence on standardization cycles.

Venturing unit related factors

Overall, goal clarity was seen as a relatively important factor contributing to the success rate of this venture. However, at LOCOL this factor was dependent on the way it is set. Most ventures had difficulty setting goals during the early stages due to the high degree of uncertainty they were facing. However, all of the ventures share the same general goal in the end: creating a positive sustainable impact. About long-term commitment all ventures were clear: this is a highly important factor. Therefore, an important factor for Alliander is to judge on how much impact these ventures have created rather than financial measures. This results in longer commitment from the parent company than if the motives of venturing would be entirely financial. There is something that needs to be pointed out which was highlighted by the interviewee of Allego. At capital intensive ventures (Allego) you would expect a longer commitment from the parent company than at ventures offering a service (Hoom, LOCOL, EXE) because they can be easily replaced by another. The interviewee at EXE highlighted that commitment is always momentarily. If a venture doesn't fit in the (new) strategy of a parent company, it's relatively easy to shut down a venture.

Adjacency with the parent' business is not seen as a relatively important factor from the perspective of the ventures except EXE who highlighted the importance of this factor. EXE their business is similar, adjacent one can say, with the business of the parent company. EXE has a facilitating role in the market, similar to that of their parent. The other ventures don't see adjacency as very important factor because they are all starting something new in which the parent doesn't have any experience with. This could also be influenced by the societal role of the DSO. Because their publicly owned companies they can't make extremely risky / expensive investments. If there are really large investments to be made where the Dutch government has to co-invest, they can co-decide on the approval of the investment. Operating autonomous from the parent was seen as one of the most important factors influencing success of the venture, except EXE. The interviewee at EXE said that it's very important to be seen around and have contact with people on a daily basis in order for the parent to stay committed. Next to that there is relatively easy access to resources when located at the same office the interviewee at EXE highlighted. However, all of the other ventures share the complete opposite: they want to operate as autonomous as possible. They all see their parent as just a regular shareholder to which they are being held accountable now and then. They see it as a struggle if the parent gets involved with their business. They share the idea that the parent organization should be kept on a distance before they

get involved with compliance and internal politics. Most likely EXE doesn't think operating autonomous is very important, because their adjacency to the business of the parent organization is very high.

About critical mass the ventures share somewhat the same opinion. Critical mass is related to the motive of the venturing activity. As the interviewee at LOCOL puts it: 'If Alliander wants to be successful in reducing the costs for the transformation towards a sustainable, accessible and affordable energy system, it is important to renew different aspects of the energy system whether or not that might be with ventures.' According to Allego the importance of critical mass is completely dependent on the way you define your portfolio and the things you want to accomplish.

About using the experience, contacts and reputation the ventures think differently. Allego thinks the parent doesn't help them at all in their positioning in the market. On the contrary, if they want some partnerships to happen, being part of Alliander can work counterproductive. LOCOL has the opinion that if the parent wants the venture to be successful they should bring them in contact with the people and expertise they need. For Hoom the reputation of Alliander is very important to receive the trust they need from their customers and get early access in the market. The interviewee at EXE said that a network of expertise and knowledge from the parent didn't matter because they already have that themselves. It is important, but they don't rely on the mother organization to support them within that field. Allego is by far the biggest 'venture' of the four. They don't rely on any experience, contacts and reputation of Alliander. According the interviewee, it could even work counterproductive using the reputation of Alliander.

Cross-case analysis ventures: Venturing unit related factors				
	Allego	Hoom	LOCOL	EXE
Goal clarity	High	High	High	High
Long-term commitment	High	High	High	High
Adjecency	Low	Low	Medium	High
Autonomy	High	High	High	Low
Critical mass	Medium	High	Medium	*
Experience, contacts and reputation	Low	High	High	High

Table 16: Cross case analysis: Venturing unit related factors from a venture perspective. * Not mentioned

Venture related factors

According to all ventures the team is the most important factor of all. The idea/product/process can be extremely good but without the appropriate team there is no chance to succeed. Allego and Hoom both mentioned that at their ventures most employees earn less than they did before, but the reason for them to join the team was entirely fed by intrinsic motivation to be part of the energy transition, more specifically to have a positive impact within this energy transition. Both of these ventures highlighted the importance of leadership in achieving goals. Allego highlighted the importance of operational excellence in a stage where the venture becomes more mature. This is something that can be placed under the factor team because striving for operational excellence is a factor that needs the appropriate team.

All of the ventures highlighted the importance of the product/process. Especially contact with clients: prototyping, early stage testing and iterations on the feedback received are very important to them. Especially at LOCOL, which is one of the smallest (in terms of employees) ventures, this lean startup methodology plays a crucial role. The parent company support them in every way possible, but LOCOL doesn't want to make a lot use of that. However, they can't be completely independent from that support.

Access to resources and capital, all related to the development process, is found to be very important according to all ventures except Allego. Allego doesn't use any resources of their parent. The interviewee at Allego pointed out that the 'shareholder' could just have been another company. This is most likely due to their phase of maturity. They are by far the biggest 'venture' where Alliander is involved. The other three ventures used resources and/or capital in different ways. LOCOL sought legal advice while Hoom got financial resources, legal advice, office and other facilitations. EXE highlights the importance of getting access to resources whenever they want while not letting be burdened by it due the compliance of the parent company. Factors related to market surroundings, inhibiting or facilitating regulations, prove to be of high importance to the ventures. Hoom highlighted that regulations directly impact their business. The interviewee told that Hoom wants to interfere with this legislation and that it shouldn't be handled by only Alliander. Another factor that has not been described in the literature study conducted in this research was the importance of knowledge. Both Allego and EXE highlighted the importance of Knowledge. Because the energy market is a relatively complex market, knowledge about this market and where it's going is extremely important according to these two ventures.

-Cross-case analysis ventures: Venture related factors				
	Allego	Hoom	LOCOL	EXE
Team	High	High	High	High
Product/process	High	*	High	Medium
Development process	Low	High	Medium	High
Market surroundings	*	High	*	*
Additional: market knowledge	High	*	*	High

Table 17: Cross case analysis: Venture related factors. * Not mentioned

4.4.2 Cross-case on DSO's

All of the interviews, related to the DSO perspective on which factors are important to high performance, are conducted at the three largest DSO's of the Netherlands: Alliander, Enexis and Stedin. They don't share the same amount of activity as it comes to corporate venturing. Alliander initiated many ventures of whom four were interviewed for this research. However, Stedin and Enexis are not extremely active within the area of corporate venturing. Stedin doesn't have any type of corporate venturing activities. The interviewee at Stedin was asked which factor inhibit the occurrence of such. At DSO Enexis there are some venturing activities. There is Enpuls, which is part of the Enexis holding, that focused on new initiatives that create momentum in the energy transition. However, looking at the definition of corporate venturing used for this research one can say venturing activities within Enpuls are lacking, because these activities are projects and not put into separate entities. There was a startup program (Unplugged) mentioned which resulted in 5 initiatives. These were all external startups that pitched and got 25K initial funding. Motive to pursue this was mainly focused on exploring new ways to create momentum in the energy transition. Enexis explores future collaboration opportunities, with only one venture.

Due to the big difference in the amount of activity within the area of corporate venturing it can be rather challenging to conduct a cross-case analysis over the three DSO's. However, it interesting to highlight the difference between the three DSO's. Especially due to their unique market context. The following chapter will contain a cross-case analysis on the factors found at these different ventures on three different topics: factors that relate to the organization, factor that relate to them venturing unit itself and the ways in which the DSO's measure overall performance of the venturing unit. Due to the lack of venturing activity at Stedin, the interviewee was asked to highlight inhibiting factors that relate to the organization. The venturing unit related factors for Alliander and Enexis are shown in table 18. Factors that related to the organization are shown in table 19 (DSO Stedin didn't report any venturing activities and therefore the factors are shown that work inhibiting towards venturing activities according to the interviewee).

Performance measures

Alliander and Enexis, are both active within the field of corporate venturing. Because of the explorative/strategical rather than financial motive to engage in venturing, both companies measure performance on the impact it creates within the market rather than financial measures; Measures are more focused on acceleration of the energy transition.

Venturing unit related factors

The interviewee at Stedin reported that were no venturing activities at their organization. Therefore, the interviewee didn't report on factors that would be perceived as important to be successful in venturing activities from a venturing unit perspective, but only from the organizational perspective. Table 18 only shows the venturing unit related factors and their scores of Alliander and Enexis. Important to notice: factors shown in the table 18 and table 19 are factors that are perceived to be important in order to be successful in corporate venturing activities.

Both companies highlight the importance of goal clarity between the parent company and the ventures. We have seen that during early stages DSO's give the ventures some more freedom and thus no strict goals in order to explore the market due to the high uncertainty they face. However, Alliander highlighted that in a later stage goals are more strict because the ventures have positioned themselves in the market. Long-term commitment is an important factor according to both DSO's. For the ventures to reach their goal (eg. Creating momentum in the energy transition) takes time. In early stages their business is very explorative, so before they find their position in the market takes time and thus requires commitment for a long period of time. DSO's understand this and give their ventures what they need. Interesting to note is that the interviewee at Enexis doesn't want long-term commitment from the parent towards its ventures because the parent can get stuck with an equity stake they can't do anything with. Both companies highlighted the importance of adjacency between the business of the venture and the parent company. It should strengthen or at least contribute to the core activities of the DSO. There is slight difference concerning the factor of autonomy between both companies. At Enexis, making own decisions and being able to operate financially independently is very important. At Alliander, all kinds of resources are offered to ventures. It's their choice in the end if they want to use any of those. Therefore, this factor is not extremely important from the perspective of Alliander. According to both companies, critical mass is of low importance to high performing venture units. The interviewee at Enexis pointed out that this might be the case when there are financial motives at stake. Using the experience, contacts and reputation is very important according to both companies. Enexis helps venture for example by bringing them in contact with people they else never would be able to speak. At Alliander this factor also works the other way around. Alliander wants to gain new knowledge and extend their network and does this by tapping into this pool at her ventures.

Cross-case analysis DSO's: venturing unit related factors		
	Alliander	Enexis
Goal clarity	High	High
Long-term commitment	High	High
Adjecency	High	High
Autonomy	Medium	High
Critical mass	Low	Low
Experience, contacts and reputation	High	High

Table 18: Cross case analysis: Venturing unit related factors from the DSO's perspectives

Organizational related factors

In this part the organizational related factors will be analyzed across all three DSO's. Important to note is that the interviewees at DSO's were asked which factors they perceived to be important to be successful in corporate venturing activities. At Stedin, no venturing activities were reported. Therefore, the interviewee at Stedin was asked which organizational related factor inhibited the venturing

activities and which factors the interviewee would perceive as important in order to be successful in corporate venturing from an organizational perspective.

At Enexis there is not a very supportive culture for venturing activities which translates into mediocre top management support whilst it is perceived to be of high importance. At Stedin, the corporate culture is one of the most inhibiting factors for the lack of venturing activities. It is not supportive and top management support is missing. Just recently the board tuned in, when the startup hype is almost over the interviewee explained. The board of Stedin embraced a new strategy just a little while ago where venturing activities will play an increasingly important role. This translates into high importance of these factors at Stedin. Both Alliander and Enexis pointed out the importance of corporate strategy profile.

The process is of very high importance according to Alliander. At Enexis, the interviewee pointed out that this factor is closely related to top management. He didn't mention if it was a very important factor contributing to high performance of the venturing unit. At Alliander all factors contribute to high performance of the venturing unit except reward / control. The interviewee at Enexis, pointed out that incentivizing employees would work while at Alliander everyone, working at the parent company or at either one of the ventures share the same type of contract and is therefore not incentivized to run a little harder in any way. At Stedin, the interviewee pointed out the importance of incentivizing employees but said that it was completely lacking. At Enexis, the interviewee pointed out that this factor was related to top management and that he couldn't give a very clear example of it. At Alliander, the interviewee pointed out the importance of timing. Due to the societal role of a DSO it is their obligatory role to create momentum in the energy transition up until market players take this responsibility upon their selves.

Cross-case analysis DSO's: organizational related factors			
	Alliander	Stedin*1	Enexis
Top management support	High	High	High
Corporate culture	High	High	High
Process	High	*	*
Reward / Control	Low	High	High
Corporate strategy profile	High	High	High
Timing	High	*	*

Table 19: Cross case analysis: Venturing characteristics related factors from a DSO perspective

*1 Stedin didn't report any venturing activities. Therefore, the reported factors and scores are the ones that the interviewee perceived as most important factors to engage in corporate venturing activities. * Not mentioned

External factors

All of the DSO's were asked if there were any external factors that might influence their venturing activities. Enexis pointed out the interpretation of legislation, the regulatory framework. At Enexis, they operate within this framework and don't necessarily look up the boundaries of it. Another factor that has an impact on the amount of venturing activities is the geographical location of the DSO's, mores specifically the areas they operate in due to increased economic activity and thus more opportunities. However, Alliander argues that that every DSO has their own network. Alliander for example work with Amsterdam Smart City while Stedin has something similar going on within the region the operate in.

Tariff regulation doesn't really effect venturing activities according to both Stedin and Alliander. It is the truth in hindsight, the interviewee at Stedin told and according to Alliander it doesn't have a significant impact. The interviewe at Alliander told that he thinks there is not a lot of difference between the external factors between all of the DSO's.

5. Discussion

This research has been focused on finding the factors that are perceived to contribute to the high performance of a corporate venturing unit. Because of the qualitative nature of this study it is important to note that the relation between the factors and performance hasn't been studied. Interviews have been conducted at the three largest distribution system operators and four ventures within Alliander' domain. Important to mention is that the findings in these reports are the result of only one interview at every organization. Therefore, one can argue about the generalizability of this research. However, this research is focused on which factors are perceived to be important contributors to high performing venturing units not what the current state of certain factors are and how these can be changed in order to foster venturing activities. Additionally, interviewees working at the ventures are all in charge of the specific venture. At the DSO's interviews were conducted with innovation managers that were closely involved with innovation practices at their company. It can be questioned if conducting multiple interviews at each organization would result in different conclusions.

Corporate venturing activity

Interesting to see is that activity on corporate venturing differs significantly. At Stedin, there is no venturing activity; whereas, at Enexis little and at Alliander quite a lot. Can this difference in activity be explained? First of all, the interviewee at Stedin explained how the lack of some important factors didn't support in venturing activities. For example, there is a lack of top management support, and no corporate culture that fosters such activities and their corporate strategy profile is not aimed towards these activities. If Stedin decides to engage in such activities, they can check on these factors how to improve them to foster venturing activities. When the interviewees were asked if there were any external factors (outside the organizational) domain that could influence the venturing activities, answers differ slightly. The interviewee at Enexis pointed out that this could be because of the geographical location of the DSO; The area in which the DSO operates. Because there is significantly more economic activity in the Western part of the Netherlands, Enexis suggested that this automatically created more opportunities. Alliander rejects this point and told the researcher that every DSO builds and maintains their own network of people and knowledge. This is not bound and restricted to a geographical location. Indeed, from the perspective of this study, this factor seems rather unimportant because of the following. Ventures of DSO's (mainly Alliander) are all initiated by the parent company itself, called internal corporate venturing. This seems logical because all DSO are owned by government and therefore strictly regulated. They can't afford to take unnecessary risk and explore new initiatives through investing in external ventures, known as external corporate venturing. Other external factors that were suggested were the impact of the 'tariff regulation' and interpretation of the regulatory framework. The first one suggests that when having a very good overall performance (not going into too much detail here), the DSO are allowed to ask a higher price for their 'service'. This would result in a higher EBIT and therefore more money would be available for performing explorative venturing activities. However, Alliander rejected this and said that this very little impact on the amount of venturing. The regulatory framework is something that has been set by government and regulatory agencies. All of the DSO's are obliged to perform their business within this framework. The interviewee highlighted that the interpretation of this framework is mutually different between DSO's which would result in their different approach towards venturing. From the perspective of this study, this factor, like the rest of the external factors, is not thought to have a significant impact. Interpretation is something that relates to the organizational domain; how is an organization dealing with the same information other companies have as well.

Interesting to mention is that neither of the DSO's mentioned how their unique market position impact their innovation activities. All of them share the same strategic motive to engage in venturing activities or innovation processes but neither of them related this to their market position. They don't have the commercial driver to innovate but rather a societal responsibility. They are not allowed to (negatively) impact the 'free market' due to their market monopoly and because they are publicly owned which

could result in unfair competition. Would their innovation process/venturing activities be more sophisticated if they wouldn't share this unique market position? It is an interesting question to research if this is an inhibiting factor in their innovation process.

Organizational related factors

Looking at the organizational related factors there is not a lot of difference to be seen. However, the current state of certain factors almost directly relates to the activity of venturing that can be seen; at Stedin, no venturing activities have been reported and there are some inhibiting factors related to that. At Alliander and Enexis, the most important factors contributing to high performance are kind of related to top management. It's their support, the corporate strategy profile and the corporate culture to support such activities. This seems to make sense and is in line with findings from literature; in an environment where there is support from top management, a supportive culture and a strategy profile aimed at such activities venturing activities seem to flourish. The opposite accounts here as well. Looking at Stedin these factors are scoring low because they work counterproductive, while the interviewee highlighted the importance of such being present. There is little to no support from top management, an unsupportive culture and a strategy profile that is not particularly aimed at such activities. These might be the reasons of lacking venturing activities at Stedin. Literature indicated that incentivizing employees would benefit the venturing activities. However, opinions at the DSO's are mutually different. Alliander, being the most active DSO within the field of corporate venturing doesn't reward or incentivize employees for engaging in such activities. Employees working at any of their ventures or at the parent company, all share the same type of contract. Literature shows that this factor can definitely influence the importance of a venturing unit in a positive way. The same was mentioned by Stedin. However, that might be the case when the motives to engage in venturing are financial rather than explorative. From this research' point of view, it can be questioned if this factor directly related to higher performance. Goal of venturing at the DSO's is to create momentum in the energy transition, not to get a certain financial return on investment. Therefore, employees' motives to engage in such activities are often of intrinsic nature. Last but not least, one could say that timing is an important factor. DSO's are socially responsible to create momentum in the energy transition. Therefore, timing of venturing is crucial. They need to get things going before momentum is created and others in the industry take over.

Venturing unit related factors

The next part will discuss the factor related to the venturing unit. Interviews at both Alliander and Enexis and ventures of Alliander helped for this part of the research. Again, at Stedin there are no venturing activities so the interviewee said there is nothing to say about these factors there. Therefore, Stedin is not part of this next discussion. It's obvious: goal clarity and long-term are very important contributors to high performing venture units. This makes sense in the way that these ventures are there to explore. This means, that during early phases these ventures can't be financially independent from their parent company and therefore need long-term commitment in order to survive and being able to do what they are there for. Because of this explorative nature, goal clarity can be hard in early stages of the venture. When a venture becomes increasingly mature, these goals become more tangible. About adjacency the following can be said; all of the ventures interviewed are initiated by Alliander. That means all of them are adjacent to some extent to the core business of the parent company. Alliander, or any other DSO is not going to explore areas through corporate venturing within the media industry. So one could say that adjacency definitely contributes to high performance of the venturing unit from the perspective of the DSO's. However, from the venture' side, results on this factor differ quite a lot. There are ventures that highlighted that the importance of adjacency to the core business of the parent company doesn't help them in any way possible. EXE' business is extremely adjacent to that of their parent. This could be related to autonomy. EXE is located within Alliander HQ and want to operate so closely because they want to be seen. Allego, LOCOL and Hoom, all less adjacent than EXE want to operate as autonomous as possible. All of the ventures see Alliander as a

'regular shareholder'. Being able to explore requires autonomy according to the interviewees. This can be compared to the findings from literature.

Critical mass was found in literature to be an important factor contributing to high performance of venturing units. However, in the study of Birkinshaw (2002) research was conducted on the financial market. Findings were that an portfolio needs around 30 ventures to be successful over the entire portfolio (Birkinshaw et al., 2002). Venturing activities in this study were financially motivated and from a big part focused on external ventures. For the DSO's this is different. How is success to be determined here? Initial reasons for the DSO to engage in corporate venturing are explorative. Therefore, if success is determined as financial success critical mass doesn't contribute to high performing venture units (from the perspective of the DSO's). If success is to be determined in non-financial measures such as impact created in the market, critical mass be needed to speed up this process. However, success then becomes something that also be reach by other types of activities like partnerships, projects etc. Last but not least, using the experience contacts and reputation of the parent company can be very useful. There are two exceptions to be made: Allego and EXE. They don't share the opinion that this factor if of high importance. At it can even work counterproductive. Some doors close when they position themselves as 'company from' as pointed out by the interviewee. EXE is so adjacent to the parent that everyone working their already has the knowledge and contacts. Interesting to see is that at Hoom the reputation of the parent creates a certain trust which they can use a leverage. Important to notice that Alliander thinks this should also work the other way around. They want to learn and engage with the (new) network of their ventures.

Venture related factors

Looking at the factors that relate to the ventures themselves that contribute to high performance, the most important one is unmistakably the team. These findings are in line with the study of Halila and Rundquist (2011); characteristics of the innovator and team are considered important traits in order to be more likely to be higher performing on the long term. All of the ventures highlighted and confirmed that the team is extremely important. Allego and Hoom both mentioned that leadership qualities and vision are both important within this factor. Literature confirms this finding. Looking at the development process, Allego doesn't want any involvement of Alliander and therefore does as much as they can themselves. This is completely different to EXE where one of the reasons for them to share office with their parent is because of the easy access to resources. LOCOL and HOOM use some resources but want to do as much as they can themselves as well. Interesting to link this to the autonomy and adjacency of the ventures. Findings from literature show that access to resources of the parent could definitely contribute to higher performance. Allego is a capital intensive venture. They have to develop, produce, deliver and maintain a lot of charging infrastructure. So is interesting to see here that Allego doesn't want any involvement from their parent rather than financial support. Market surroundings, governmental regulations and institutional arrangements, are important. Regulations directly impact Hoom their business, so therefore Hoom wants to be able to influence this. Unfortunately, Allego and EXE didn't mention legislation but for ventures operating within the energy domain it seems a rather important factor. Additional to the factors asked for, both EXE and Allego mentioned the importance of market knowledge. One could say this can be related to the team but for the sake of this research this factor is kept apart. The energy domain is an extremely complex industry and market knowledge is extremely important here according to these two ventures.

6. Conclusion

This chapter finalizes this research and contains conclusions to the research questions posed. First, the answers to the sub-questions are discussed after which the main research question will be answered. This part will also contain the societal and scientific contribution (section 6.1). The following section will discuss the limitations of the research and suggestions for further research (section 6.2). After that, the reflection on choices made within the research will follow (section 6.3). Finally, some recommendations are discussed (section 6.4).

6.1 Conclusions

This research is focused on factors that are perceived to contribute to high performing venture units at Dutch DSO's. A literature study was conducted to distill these factors from literature. The main research question is:

Main research question: What are the factors that are perceived to be important for the performance of venturing units at Dutch distribution network operators?

In order to answer this main research question, four sub-questions are posed. These sub-questions will be answered first in order to answer the main research question. The first research question is:

Sub-question 1: What are the motives for DSO's to engage in corporate venturing?

For this research interviews were conducted at the three largest DSO's of the Netherlands (Alliander, Stedin and Enexis) combined with interviews at four of Alliander's ventures. All of these DSO's have a geographical monopoly; they are owned by provinces and restricted to a tight framework of rules and legislation. Corporate venturing motives can be either strategic or financial (Leten & Van Dyck, 2012). Because DSO's have to operate within this tight regulatory framework, engaging in corporate venturing with a financial motive is unthinkable for them. Reason for DSO's (only Alliander and Enexis were active within the field of corporate venturing) is strategic. They are explorative and aimed on discovering how advancements in technology can help them shape the energy system of the future. However, neither of the DSO's mentioned the influence of their market position on venturing activities or innovation processes.

Sub-question 2: How is performance/output of the corporate venture unit measured and how does it relate to the overall strategy?

Performance at venture units is measured depending on the maturity of the ventures within the portfolio. When ventures become more mature the parent company checks progress on commercial key performance indicators. Ventures, on the other hand measure their performance on how much impact they created in the market and more specifically on the momentum they created in the energy transition. DSO's learn how advancements in technology can help them shape the energy system of the future.

Sub-question 3: Are there any external factors that influence the corporate venturing process that differs per DSO?

There are many external factors that were discussed: the influence of 'tariff regulation', the geographical area in which the DSO's operate and the interpretation of the regulatory system. The first is a term for the price the DSO can ask for their service. This price is regulated by the corresponding agency and is determined on a certain benchmark. However, the interviewee pointed out that this factor doesn't have a serious impact by which the difference in activity within the area of corporate venturing can be explained. The second, the geographical location, corresponds to the areas in which

the DSO operate. Alliander, for example, operates in the Western part of Netherlands where there is more economic activity compared to the rest of the Netherlands. This would suggest that there are more opportunities because of this increased economic activity. However, this influence can be neglected in this research because all of the ventures interviewed are initiated by the parent company (in this case Alliander) themselves. Increased opportunity would mean an increased chance to engage with external startups. This external venturing is something that is currently being done on a large scale.

Sub-question 4: What are the perceived success factors in the different types of venturing units?

This research has been focused on factors on different levels: the organizational domain, the venturing unit and the venture. From the organizational domain there are certain factors that are perceived to be important for performance of venturing units. Many of them were in line with findings from the literature. First top management support and corporate culture have shown to be extremely important, they can be categorized as prerequisites in order to engage in venturing activities. This research has shown that if top management support is lacking and if there is no supportive corporate culture this could result in the lack of venturing activities (results at Stedin). Rewards don't have a significant impact on the performance of venturing units. Timing is very important as found in literature. Timing is important due to changing corporate goals, resources, skills and priorities (Narayanan et al., 2009). DSO's have the societal role to create momentum in the energy transition until market players enter this market. Timing in that's case is important. Maintaining a corporate strategy profile aimed at venturing activities is very important and closely related to top management support. The organizational structure and process (factor process) are important to even engage in venturing activities. If a corporate strategy that embraces venturing activities is missing, it would be challenging to set these activities up.

From the venturing perspective, there are several factors that are perceived to be very important contributors to the high performance of such units. Interviewees at both DSO's and ventures are asked to comment on these factors. Important perceived factors are: goal clarity and long-term commitment. Because of the explorative nature of the ventures interviewed, goal clarity can be hard in early stages of the venture. These findings are in line with literature. There is broad agreement in literature, that in order to be successful, a CVU needs to have clarity of goals (Campbell et al., 2003; Hill & Birkinshaw, 2008; Leten & Van Dyck, 2012). Focusing on different types of corporate venturing might confuse senior management about results resulting from the venturing activities. As found in literature this can lead to abandoned of venturing programs before they had the chance to pay off (Burgelman & Välikangas, 2005). This is line with findings from this research. The motive for DSO's to engage in venturing activities are strategical rather than financial and therefore there should be clarity of goal so the activities are not abandoned before they had the chance to pay off.

When a venture becomes increasingly mature, these goals become more tangible. In addition, long-term commitment is a prerequisite for ventures in order to be explorative. The explorative nature of the venturing activities from the perspective of the DSO take time to pay off. Therefore, long-term commitment is very important from the parent company towards the venture. These findings are in line with literature where Leten & van Dyck (2012) found that long-term commitment is a very important factor and that this commitment is influenced by the health of the main business and the availability of resources.

From the perspective of the DSO's, adjacency is important. Because of the regulated framework in which they operate, ventures are initiated that are very adjacent to their business. DSO's are not allowed to fully operate on the 'free market' due to unfair competition that can occur. Therefore, their investments are regulated as well. Autonomy is a very important factor. Ventures want to operate as autonomous as possible. Critical mass is not important here. The goal is to create momentum in the

energy transition. One way to do that is by corporate venturing, but this can also be created by another form of activity. When corporate venturing has a financial motive critical mass is important according to literature. In order to keep a positive ROI over the entire portfolio, the number of ventures in this portfolio is an important factor. Experience, contacts and reputation are important but not in all cases. At Allego, this could even work counterproductive because possible partners could be scared off if Allego tells them they are a venture of their mother company.

Factors that relate to the venture itself are the team, product, development process and market surroundings. All factors are very important, but most important is the team. As one interviewee pointed out: 'without a good team, a good idea has zero chance to succeed.' All ventures highlighted the importance of this factor. The development process is important. However, it depends how mature a venture is. Allego is the most mature venture and doesn't want to use any of the resources of the parent company rather than financial ones. During the early phases of a venture, this access to resources is definitely appreciated by the ventures but used as little as possible in order to try to operate as autonomous as possible. EXE is very adjacent to the business of their parent and is even located within the same office. They share the opinion that this access to resources of the parent is highly important contributor to high performance. The product/process is relatively important. The ventures are exploring new things on the market and therefore within this early stage they are still learning how to position themselves in the market (except to the more mature venture Allego). Market surroundings were not mentioned by all ventures but Hoom said they definitely want to influence legislation as it directly impacted them. Additional to the factors found and maybe distinct to the energy domain, two ventures pointed out the importance of market knowledge as an important contributor to high performance since the energy industry is highly complex.

Main research question: What are the factors that are perceived to be important for the performance of venturing units at Dutch distribution network operators?

This research pointed out that there are no external factors (outside the organizational domain) that influence the venturing activities at DSO's, which are notably different between them. They all have to deal with the same regulations and laws, new technologies etc. DSO's remain to be unique cases due to the market context they operate in. DSO's don't have the commercial driver to innovate due to their (geographical) market monopoly. However, their reason to innovate relates to their societal role. Therefore, it's highly interesting how DSO's can be stimulated as if they are not regulated and need to innovate in order to exist.

This research has tried to find the relevant factors that are perceived to be important for the performance of venturing units on three levels: the organizational domain, the venturing unit and the venture. From the organizational domain the factors that are perceived to be highly important are: top management support, a supportive corporate culture, corporate strategy profile, timing and process and least important is the reward structure.

From the venturing perspective the factors that are perceived to be highly important are: goal clarity, long-term commitment, adjacency, autonomy and the experience, contacts and reputation of the parent company. Not important is critical mass; having a certain amount of ventures in a portfolio to have success on the entire portfolio. This is due the strategic motive of Alliander and Enexis to engage in corporate venturing.

From the venture perspective the factors that are perceived to be highly important are unmistakably the team and the leadership qualities. The development process is important, definitely during early stages of the venture. Of medium importance is the product/process. All ventures have the goal to create a positive impact on the energy system. Therefore, their actions are explorative of nature during this early phases. When the venture become more mature (Allego and Hoom) the product plays a

significantly more important role. Market surroundings play an important role as highlighted by Hoom. The energy transition is taking place and legislation and rules need to be changed accordingly to optimally facilitate this. Therefore, having influence on this legislation is important.

6.1.1 Scientific contribution

Existing literature on performance of corporate venturing is often focused on the parent level of analysis (Narayanan et al., 2009). This study is focused on two different levels: the parent and the venture. This study gives insight on how parent companies see factors as contributing to high performance of venture units as well as from the perspective of the venture. This hasn't been done in literature and is, despite the explorative character of this research, a valuable contribution to the academic literature. Next to that, some studies focus on other industries than the energy industry. For example, the study of Birkinshaw (2002) is focused on the financial industry. Therefore, this study is relatively new due to the fact there is not much literature available on corporate venturing in this industry.

6.1.2 Practical implications

We are currently in the early phases of the energy transition. There are a lot of things that have to be done to reach the goal agreed upon at the COP. DSO's have the societal role to create momentum in this transition. One of the ways to do that is through corporate venturing activities. This study gives an insight in the factors that are important to these activities. It can be the reason to initiate a dialogue at DSO's where there is little or no activity within this field at all. Next to that DSO's can learn from each other in order to improve on such activities and thus create more momentum.

6.2 Limitations and suggestions for future research

Like other studies, this research has its limitations. Because of the time and scope only one person at the three largest DSO's could be interviewed and one person at four different ventures. Therefore, one can argue about the generalizability of this research. However, this research is focused on factors that are perceived to be important contributors to high performing venturing units, not what the current state of certain factors are and how these can be changed in order to foster venturing activities. It can be questioned if conducting multiple interviews at each organization would result in different conclusions. Interviewees working at the ventures are all in charge of their venture. At the DSO's interviews were conducted with innovation managers that were closely involved with innovation practices at their company. Therefore, there is little chance that other possible interviewees would have a completely different view and that thereby the results would significantly differ. Next to that, this research has a very explorative nature which makes it hard to draw conclusions. One of the suggestions for future research would be to research this topic in a more quantitative approach so that relations between factors and performance could be highlighted. Another limitation is the interpretation of the researcher. Despite the fact that the researcher asked the interviewee on the perceived importance of factors (low/medium/high) some interviewees didn't respond as the researcher wanted and expected. This resulted in some factors that were not mentioned and therefore these couldn't be included in this research.

There are many ways to accelerate the energy transition, from which corporate venturing is one to be mentioned. It is not shown that corporate venturing is the most important one. Besides, innovation can also happen outside venturing units in experiments and projects which are outside the scope of this research. Another suggestion for future research would be to study the different ways in which the DSO's can accelerate this transition. It would be interesting to research the relationship between the unique market position of the DSO's and their trigger to innovate. Do DSO's feel that their unique market position inhibits their pace of having the need to innovate? After all, they are not allowed to (negatively) impact the 'free market' due to their market monopoly and because they are publicly owned which could result in unfair competition.

The last limitation is the fact that the factors were already described in literature which could lead to a bias of the researcher. To reduce this, an explanation at every factor at all of the analyses has been given in order to show how the researcher came to a certain score. An interesting topic for future research would be to draw a comparison between the media- and energy industry. The media industry transitioned from paper to digital while the energy transition in the energy industry is still in its early phases and has a long way to go. It would be interesting to see if these two can be compared with each other and if recommendations can be given to positively influence the energy transition.

6.3 Reflection

During the early phase this research focused on energy retailers within the Dutch energy industry. It took a while before the focus switched to distribution network operators. Some initial explorative interviews have been conducted before this decision was made. Gathering data at a couple energy retailers seemed quite challenging because they are competitors and thus potential interviewees wouldn't be willing to share (possibly) sensitive data. Next to that, venturing activities at some retailers was setup on a global level (RWE and Vattenfall) which would have made it more difficult to gather the appropriate data. The choice to focus on DSO's has been a good one, since there are more than willing to cooperate because they are not competing with each other due to their natural monopoly. The research has a qualitative approach instead of quantitative. Looking back, as a researcher, it would have given more satisfaction to be able to draw concrete generalizable conclusions. However, such a qualitative research hasn't been conducted yet which would make it more difficult to do a quantitative study on that topic. Interesting to highlight is the difference between commercial organizations and DSO's. They both have a different driver to innovate. For the one it's a necessary instrument not to get disrupted for the other it's their responsibility towards society. This study focused on factors that are perceived to be important for the latter. A suggestion for further research would be to study these factors for commercial organizations and see if these differ between both. The value of this study lays in its contribution to methods for innovation for organizations that don't feel the commercial need to innovate.

The interviews could have been conducted more strictly; meaning that the researcher should have made more interventions before an interviewee would diffuse from the appropriate factors so there would be more time to focus on the factor that are highly important. However, this is easier said than done. This made it harder for the researcher to interpret the result in the correct way.

Finally, it can be questioned if corporate venturing should be the method to foster innovation. There are many other ways with which organizations can foster innovation such as participating in accelerators, organizing hackatons, collaborating with other companies and many others. The relationship between these different types isn't highlighted in this study, but is very important in the field of innovation management. The advantage of venturing activities are the strategic, economic and societal benefits, organizational learning and market performance that comes with it. Compared to other ways of innovation venturing activities usually span over a longer period in time, increasing the value that can be obtained by them.

6.4 Recommendations

This research has been conducted with the help of Accenture. The energy transition is a highly important topic for Accenture and her clients. Clients that operate within this domain have to transform as well and play their part. Next to that there are different industries where venturing activities are as important and this is where Accenture can help those clients.

First of all, it is being discussed what Accenture can do with this research for her clients operating in the energy industry. For clients of Accenture, their knowledge, expertise and network is highly valuable. Accenture operates in different industries on the edge of innovation and therefore they have

a broad network and understanding of the latest technologies. Clients operating in the energy industry can make use of this in order to explore the energy system of the future. First thing to do for Accenture is to create the urge at DSO's (Stedin) to change. They can host a session together with partners from Accenture' network to showcase the latest technologies and how these can impact the energy system of the future.

- 1. Network:** Accenture has a worldwide network of partners, clients and ventures that can help to shape the energy system of the future. Accenture can play their role to connect these opportunities. Accenture can help her clients connect with ventures at the Accenture Innovation Awards, host knowledge sharing session (between DSO's), co-develop venturing units where they could have an advising role and many other different possibilities. Key is to engage this network to create the most amount of value of her clients.
- 2. Knowledge:** Due to the very broad and abundant knowledge of Accenture, they can help their clients in the energy industry on many different fields. From the development of blockchain to autonomous vehicles, Accenture or her partners have the knowledge on these topics. This can be used to co-develop the energy system of the future by using the latest advancements in technology.
- 3. Expertise:** As mentioned in this research there are many factors at play at the different DSO's that inhibit venturing activities. This research pointed out that these factors are here and that there is currently nothing being done to alter them. This is something were Accenture can help due their expertise. They have helped other DSO's (both global and local) and organisations operating in many different industries that have encountered similar problems.

Accenture should advise her clients (DSO's) to explore possible corporate venturing activities. Two of the three organizations interviewed are not active in corporate venturing yet, while it seems rather impossible to innovate on a high pace without venturing activities or other methods that leverage external networks and knowledge. Due to the fast changing technological landscape, these shared mission between DSO's invokes strategic risk on every part of the statement (reliability, sustainability and affordability). To anticipate, learn and steer their companies, DSO's should collaborate with exiting and new partners for which exploring possible venturing activities are particularly useful due to the strategic, economic and societal benefits, organizational learning and market performance that comes with it. The organizational structure and support for venturing activities is lacking at two of the three DSO's which contradicts their (shared) mission of reliable, sustainable and affordable energy for everyone. This is in an area were Accenture could be of great help.

Finally, this research can also help other clients of Accenture. Organizations within the energy industry are not the only ones that engage in corporate venturing activities nor the only ones that operate in such a special market context where there are no (commercial) drivers to innovate. This research has shown which factors are perceived to be important in order to successfully engage in these activities. Accenture can help her other clients that already have these activities up and running or the ones that don't, by making a blueprint of the current situations. After which an assessment can be made how to improve process and structures to foster such activities. This research shows which of these factors are important and therefore it can be used for making such assessments.

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Appendices

Appendix A: Interviews structure DSO

Introduction and background (5min)

-Introduction about myself, TU Delft, role Accenture

Please let me introduce myself. I am Folkert Roorda a MSc student Management of Technology at the TU Delft. During this study I have learned to explore and understand the power of technology as a resource. It has taught me how to use technology to develop products and services for both corporates and startups. More specifically, I have spent 6 months in Sweden to specialize in entrepreneurship and innovation within the energy domain. Currently I am in the last phase of my study, writing my thesis at Accenture. Accenture connects with universities and students and offered me a graduate position in which I am able to graduate on a highly interesting topic with the help of their knowledge, experience and network.

-Introduction about my research

Due to my educational background and entrepreneurial mindset, I have always interested myself in ventures which are a source for disruption and continuous progress, the more interesting if these ventures operate within the energy domain. During the new wave of entrepreneurship, I have seen that many incumbent companies use some kind of venturing activities as part of their corporate strategy. However, I have seen that the performance of such activities is not always optimal. Because I think that such activities can accelerate the energy transition, I have decided to focus my research on venturing activities within the energy domain. More specifically on the factors that impact the venturing activities. But enough about me..

- ➔ Can you tell me about yourself, the company you're working at and your role within this company?

Corporate venturing (10min)

Corporate venturing: Corporate venturing emphasizes the creation of new business within or outside the organization. This can be done either internally (business created and owned by the company itself – within the organizational domain), externally (investments that facilitate the founding and/or growth of external businesses – those outside the organizational domain) or jointly (form of external corporate venturing in which the organization co-invests with another organization in the creation of a new, external business)

- ➔ Before getting into more detail, can you tell me more about venturing activities at your company?
- ➔ How does your company help ventures to get their product/process in the market?

Corporate venture units (CVU) can have different motives exploring and exploiting ventures for its parent company. These motives can be either financial or strategic. CVU's created with a financial motive only don't have the intention to exploit the firm's current business or build new businesses. It's only goal is to diversify into the private equity business and thereby become a corporate venture capital firm with success only being measured in financial returns. CVU's created with a strategic motive can engage in innovation venturing which entails the surfacing of ideas from within the firm.

- ➔ What type of venturing units does your company have?

Performance measures venturing units (10min)

Literature shows that the **performance of venture units** can be measured on different scales (economic, market performance and strategic benefit). Economic measures are those that can lead to a higher market performance. Strategic benefits can include: learning, successful integration of company's operation, improved responsiveness, successful standard setting and capacity building.

- ➔ How do you measure the performance of this unit? (I'm not particularly interested in how the company scores on these measures)
- ➔ Are there external factors that impact the venturing activities which are different at every DSO? (Does the 'tariff regulation' affect venturing activities for example?)

Venturing unit related factors(20min)

-Show different factors (see attached conceptual model)

- ➔ Do these factors impact the success of the venture unit? How impactful are these factors on a scale of Low-Medium-High?
- ➔ Are there any factors missing?
- ➔ Can you elaborate in which way these factors have an impact on the success of the venture unit within the company?

Organizational related factors (20min)

-Show different factors (see attached conceptual model)

- ➔ What are factors from the parent (organizational context) that impact the success of the venturing unit? How impactful are these factors on a scale Low-Medium-High?
- ➔ Are there any factors missing?
- ➔ Can you elaborate in which way these factors have an impact on the success of the venture unit?

Final remarks (5 min)

- ➔ Are there any remarks or things you want to add?
- ➔ May the data gathered in this interview, including names be used in my thesis, without being made anonymous?

Appendix B: Interviews structure Venture

Introduction and background (5min)

-Introduction about myself, TU Delft, role Accenture

Please let me introduce myself. I am Folkert Roorda a MSc student Management of Technology at the TU Delft. During this study I have learned to explore and understand the power of technology as a resource. It has taught me how to use technology to develop products and services for both corporates and startups. More specifically, I have spent 6 months in Sweden to specialize in entrepreneurship and innovation within the energy domain. Currently I am in the last phase of my study, writing my thesis at Accenture. Accenture connects with universities and students and offered me a graduate position in which I am able to graduate on a highly interesting topic with the help of their knowledge, experience and network.

-Introduction about my research

Due to my educational background and entrepreneurial mindset, I have always interested myself in ventures which are a source for disruption and continuous progress, the more interesting if these ventures operate within the energy domain. During the new wave of entrepreneurship, I have seen that many incumbent companies use some kind of venturing activities as part of their corporate strategy. However, I have seen that the performance of such activities is not always optimal. Because I think that such activities can accelerate the energy transition, I have decided to focus my research on venturing activities within the energy domain. More specifically on the factors that impact the venturing activities. But enough about me..

- ➔ Can you tell me about yourself, the company you're working at and your role within this company?
- ➔ Can you tell me about the role of the company you are working at?

Corporate venturing (10min)

Corporate venturing: Corporate venturing emphasizes the creation of new business within or outside the organization. This can be done either internally (business created and owned by the company itself – within the organizational domain), externally (investments that facilitate the founding and/or growth of external businesses – those outside the organizational domain) or jointly (form of external corporate venturing in which the organization co-invests with another organization in the creation of a new, external business)

- ➔ Can you tell me about your relationship with the parent company?

Corporate venture units (CVU) can have different motives exploring and exploiting ventures for its parent company. These motives can be either financial or strategic. CVU's created with a financial motive only don't have the intention to exploit the firm's current business or build new businesses. It's only goal is to diversify into the private equity business and thereby become a corporate venture capital firm with success only being measured in financial returns. CVU's created with a strategic motive can engage in innovation venturing which entails the surfacing of ideas from within the firm.

- ➔ In what type of venturing units does your company fit?
- ➔ Back to my second question; do you think corporate venturing helps your company to get the product/process in the market?

Performance measures venturing units (10min)

Literature shows that the **performance of venture units** can be measured on different scales (economic, market performance and strategic benefit). Economic measures are those that can lead to a higher market performance. Strategic benefits can include: learning, successful integration of company's operation, improved responsiveness, successful standard setting and capacity building.

- ➔ What are important performance measures from the venture' perspective? (I'm not particularly interested in how the venture scores on these measures)

Venturing unit related factors (20min)

-Show different factors (see attached conceptual model)

- ➔ Do these factors impact the success of the venture unit? How impactful are these factors on a scale of Low-Medium-High?
- ➔ Are there any factors missing?
- ➔ Can you elaborate in which way these factors have an impact on the success of the venture unit within the venture?

Venture related factors (20min)

-Show different factors (see attached conceptual model)

- ➔ What are factors from the venture (characteristics) that impact the success of the venturing unit? How impactful are these factors on a scale of Low-Medium-High?
- ➔ Are there any factors missing?
- ➔ Can you elaborate in which way these factors have an impact on the success of the venture unit?

Final remarks (5 min)

- ➔ Are there any remarks or things you want to add?
- ➔ May the data gathered in this interview, including names be used in my thesis, without being made anonymous?