Value creation through digital solutions in the energy industry

A case study at Skellefteå Kraft AB

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ABSTRACT

**Purpose** – The purpose of this master thesis is to gain a better understanding of how value creation can be achieved with digital solutions in the energy industry. More specifically, this research aims to increase the understanding of factors that affect customer value in form of exploring the customers’ digital wants and needs.

**Method** – This master thesis uses a combination of exploratory and descriptive approach which is based on qualitative data gathered from semi-structured interviews with area experts and focus groups with customers. In this study three area experts and four focus groups were included. The gathered data were analyzed through an abductive analysis approach and a thematic coding.

**Findings** – The research found three main findings that energy company’s need to take into consideration. The first is that the energy industry needs to simplify the energy concept since customers’ state that the industry is too complex at the moment. Second is that value creation can be achieved in form of a superior mobile application where customers’ have the ability to follow their consumption and can gain improved customer care. The last main finding from this study show that there may be a lot of changes in the energy industry in the future, which entails many possibilities for energy companies to improve customer value.

**Recommendations** – The recommendations from this study is that energy companies need to address that the driving force to buy in the energy industry is that customers want to like their energy company. The energy industry must change their focus and provide marketing strategies that are appealing to the customers’ emotions. Companies in the energy industry also need to deal with the increasing digitalization that is affecting society everywhere. The development of a great mobile application will improve a lot of things for the customers such as making their consumption controllable and easier to grasp, which will make them more satisfied. It is also recommended that energy companies in Sweden unite and together make a proposition to the EU to drop the regulations on electricity charges in order to unlock energy companies’ ability to make energy subscription customer friendly.

**Research contribution** – This master thesis contributes to the three dimensions that customer value derived from, in the energy industry digital solutions affect functional and emotional value but has low impact on social value. It also occurred that simplicity, control, better information and customers’ buy with their heart are key factors that contributes to customer value in the industry, which contributes to both theoretical and practical. Digitalization are also moving fast in the energy industry which companies need to embrace right away and take action to not fall behind.

**Paper type** – Master thesis
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1 INTRODUCTION

This chapter starts with a background description about the problem regarding digitalization and its connection to customer value in the energy industry. It is followed by the purpose of this study and research questions that this research aims to answer. Furthermore, this chapter ends with a disposition that describe the chapters in this research.

1.1 Background

Customer Relationship Management (CRM) is according to Chen and Popovich (2003, p.672) “a combination of people, processes and technology that seeks to understand a company’s customers”. The authors describe it as an integrated approach to manage relationships and emphasize a focus on customer retention. Berger and Bechwati (2001) claims that customer retention is often seen as a vital part for companies in order to develop long-term relationship with their customers that enables them to succeed and survive on most markets today. Alrubaiiee and Al-Nazer (2010) further describe that all marketing activities in an organization are directed towards creating these long-term relationships and thus building customer loyalty. These activities involve interactions, relationships and networks, which all can help build long-term relationships with the customers and help retaining them (Gaurav, 2016). The claim is supported by Kumar et. al (2017) who states that it is crucial for companies to deliver their service in a way that customers become loyal. By having loyal customers, Donio’, Massari and Passiante (2006) explain that a company can save money and resources as they claim that it is much cheaper to maintain relationships with customers instead of attracting new customers. Wang, Po Lo, Chi and Yang (2004) support this and also claims that a strategic weapon to attract and retain customers is by creating customer value, which Sweeney and Soutar (2001) mean derives from the three different dimensions’ emotional value, functional value and social value. These dimensions are crucial for companies to understand in order to know what in their service or product that creates value to their customers. Wang et al. (2004) also explain that customer value lately has become a significant factor in the success for service providers. Therefore, in many cases, value creation is even seen as critical for an organization’s success (Vargo & Lusch, 2004; Chahal & Kumari 2012).

One way of creating value for the customers is to continuously innovate. Companies who constantly renew themselves and therefore can offer new innovations to their customers can gain competitive advantage as it will create new ways of creating, delivering and capturing value (Helms, 2016; Melton & Hartline, 2010). If companies do not continuously improve, they risk losing significant market share. Trott (2012) highlights the importance of this by claiming that innovation is the engine of growth in a company. Freeman (1982) takes this one step further by stating that to not innovate is to die, meaning that companies who does not embrace new changes risk being left behind and lose important market share.

As innovation is the engine of growth in a company, companies need to facilitate this development. One way for companies to do this is by becoming more digital, which Dörner and Edelman (2015) explain is about generating growth. Vijayendran (2016) supports this as
he claims that digitalization is a good way for a company to develop themselves and their offerings, thus generating growth. Although, it can be hard to really understand what digitalization actually means, Larsson and Viitaoja (2017) describe digitalization as the process in which a company, organization or society increases their adaption of digital/computer technology. By becoming digital, companies can gain benefits such as customer acquisition, servicing and retention (Vijayendran, 2016). Larsson and Viitaoja (2017) agrees with this and further state that another effect of becoming more digital is that the companies and customers acquire more ways of communicating with each other. It could also help in the development of new and customized offers, which in turn will help in creating value for the customers (Melton & Hartline, 2010; Saunila, Rantala & Ukko, 2017; Vijayendran, 2016).

According to Dellermann, Fliaster and Kolloch (2017), one industry that is undergoing dramatic changes is the energy industry. They claim that the energy markets are becoming more liberal, making innovative strategies crucial for companies competing in the energy industry. They further mean that digital solutions may offer many new opportunities for service providers since it can help companies develop and provide new services for the customers, which in turn will increase the customer value. Expanding Dörner and Edelman (2015) definition of digital mentioned in the paragraph above, digital solutions in this instance is the solutions by which to generate growth. Svensk Kvalitetsindex (2017) study supports this by claiming that companies in the energy industry need to improve their digital development in order to stay competitive on the market. As the whole industry is undergoing major developments, the companies that embrace the digital changes will increase the chances of creating superior value to the customers and capture an opportunity to excel on the energy market.

1.2 Problem discussion

The competition for customers is higher than ever before in the energy industry. This is because online comparison sites where customers can compare prices are gaining interest from customers, as well as computer programs that automatically switches supplier to whoever has the lowest prices (Xiaoping and Reiner, 2017; Norran, 2018). In fact, almost the whole switching process has moved online, as customers often have found their service providers through comparison sites before reaching out to the company (Dua, 2017). It is therefore hard for companies to create superior customer value as price is tending to be the deciding factor when customers are choosing energy provider (Xiaoping & Reiner, 2017). This creates a challenge for companies as it is difficult for companies in the energy industry to provide superior value to the customers based on other factors than price.

In order for companies to compete for customers without participating in the ongoing price race, companies need to develop and offer something different. At the same time the energy industry is currently moving into new uncharted terrain as the industry is transforming from commodity supplier to providing services based on energy solutions (Helms, 2016). This new terrain and energy solutions are according to Midttun and Piccini (2017) characterized by
digitalization and disruptive innovation. As digital solutions may generally be an increasing trend in all industries, digitalization and digital solutions are still in the starting phase in the energy industry and are not very developed yet.

This entails an opportunity for energy providers, since being perceived as a cutting edge digital company can help companies to offer something different than a cheap price (Svensk Kvalitetsindex, 2017). Offering great digital solutions could help companies increase the value for their customers (Cedeño, Papinniemi, Hannola & Donoghue, 2018; Saunila et al., 2017). The study is supported by Svensk Kvalitetsindex (2017) who claim that digital solutions has a direct coherence with customer value. Saunila et al. (2017) also agrees with this and explain that by continuously improving their digital solutions companies can create new and customized offers, which will create higher sales and longer relationships with customers. Customized offers are also mentioned by Svensk Kvalitetsindex (2017) who says that companies needs to improve every part of their digital solutions to make it more personalized in order to make the customers feel unique and desired, which in turn will enhance customer value.

It is critical that companies in the energy industry constantly renew themselves and follow the current development in the business towards providing their customers with new energy solutions. The reason for this is that companies who are slow in their adaptation to new digital communication will be left behind and lose important market share (Dua, 2017; Freeman, 1982; Trott, 2012). With increasing digitalization in the energy industry, the market has entered a period of disruptive innovation where the outcome is unknown (Midttun & Piccini, 2017). For the companies in the energy industry it is important to investigate these new digital solutions to better understand how it can create value for the customers and thereby increase their competitiveness in the new service market. If the understanding of this connection increases, the outcome can be clearer and help the energy industry increase the customer value by understanding the customers’ desires.

However, what value is and what contributes to customer value is different depending on the context. To be able to create customer value in the energy industry, companies need to understand what the concept consists of. Sweeney and Soutar (2001) describe that customer value can be derived from three different dimensions, emotional value, functional value and social value. Sanchez, Callarisa, Rodriguez and Moliner (2006) agrees with this and further state that the customer value is affected by all these dimensions. This indicates that companies in the energy industry need to be aware of these dimensions and how their actions are affecting them.

Grönroos and Voima (2013) state that value is currently one of the most undefined and elusive concepts existing. Even if customer value has been investigated in other industries, there has been few attempts in the energy industry. As implied by Saunila et al. (2017) and Larsson and Viitaoja (2017) an assumption can be made that digital solutions are contributing to customer value but there is currently a gap in the research investigating this connection.
Therefore, there is a need to investigate this gap in research further and find out how digital solutions can help increase the customer value in the energy industry.

1.3 Research questions

Based on the identified gap in the literature, the purpose of this research is to gain a better understanding of how value creation can be achieved with digital solutions in the energy industry. More specifically, this research aims to increase the understanding of factors that affect customer value in form of exploring the customers’ digital wants and needs. In order to fulfill the purpose of this research, the following research question has been established.

How can value creation be achieved with digital solutions in the energy industry?

To answer the research question in an easier way, two sub-questions has been formulated. Answering these questions individually will bring sufficient knowledge about the research area and together they will address the overall objective for this research.

- What contributes to customer value in the energy industry?
- How do digital solutions affect the customer value dimensions in the energy industry?

1.4 Disposition

An overview of the disposition of this research is presented in Figure 1 below. It all starts with the introduction in Chapter 1, which will increase the understanding of the problem with digitalization and customer value within the energy industry. Thereafter the existing literature about the subject and a theoretical framework will be presented in Chapter 2. The method for this research with data collection, approach and methodological choices will be described in Chapter 3. The empirical data and results from focus groups and interviews followed by an analysis of the data are presented in Chapter 4. Finally, this research will end with Chapter 5 where the research questions will be answered and also where the discussion, conclusion and suggestions for future research will be presented.

Figure 1: The disposition of this research
2 LITERATURE REVIEW

The following chapter will present existing literature in the area of customer relationship management, customer retention, customer value, digitalization and digital solutions within the energy industry. This in order to provide a deeper insight into the context of the study and provide a better understanding of the study results.

2.1 Customer Relationship Management

In addition to Chen and Popovich (2003) definition of Customer Relationship Management (CRM) mentioned in section 1.1, Buttle and Maklan (2015, p.27) define CRM as “an integrated approach to identifying, acquiring and retaining customers. By enabling organizations to manage and coordinate customer interactions across multiple channels, departments, lines of business and geographies, CRM helps organizations maximize the value of every customer interaction and drive superior corporate performance”. Winer (2001) further explains that CRM can be defined in different ways, for example CRM can mean receive or send emails for some and for others it can be customization and developing products that fits the individual customer’s needs. No matter how CRM is perceived, Richard and Jones (2008) state that companies can gain several benefits by using CRM as a business strategy. For example, the authors describe these benefits as, improved customer service, individualized marketing messages, improved ability to target profitable customers and improved employees’ motivation.

Zineldin (2006) claim that in order to gain these benefits mentioned by Richard and Jones (2008) and use CRM correctly, a company always need to adapt and be able to establish a new way of doing business when external environment factors affect the development. The author also describe that organizations have started to relocate their attention to marketing and customers, which is supported by Richard and Jones (2008) who explain that marketing efforts are designed around the customers and not products. Kumar et al. (2017) agree with this and state that companies now have to deliver great service to their customers. Already 15 years ago, Chen and Popovich (2003) claimed that many companies worked to re-establish their connection with both new and existing customers and understand what brings value to the customer in order to strengthen the relationship. The authors also explained that CRM initiatives increase the competitiveness and revenues while at the same time reduces the operational costs for a company. Tsou and Huang (2018) further state that keeping long-term relationship with the customers will enhance customer value and thus increase the company’s competitiveness.

Eichorn (2017) states that a company must offer value proposition that involves trust and not only satisfy the customers’ needs in order to attract customers. Ranaweera and Prabhu (2003) continue and describe not only trust but also satisfaction and switch of a supplier have an impact on company’s relationships with their customers. By focusing on these factors, the relationship with customers will be strengthened. Chen and Popovich (2003) study also shows that CRM is an approach that will maximize relationships with all customers, including Internet or “e-customers” and suppliers. The authors continue by explaining that having these
relationships with the customers and learning to know them by using a CRM business strategy, will help the company to work more proactively and to sell more. This is supported by Wu and Lu (2012), who also state that implementing CRM strategies will have positive and significant influence on the relationships with the customers.

2.1.1 Customer retention

For companies that manage CRM, customer retention has been proven to be a primary goal (Ahmad & Buttle, 2001). The authors explain that the reason for this is that it encourages maintaining long-term relationship with the customer through supplier-customer interactions, which sets a focus on customer retention. Alrubaiee and Al-Nazer (2010) agree and claim that a key factor to survive in most markets relies on the company’s capability to maintain long-term relationships with the customers, which the authors state will enhance customer retention.

According to Buttle and Maklan (2015) is customer retention a strategy for maintaining customer relationships over the long-term. Ang and Buttle (2006) argues that while the definition of customer retention can vary between industries, it seems that a general consensus is that it yields economic benefits. When a company succeed at retaining customers, the volumes purchased grows, relationship maintenance fall, customer replacement decrease and finally retained customers seems to be willing to pay higher prices than new customers (Ang & Buttle, 2006). The statement that customer retention can lead to economic benefits is also supported by Hutt and Speh (2016) who explain that when a relationship with a customer is extended, the profits seems to increase simultaneously. Economic benefits are also made as it is cheaper to retain customers than to acquire new ones. To recruit a new customer is up to ten times more expensive than to retain a customer, and to bring the new customer up to same profitability as the lost one can cost up to 16 times more (Ang & Buttle, 2006). Even though there is undoubtedly a connection between customer retention and economic benefits, Ahmad and Buttle (2002) claims that it is complex question and not as easy as it might seem. The authors state that it also has a lot to do with how customers make value judgements and what their preferences are for their relationship with the company. What they mean is that all customers are individuals who will act and see value differently, which indicates that the economic return will be different from person to person.

One way of measuring customer retention in a company is through churn rate, which is the opposite of retention. Churn rate can be defined as the turnover of customers in a business and is how many that leaves the business in comparison to those who stay (Vijaya & Sivasankar, 2017). For example, if two out of 20 people leave a company, the churn rate would be 10%. Vijaya and Sivasankar (2017) also explain that it is a major challenge for companies to identify the causes of churn and establish countermeasures in time that can be used to avoid it. They claim that companies often have the data to compile these countermeasures, the companies just need to know how to use it. When a company know how to measure customer retention they can start work proactively in order to attract and retain their customers. Wang et al. (2004) state that a tool to retaining theses customers is done by creating value to the customers.
2.1.2 Customer value

Delivering customer value is critical for an organization’s success (Vargo & Lusch, 2004; Chahal & Kumari, 2012). Chen and Dubinsky (2003, p.326) defines customer value as “a consumer’s perception of the net benefits gained in exchange for the costs incurred in obtaining the desired benefits”. The authors further explain that creating customer value is to meet the target customer’s needs and hence increase the customer satisfaction. This is also something that Woodruff (1997) agrees with as he claim that the concept of customer value is strongly connected to customer satisfaction.

A goal for companies is of course to create value to the customers. But in order to compete, Wang et al. (2004) claims that companies have to deliver superior customer value than their competitors. Lin and Lin (2006) agrees with this and claims that companies needs to create more value than their competitors in the industry in order to gain competitive advantage.

However, to provide superior customer value than competitors, companies must first understand what customer perceive as value. Zeithaml (1988) state that perceived value is an “consumer’s overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given.” To companies this means that they have to provide product or services that correspond to the value that the customers are giving for it. Zeithaml (1988) state that while some only care for money, other components like time and effort could provide value as well. He says that it is much up to the consumers’ preferences as what really bring value to them. Chen & Dubinsky (2003) state that marketers and researchers have given much attention to this concept lately, since it is an important part in predicting customer purchase behavior and thus achieving sustainable competitive advantage.

According to Sweeney and Soutar (2001) there are mainly three values that perceived customer value can be derived from: functional value, emotional value and social value, where the functional value can be divided into the areas quality and price. They claim that the customers perceived value is affected by all of the values, just in different extent. Emotional value refers to the feelings or state of mind that a product/service generates. Social value on the other hand derives from the products/service ability to increase the social self-concept and allow the customer to connect with others. Functional value is divided as mentioned into the areas quality and price, where the quality area is connected to the customers expected performance and perceived quality of the product/service. The price area is instead referring to value for money, the value the product/service provide in exchange for its price.

Ultimately, when talking about customer value, Woodruff (1997) says that the most important lesson for companies is that it is how customers perceive value that affects the choices they make in the marketplace. Companies needs to listen to the customers wants and needs in order to capture the customer value and thus increase the customer satisfaction and customer loyalty.
2.1.3 Brand loyalty

In the beginning of a relationship with the customer, the relationship tends to be unprofitable (Wang et al., 2004). The authors explain that the relationship become profitable first when the customer is loyal to the company. They mean that this is because loyal customers build and strengthen the relationship and behave differently from non-loyal customers at the same time as they spread more favorable word-of-mouth. Chaudhuri and Holbrook (2001) support this and also describe that brand-loyal customers are willing to pay more for a brand since the customers perceive unique value in that specific brand, which also indicate the importance of providing superior value to the customers.

A tool to provide superior value to the customers and thereby increase brand loyalty is through a reward program. This program is described as a loyalty program that will build customer loyalty and the program have the goal to establish a high level of customer retention within a company by providing more satisfaction and value to specific customers (Bolton, Kannan & Bramlett 2000; Yi & Jeon, 2003). The authors explain that this loyalty program will affect customers’ loyalty to the brand if the company succeed to provide value to the customers. Members in a loyalty program tend to be less sensitive to losses in overall quality and billing aspects when comparing the company with other competitors (Bolton et al., 2000). The authors also state that members are generally less sensitive to price advantages that competitors could have in relation to the company, which indicate that a company could increase the loyalty without compete with pricing. Giovanis and Athanasopoulou (2018) agree and take this further and state that customers price tolerance increases when the customers establishing emotional bonds with the brand.

Caruana (2002) agree that other factors than monetary terms are involved in brand loyalty, since the author claim that brand loyalty is no longer just buying from the same brand. Instead of monetary terms, the author mean that brand loyalty consists of customers’ behavior and attitudes towards the brand. Trying to understand the behavior and attitudes of customers will also help companies understand the customers wants and needs. By satisfy the customers wants and needs, the customer satisfaction will increase and thereby enhance brand loyalty for the company (Caruana, 2002). Wang et al. (2004) also discuss this and state that customer value can improve brand loyalty and at the same time influence customers’ behavior in a positive way.

2.1.4 Customer satisfaction

One way to measure brand loyalty is through customer satisfaction, as it can act as a lead indicator of brand loyalty (Farris, Bendle, Pfeifer, & Reibstein, 2010). It can be defined as the customers feeling that the product/service has met or exceeded expectations (Gitman & McDaniel, 2007). Customer satisfaction with a company's product/service is often seen as the key to success as it builds long-term competitiveness (Hennig-Thurau & Klee, 1997).

According to Boulding, Kalra, Staelin and Zeithaml (1993) can customer satisfaction be conceptualized in two different ways: cumulative or transaction-specific. The cumulative customer satisfaction is a long-term evaluation of the buying experience with a company's
product/service (Andersson, Fornell & Lehmann, 1994). The transaction specific customer satisfaction on the other hand is the post evaluation of one specific transaction (Andersson, Fornell & Lehmann, 1994).

As the case is with brand loyalty, customer satisfaction also has a strong connection with customer value. As they may sound alike, there is a key difference. Customer satisfaction is about matching the product/service performance to the buyer’s expectations and customer value is about the difference between owning and using the product/service and the cost to obtain it (Chen & Dubinsky, 2003; Gitman & McDaniel, 2007). According to Wang et al., (2004), customer satisfaction is a consequence of customer perceived value and an affection on one of the concepts will affect the other, positive or negative. The authors claims that satisfied customers show strong tendencies in becoming loyal, repeat purchases and spread positive word of mouth. All of these characteristics Wang et al., (2004) claims are indicators that it key indicator of a company's market share and financial performance.

### 2.2 Digitalization

Vijayendran (2016) state that all industries need to gear up for digitalization in terms of marketing, communication, service, market research and sales. Kannan (2017) support this and highlights the importance of companies creating digital relationships with the customers due to the fact that digitalization is rapidly changing all industries. Furthermore, the subject of digitalization is a wide area that is different from industry to industry. In a business point of view, it can be described as the process of a company moving into a digital business, it is the usage of digital technologies with the objective to change a business model and thereby provide new revenue opportunities (Saunila et al., 2017). Bhatnagar (2017) agrees with that it is a movement towards a digital business and defines it as adapting technology and converting data into digital format. This movement will provide several benefits for companies. Bhatnagar (2017) claim that digital solutions increase the efficiency and supporting when deliver new services to the customers, and at the same time it will not only improve the company’s workforce and innovation, but will also increase the customer satisfaction and customer value.

Most people use digital ways to interact with each other today, there has even been a “digitalization of society” in recent years (Nissen, 2018). Everywhere we look there is technology, even when interacting with companies. Gartner (2014) says that by 2018 more than 50% will go to a tablet or smartphone first for all online activities, which is of great importance for companies seeking interaction with the customers. When moving a company into a digital business, a company needs to take this into consideration and find digital solutions that appeal to the customers. Zhao and Balagué (2015) says that companies need to adapt to this new culture and adjust their market behaviors to the new customer attitudes.

One of the emerging digital solutions that every company must embrace is the smartphone market and the possibilities it provides. The use of smartphones and electronic payments are increasing every day, which support the increase of digitalization (Bhatnagar, 2017). Kent,
Dennis, Cano, Helberg and Brakus (2018) claims that the mobile connectivity provides new opportunities that can offer the customers services online, including personalized recommendation and price transparency. Fernandes and Ferreira (2018) describe that the increase use of mobile phones and improvement of mobile technology leads to new advantages for the mobile applications, which means that the applications can provide a wider set of functions to use. The authors explain for example that the application should be personalized so that the user easily can access its personal data and customize the application in their own way. Selvam (2016) agrees with this and adds that the factors convenient, user-friendliness, privacy and ease of use also have an impact on customers’ perception of the service.

The problem is that the storage of personal data also can cause problems. Joshi and Parihar (2017) state that the increased use of smartphones and digital solutions can make the customers worried about their privacy and this is something companies need to take into account when implementing a digital solution. Another problem with these kind of digital solutions is to make it personalized. Tiago and Veríssimo (2014) states that if companies shall succeed with their digital engagement, they must focus on personalized interactions with their customers. Scherer, Wünderlich and Von Wangenheim (2015) found that many companies are facing problems as they are thinking that digital solutions can replace personal service. They claim that too much self-service can increase the likelihood of churn, which increases the importance of making the digital solutions personalized.

2.2.1 Digital solutions impact on customer value
In the service industry, digital solutions can be referred to as digital services. Williams, Chatterjee and Rossi (2008) defines digital services as services that are obtained by digital transactions over the internet. With digital transactions the authors mean information, software modules or consumer goods. According to Saunila et al. (2017) are digital services often based on technology that demands technical, communication and information skills. Without these skills, the authors say it is a risk that the digital service cannot be fully utilized. These digital services are becoming increasingly popular and are being used as a tool for companies to create competitive advantage. According to Saunila et al. (2017), this is making companies harness digital resources to find new things that can give them competitive advantage and new sources of customer value. Baird and Raghu (2015) agrees with this and state that service providers are seeking to differentiate themselves with digital services, this since the digital services are increasingly dealing commodity offerings such as digital content and features.

Furthermore, Saunila et al. (2017) explain that digital service providers must engage in the customers’ process in order to fully understand the customers wants and needs. When investigating the customers wants and needs, the authors found the factors customization, comprehensiveness, ease of access of data, data quality and visualization and sharing of real time information were the most important factors for customer when implementing digital services. Saunila et al. (2017) also says that because of customers’ little involvement in the production of a service, openness and communication is emphasized.
Another important factor to take into consideration when developing a digital service is according to Chu, Wang and Lado (2016) having close contacts with the customers. They say that it can help by creating innovativeness, customer value and satisfaction. By being more digital, there will also be more ways to communicate between the company and the customers, which will affect customer value in terms of increased customer satisfaction (Vijayendran, 2016; Larsson & Viitaoja, 2017).

Today, digital technologies are explored in order to find solutions that can create competitive advantage, and by close contacts with customers and have more ways to communicate, the digital solutions can be optimized (Chu et al., 2016). Saunila et al. (2017) support this and state that by updating and continuously developing the company’s digital service allows them to offer new and customized solutions to their customers, which improves sales and creates long-term relationship with the customers. Furthermore, the authors state that these relationships are crucial for successful production and delivery of digital services.

Digital solutions are a great opportunity for companies to make use of. Lin and Lin (2006) study show that the top driver for customer value creation is in fact innovation and the top barrier is short of core technology. A common denominator with the driver and the barrier is that digital solutions can be a driver since it is an innovation and at the same time it can decrease the barrier and short of core technology since it is based on technology. This show that digital solutions can help in the customer value creation.

2.2.1.1 Digital solutions in the energy industry
A cornerstone in the digital development is the use of mobile applications (Mort & Drennan, 2002; Kannan, 2017). It is implied by the authors that this is because it is an enabler for companies to advance in their digital development and achieve higher customer value. In the energy industry the usage of mobile applications is still low, a quick overview of the energy companies that are considered best in customer satisfaction by Svensk Kvalitetsindex (2017) showed that only 2/10 largest energy companies are utilizing this technical opportunity at the moment. This expresses the opportunities that are in front of the energy companies at the moment.

In order to take advantage of these opportunities, Albani, Domigall and Winter (2017) state that it is important for electricity providers to understand customer value perceptions of services such as smart meters. However, the authors say that companies need to remembered that digital solutions can be useless as long as customers do not react to the potential the offered services can provide. They say that companies need to aware the customer of its potential to bring the value to them in order for the digital solutions to be successfully implemented. Furthermore, Antonopoulou, Nandhakumar and Begkos (2017) claims that by using digital solutions, companies can gain numerous opportunities such as creating and capturing value from customers. The advantage with digital solutions in the energy industry is that it makes the company reach higher margins by reducing for example data collection costs and can focus on optimizing the business (Aichele, Dalkmann, Margardt and Uhlin, 2009).
The study made by Aichele et al. (2009) have analyzed digital solutions in general but especially the digital solution smart meter reading (SMR) in the energy industry. SMR means that customers can view their electric consumption in real time and even see the real time cost. These advantages will make it easy for the customer to follow the electricity usage and get information whenever is needed through a smartphone or computer (Aichele et al., 2009). The authors say that companies have a great possibility to widen the range of their services with SMR since intelligent homes, smartphones and so and can be integrated in the system in the future. But, in order to make SMR implementation successful, a new partnership between IT service and energy companies is a must (Aichele et al., 2009). The authors state that in order to make any digital solutions successful, the information flow must be supported by computer technology and informatics. Even though it demands much IT resources, they claim that SMR will change the current energy business and that integrating digital information for the consumer will be crucial in extending the business.

2.2.2 Internet of things
The network of these smart products is called Internet of Things (IoT) (Rubina, Constantinides & de Vries, 2018). IoT is a phrase that has got more and more attention from researchers and practitioners over the recent years. It reflects the growing number of smart, connected products and also highlights their opportunities (Porter & Heppelmann, 2015). Generally speaking, it can refer to the interconnection of everyday objects, which often is a product that has intelligence (Xia, Yang, Wang & Vinel, 2012). According to the authors, these networks allow the products to connect and exchange data, as well as communicate with human beings. The authors also claim that IoT is opening tremendous opportunities for companies to explore and develop new products that can improve the quality of our lives. Another opportunity with IoT is that it is better for customers’ loyalty than offline services. Kannan (2017) study showed that the customer satisfaction was the same if the service was provided online or offline, but the customer loyalty to the service provider was significantly higher if the service was provided online.

Furthermore, Conti, Dehghantanha, Franke and Watson (2018) state that IoT devices now has a wide set of applications such as smart grid, healthcare and intelligence transport systems. The authors also explain that the number of IoT devices and intelligent systems has significantly increased in number over the recent years and so has the business opportunities for companies. When the development has such a rapid paste as it has been with IoT devices, a challenge is often to prevent security breaches. Conti et al. (2018) claims that this is the case with IoT. They argue that IoT often collects data without the customer knowing about it, which can create problems as it intrudes on customers’ privacy. Companies need to be aware of this problem and be careful of the customers’ privacy in order to create a successful implementation of IoT.

2.2.2.1 Smart connected products
Smart, connected products are offering new opportunities for companies to utilize. The result of this is that companies may need to redefine their whole industry and rethink almost
everything they do (Porter & Heppelmann, 2015). According to Schmidt et al. (2015) are smart connected products capable to store data, communicate and interact with the environment. Although many industries are in early stage of smart products, Porter and Heppelmann (2015) state that all companies must consider whether their company are prepared to play in this new arena or not. If they are not equipped yet, they will need to reorganize in order to follow the development of the industry.

In the energy industry, there are multiple smart innovations happening. ConEd (2018) are claiming that one of the major innovation that is happening in the energy industry are the implementation of smart connected products such as smart meters. Smart meter is according to Depuru, Wang and Devabhaktuni (2011) a digital meter that let the customer and the energy companies communicate with each other and exchange data through a secure wireless network. Smart meters will also help the customers to understand how they are using the energy and find new ways to use it in a more efficient way (Depuru et al., 2011). ConEd (2018) claim that by having a smart meter, it will be easier to control the costs and make the energy greener. They say that this tool will also notify the energy company when the power is out, which will result in faster restoration. The customer can also track the usage and a high-bill alert can be applied that make the customer avoid high energy bills (ConEd, 2018).

### 2.3 The frame of reference

The purpose of this study is to explore how digital solutions relate to customer value and what possibilities it entails. The main areas that were explored was Digitalization and Customer Relationship Management in order to create an overview of the specific areas. The study has used customer value as a foundation, and found that innovations were an important part of value creation and loyal customers. In this point of view, digital solutions were explored with the customers in mind, focusing on finding the customers digital wants and needs. By doing so, the information gathered would contribute to finding how value creation can be achieved by digital solutions in the energy industry. The combination of digital solutions and customer value contributed and composed this reports body of knowledge, which the theoretical model in Figure 2 visualizes.
The principles and concepts that is used in these building blocks will be used to find connections and analyze how digital solutions can be used to achieve value creation in the energy industry. The research questions for this study will be answered based on the insights from the literature and data from interviews and focus groups. Furthermore, this research will contribute to a better understanding of how energy companies can be perceived as a cutting edge digital company and thus increase the customers’ satisfaction and create superior customer value.
This chapter presents the approach that was used to analyze the problem discussion and thus answering the research questions. This was done by defining the research purpose and approach of the study and describing how data and information have been collected. Finally, this chapter presents a review of the validity, reliability and ethics of the study.

3.1 Research purpose

A research purpose can be classified into three different categories: exploratory, descriptive and explanatory (Saunders, Lewis & Thornhill, 2012). The authors describe the categories as following: An exploratory study is asking questions to create an understanding and new insights into a problem area, this can be done through literature research, focus groups or interviews with experts. A descriptive study intends to create or describe an image, personal or situation. This can for example be useful when the reason why a problem occur is unclear. Finally, the explanatory study has the purpose of explaining and studying a situation or problem where causal relationships between variables are clarified.

This research aims to clarify how value creation can be achieved with digital solutions in the energy industry. Therefore, the research purpose was defined as both an exploratory and descriptive study since there was a need to analyze and find out what role digital solutions had when it comes to customer value. Furthermore, this research was based on existing literature, focus groups and interviews with experts in the area of digital solutions, which all are used when establishing an exploratory study. The descriptive part in the study was aiming to find and formulate specific functions and attributes of customer value that should be included in the questionnaire.

3.2 Research approach

Saunders et al. (2012) state that the approach of a research can be built up through three different methodologies: deductive, inductive or abductive. When a research is based on existing theory and have the purpose of testing a theory that have not been tested before, a deductive approach is used (Elo & Kyngäs, 2008). Saunders et al. (2012) describe that the inductive approach is the opposite, the research is based on already collected data and empirical evidence and thence build up new theory than can be compared to existing theories. An abductive approach is the combination of an inductive and deductive approach, which mean that the research has the intention to both test new identified theories but also to build new ones through empirical data (Saunders et al., 2012).

This research has used a abductive approach, since that even though there has been some research done in the area relating digital solutions to customer value, the relationship has not been researched in the energy industry yet. The research wanted to apply the existing literature to the energy industry, but in order to get a complete understanding of how these areas affect each other in the energy industry, new theories also had to be built.
The deductive part of the research has been based on existing theories and literature that later on were applied in a real situation in the energy industry. In this part, theories and information from the literature was collected in order to test its application in the energy industry. The inductive part of the research built up new knowledge through focus groups and interviews. Both of these parts were later on combined to give an overall image surrounding the areas of research.

3.3 Data collection

To be able to answer the research questions, data is needed. Sandelowski (2000) says that in order to get an overall view of the customers’ opinions and deepen the insights from them, qualitative data is needed.

According to Saunders et al. (2012) qualitative data can be defined as all data that has not been quantified yet. The authors mean that it can range from open-ended questions in an online questionnaire to in depth interviews. Due to the fact that this research is partly an exploratory study, Saunders et al. (2012) state that in-depth interview can be very helpful to find out what is happening and to seek new insights. They also say that a good method for arranging the interviews is by using semi-structured interviews, which is as a list of questions and themes that will be covered during the interview, although these may vary from interview to interview. Because of this, the qualitative data in this study has been collected by using semi-structured interviews with experts in the area of digital solutions in the energy industry as well as with customers in focus groups.

3.3.1 Selection of informants

Saunders et al. (2012) means limitations in resources could inhibit investigation of an entire population, which is why a subset of the population could be analyzed. A subset of the population was made in this research due to Saunders et al. (2012) claim that after a certain number of participants no new information will arise and the study have reached a data saturation.

In order to find what the customers think affect their perception of value in the energy industry as well as what digital solutions they think is important in the energy industry, focus groups were chosen as the mean for data collection from customers. To enhance the knowledge of future digital solutions in the energy industry, interviews with expert in the area was conducted.

For the focus groups the selection of informants can be done in several ways, such as using membership lists, getting referrals from others through word-of-mouth or through snowball technique (Sagoe, 2012). In this report, the selection was made using a non-probability sample with a membership list as a base. Non-probability sample, Saunders et al. (2012) describe is when the participants are selected based on subjective judgement. In an exploratory study, this method of selecting participants is according to the authors most practical. The selection of informants for the interviews in this research was also made using a non-probability sample. The criteria for choosing informants were that they should have
previous experience and expert knowledge about digital solutions in the energy industry. Therefore, three area experts were chosen to participate in the interviews in order to get a better understanding of digital solutions and the customers’ needs.

3.4 Data analysis

The data gathered from the empirical investigations have been analyzed in order to find how digital solutions affect customer value in the energy industry. Since this research used an abductive approach, the data analysis was established continuously in parallel with the data collection at the same time as it was compared with the existing literature.

The interviews and focus groups were analyzed in similar ways. The interviews were conducted in order to get a better understanding of the existing digital solutions in today's energy market. To achieve this, experts in the area was contacted and interviewed accordingly. Three leading experts in the area was chosen due to their competence and experience: a CEO of a company selling smart products, a head of sales and head of innovation at the case company. The focus groups were conducted in order to act as complement to the interviews, since David and Sutton (2016) state that a focus group can provide new and useful data. The purpose with the focus groups was also to find what digital solutions that contributes most to customer value in the energy industry and how value creation can be achieved. This was done by selecting both apartment and house owners where 21 persons was contacted to attend to the focus groups that was divided into 4 different sessions.

The analysis of the interviews and the focus groups was made using Braun and Clarke’s (2006) concept of thematic analysis. The used approach included a six-phased process of coding in order to create clear and useful patterns from the data. The phases were: familiarization with data, generating initial codes, searching for themes among codes, reviewing themes, defining and naming themes, and producing the final report. These phases can be visualized in Figure 3 below.

![Figure 3: Method for analysis of qualitative data](chart)

**Step one:** The first step of the process was to get familiarized with the data. As this analysis was of verbal content, this was done when transcribing the interview.

**Step two:** The next step was to generate initial codes, whereas many codes as possible was being made in order to get relevant patterns later.
Step three: The collected codes were sorted into potential themes. Basically, the codes were started to get analyzed and the process of creating an overarching theme was begun.

Step four: In this step, the themes were analyzed and reviewed in order to secure its validity and check if coherent patterns appear.

Step five: The themes were analyzed further to examine its connection to the research area.

Step six: The last step is to finalize the analysis and to write down the result in the report.

The interviews and the outcome of the focus groups was also compared with theory about the research area in order to ensure its credibility and also to build up new theory of digital solutions and how its affect customer value in the energy industry. The interview guide for area experts can be seen in Appendix A, while the interview guide for the focus groups can be found in Appendix B. It should also be mentioned that in order to make the transcription consistent was everything off topic in the interviews not transcribed.

3.5 Validity and reliability

In all research it is important to make sure that the information and answers that is provided are trustworthy. In this research this is done by providing high validity and reliability. According to Saunders et al. (2012) the validity refers to what extent the conducted studies actually investigate what should be investigated. Reliability on the other hand is referring to if the chosen data and analysis will provide the research with consistent findings, which means that if the research will be done again the results will be the same (Saunders et al., 2012).

According to Riege (2003) validity can be divided into construct validity, internal validity and external validity. In order to secure high construct validity, multiple sources were used as well as supervisors’ overviewed drafts of the research. The method of thematic analysis was also used as mentioned before, which also increased the construct validity as it has specific procedures for coding and analysis. To achieve a high internal validity in this research, the answers from the interviews was compared with each other and analyzed in order to minimize systematic errors. Data older than from the year 2000 have also been rejected when it comes to the digitalization part of this report as it is seen as out of date due to the rapid digitalization development in all industries. By doing so this research ensures that the data of digitalization is up to date within the energy industry. The external validity was enhanced in multiple ways. As to the interviews being semi-structured were the questions predetermined in advanced in order to guide the interviews.

The questions for the focus groups and interviews were tested before the “real interviews” and then modified in order to increase the reliability of the report. Many of the respondents in the focus groups had different energy company and thereby had different perspectives. This made
it possible to draw general conclusions and validate the results to more companies than the case company. Furthermore, the interviews and focus groups were recorded in order to ensure that no misinterpretations were made and that the transcriptions were correctly done.

This study also secured a high reliability by making sure that the questions in the interviews and focus groups have been standardized and contained non-leading questions as well as their information were given confidentially. This allowed the respondents to answer as honest as possible so that the information gathered was reliable and at the same time offered the possibility to easily repeat the process.

3.6 Ethics

The importance of a good ethic is described by David and Sutton (2016) who state that all research that have any contact with humans must have good ethics in the selection, style and dissemination of results. This research has used an ethical approach throughout the whole study were the interviews were anonymous and the focus groups were confidential, so no information could be linked to the person in question. By having an ethical approach, the respondents and informants have been informed of the purpose of the research and what the information will be used to. All interviews were also voluntary so the respondents could leave whenever they wanted, which was clearly informed to the persons involved. Since this research have studied companies with sensitive information a confidentiality agreement has been signed in order for vulnerable information not to be distributed to any unauthorized person or company.

3.7 Case company

The case company for this research was Skellefteå Kraft AB, which is one of Sweden's largest energy producers located in Skellefteå in the northern part of Sweden. The company is municipality-owned and started in 1906 and has now over 600 employees with a turnover of 3,369 billion SEK in 2016. The majority of the company’s energy production (~90 percent) comes from renewable energy sources such as hydroelectric power stations and windmills, where the company is in the forefront of the business.

Skellefteå Kraft AB have in the last six years gained the price of the best customer service in Sweden as well as they are in top of customer satisfaction index in the energy industry in Sweden, which indicate that the company know the importance of focusing on the customers. They are also highly reputable from the customers as they are ranked as the best energy company with own production in a form of sustainability, branding and communication (Sustainable Brand Index, 2018). As this clearly shows that the company are in the forefront of delivering value to their customers, they are seen as good match to work with as a case company.
4 FINDINGS & ANALYSIS

This chapter aims to answer the research question of this research: *How can value creation be achieved with digital solutions in the energy industry?* This will be done through analyzing the collected data from interviews with area experts and focus groups with customers. All the findings that occurred have been analyzed continuously and are presented through a thematic map in Figure 4.

<table>
<thead>
<tr>
<th>Codes</th>
<th>Sub-themes</th>
<th>Themes</th>
</tr>
</thead>
</table>
| • Undeveloped customer understanding  
  • Focus on things that bring low value to the customers | LACK OF UNDERSTANDING BY CUSTOMERS | SIMPLIFY THE ENERGY CONCEPT |
| • Energy concept is hard to understand  
  • The electricity invoice is hard to understand  
  • Electricity trading is complicated and too hard to understand | ENERGY INDUSTRY IS TOO COMPLEX | |
| • Customer want to control their consumption  
  • Real time view of consumption | ABILITY TO CONTROL THE CONSUMPTION | |
| • Rewarding loyal customers  
  • Customer think they need to change supplier in order to get a better deal | IMPROVED CUSTOMER CARE | |
| • Better mobile application  
  • Ability to make mobile application personalized  
  • Chat function is desired in mobile application | IMPROVED MOBILE APPLICATION | |
| • Driving force to buy is to like your energy company  
  • Digital personal marketing is desired  
  • Differentiated advertising to enhance customer value  
  • Customers buy with their heart | A DIFFERENT MARKETING APPROACH | |
| • Generally energy prices is seen as low today  
  • Apartment householders positive to fixed pricing | A DIFFERENT PRICING STRUCTURE | |
| • Acquiring new customers through third part salesman  
  • Energy companies could be a general contractor  
  • Electricity trade agreement becomes part of a larger whole | GENERAL ENERGY AGREEMENTS | |

*Figure 4: Thematic map with codes, sub-themes and themes*

The chapter is divided into three different sub-chapters where each theme is presented in more detail with representative quotes and their connection to the codes. This thematic map from interviews and focus groups provide some insights of how the energy industry could use digital solution in order to enhance more customer value. Three concrete themes was founded and the first is that energy companies are making the industry too hard to understand for the customers, which affects customer value since it creates a knowledge gap between the customers and the companies. Second it appears that digital solution in form of an improved mobile application would work as a tool to better meet customer wants and needs and thus create superior customer value in the energy industry. The customers’ claims that their current one is insufficient in many areas and an improvement are desired. Lastly, area experts explain that a change in how electricity is done could open up new possibilities of increasing customer value.
4.1 Simplify the energy concept

Based on the interviews with area experts and focus groups with customers from the energy industry, the theme simplify the energy concept was constructed. The theme is built up from findings that showed that companies have low knowledge of the customer and that the energy industry is too complex. In Table 1 below, representative quotes and their connection with the codes are presented below two sub-themes.

Table 1: Representative quotes and codes for the theme "simplify the energy concept"

<table>
<thead>
<tr>
<th>LACK OF UNDERSTANDING BY CUSTOMERS</th>
<th>CODES</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;...and if you get to be mean, the energy industry is 20 years after everyone else.&quot;</td>
<td>Undeveloped customer understanding</td>
</tr>
<tr>
<td>&quot;...I just think of those companies that call one and try to get you to change your current energy company. I definitely not appreciate them...&quot;</td>
<td>Distrust against phone salesmen</td>
</tr>
<tr>
<td>&quot;It does not matter if it is green electricity, I have never reflected on it.&quot;</td>
<td>Focus on things that bring low value to the customers</td>
</tr>
<tr>
<td>&quot;Everybody are marketing themselves in the same way and then it is nothing special with it.&quot;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENERGY INDUSTRY IS TOO COMPLEX</th>
<th>CODES</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;...I do not need a complicated language, just keep it short. Why do I need an engineering graduation in order to understand how the energy industry works?&quot;</td>
<td>Energy concept is hard to understand</td>
</tr>
<tr>
<td>&quot;But when the energy bill arrives, you never know what it is going to be as well as you will not understand it, which makes it unpredictable. Therefore, you do not like to get an invoice from your energy company.&quot;</td>
<td>The electricity invoice is hard to understand</td>
</tr>
<tr>
<td>&quot;It is not about electricity trading. It is still so boring that the watches stop...&quot;</td>
<td>Electricity trading is complicated and too hard to understand</td>
</tr>
</tbody>
</table>

4.1.1 Lack of understanding by customers

Through the data collection, several findings have been received. As a whole, it is clear that the energy industry is lagging behind. One area experts stated during an interview that the energy industry is about 20 years after all the other industries and that new companies are beginning to see this and are seeking new territories within the energy industries. In order to cope with this and stay competitive another area expert state that companies within the energy industry need to continuously renew themselves and develop new digital solutions in order to fully understand the customers wants and needs and to still stay competitive in the energy industry. This is also supported by Lin and Lins (2006) theory that companies need to create more value than their competitors in the industry in order to gain competitive advantage. But
it is hard for companies in the energy industry to create value for customers, since customers are not used to change in this industry as well as customers’ overall knowledge of how the industry works is low. This combination has made companies stick to the traditional way of doing business in the energy industry. But now the winds seem to be changing, one area expert are seeing fierce competition from small companies who will do business in a non-traditional way:

“Earlier, the old way of doing business has worked, but now when the energy industry is developing it will not work! Because when it develops, it will be very difficult. Because then it will open up possibilities for brand new companies, companies that are not even available today. And they will be customer oriented, sales driven, commercially strong, capable of communication. All the things that the energy industry are bad at.”

The energy industry is currently facing a challenge, which they have to overcome in order to deliver superior value to their customers. It occurred during the data collection that customers in the industry feel that the energy industry is far too complex and that the industry need to simplify the energy concept for them in order to create more value. It is also clear that companies lack an understanding of what the customers really want and therefore manage the customers incorrectly and market themselves in a wrong way. Based on these findings companies within the energy industry can instead make it easier for the customers by simplifying the energy concept in order to create more value. This is also a common view among the customers who seek value by getting easier explanations and information from their energy provider. This is also connected to a quote in Table 1, where a customer express that the electricity trading is boring, which indicates that companies need to make it fun in order for customers to perceive value. The case company took another approach in order to enhance customer value, and distance itself from the complex parts by making commercials that just were nice and fun, which apparently works great.

Many area experts also state that the energy industry is lagging behind, as they previously have been a supporting function and now have just begun to make more ambitious selling efforts. An example of this is the problem with competence, area experts in the energy industry states that the salesman's competence are too low in the industry and it must be better. The customers confirm this as well, as they explain that energy companies have too many aggressive and convincing phones salesmen, which decreases customer value. Area experts explain that people within a company in the energy industry have low knowledge about key measures in the organization such as how many customers that they had lost that year and so on. Together with the finding that customers do not understand the industry and want better information, it can be connected to Richard and Jones (2008) theory that involves the benefits by using CRM as a business strategy. By using a CRM strategy, a company will improve customer service, individualized marketing messages and improved ability to target profitable customers, which shows that energy companies could overcome their current problems with a clear CRM strategy.
Customers are also suggesting a digital solution that energy companies could take advantage of as they would like to get better and simpler information through a mobile application. During the focus groups they discuss that information and notifications through an application would make them feel more appreciated in comparison to a salesman that calls and try to sell stuff. This can be connected to Sweeney and Soutars (2001) dimensions that customer value derives from. Customers are seeking explanations about different concepts, and if companies in the energy industry responding to these, the customers would feel more appreciated, which thereby would affect the emotional value of the customer. Based on an improvement of these concepts, the functional value would increase as well, as the quality of information and explanations are improved, companies would create more quality and value without extra charges for the customers.

4.1.2 Energy industry is too complex

Another finding from the data collection was that the energy industry is hard and difficult to understand and that the customers want better information from their energy provider in order to enhance their overall control of the energy bill. As the customer’s claims to have low knowledge about the industry, they feel they lack control of the fluctuating energy bill. As a result of this, an area expert claims that the energy bill was voted the number one most hated invoice to get. However, customer state that there are ways companies can figure this problem out. They state that better information could make the invoice less scary and at the same time it may increase the loyalty towards their specific energy provider. The customers further explain that good service, better information and explanations from the company will improve the customer value since it could make them focus less on price when deciding whether to stay or not at their current energy provider. Furthermore, the customers also explain that the strategies from companies are misguided, such as the high focus on green energy, which the customers claim almost everybody offers and therefore it is an expectation from the customers, not a desire. It also appeared that customers in the energy industry do not care about what others think about their energy company and are either ashamed or proud of their energy company. This as the customer's claim that people do not talk about their energy company with each other.

To address these raised concerns, companies need to get a better understanding of what the customers really desires and try to meet their needs in a higher extent. This can be connected to Woodruff (1997) statement that companies need to listen to the customers’ want and needs in order to capture and deliver customer value.
4.2 Creation of superior mobile application

Through interviews and focus groups several customers raised their experienced problems that they experienced with their energy provider, which they claimed had an effect on their experienced customer value. The theme creation of superior mobile application represents the overall action that energy companies can make to overcome the customers raised concerns. As seen in Table 2 below, the representative quote from each concern were coded and then sorted into three sub themes: ability to control consumption, improved customer care and improved mobile application.

Table 2: Representative quotes and codes for the theme "creation of superior mobile application"

<table>
<thead>
<tr>
<th>ABILITY TO CONTROL THE CONSUMPTION</th>
<th>CODES</th>
</tr>
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<tbody>
<tr>
<td>REPRESENTATIVE QUOTE</td>
<td>CODES</td>
</tr>
<tr>
<td>“…you will not be notified when there is any increase or decrease of the price, you can never get that information. If it has been raised, yes fine but what has happened then? Give me an explanation.”</td>
<td>Customer want control of their consumption</td>
</tr>
<tr>
<td>“It would have been cool if you could follow the consumption in real time and watch live how much you consumed.”</td>
<td>Real time view of consumption</td>
</tr>
<tr>
<td>“…if you know what to shut down or decrease, you can save quite a lot of money in a year. If you can do that and see what you can decrease on your phone, it would have been very good.”</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMPROVED CUSTOMER CARE</th>
<th>CODES</th>
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<tbody>
<tr>
<td>REPRESENTATIVE QUOTE</td>
<td>CODES</td>
</tr>
<tr>
<td>“…that you as a customer can get a bonus for staying and being a faithful customer. Now the companies are only caring when you are moving and then say oh you could get three month for half price etc.”</td>
<td>Rewarding loyal customers</td>
</tr>
<tr>
<td>“I think, generally I feel like in order to get a better deal I have to change supplier. But changing supplier feels like a hassle so I never do it, but in order to get the better deal I probably need to change.”</td>
<td>Customer think they need to change supplier in order to get a better deal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMPROVED MOBILE APPLICATION</th>
<th>CODES</th>
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<tbody>
<tr>
<td>REPRESENTATIVE QUOTE</td>
<td>CODES</td>
</tr>
<tr>
<td>“...I downloaded it once but I never used it, it was almost only company information and who wants that?”</td>
<td>Better mobile application</td>
</tr>
<tr>
<td>“I think it's important that it is personalized for each individual. For example, that the app is personal to me. You want to decide what to do and what features I want.”</td>
<td>Ability to make mobile application personalized</td>
</tr>
<tr>
<td>“I would also like to have a chat or inbox in the application so that you can have direct contact with someone at the company, that you can easily and fast contact with any questions”</td>
<td>Chat function is desired in mobile application</td>
</tr>
</tbody>
</table>

4.2.1 Ability to control the consumption

The ability to control consumption arose from the customers wish to control their consumption in a higher extent than today. They felt like the price paid for electricity was quite volatile, but there was never an explanation of why their cost had gone up or down. The
cost could have gone up even though they felt like they did not use any more electricity than before. This insecurity made the customers feel like they lacked control of what the cost would be at the end of the month and thus affected their customer value in a negative way. To overcome this problem, a participant in the focus group mentioned it to be a good idea if you could follow your consumption live. They want the ability to control their own cost by for example following their energy consumption and get an overview to see how the energy consumption is divided over different products in their home. This ability they would want to have in their phone in order to easily take control over their consumption and decrease their usage on certain appliances to save energy.

4.2.2 Improved customer care
There was also mentioned a need for improved customer care. Through both the interviews with area experts and focus groups with customers, it emerged that energy companies need to work more to retain the loyal customers. An area expert says that energy companies spend more time on people who are frequently changing energy providers and almost forget the ones who are currently a customer at the company, which has a negative effect on customer value. It is also mentioned that customers see good service and better information as factors that will create more value and in turn make them more loyal to their energy provider, which also indicate that the industry need to consider this issue.

Many customers feel the need to change supplier in order to get a better deal. This sign is bad for companies since it is so expensive to attract new customers. As it is mentioned before by Ang and Buttle (2006), to recruit a new customer is up to ten times more expensive than to retain a customer, and to bring the new customer up to same profitability as the lost one can cost up to 16 times more. Customers state that through good customer care, with bonuses and better information from the energy provider, they will feel more appreciated and valuable which in turn will increase the chance of staying at the company.

4.2.3 Improved mobile application
The customers also consider that their energy company’s mobile application is undeveloped and does not fit their needs. Many has not even downloaded it and those who have are mainly disappointed. The data collection also showed that experts in the energy industry think that a mobile application will help improve the dialogue with the customers. The area experts explain that mobile applications will create a whole new communication channel, which makes the marketing more customized and thereby the communication more effective. The customers often see their mobile application as a way for companies to reach out with the company’s information, rather than it being a tool for customers to use and therefore agrees that the application should be free of charge. They further expect it to be less control in it, letting them personalize it after their own perception. It is also mentioned that they want to use it as a tool to reach out to the company when they desire, such as a chat function that directly sets them in contact with the support team. Their main point about the application was that today it is not utilized in the extent that they want, hence it is affecting customer value negatively.
4.3 Changing how electricity trading is done

The data collection provided several findings in consideration to how the energy industry works with electricity trading, which presented several opportunities for companies to learn from in order to acquire higher customer value. The theme changing how electricity trading is done represent the opportunities companies are facing. As seen in Table 3 below, representative quotes and their connection with the codes are presented as well as how they are sorted into different sub-themes.

<table>
<thead>
<tr>
<th>Table 3: Representative quotes and codes for the theme &quot;changing how electricity trading is done&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A DIFFERENT MARKETING APPROACH</strong></td>
</tr>
<tr>
<td>REPRESENTATIVE QUOTE</td>
</tr>
<tr>
<td>&quot;The driving force was that you want to like your energy company…&quot;</td>
</tr>
<tr>
<td>&quot;The hard thing about this kind of product is that everyone is so uninterested of it that you can't wait for the customer to come to us. Nobody is coming, well maybe if they go through Elskling. The interest is too low and you need to push it a bit, but you have to do it smooth and it has to be done digitally&quot;</td>
</tr>
<tr>
<td>&quot;...well, you can add genius advertising, you can add such values. For example, you can have ski clothes but you have Zlatan that feels cool and so on.&quot;</td>
</tr>
<tr>
<td>&quot;...but for them it's like this: if we say it's hydroelectric and we say it's a low price, then customers will buy! No, it's the engineer's answer as to why to buy. But that's not why you buy, people buy with the heart.&quot;</td>
</tr>
<tr>
<td>CODES</td>
</tr>
<tr>
<td>Driving force to buy is to like your energy company</td>
</tr>
<tr>
<td>Digital personal marketing is desired</td>
</tr>
<tr>
<td>Differentiated advertising to enhance customer value</td>
</tr>
<tr>
<td>Customers buy with their heart</td>
</tr>
</tbody>
</table>

| **A DIFFERENT PRICING STRUCTURE**                            |
| REPRESENTATIVE QUOTE                                         |
| "...it's too cheap for me to worry, it is about 200 SEK per month and I do not care if it's 175 or 225 a month because it's not worth spending time investigating the matter." |
| "If I lived in an apartment I would want it as easy as possible, and then a fixed price would definitely appeal me. “ |
| CODES                                                         |
| Generally energy prices is seen as low today                  |
| Apartment householders positive to fixed pricing               |

| **GENERAL ENERGY AGREEMENT**                                 |
| REPRESENTATIVE QUOTE                                         |
| "If I get a better deal, then I would easily have taken it. If the company who sells me the solar panels suggest that I'll choose Skellefteå Kraft because they are good at for example buying back the electricity, I'd easily switch to them.” |
| "I would like to have it as easy as possible. If I buy an electric car and then get asked to buy this accessory and thereby get a discount on my electricity consumption, I would definitely have done it. Undoubtedly.” |
| "...if the customer wants automated lighting in the house, you want electricity and heat, check, etc, just like a house with these benefits, etc. This is where I see that the big companies come in, customers want to come in and have everything from the same place, make it as easy as possible.” |
| CODES                                                         |
| Acquiring new customers through third part salesman           |
| Energy companies could be a general contractor                |
4.3.1 A different marketing approach

During the interviews and focus groups it appeared that the driving force for customer value in the energy industry is that customers want to like their energy company. Area experts state that many companies in the energy industry have made the assumption that green electricity and low price are factors that make customers buy from them. According to the experts this is wrong because customers tend to buy everything with their heart, and therefore the commercials need to appeal to their emotional side. They further explain that the more money customers spend on a purchase, the more they choose with their heart. The case company did a funny commercial to really see the benefits with this and stated:

“Everything was just a ploy, but you know what? All brand values raised by rocket speed. Suddenly, it got even more effect from being a sad energy company, making fun communication. It will be double effect, because it is so unexpected. Especially when Bixia is driving with a girl standing in front of a wind turbine blowing her hair that shouts "love wind". What should it do? Why should I feel I'll pick them?”

And this strategy seems to work as the case company who are appealing to the customers’ emotions is the fastest growing energy company in Sweden. The data collection showed that no one is interested in electricity trading or wind power, but if the company make the advertising fun, the customers will relate to the company in a whole new way and thereby the customer value will increase. Area experts in the energy industry also raised the importance of digitalization and continuously renewing themselves. The experts explain that a change of marketing approach and digital solutions could make their business more efficient and make the company have more eye on the customers in form of digital marketing. He states:

“...you have to start working with digitalization, work with the data. I think that is really important, if you do not get it in the future, you are pretty smoked.”

The idea is supported by Saunila et al. (2017), that companies need digital resources to find new things that could give them competitive advantage which could create customer value. The authors also stated that service providers must engage in customers in order to fully understand their wants and needs. By investing in digital marketing an area expert mean that the marketing could have the ability to getting the customers exactly what they want. The area expert further mean that everything from the dialogue with the customers could be saved so that the offers could be customized for each customer. This is supported by theory, Tiago and Veríssimo (2014) mean that in order to make the digital engagement successful, companies must focus on personalized interactions. The focus groups also showed that the digital marketing and personalized offers is desired from the customers. They claim that this would make the information more easily understood and companies can get to know their customers in a whole new way and thereby customize the information. One customer explains:
“...all people need different kinds of information, which the energy companies can fix if they work for it.”

Lin and Lin (2006) stated that the top driver for customer value is innovation and that the barrier is short of core technology. If companies within the energy industry follow the development of digital solutions and succeed with this digital marketing towards their customers, the literature support that companies will have the ability to provide superior customer value.

4.3.2 A different pricing structure
It is mentioned by one of the area experts that they saw a need from the customers to simplify the electricity subscription and instead create a subscription that was a fixed cost based on the flat size and not on the consumption. They got good feedback from customers on this idea until laws from European Union (EU) stopped the project. In the focus groups it is mentioned that customer still has a very positive attitude towards this kind of subscription and as it will be easier for the customer, it also has a positive impact on customer value.

Customers who lives in an apartment also explain that generally today the energy prices are seen as so low that it is nothing they care about. It is a common opinion in the focus groups that customers living in apartments just pay the bill and do not make a big deal about it, which indicate the need from companies in the energy industry of creating more value and change the pricing structure for them.

4.3.3 General energy agreement
The interviews with area experts showed that energy companies could keep up with the digitalization and smart products in an easy way as a contractor. An expert stated that having everything from the same company will make it as easy as possible for the customer, the expert compared with a contractor in the house building industry when one specific contractor has the responsibility of the electrician, plumber etc. An energy company could improve their electricity agreement and work as a contractor so that products related to energy could be bought from the same company or included in customers’ energy bill. Another solution to improve the electricity agreement are presented by an area expert, which is that the electricity trade agreement will become part of a larger whole.

Due to the complexity of the energy products that the energy companies sell, it is also important to have a service concept for the products. For example, area experts explain that this is needed to create more value to the customers since this will make the customers to easily understand and consider buying this kind of products. However, customers had a positive attitude in buying complex energy products such as solar panels, car chargers etc. from their energy provider rather than other stores if they provided a service concept. They also claimed that they are prone to switch energy provider if a third part suggest it. This open up possibilities for energy companies to collaborate with other energy related companies.
5 DISCUSSION & CONCLUSION

This chapter includes the discussion and conclusion of the findings and analysis in this research. The recommendations of how the case company could use digital solutions to enhance customer value will then be presented, followed by how this research will contribute both theoretical and practical as well as what could be further investigated in future research.

5.1 Discussion

During the data collection, it appeared that companies within the energy industry today work quite similar and it is more important than ever for companies to differentiate themselves. They mean that nowadays it is easy to start up an energy company and offer something different, since everyone in the energy industry offers the same and no one stands out at the moment. As to this, there are many new startups offering new solutions and other ways of doing business. This intensifies the need for companies to shift their focus and stand out from the competitors.

The purpose of this research was to increase the understanding of the factors that has an impact on customer value, in terms of digital wants and needs. The main findings suggest that companies in the energy industry needs to address three main issues. First they need to simplify the energy concept, as it was discovered that companies had low understanding of customers’ wants and needs as well as customer found the energy industry hard to understand. Second, the research suggests that the energy industry becomes more digital. The customer desired many technical functions, such as control of consumption, digital connection with support and digital marketing efforts. In order to meet these desires companies needs to develop a mobile application that serves the customers increasing digital needs. Lastly, companies need to be aware that the energy industry is changing, and a strategy change may be needed. Customers want a different marketing approach as well as apartment householders want an easier pricing structure. If this is combined with the changes in society today, there are business opportunities that may alter how energy companies do business today.

5.1.1 Research question 1

RQ1: “What contributes to customer value in the energy industry?”

Today, customers claim that the energy industry is hard to understand, which are making the price factor a main factor since it is feasible and easy to understand. Due to this is price a factor for house owners that contribute to customer value when choosing energy company. For apartment owners, the price factor has low impact as their energy bill is consistent and in many cases cheap. In order to make other factors more important in the industry, companies need to simplify the energy concepts so that the energy industry can enhance customer value through other factors than price. For example, customers state that simplicity will contribute to customer value and increase the chance of staying at their current energy company. Furthermore, customers also claim that good service, better information are key factors that
contributes to customer value as they describe that they want explanations from their energy company on what happens and why it happens.

During the data collection it also occurred that customers want control over their energy consumption and this in turn will contribute to value for them. They want to have service and information personalized and having the ability to control their consumption as they then can control their energy cost on their own. Customers mean that having control together with personalized service will contribute to increasing customer value.

Both area experts and customers agree that companies within the energy industry are only working to get new customer and pay too little attention on the loyal customers. According to the customer, the solution for this is to reward loyal customers for staying at the specific company. In order to enhance customer value in the energy industry, companies need to take this into consideration since customers explain that a reward for being customer will increase the customer value and thus the customer retention.

5.1.2 Research question 2

RQ2: “How does digital solutions affect the customer value dimensions in the energy industry?”

As mentioned before there are three major customer value dimensions: emotional, social and functional, where functional value can be divided into the areas quality and price. During the data collection it became clear that digital solutions had higher impact on the emotional and functional value than the social value. There were only two things mentioned that could have an effect on the social dimension. The first was that customers liked the idea to be able to have direct contact with their energy company through a direct chat in a mobile application. Second was that they were interested in the ability to compare your consumption to others. These were the only things connected to the social dimension of customer value, and the researchers thereby consider the impact to be low. It also appeared that customers do not care at all of what energy company others have. This is because as almost every company are marketing themselves digitally in the same way, the customers see little difference between the companies. Customers therefore have a hard time telling if a company is particularly “good” or “evil”, which makes them indifferent to other people’s choice of energy company. This enhances the researchers’ conclusion that digital solutions have low impact on the social dimension of customer value.

Digital solutions were estimated to have a high effect on the emotional dimension of customer value. This since it appeared that the case company who is providing digital marketing that are appealing to the customers’ emotions are the fastest growing energy company in Sweden with great ratings on their digital marketing strategy. It is therefore crucial that companies embrace this when they are working with their digitalization, since when most energy companies do their digital marketing right now they are presenting themselves as a low price company who provides green energy. This seems to be wrong since customers mostly buy with their emotions and prefers simplicity. This indicate that the emotions in the brand value
aspects must be higher, which have a clear connection to customer loyalty since customers’ attitudes towards a company nowadays affect their loyalty. It is therefore recommended that energy companies appeal to customers’ emotional side and decrease their focus on energy trading, kWh and green electricity.

When it comes to functional value the customers have a general consent that digital solutions have high effect on this dimension of customer value, but functions connected to the dimension is underdeveloped at the moment. In today’s high digital development, the customers require their energy company to have a well-functioning mobile application, which many companies do not have. Thereby does the quality of their service drop a bit, and energy companies needs to develop this part of their company. It can be hard for companies to balance how to make an application simple yet with many functions that gives the customers control. This can be solved by letting the customer organize the application themselves to make it personalized and thereby arranging the simplicity after the customer’s demand. Even if it is tempting to use this as a marketing tool, it has to be highlighted that this is not a good idea since it is a requirement from the customers and not a game changer which will make customers switch energy company. This assumption can be strengthening by the customers’ unwillingness to pay anything for the application, it is just supposed to be a supporting function to their everyday use.

5.2 Practical implications

In order to implement the main findings in this research, some recommendations are made. The researchers think that the most important finding from this research is that all energy companies need to address that the driving force to buy in the energy industry is that customers want to like their energy company. It is found that the more money you spend on a purchase, the more you buy with your heart. Energy is overall a quite big piece of a regular household budget, which increases the likeliness of customers buying energy with their heart. Thus has the energy companies marketing strategy to compete for customer by marketing themselves as a green low price company low effect and needs to be revised. This research suggests that the energy industry must change their focus and provide marketing strategies that are appealing to the customers’ emotions.

Another important finding that companies in the energy industry need to deal with is the increasing digitalization that is affecting society everywhere. Customers are expressing a low digital development in the industry, which is also the source of many of the customers experienced problem and the solutions to many of their wants and needs. The researchers believe that the main theme of creation of superior mobile-based application can lead to the development of functions that also contributes to simplifying the energy concept. In the mobile-based application there is a possibility to make it easier for the customers. Here energy companies can make the invoice easy and simple to pay and provide understanding of why the price has gone up or down. Energy companies need to focus on making energy simple and provide more control to the customers. Control is something the customers highly express will make them more satisfied. Some customers even want a live feed of what every
appliance in their home is consuming in terms of money, and thereby being able to control their energy consumption. It is important for energy companies to understand this, customer want control, but there is a range in how much control they are striving for. Some only want to feel in control by being informed why their electricity bill has gone up or down, and some want the full range live feed of consumption cost. The recommendation is that the customer itself could organize the mobile application in order to make it more personalized.

However, it is not recommended for companies in the energy industry to market themselves with a new mobile application, instead the application will work as a tool to increase the value of existing customers and maybe even exceed their expectations by adding some features. The mobile application will provide customers with several benefits such as will the opportunity to follow their own energy consumption as well as the ability to decrease their consumption and see neighbors’ consumption. They could have the ability to follow the energy price that is predetermined 24 hours in advance, which allows the customer to decide when to do certain things in order to save on electricity cost. This means that customers do not have to choose the energy supplier at the cheapest price, but can base their decision on a company who provide the best solution to control their consumption. It is therefore important that energy companies find their path through this and manages a way that fit most customers’ needs.

Another recommendation for energy companies in Europe is that they need to unite and together make a suggestion to the EU to drop the regulations on electricity charges. Currently, EU is making the energy companies in Sweden charge electricity in terms of actually used kWh. This is contributing to making the energy industry hard to grasp, because they need to understand everything that comes with kWh. If the energy industry is compared in contrast to the telecom industry, it can be seen as they had the pricing system of charging per hour years ago and have moved on to more customer friendly subscriptions. There is no reason why the energy industry cannot do the same and create subscriptions that are making it easy for the customers and thereby raise the customer value and thus the customer retention.

5.3 Theoretical contribution

The theoretical contribution of this research mainly consists of several factors that enhance customer value in the energy industry. Good service, better information and simplicity are key factors that increase the value for the customers and thus increasing the loyalty towards the company. It also occurred that loyal customers want a loyalty bonus as they now feel that little attention is paid to them which is causing a decrease in customer value.

Another thing that literature has low consideration to is that customers in the energy industry highly connect control with customer value. Control is something the customers highly express will make them more satisfied. They want control over their consumption and know why the electricity bill has gone up or down. But it was discovered that the range of control is different from customer to customer and is something that can be investigated further, establishing how customers can get the desired amount of control without decreasing the simplicity.
Sweeney and Soutar (2001) describe three dimensions that customer value can be derived from, but the findings in this research claim that emotional value and functional value have more impact than social value, which has relatively low impact. When it comes to digitalization within the energy industry, the emotional value and functional have an impact since customers want to feel valuable and meaningful as well as the quality and functions in digital solutions is considered to be important.

5.4 Limitations & future research

As this research was conducted with a qualitative approach, there is a need to test the results with a quantitative approach. Future research within the same area and additional time resources can focus on validate the findings from this research through collecting quantitative data in form of a survey that are based on the results.

During the data collection, an area expert explained that smart home products are an increasing trend and it is therefore something that the energy industry can start to sell so that customers can have complete solutions from their energy provider.

This research has come up with new findings of Sweeney and Soutar (2001) study by confirming that emotional and functional value has more impact on customer value when it comes to digital solutions in the energy industry. Although, it is recommended to explore these findings in other industries or countries to see if the result will vary, this would be interesting since this research are limited to the energy industry in Sweden.

Lastly a future topic for research is to investigate the standards for electricity agreements in EU right now. This to find out how they are designed and how it can be changed in order to better appeal to the customers’ wants and needs.
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Appendix A - Interview guide area experts

Introduction
Who are you? What are your working with?

Can you tell us about your job and current position at the company?

Digital solutions
How have you noticed that digitalization has entered the energy industry?

Do you know of some recent digital solutions that have been introduced in the energy industry?

Do you know of some digital solutions that are expected to be introduced to the energy industry in the near future?

Digital solutions and customer value
How do you think these digital solutions will contribute to customer value?
  •  Have you investigated the outcome of the current digital solutions?

Do you think a collaboration with the customers can provide better digital solutions?

Do you think it is a must for companies to continuously develop new digital solutions in the energy industry?
  •  Why / Why not?

Smart meters
What do you think the possibilities are with the new smart meters that have been rolled out in the energy industry?
  •  How many % of the customers have a smart meter in their home right now?
  •  How is the response from them?

What are the possibilities of implementing other smart functions in the smart meter?

Mobile application
We have heard that your company is changing your application, can you tell us why this is being done and how it will work?
  •  What functions will the application contain?
  •  Have there been any collaborations with the customers? Have you asked for their opinions?
We have seen that customers want their applications to be personalized, have you taken this into consideration?

How can the functions in smart meters be integrated into the mobile application?

What are the possibilities with connecting consumption patterns to the price and thereby let the customer view their consumption in real time?

Challenges
What do you think is the overall biggest challenge in the energy industry today?

What do you think are the main difficulties when implementing a digital solution, like the smart meters?
Appendix B - Interview guide focus groups

Introduction

- Presentation of the researchers and the objective with the research
- Clarify for the participants that all answers in the focus groups will be anonymous
- Make sure that the participants are ok with recording the session, and ensure that the material will be deleted after transcription

Overall knowledge about the energy industry

Do you understand how the energy industry work?

- The difference between “electricity trading” and “electricity grid”?
  - If not, do you want to know more about the energy industry?

If no, how do you think the energy companies can make it easier for you to understand how the industry works?

- Discuss!

What is the most important function you seek when switching energy provider?

- Can something else than price make you select an energy provider?
- Discuss!

Your current energy provider

Why are you a customer at your current energy provider?

- If we think of other things than price, what can you name then that brings value?

What is the best thing about your energy provider?

- Why is that important to you?

What do you think can be better at your energy provider?

- How can they create more value to you?

Do you care about what other think about your energy provider?

- Why, why not?

How do you think your energy provider could be more personalized towards you?

- How do you think an application can be produced in order to make it personalized?

Smart meters

Do you know what a “smart meter” is?

- What information would you like from it? Would you like to follow your electricity consumption, ability to set bill limits?

What is your opinion about the ability to follow your energy consumption continuously and thereby also your energy costs?
• Do you think this can increase the value for you?
• Is this relevant for your choice of energy provider?